ACING THE SAT 2006

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CHAPTER

1 Introduction to the SAT

▶ The 5 W's

Who, what, where, when, why? If you are taking the SAT this year, these are the most important questions you need answered. This book will provide you with the answers to these questions. There's one more big question, however, and that is *how*, as in "How do I ace the SAT?" In Chapter 3 of this book, you will review the skills you need to ace the Critical Reading section of the SAT. Chapter 4 covers essential math skills, and Chapter 5 will give you all the information you need to know about the Writing section. Every chapter in this book, however, will be useful in your quest to maximize your SAT scores, so read them all carefully.

▶ Who Takes the SAT?

Most college-bound high school students take the SAT, approximately two million every year. If misery loves company, you must be feeling pretty good right now! Hang in there, though. By the time you finish this book, your misery will be history. It will be replaced with the confidence that you are going to shine on the SAT.

▶ Who Makes the SAT?

The College Board is an association of colleges and schools that makes the exam. It retains the Educational Testing Service (ETS®) to develop and administer the SAT. You may already be familiar with ETS; they also write and administer the Advanced Placement (AP®) tests as well as the PSAT/NMSQT® you may have taken as a junior and/or sophomore. The ETS has a distinctive style of writing five-choice (or multiple-choice) and grid-in questions, which makes it easy to describe and analyze the kinds of questions you are likely to see on the SAT. However, the essay portion of the Writing section will require a different type of preparation than the other kinds of questions. This book will prepare you for all types of SAT questions.

▶ What Is the SAT?

The SAT is one of the main standardized tests colleges use to evaluate reading, writing, and mathematical skills in prospective students. Another test, the American College Testing (ACT) Program Assessment, is designed primarily to measure what you've learned in various academic subjects, while the SAT aims primarily to measure the critical thinking skills you will find useful in your academic career. Naturally, members of the College Board (and others) believe that possessing these skills will help you perform better in your higher education. That's why you're smart to be using this book. You are developing your intellectual assets, making yourself look more attractive to the colleges you're interested in, and giving yourself a head start on your college career.

You may also be planning to take one or more of the SAT II™ subject tests. These exams test your knowledge of specific subjects, such as history, the sciences, and languages, and are based on what you have learned in school rather than on your test-taking skills.

▶ What Is the SAT Used For?

Colleges use your SAT scores as *part* of an evaluation process to decide whether you will be a good addition to their student body. Look at the preceding sentence again. What word leaps out at you? It's the word *part.*

What other things do colleges look at? The short answer is everything. The good news for students who don't have perfect grade point averages and who may not have perfect SAT scores is that colleges look at individuals, not just at scores and grades. Are you an athlete? Of course colleges consider that. Are you a performer—a dancer or an actor? Colleges want people who can contribute to campus cultural life. Are you active in your community as a volunteer? Colleges know that high school students who contribute to their communities also are positive members of college communities. Do you love literature but can't bring yourself to study anything else? College admissions committees know that even Einstein flunked a math course or two.

The important thing is for you to present yourself as a strong candidate for admission by letting your best qualities shine through in your application. Think of a photographer shooting a still-life scene, arranging all the different elements of the picture to make them look as interesting as possible and adjusting the light to bring out the best in the objects she captures on film. When presenting yourself to colleges, show yourself in the best possible light, and don't forget to highlight all the qualities that make you who you are. They are looking for all kinds of people to make up a diverse student body. So, don't sweat the SAT. Getting nervous about it won't help you anyway. As long as you follow through with your plan to prepare for it, your score can help you become an attractive candidate.

What Do Colleges Want?

Colleges are increasingly looking for a diverse student body. Think about how you might fit in to that mix. What are your strong points?

- Artist—visual or performing
- Leader—student government or other organization
- Athlete—even in lesser-known sports
- Social—if you have lots of friends, you're probably a leader, too
- Academic—of course, especially if you excel in one subject
- Community Service—volunteer work tells colleges that you are committed to making a difference in the lives of others
- Other—what do you love to do? That's a strong point!

▶ When Do I Take the SAT?

The SAT is offered several times a year, on Saturday mornings. You can obtain a schedule online or at your high school guidance office. You may register and take the exam as often as you wish. Most colleges will not hold an earlier lower score against you, and some will be impressed by a substantially improved score. On the other hand, you may have already decided to just do as well as you can the first time around, and you've taken your first step by buying this book.

▶ Where Is the SAT Given?

Many high school and college campuses host SAT sessions. When you register, you will be given a list of sites in your local area, and you can pick one that is comfortable and convenient for you.

▶ Where Do I Sign Up for the SAT?

You can register for the SAT online at www.collegeboard.com. The College Board website also provides other college-related services, some free and some for a fee. Your high school guidance office is another place you can obtain registration forms and information.

Upcoming Test Dates in 2006

- January 28, 2006 (register by January 4, 2006)
- April 1, 2006 (register by March 8, 2006)
- May 6, 2006 (register by April 12, 2006)
- June 3, 2006 (register by May 10, 2006)

▶ How Do I Maximize My Score on the SAT?

Have you heard the saying about the three most important things in real estate? Location, location, location. The corresponding answer to your question about how to do well on the SAT is: prepare, prepare, prepare. You do that by gathering information (reading this book is an excellent first step) and then by practicing your SAT skills.

Now that the answers to your basic questions are out of the way, let's examine the test in more depth.

▶ What Exactly Does the SAT Test?

The SAT tests your critical thinking skills, more specifically, the ones you will need to succeed in college. Of course, there are other skills tested, specifically vocabulary, reading comprehension, math computation, and writing strategies. You can dramatically improve your scores on the exam by carefully studying the exam itself. This book will help you prepare in all of these areas.

▶ How Long Is the SAT?

You will have three hours and forty-five minutes to complete the SAT. In addition to the time actually spent testing, though, you will get two or three five- to ten-minute breaks between sections of the exam, and you will spend additional time filling out forms. Overall, you can expect to be at the testing location for about four and a half hours.

▶ What Is on the SAT?

The SAT has approximately 160 questions divided into nine test sections. There are:

- **3 critical reading sections** (two 25-minute sections and one 20-minute section)
- **3 math sections** (two 25-minute sections and one 20-minute section)
- **3 writing sections** (one 25-minute multiple-choice section, one 10-minute multiple-choice section, and one 25-minute essay)

Your scores on these nine sections make up your total SAT score, which is worth 2,400 points. In addition, there is one more section—either critical reading, multiple-choice writing, or math—that is used as an experimental, or equating, section that does not count toward your SAT score. Thus, you will have a total of ten sections on test day. The first section will always be the 25-minute essay, and the last will always be the 10-minute multiple-choice writing section. The other sections can appear in any order in between. There is absolutely no way to determine which of the test sections is the experimental section, so it is important to do your very best on every part of the test.

Most of the questions on the SAT are in a five-choice multiple-choice format. The exceptions are the essay and the math grid-ins, questions for which you must generate your own answers and enter them in grids on your answer sheet. The ten grid-in questions and the essay are the only questions on the SAT that don't show you a list of possible answer choices. You will learn about grid-ins in Chapter 4 and about the essay in Chapter 5. The good news is that about 160 questions give you the correct answer. You just have to determine which of the answers is the right one. Chapters 3, 4, and 5 contain lots of strategies for choosing the correct answer from the choices provided by the SAT test-makers.

Critical Reading Questions

There are three critical reading sections: two 25-minute sections and one 20-minute section. There are three types of critical reading questions: sentence completions, passage-length critical reading questions, and paragraph-length critical reading questions. All of them are multiple-choice questions with five answer choices, **a**–**e**. In Chapter 3 of this book, you will find detailed discussions of all three types of critical reading questions, including sample questions and lots of strategies for choosing the correct answer.

Sentence Completion questions test your vocabulary and your ability to follow the logic of complicated sentences. Each of these questions has either one or two blanks within a single sentence. Often, the sentences are long and difficult to follow, but with practice, you can learn to master them. There are approximately nineteen of these questions.

Passage-Length Critical Reading questions test your understanding of fairly difficult passages, such as those you might encounter in college. The passages, typically several hundred words in length, are drawn from writings in the humanities, social sciences, and natural sciences. You will have to analyze the passages in sophisticated ways, such as making inferences from the authors' statements, interpreting rhetorical and stylistic devices, and selecting the correct meaning of one of the words used. Again, practice will make perfect—or nearly so. By the time you finish this book, you will understand how best to approach these questions. That's a good thing, because there are about forty of them on the SAT.

Paragraph-Length Critical Reading questions test your ability to analyze shorter texts. Most passages will be 100–200 words long, followed by two to five questions—a sharp contrast to the half dozen or more questions that follow the long reading comprehension passages. Like the reading comprehension passages, these texts will contain college-level material, and you will be asked about a range of reading comprehension issues. Also, every SAT will have at least one (or more) pair of related short passages. You can expect there to be about eight paragraph-length critical reading questions on the exam.

Math Questions

There are three math sections on the SAT: two 25-minute sections and one 20-minute section. There are two types of math questions: five-choice and grid-ins. For the grid-ins, you come up with the answer yourself instead of choosing from a list of possible answers. Chapter 4 of this book will prepare you for the math on the SAT. You will be able to practice the kinds of questions on the exam and brush up on the math skills tested. There are also numerous strategies for answering questions correctly.

The good news about the math on the SAT is that it is not necessary to have aced every math class you've ever taken to do well on the test. Nor do you have to remember a lot of formulas from geometry. The SAT is designed to test how well you can apply the formulas, as well as how well you can work with them. In fact, the ETS supplies you with a section of formulas relevant to the problems you will be working on. Of course, you still have to know what to do with the formulas, and this book will help you. Note that the test contains algebra II, but it does not include quantitative comparison questions.

For the **multiple-choice** math questions, you will be given five answer choices. Questions are drawn from the areas of arithmetic, geometry, statistics, and algebra I and II; and you will be asked to apply skills in those areas to the LOGICAL solution of a variety of problems, many of them word problems. Remember: Learn to notice a word in all capital letters, such as the word *logical* here. If you can think logically, you can prepare to do well on the math portion of the SAT. About 80% of the questions on the math section will be multiple choice.

Grid-in questions are also referred to as student-produced responses. There are only ten of these questions, and along with the essay, they are the only questions on the whole exam for which the answers are not provided. You will be asked to solve a variety of math problems and then fill in the correct ovals on your answer sheet. Again, the key to success with these problems is to think them through logically.

Writing Questions

The writing section has three parts: the essay (25 minutes) and two multiple-choice sections (25 minutes and 10 minutes). If the thought of writing an essay makes you cringe, don't worry. First, it's only one essay, and a short one at that (after all, how much can you write in 25 minutes?). Second, your topic will be very general. Third, the SAT is looking for a very specific kind of essay. In Chapter 5, you will review basic writing strategies and learn more about how to write the kind of essay that will maximize your score.

The multiple-choice section has three types of questions:

- Identifying sentence errors
- Improving sentences
- Improving paragraphs

These questions test your knowledge of grammar, usage, and general writing and revision strategies. Chapter 5 will show you exactly what to expect from these questions (including the most commonly tested grammar and usage errors) and what strategies to use to answer them correctly.

▶ What about Guessing?

You may have heard that there's a "careless penalty" on the SAT. What this means is that careless or random guessing can lower your score. But that doesn't mean you shouldn't guess, because **smart guessing** can actually work to your advantage and help you earn more points on the exam. Here's how smart guessing works.

Let's try math first. You get one point for each correct answer. For each question you answer incorrectly, one-fourth of a point is subtracted from your score. If you leave a question blank or if you don't attempt an answer at all, you are neither rewarded nor penalized.

Most SAT questions have five answer choices. If you guess blindly from among those five choices, you have a one-in-five chance of guessing correctly. Chances are, four times out of five, you will guess incorrectly. So, if there are five questions about which you have no clue how to answer, statistically speaking, you will guess correctly on one of them and receive one point. You will guess incorrectly on four of them and receive four deductions of one-fourth point each, or a total deduction of one point. Add one point; subtract one point. If you truly guess blindly, you neither gain nor lose points in the process.

Obviously, if you can rule out even one incorrect answer on each of the five questions, your odds will improve, and you will be receiving more points than you lose by guessing. The more wrong answers you can eliminate, the more points you rack up.

In fact, on many SAT questions, you can quickly rule out all but two possible answers. That means you have a 50% chance of being right and receiving one whole point. You also have a 50% chance of being wrong; but if you choose the wrong answer, you lose only one-fourth of a point. You can see that elimination of wrong answers is an important strategy on the SAT.

There are several elimination and guessing strategies you will find useful on the SAT. Those strategies will be discussed more in depth for each question type in Chapters 3, 4, and 5.

▶ Scoring the SAT

You've taken the exam. Now what? First, your answer sheet is scored by a computer. That's why you have to

SAT at a Glance

There are three sections on the SAT: Critical Reading, Writing, and Math.

Critical Reading

- Three question types:
  - reading comprehension (long passages)
  - paragraph-length critical reading (short passages)
  - sentence completion
- 70 minutes long, divided into three sections (two 25-minute sections and one 20-minute section)
- All questions are multiple-choice.

Writing

- Three sections:
  - essay (25 minutes)
  - multiple choice (25 minutes)
  - multiple choice (10 minutes)
- Three multiple-choice question types:
  - identifying sentence errors
  - improving sentences
  - improving paragraphs
- Multiple-choice questions cover grammar, usage, and basic writing and revising strategies.
- The essay topic is general enough so that anyone can write about it well.

Math

- Two question types:
  - five-choice (about 80%)
  - grid-ins (student-produced responses, about 20%)
- 70 minutes long, divided into three sections (two 25-minute sections and one 20-minute section)
- Mathematical concepts include:
  - arithmetic
  - algebra I and II
  - geometry
  - statistics

The exam takes approximately three hours and forty-five minutes to complete, plus additional time for breaks and filling out forms.

be careful about how you mark your answer sheet. The computer doesn't know what you *meant* to mark; it only sees what marks are on the sheet.

For the multiple-choice questions, the computer counts the number of correct answers and gives one point for each. Then, it counts your incorrect answers and deducts one-quarter point for each from the total of your correct answers. If the score that results from the subtraction is a fraction of a point, your score is rounded to the nearest whole number. However, **no** point or fraction of a point is subtracted for incorrect answers to the grid-in questions.

Your essay will be scored by two trained high school or college instructors. (You will learn more about how these readers score the essay in Chapter 5.) The raw score for the essay ranges from 0–12 points. (Each reader rates the essay 0–6, 6 being the highest score.) Essays are scored holistically, meaning readers assess the overall effectiveness of the essay. This means that essays with minor grammar and spelling mistakes can still earn a top score.

Your raw score for each section (critical reading, writing, and math) is then converted to a scaled score, using the statistical process of equating. For each section of the test, the scaled score will be somewhere between 200 and 800, 800 being the highest score. That means your combined critical reading, writing, and math scores will be between 600 and a perfect score of 2,400.

Score Reporting

The College Board will send you a report on your scores. They will also send your scores to the schools (up to four) you request on your application. Colleges are used to seeing these reports, but they can be confusing to everybody else. Here's how you look at them:

You will see your scaled scores on the Critical Reading, Math, and Writing sections, in a column titled **Score.** You will also see your subscores for each part of the Writing section: a score from 0–12 on the essay and 20–80 on the multiple-choice portion. Then, you will see columns titled **Score Range** and **Percentiles College-Bound Seniors.** The information in these columns can be useful in your preparations for college.

Score Range

The College Board realizes that due to variations among versions of the SAT and due to the normal ups and downs of life, your score on any particular test on any particular day reflects your placement within a range of test scores. Experience tells them that if you retake the exam without further preparation, you are unlikely to move up or down more than thirty points on the critical reading, math, or writing portion.

When you see your test results, therefore, you will see that, immediately following your total scaled score for each section, there is a score range, which is a 60-point spread. Your actual scaled score will fall right in the middle of this range. You can think of this range as representing the same kind of hedging done by pollsters, who report the result of an opinion poll with a built-in margin of error. For example, 58% of high school seniors attend their senior prom.

An important aspect of your score range is that the test-makers believe you are just as likely to receive a lower score when retaking the SAT as you are to receive a higher score. Fortunately for you, that is true only if you do no further preparation for the test. So, if you have already taken the SAT and have bought this book to help you improve your score next time, you are on the right track. If you have yet to take the SAT and have bought this book to help you score better your first time around, congratulations on thinking ahead!

Percentile

Your score report will also include two percentile rankings. The first ranking measures your SAT scores against those of all students who took the test nationwide. The second ranking measures your scores against only the students in your state who took the test.

The higher your percentile ranking, the better. For example, if you receive a 65 in the national category and

a 67 in the state category, that means your scores were better than 65% of students nationwide and better than 67% in your state. In other words, of every 100 students who took the test in your state, you scored higher than 67 of them.

Additional Score Information

Along with information about your scaled score, the College Board also includes information about your raw score. You can see how well you did on each type of critical reading, math, and writing question—how many you answered correctly, how many incorrectly, and how many you left blank. You can use this information to determine whether you could improve on a particular type of question. If you have already taken the SAT, use this information to see where you need to concentrate in your preparations.

You will also receive information about the colleges or universities to which you have asked the College Board to report your scores. This information will include typical SAT scores of students at these schools as well as other admission policies and financial information.

Please remember that when you look at SAT scores for a particular campus, the scores are not the only criterion for admission to or success. They are part of an application package. On your SAT report, you will see the score range for the middle 50% of freshmen at each school. When you look at that range, remember it means that 25% of the freshmen scored higher than that range and 25% scored below. Just because your score falls below that range for a particular school, don't think admissions officers won't be interested in you. One-fourth of their freshman class scored below that range. Nevertheless, you obviously know that admission to the most desirable schools can be fiercely competitive. That's why it's important to prepare thoroughly—with the help of this book—to earn the highest score you can on the SAT.

4 Steps to Scoring the SAT

For multiple-choice questions:

1. Right answers are added—1 point for each correct answer.
2. Wrong answers are subtracted—$\frac{1}{4}$ point for each wrong answer.
3. Raw score is calculated—right answers minus wrong answers—and rounded to the nearest whole number.

For grid-in questions:

1. Right answers are added—1 point for each correct answer.
2. Wrong answers receive **zero** points—no points are subtracted.
3. Raw score—the total number of correct answers—is calculated and rounded to the nearest whole number.

For the essay question:

1. Your essay is scored by two expert readers who each assign it a score from 0–6.
2. Raw score—from 2–12—is calculated by adding the two scores.

For the entire exam:

1. Raw scores are converted to scaled scores, using the ETS equating process.

▶ Preparing for the SAT in General

You have already taken one of the most important steps in preparing for the SAT: You are reading this book. If you were traveling to a foreign land, it would be wise to learn all you could about the country's culture, so you'd know what to expect when you got there. The SAT has its own culture. It is not like any other tests you have taken, with the exception of the PSAT/NMSQT, which is also prepared by the Educational Testing Service. Therefore, you are smart to learn all you can about this very distinctive exam and to practice taking it. This book will teach you about the culture of the exam and how to study for it.

What Other Books Do I Need?

This book is based on a careful and extensive analysis of the SAT. It contains the information you need to prepare for and succeed on the exam. In addition, this book offers you practical suggestions for organizing your time in the weeks and months leading up to the test.

There are five books that can be useful supplements to this one. LearningExpress publishes *Vocabulary and Spelling Success in 20 Minutes a Day* and *1001 Vocabulary and Spelling Questions.* Because vocabulary is one of the topics tested on the SAT, it is essential for you to develop a strong vocabulary. *Write Better Essays in Just 20 Minutes a Day, SAT Writing Essentials,* and other LearningExpress titles will help you prepare for the Writing section. *Practical Math Success in 20 Minutes a Day, SAT Math Essentials,* and *1001 Math Questions* will prepare you for the Math section.

It is important that you practice with these real questions. Many students fail to achieve their maximum score because they are thrown off balance by the distinctive style of the questions. It is necessary for you to familiarize yourself with the ETS style before test day.

Playing Catch-Up?

Have you started to worry that maybe you should have paid more attention in algebra class? That maybe you should have followed your teacher's advice and looked up unfamiliar words in the dictionary? Are you worried about having to write an essay under timed conditions? In Chapter 2 of this book, you will find detailed strategies for controlling test anxiety. Right now, let's just say that regret is a waste of energy in this case. It's important to remember that you are paying attention now. When you focus on preparing for the SAT, you can achieve your goal of a strong score.

Been There, Done That?

Have you already taken the SAT? If so, you must not have been satisfied with the results. Good. You can do better. You already have the information about where you need to improve (see "Additional Score Information" on page 10). This book has tips and strategies for you, as well as the key information you need about any changes that have been made to the exam since the last time you took it. Obviously, you have made the commitment to prepare for your retest, which means you're on the road to significantly improving your score.

Overview of This Book

The next chapter discusses how to approach your preparation process. You will learn how to study and what to study. Then, you will learn about stress and how to reduce it, as well as some general test-taking strategies.

Chapter 3 is an extensive breakdown of the SAT's Critical Reading section. You will learn all about the three types of critical reading questions. You will practice those questions and learn strategies for eliminating wrong answers and choosing right ones. Also, you will diagnose your strengths and weaknesses and come up with a plan for boosting your critical reading score.

In Chapter 4, you will learn about the two types of math questions on the SAT and what kinds of skills you need to answer them successfully. Here, you will find useful strategies, practice opportunities, and employ diagnostic tools that will enable you to come up with a personalized study plan.

Chapter 5 explains the Writing section of the SAT. You will learn about the different types of multiple-choice questions, as well as how to tackle the essay portion. This chapter includes many helpful practice questions and also contains detailed information about how the essay is scored, with strategies for writing within a time limit.

Are you ready? It's time to get started!

CHAPTER

2 SAT Study Skills and Strategies

How Do I Motivate Myself to Study?

Obviously, you don't have unlimited time to spend preparing for the SAT. How can you maximize the study time you do have? The first rule to remember is: How you study is as important as how much time you spend studying.

To study effectively, you need to focus all your attention on the material. Your attitude must be: At this moment, in this place, this is the most important thing to me. Phone calls are less important right now. TV shows are less important. My social life is less important. I'm studying for the SAT. I'm preparing for my successful future.

Visualize Your Future

What does your future hold? To a large extent, the decisions you are making right now will determine the answer to that question. Take a minute to think about what you want. Maybe the future seems a little hazy to you. That's okay. You don't need to have your entire life planned out yet. But some part of you most likely knows what you want out of college, so focus on that for the moment.

Let's start with choosing a school. What kind of campus do you want to be on? Large? Small? What are the other students like? What subjects are you looking forward to studying?

Form a visual image of yourself on a college campus. If you have a dream college, practice seeing yourself there. Visualizations like this are a powerful tool. They motivate you to work toward your dreams, and that helps make your dreams your reality.

Okay, you know where you want to be, at least in a general sense. Keep that vision in your mind and use it whenever you are tempted to neglect your study plan. It can be hard to stick to a study plan. There are always other things you'd rather be doing—you may encounter obstacles, feel overwhelmed at times with the size of the task, or experience anxiety about your chances for success. These are all common problems, and you can overcome them. This book will show you how.

▶ How to Study

The key to success in this endeavor, as in so many aspects of life, is to take things one step at a time. Break this giant task down into manageable pieces. Your first step toward successful studying is to map out your study plan.

First, decide what skills you need to improve upon. You may want to take a practice test to help you assess your strengths and weaknesses. Then, write down each type of question and how well you scored on it. Now you can prioritize your study time. Remember, though, no matter what you score, you will get better with practice. You practice learning to drive a car, to play soccer, or to play an instrument; and as you practice, you get better. Taking the SAT is no different.

The Schedule

Next, take a look at how much time you have between now and the test date. Get out your calendar and decide what time is available to you for studying. Your life may be pretty busy now, but there's bound to be some time you spend on less productive activities (like watching TV) that you could use to make your college dreams come true. Make a commitment to yourself, and then keep it.

One way you can help yourself stay motivated to study is to set up a system of rewards. For example, if you keep your commitment to study for an hour in the afternoon, you get to watch your favorite television show. If you stay on track all week, you get to go out Saturday afternoon. This is a game you play with yourself, so you only win if you play by the rules. As with Solitaire, it's not a lot of fun if you cheat. And anyway, remember that the ultimate way to win is to excel on the SAT and attend one of your top-choice colleges.

Your Learning Style

Another way to make studying easier for yourself is to know how you learn best. Are you a visual learner, an auditory learner, a kinesthetic learner, or some combination of the three?

A **visual learner** likes to read and is often a good speller. Often, she finds it hard to follow oral instructions, or even to listen, unless there's something interesting to watch, too.

When a visual learner studies, she can make good use of graphic organizers such as charts and graphs. Flash cards will appeal to her and help her learn, especially if she uses colored markers. It will help her form images as she learns a word or concept.

An **auditory learner**, by contrast, likes oral directions. He may find written materials confusing or boring. He often talks to himself, and he may even whisper aloud when he reads. He likes being read aloud to.

An auditory learner will want to say things aloud as he studies. He could even make tapes for himself and listen to them later. Oral repetition is an important study tool for him. Making up rhymes or other oral mnemonic devices will help, and he may like to listen to music as he works.

A **kinesthetic learner** likes to stay on the move. She finds it difficult to sit still for a long time and will often tap her foot and wave her hands around while speaking. She learns best by doing rather than by observing.

A kinesthetic learner may want to walk around as she practices what she's learning. Using her body helps

What's Your Learning Style?

Visual Learner

- form images in your mind
- use color codes
- use flash cards

Auditory Learner

- say things out loud
- record tapes for yourself
- explain things to others

Kinesthetic Learner

- write information down
- walk or move around as you study
- act it out

her remember things. Taking notes is an important way of reinforcing knowledge for the kinesthetic learner, as is making flash cards.

It is important to note that many people learn in a mixture of styles, although they may have a distinct preference for one style over the others.

Setting

So far, you've gathered information. You know what you need to learn. You've thought about techniques to help you absorb what you're learning. Now it's time to think about where you're going to study and what kinds of things will enhance your learning experience.

You know that to do your best work, especially when you're studying, you need to be focused, alert, and calm. Your undivided attention must be on the task at hand. That means you have to set up your study time and place with a lot of forethought. The first thing you can do is ask yourself: *where*, *when*, and *how*?

1. **Where do I like to work? Where do I feel comfortable and free from distractions?**
   Find a comfortable, convenient space where you can focus on studying for the SAT without interruptions or distractions.
2. **What time of day is best for me to study? When am I at my most alert and focused? Are there potential conflicts with other duties that need to be worked out with family members?**
   If you can, it's a good idea to set a regular study time and make the people around you aware of your study schedule. You can expect more support for your efforts if you let family members and friends know you are working to achieve a goal and that you need to stay focused. And, be sure to let them know you appreciate their support when you receive it!

   There is one weekly time slot that is the very best time to prepare for the SAT, especially in the weeks leading up to the test. That time is Saturday morning. Why do you think that is? Because Saturday morning is the time you will take the actual exam. If you practice taking the test and work on improving your test-taking skills on Saturday mornings, your mind and your body will be ready to operate at peak efficiency when you really need them.
3. **How do I study best? What kind of study atmosphere works best for me?**
   Each person is different when it comes to study habits: Some people need quiet to concentrate, while others like listening to music; some people enjoy snacking when they study, while others find that food slows them down. Is there any-

thing—a picture of your first-choice college, maybe—that will help motivate you to study for the exam? Consider these questions when setting up a place and time to prepare for the SAT. There are no set rules for studying, as long as it is productive for you.

Now that you have a good idea where you will study and what kind of environment you want to create for yourself and you've developed some ideas for how to motivate yourself and keep yourself on track, it's time to learn some more specific study strategies.

▶ Study Strategies

This book will give you a solid foundation of knowledge about the SAT. As mentioned previously, you may also want to get a few good vocabulary building books, such as LearningExpress's *Vocabulary & Spelling Success in 20 Minutes a Day* and *1001 Vocabulary and Spelling Questions*; some math review books, such as *Practical Math Success in 20 Minutes a Day*, *SAT Math Essentials,* and *1001 Math Questions*; and writing guides like *Write Better Essays in Just 20 Minutes a Day* and *SAT Writing Essentials*. You may also want to consult the College Board's *The Official SAT Study Guide,* which is the only source that contains actual SAT questions.

You will also want to gather some other study tools and use them for your SAT preparations:

- a good dictionary, such as *Webster's 11th Edition*
- a notebook or legal pad dedicated to your SAT work
- pencils (and a pencil sharpener) or pens
- a highlighter, or several in different colors
- index or other note cards
- paper clips or sticky note pads for marking pages
- a calendar or personal digital assistant

Gather Information

You're already working on this step. For updates about the SAT, you can go to your high school guidance office or online to www.collegeboard.com. Using these sources, you can be sure to find out where and when the exam is being offered, as well as how much it will cost.

To sign up to take the SAT, you can:

1. Register online at the College Board's website, www.collegeboard.com. This site also provides several other college-related services.
2. Get the SAT Registration Bulletin from your high school guidance office. The Bulletin contains a registration form and other important information about the exam.
3. Call 1-609-771-7600 to speak with a customer service representative from the College Board.

Of course, you also need to find out what kinds of questions you will encounter on the exam. You already know a bit about the kinds of questions on the SAT, and Chapters 3, 4, and 5 will talk about the questions in detail and give you more study tips and strategies for answering them correctly. You can also obtain printed materials from your high school or www.collegeboard.com. Seek out that information right away—you will need it as you set up your study plan.

Create a Study Plan

You have thought about how, where, and when you will study. You've collected your tools and gathered essential information. Now you are ready to create your personal study plan. Here are the steps:

1. **If you have not done so already, take a practice test.** You can use the questions in Chapters 3–5 of this book or take one of the tests in the College Board's *The Official SAT Study Guide*. To create an effective study plan, you need to have a good sense of exactly what you need to study.

Steps to Successful Studying

1. Take a practice test.
2. Analyze your results.
3. List your strengths and weaknesses.
4. Determine your time frame.
5. Prioritize your study plan.
6. Study!

2. **Analyze your practice test results.** No matter what your results are, don't worry about them. Just look at each question as you score it, and for each incorrect answer, ask yourself the following questions:
   - **a.** Was there something I needed to know that I didn't know? If so, write down the skill needed for that question. Make a list of the skills you need to learn and devote extra time to studying them.
   - **b.** Did I misunderstand the question? The good news is that, with practice, you will become much better at understanding the SAT's question style.
   - **c.** Did I make a careless mistake on the question? Careless mistakes include transference errors (marking the wrong bubble on the answer sheet) and simple misreading, such as mistaking one word or number for another. If you are making careless mistakes, you need to work on focusing. Again, this gets easier with practice.
3. **Make a list of your strengths and weakness.** Use your analysis of why you missed the questions you missed. Now you know what specific math and verbal skills you need to work on, and you know what test-taking skills you need to improve.
4. **Determine your time frame.** Decide how much time you can devote each day and each week to your SAT preparation. Be realistic about how much time you have available—life will go on, with all its other demands. Once you know how much time you have, estimate how long you have to work on each specific task you have set for yourself. You may find it useful to break down the three exam sections by question type. You may have to prioritize your work in various areas, depending on how much time you have to prepare and in which subjects you can most improve your score.
5. **Prioritize your study plan.** "Learn everything by April 1" is not a useful plan. The first priority on your study plan should be to go through this book thoroughly so you can absorb the study tips and strategies for the exam. Then, set up a realistic study schedule based on the amount of time you have left before the exam. Rather than trying to study everything at once, practice one or two subjects or question types at a time.

Break It Down

Many people get discouraged when a task seems too big. It seems like they will never reach the end. That's why it's a good idea to break down all big undertakings, like this one, into smaller, more manageable bits. Set small goals for yourself, for example, "This week, I will work on mastering sentence completions." *Sentence completions* is a much more manageable task than "prepare for the SAT," even though it moves you in exactly that direction. Establish positive momentum and maintain it, one step at a time.

Remember Your Goals

Whenever you find yourself tempted to give up your hard work for an hour or two of entertainment, remind yourself that many people never reach their goals because they seem so far away and difficult to achieve. It's always important to keep in mind why you are working so hard.

Remember your visualization about college? The more often you practice that visualization, the more real it becomes to you. The more real it is, the more clearly you see that your goal is within your grasp. Just stick to your plan, one day at a time.

Sometimes, your study plans are derailed for legitimate reasons. You get sick; a family member needs your help; your teacher assigns a project that takes more time than you expected. Life happens. Don't let this discourage you. Simply go back and pick up where you left off. Maybe you can squeeze in a little extra study time later. Keep working toward your goal.

Reward Yourself

Don't forget to reward yourself for your progress. Your daily reward can be a small one. "When I finish this chapter, I'll make myself some lemonade." Your weekly reward might be, "If I keep to my study plan every day this week, I'll buy that CD I want." Your big reward, of course, is being able to live out your dreams.

Take Care of Yourself

In the last few days before the exam, you should ease up on your study schedule. The natural tendency is to cram. Maybe that strategy has worked for you with other exams, but it's not a good idea with the SAT. For one thing, the SAT is three hours and forty-five minutes long (think marathon!); and you need to be well rested to do your best. For another thing, cramming tends to raise your anxiety level, and your brain doesn't do its best work when you're anxious. Try some common relaxation techniques—like deep abdominal breathing, tensing then relaxing your muscles, or visualizing a positive outcome on the exam—to combat test anxiety.

Study Suggestions

Now that you're relaxed and focused, you are ready to begin your studies seriously. You know that some study techniques are more effective than others. For example, taking practice tests is a helpful study technique ONLY if you carefully review your answers and learn why you missed certain questions. Here are some other study strategies you may want to try.

Get Active

What does that mean, "get active"? It means interact with what you read. Ask questions. Make notes. Mark up passages. Don't be a passive reader, just looking at words. Be a thinker and a doer.

Ask Questions

When you read a passage, ask questions such as:

1. What is this passage about?
2. What is the main idea, or topic?
3. What is the author's point of view or purpose in writing this?
4. What is the meaning of this word, in this sentence?
5. What does "it" refer to in this sentence? What is its antecedent?
6. Is this sentence part of the main idea, or is it a detail?

The more difficult the passage is, the more crucial it is that you ask these questions, and more questions, about anything you don't understand. Until you become very skilled at asking and answering questions about what you read, it's a good idea to actually write those questions out for yourself. For one thing, the act of writing helps you remember what questions to ask, especially for kinesthetic and visual learners. If you're an auditory learner, you should repeat them aloud as you write.

Mark It Up

Assuming the book belongs to you, get in the habit of highlighting and underlining when you read. When you see a main idea, mark it. If there's an unfamiliar word or a word used in an unfamiliar context, mark it. The trick, though, is to be selective. If you're marking too much of the passage, you need to practice finding where the author states his or her main idea.

Make Notes

Don't just *take* notes. Making notes requires you to think about what you're reading. Asking questions, such as the ones mentioned previously, is one way to make notes. Another kind of note-making consists of writing down your reactions to what you're reading. For example, you may disagree with an author's opinion. Write down your reaction! Be sure to say *why* you agree or disagree, or *why* you're confused, etc.

Make Connections

Another way of being interactive with what you study is to relate it to what you already know. For example, if you're trying to learn the word *demographic,* you may know that *dem*-ocracy refers to government by the *people*, while *graphic* refers to *information*, written or drawn. Then, you can remember that *demographic* has to do with *information* about *people*.

Making connections is one of the things that differentiates *remembering* from *memorizing*. In the short run, it may seem easier to just memorize a word or a fact; but unless you understand what you're learning—unless you have connected it to what you already know—you are likely to forget it again. Then, you will have wasted your study time and not improved your test score.

Math is easily learned when you make connections, when you make it meaningful for yourself. You can practice percentages and ratios, for example, by reading nutritional information on food packages and making up math questions based on it.

Break It Up

Just as you don't train to run a marathon by waiting until the last minute and then running twenty miles a day for five days before the race, you cannot prepare effectively for the SAT by waiting until the last minute to study. Your brain works best when you give it a relatively small chunk of information, let it rest and process, then give it another small chunk.

When you're studying vocabulary, for example, you may have a list of twenty words you want to learn. The most efficient way to learn twenty words is to break your list into four lists of five words each and learn one list before tackling the next.

Flash cards are a great study aid for the SAT and a way to easily study small chunks of information. Also, the act of writing on the cards engages your kinesthetic learning ability. Seeing the cards uses your visual learning, and reading the cards aloud sets up auditory learning. Flash cards are also extremely portable and flexible.

▶ Test-Taking Strategies

As you already know, it's important to improve your vocabulary and brush up on your math and writing skills as you prepare for the SAT, but it's not sufficient to do just those things. Like all standardized tests, the SAT also measures your test-taking skills. In this chapter, you will learn some of the test-taking strategies for success on the SAT. Strategies for each type of question will be discussed in more detail in Chapters 3–5.

Know Your Opponent

There is much truth in the saying that you fear what you don't understand. So, the best way to overcome the anxiety that keeps you from doing your best on the SAT is to learn as much as you can about the exam. The more you know about what to expect and the more practice you have with the test, the more relaxed you will be, and the better you will perform on test day.

How to De-Stress

It's one thing to be told not to worry, and another thing actually not to worry. How can you stop yourself from worrying? By substituting positive thoughts and actions. Half the battle with test anxiety is won by how you *think* about the test and what kinds of messages you're giving yourself about the exam.

Face Your Fears

Admitting that you're worried about the SAT is the first step toward conquering your fear about the exam. It can be helpful to write about your anxiety. Naming and describing your fears leads to overcoming them.

Start with the basic fear. You may be worried you don't have enough time to prepare. Once you've written that fear down, you can come up with a way to eliminate it. Prioritize what you want to study, so that you work on the most important skills first. Look again at your schedule. Where can you squeeze in more study time? Remember that flash cards can be studied any time you have even as much as *one* free minute!

Thinking about your fears in this way helps keep them in perspective. You know the SAT is serious business. That's why you're preparing for it. But if you can persuade yourself to think about it as a game you want to play, you can control your fear and replace it with a simple desire to win.

Just Do It

The very act of doing something makes you feel better and leads to more positive *thoughts,* which makes it easier to continue working. Therefore, it makes sense just to begin working. The place to start is with your study plan, based on the time you have available to study and on your assessment of your practice test results. Once you have your plan in place, just follow it. If you haven't already made your study plan, what are you waiting for?

Multiple-Choice Test Strategies

Most of the questions on the SAT are multiple-choice or five-choice questions. The exceptions to this are the ten student-produced response, or grid-in, questions and the essay portion of the Writing section, both of which you will learn to tackle later in this book. The good news about multiple-choice questions is that they provide you with the correct answer. The bad news is that the ETS is truly masterful at also providing *distracters.* Distracters are wrong answers designed to look like possible right answers. In Chapters 3–5 of this book, you will find detailed strategies for separating the correct answers from the distracters. Here is an overview of the basic technique:

1. **Read the question carefully.** Be sure you know *exactly* what is being asked. In particular, look for tricky wording such as, "All of the following are true about the author's purpose EXCEPT." Train yourself to notice any word in the question that is in all capital letters. Such a word will often completely change the meaning of the question.
2. **Circle or underline key words and phrases in the question**. For example, in the question
   The modern bicycle has all of the following safety features EXCEPT
   the key words are *modern*, *safety features*, and *except*. After you mark these words and phrases, look in the passage for the safety features of the modern bicycle. Then, choose the answer that is **not** mentioned in the passage as a safety feature of the modern bicycle.
3. **Rule out incorrect answers**. You may only be able to eliminate one or two incorrect answers, but every wrong answer you eliminate increases your chances of picking the correct answer. It's important to mark the answer as eliminated from your choices, so you will not waste time by mistakenly considering it again.
4. **Watch out for distracter techniques.** The ETS is very skillful at encouraging test takers to choose the wrong answer when they're not sure of the right one. Fortunately for you, there are several categories of distracter answers that tend to recur on the SAT. An example of a distracter is an

To Guess or Not to Guess

If you aren't sure about the answer to a question, should you guess? In most cases, the answer is *yes*. While it's true you're penalized a quarter of a point for an incorrect answer, if you can eliminate even one incorrect answer, it is to your advantage to guess.

absolute word such as *always, never, all,* or *none* included within an answer. While it is *possible* to find a correct answer that uses such an absolute, if you are unsure, it is wise to avoid an answer that uses one of these words. In Chapters 3–5, you will learn how to identify other types of distracters and eliminate them from your answer choices.

▶ The Endgame

Your routine in the last week before the test should vary from your study routine of the preceding weeks.

The Final Week

Saturday morning, one week before you take the SAT, is a good time for your final practice test. Then, use your next few days to wrap up any loose ends. This week is also the time to read back over your notes on test-taking tips and techniques.

This final week, however, it's a good idea to actually cut back on your study schedule. Cramming on vocabulary words and math concepts now will only make you feel less prepared and more anxious. Anxiety is your enemy when it comes to test taking. It's also your enemy when it comes to restful sleep, and it's extremely important that you be well-rested and relaxed on test day.

During that last week before the exam, make sure you know where you're taking the test. If it's an unfamiliar place, drive there so you will know how long it takes to get there, how long it will take to park, and how long you can expect to walk from the parking lot to the building where you will take the SAT. You should do this to avoid a last-minute rush to the test, causing unnecessary anxiety.

Be sure you get adequate exercise during this last week. It will help you sleep soundly, and exercise also helps rid your body and mind of the effects of anxiety. Don't tackle any new physical skills, though, or overdo any old ones. You don't want to be sore and uncomfortable on test day!

Check to see that your test admission ticket and your personal identification are in order and easily located. Go out and buy new batteries for your calculator, and put them in.

The Day Before

It's the day before the SAT. Here are some do's and don'ts:

Do:

1. Relax!
2. Find something amusing to do the night before—watch a good movie, have dinner with a friend, or read a good book.
3. Get some light exercise. Walk, dance, or swim.
4. Get together everything you need for the test: admission ticket, ID, #2 pencils, calculator, watch, bottle of water, and snacks.
5. Practice your visualization of succeeding on the SAT.
6. Go to bed early. Get a good night's sleep.

Don't:

1. Do not study. You've prepared. Now relax.
2. Don't party. Keep it low key.
3. Don't eat anything unusual or adventurous—save it for another time!

4. Don't try any unusual or adventurous activity—save it, too, for another time!
5. Don't allow yourself to get into an emotional exchange with anyone—a parent, a sibling, a friend, or a significant other. If someone starts something, remind him or her you are taking the SAT tomorrow and need to postpone the discussion so you can focus on the exam.

Test Day

On the day of the test, get up early enough to allow yourself extra time to get ready. Set your alarm and ask a family member or friend to make sure you are up.

Eat a light, healthy breakfast, even if you usually don't eat in the morning. If you don't normally drink coffee, don't do it today. If you do normally have coffee, have one cup. More than that may make you jittery today. If you plan to take snacks for the break, take something healthy. Nuts and raisins are a great source of long-lasting energy. Stay away from cookies and candy during the exam. Remember to take water.

Give yourself plenty of time to get to the test site and avoid a last-minute rush. Plan to get to the test room ten to fifteen minutes early. Once the exam begins, keep an eye on the time.

Remember not to spend too long on questions you don't understand. Mark them (in your test booklet, not your answer sheet) so you can come back to them if there's time. Check periodically (every five to ten questions) to make sure you are transposing correctly. Look at the question number, and then check your answer sheet to see that you are marking the bubble by that question number.

If you find yourself getting anxious during the test, remember to breathe. If you need to, take a minute or two to slip into your relaxation visualization or your visualization of success. You have worked hard to prepare for this day. You are ready.

CHAPTER

3 The SAT Critical Reading Section

What to Expect in the Critical Reading Section

The SAT has three critical reading sections: two 25-minute sections and one 20-minute section. There are three types of critical reading questions: **sentence completions**, **passage-length critical reading questions**, and **paragraph-length critical reading questions**. All of them are multiple-choice questions with five answer choices, **a**–**e**.

There may be a fourth critical reading section. If so, it means that one of the four sections is an experimental, or equating, section. You cannot determine which is the equating section, however, so it is important to do your best on each section.

Sentence Completions

Sentence completion questions test your vocabulary and your ability to follow the logic of complicated sentences. Each of these questions has either one or two blanks within a single sentence. Often, the sentences are long and difficult to follow, but with practice, you can learn to master them. There will be approximately 19 of these questions.

SAT Critical Reading Section at a Glance

The critical reading section of the SAT has 67 questions. There are three kinds of questions:

Sentence Completions Questions test your vocabulary skills and ability to follow the logic of a sentence.

Passage-Length Critical Reading Questions test your ability to understand the meaning of material in a long passage.

Paragraph-Length Critical Reading Questions test your ability to understand and analyze material in a short (one paragraph) passage or two related passages.

Passage-Length Critical Reading

These questions test your understanding of fairly long passages. The passages, typically 400–850 words in length, are drawn from texts in the humanities, social sciences, and natural sciences. There are also a variety of writing styles, including narrative, expository, and persuasive. You will have to analyze the passages in advanced ways, making inferences from the authors' statements, interpreting rhetorical and stylistic devices, and/or selecting the correct meaning of one of the words used. Again, practice will make perfect—or nearly so.

Paragraph-Length Critical Reading

Paragraph-length critical reading passages will be 100–200 words long, followed by two to five questions each. You will also find at least one (or more) pair of related passages. Like long-passage questions, the questions following short passages test your ability to understand college-level readings on a range of topics and styles. And again, you will be asked about a range of reading comprehension issues, from specific details to the author's purpose or main idea, from the meaning of specific vocabulary words to inferences that can logically be drawn from the text.

▶ The Power of Words

If you have a good vocabulary, you're in good shape for the SAT. All three kinds of critical reading questions test your knowledge of and ability to use words.

If you don't consider yourself a word person, don't despair. The fact is, we are all word people. Words shape our perceptions of the world. Even math can be thought of as another language; it is explained through the use of words.

No matter what kind of word power you already possess, your SAT critical reading score will improve dramatically as you increase your vocabulary. Other than reading this book, the single most productive thing you can do in studying for the SAT is to learn additional vocabulary. The best way to go about this is to read; check out LearningExpress's *Vocabulary and Spelling Success in 20 Minutes a Day,* which makes it easy to boost your vocabulary and your critical reading test score.

▶ Test for Success

Another important way to increase your chances for SAT success is to become familiar with the test itself. This section focuses on the critical reading test questions. The following pretest will help you assess what your strengths and weaknesses are when it comes to the critical reading skills tested on the SAT. Take this test without studying ahead in this book. Don't worry if you don't do as well as you wanted; there's no better way to focus your studies than by pinpointing the topics and question types you know well and those in which you need more practice.

Use the answer sheet below to record your answers.

ANSWER SHEET

1.	a	b	c	d	e		17.	a	b	c	d	e
2.	a	b	c	d	e		18.	a	b	c	d	e
3.	a	b	c	d	e		19.	a	b	c	d	e
4.	a	b	c	d	e		20.	a	b	c	d	e
5.	a	b	c	d	e		21.	a	b	c	d	e
6.	a	b	c	d	e		22.	a	b	c	d	e
7.	a	b	c	d	e		23.	a	b	c	d	e
8.	a	b	c	d	e		24.	a	b	c	d	e
9.	a	b	c	d	e		25.	a	b	c	d	e
10.	a	b	c	d	e		26.	a	b	c	d	e
11.	a	b	c	d	e		27.	a	b	c	d	e
12.	a	b	c	d	e		28.	a	b	c	d	e
13.	a	b	c	d	e		29.	a	b	c	d	e
14.	a	b	c	d	e		30.	a	b	c	d	e
15.	a	b	c	d	e		31.	a	b	c	d	e
16.	a	b	c	d	e		32.	a	b	c	d	e

▶ Critical Reading Pretest

There are 32 questions in this section. Set a timer for 30 minutes. Stop working at the end of 30 minutes and check your answers.

Sentence Completions

In each of the following sentences, one or two words have been omitted (indicated by a blank). Choose the word(s) from the answer choices provided that makes the most sense in the context of the sentence.

1. Although skinny as a rail, the young girl had a(n) ------- appetite.
a. eager
b. demanding
c. ravenous
d. breathless
e. primal

2. Because the rajah was sagacious, he ruled his subjects with -------.
a. rapacity
b. ignorance
c. compassion
d. fortitude
e. willfulness

3. Percival's ------- approach to life caused him to miss the kind of ------- experience his more frivolous peers enjoyed.
a. careless .. cerebral
b. unhealthy .. choleric
c. busy .. understated
d. amiable .. intense
e. utilitarian .. ecstatic

4. Scientific knowledge is usually --------, often resulting from years of hard work by numerous investigators.
a. ponderous
b. implacable
c. precarious
d. cumulative
e. egregious

5. Even though -------- meals cause her digestive trouble, my grandmother insists on eating her food as -------- as possible.
a. piquant .. spicy
b. foreign .. often
c. astringent .. slowly
d. cold .. quickly
e. purgative .. daintily

6. Although conditions in Antarctica are quite --------, scientists and others who go there to work have managed to create a comfortable environment for themselves.
a. audacious
b. inimical
c. felicitous
d. incalculable
e. oblivious

7. Because the king was heedful of --------, he ensured that his -------- would survive him.
a. posterity .. legacy
b. venerability .. heir
c. tradition .. sociopath
d. empathy .. advisors
e. artifice .. architect

8. The famous daredevil was actually quite --------
by temperament, as illustrated by the fact that he did not -------- until he was two years old.

a. daring .. tussle
b. arbitrary .. contradict
c. careful .. perambulate
d. mendacious .. vocalize
e. prosaic .. masticate

Passage-Length Critical Reading

Read the passage below and the questions that follow it. As you form your answers, be sure to base them on what is stated in the passage and introduction, or the inferences you can make from the material.

This passage, written by John Fiske in the late 1800s, offers the author's perspective on what he says are two kinds of genius.

There are two contrasted kinds of genius, the poetical and the philosophical; or, to speak yet more generally, the artistic and the critical. The former is distinguished by a concrete, the latter by an abstract, imagination. The former sees things synthetically, in all their natural complexity; the latter pulls things to pieces analytically and scrutinizes their relations. The former sees a tree in all its glory, where the latter sees an exogen with a pair of cotyledons. The former sees wholes, where the latter sees aggregates.

Corresponding with these two kinds of genius, there are two classes of artistic productions. When the critical genius writes a poem or a novel, he constructs his plot and his characters in conformity to some prearranged theory, or with a view to illustrate some favorite doctrine. When he paints a picture, he first thinks how certain persons would look under certain given circumstances, and paints them accordingly. When he writes a piece of music, he first decides that this phrase expresses joy, and that phrase disappointment, and the other phrase disgust, and he composes accordingly. We therefore say ordinarily that he does not create, but only constructs and combines. It is far different with the artistic genius, who, without stopping to think, sees the picture and hears the symphony with the eyes and ears of imagination, and paints and plays merely what he has seen and heard. When Dante, in imagination, arrived at the lowest circle of hell, where traitors like Judas and Brutus are punished, he came upon a terrible frozen lake, which, he says, "Ever makes me shudder at the sight of frozen pools." I have always considered this line a marvelous instance of the intensity of Dante's imagination. It shows, too, how Dante composed his poem. He did not take counsel of himself and say: "Go to, let us describe the traitors frozen up to their necks in a dismal lake, for that will be most terrible." But the picture of the lake, in all its iciness, with the haggard faces staring out from its glassy crust, came unbidden before his mind with such intense reality that, for the rest of his life, he could not look at a frozen pool without a shudder of horror. He described it exactly as he saw it; and his description makes us shudder who read it after all the centuries that have intervened.

So Michelangelo, a kindred genius, did not keep cutting and chipping away, thinking how Moses ought to look, and what sort of a nose he ought to have, and in what position his head might best rest upon

his shoulders. But, he looked at the rectangular block of Carrera marble, and beholding Moses grand and lifelike within it, knocked away the environing stone, that others also might see the mighty figure. And so Beethoven, an artist of the same colossal order, wrote out for us those mysterious harmonies which his ear had for the first time heard; and which, in his mournful old age, it heard none the less plainly because of its complete physical deafness. And in this way, Shakespeare wrote his *Othello*; spinning out no abstract thoughts about jealousy and its fearful effects upon a proud and ardent nature, but revealing to us the living concrete man, as his imperial imagination had spontaneously fashioned him.

9. In line 2 of this passage, the word *concrete* is contrasted with the word
- **a.** *imagination*
- **b.** *wholes*
- **c.** *complexity*
- **d.** *abstract*
- **e.** *aggregates*

10. The author's use of the phrase *prearranged theory* in line 8 suggests that
- **a.** it is wise to plan ahead
- **b.** a non-genius uses someone else's theories
- **c.** a critical genius is not truly creative
- **d.** a true genius first learns from others
- **e.** a writer should follow an outline

11. In line 27, the use of the word *colossal* to describe Beethoven implies
- **a.** no one really understands Beethoven's music
- **b.** Beethoven's symphonies are often performed in coliseums
- **c.** Beethoven was a large man
- **d.** Beethoven wrote music to his patrons' orders
- **e.** Beethoven was a musical genius

12. In lines 26–29, the author uses the example of Beethoven's deafness to illustrate
- **a.** Beethoven's sadness
- **b.** Beethoven's inherent creativity
- **c.** Beethoven's continuing musical relevance
- **d.** Beethoven's genius at overcoming obstacles
- **e.** Beethoven's analytical genius

13. In this passage, the author suggests that
- **a.** a good imagination is crucial to artistic genius
- **b.** a genius sees things that aren't there
- **c.** no one understands a genius's thought process
- **d.** many artists are unusual people
- **e.** a genius doesn't need to think

The following passages are excerpted from Abraham Lincoln's two inaugural addresses. The first was given in 1861, before the Civil War began. The second was delivered in 1865 as the fighting between North (anti-slavery) and South (pro-slavery) raged. (1865 was the final year of the Civil War.)

Passage 1

One section of our country believes slavery is RIGHT, and ought to be extended, while the other believes it is WRONG, and ought not to be extended. This is the only substantial dispute. The fugitive-slave clause of the Constitution, and the law for the suppression of the foreign slave-trade, are each as well enforced, perhaps, as any law can ever be in a community where the moral sense of the people imperfectly supports the law itself. The great body of the people abide by the dry legal obligation in both cases, and a few break over in each. This, I think, cannot be perfectly cured; and it would be worse in both cases AFTER the separation of the sections than BEFORE. The foreign slave-trade, now imperfectly suppressed, would be ultimately revived, without restriction, in one section, while fugitive slaves, now only partially surrendered, would not be surrendered at all by the other.

Physically speaking, we cannot separate. We cannot remove our respective sections from each other, nor build an impassable wall between them. A husband and wife may be divorced, and go out of the presence and beyond the reach of each other; but the different parts of our country cannot do this. They cannot but remain face to face, and intercourse, either amicable or hostile, must continue between them. Is it possible, then, to make that intercourse more advantageous or more satisfactory after separation than before? Can aliens make treaties easier than friends can make laws? Can treaties be more faithfully enforced between aliens than laws can among friends? Suppose you go to war, you cannot fight always; and when, after much loss on both sides, and no gain on either, you cease fighting, the identical old questions as to terms of intercourse are again upon you.

This country, with its institutions, belongs to the people who inhabit it. Whenever they shall grow weary of the existing government, they can exercise their CONSTITUTIONAL right of amending it, or their REVOLUTIONARY right to dismember or overthrow it. I cannot be ignorant of the fact that many worthy and patriotic citizens are desirous of having the national Constitution amended. While I make no recommendation of amendments, I fully recognize the rightful authority of the people over the whole subject, to be exercised in either of the modes prescribed in the instrument itself; and I should, under existing circumstances, favor rather than oppose a fair opportunity being afforded the people to act upon it. I will venture to add that to me the convention mode seems preferable, in that it allows amendments to originate with the people themselves, instead of only permitting them to take or reject propositions originated by others not especially chosen for the purpose, and which might not be precisely such as they would wish to either accept or refuse. I understand a proposed amendment to the Constitution—which amendment, however, I have not seen—has passed Congress, to the effect that the Federal Government shall never interfere with the domestic institutions of the States, including that of persons held to service. To avoid misconstruction of what I have said, I depart from my purpose not to speak of particular amendments so far as to say that, holding such a provision to now be implied Constitutional law, I have no objection to its being made express and irrevocable.

Passage 2

Fellow countrymen: At this second appearing to take the oath of the presidential office, there is less occasion for an extended address than there was at the first. Then a statement, somewhat in detail, of a course to be pursued, seemed fitting and proper. Now, at the expiration of four years, during which public declarations have been constantly called forth on every point and phase of the great contest which still absorbs the attention and engrosses the energies of the nation, little that is new could be presented. The progress of our arms, upon which all else chiefly depends, is as well known to the public as to myself; and it is, I trust, reasonably satisfactory and encouraging to all. With high hope for the future, no prediction in regard to it is ventured. On the occasion corresponding to this four years ago, all thoughts were anxiously directed to an impending civil war. All dreaded it—all sought to avert it. While the inaugural address was being delivered from this place, devoted altogether to saving the Union without war, insurgent agents were in the city seeking to destroy it without war—seeking to dissolve the Union, and divide effects, by negotiation. Both parties deprecated war; but one of them would make war rather than let the nation survive; and the other would accept war rather than let it perish. And the war came.

One-eighth of the whole population were colored slaves, not distributed generally over the Union, but localized in the Southern part of it. These slaves constituted a peculiar and powerful interest. All knew that this interest was, somehow, the cause of the war. To strengthen, perpetuate, and extend this interest was the object for which the insurgents would rend the Union, even by war; while the government claimed no right to do more than to restrict the territorial enlargement of it. Neither party expected for the war the magnitude or the duration which it has already attained. Neither anticipated that the cause of the conflict might cease with, or even before, the conflict itself should cease. Each looked for an easier triumph, and a result less fundamental and astounding.

14. In lines 4–5, when Lincoln says *the moral sense of the people imperfectly supports the law itself*, he means

a. slavery is wrong
b. the law is imperfect
c. it is moral to follow the law
d. not everyone agrees about the law
e. some people in the community are law breakers

15. In line 6, why does Lincoln say *it would be worse* if the country's sections separate?

a. War is always undesirable.
b. The disagreement would deepen in its expression.
c. The slaves would not be freed.
d. It would encourage law breakers.
e. The wall between them would remain impassable.

16. What is Lincoln's point in the second paragraph (lines 10–18) of Passage 1?

a. Divorce leads to estrangement.
b. It is better to make a treaty than to have war.
c. Separation is not the solution to the country's problems.
d. It is better to be friends than aliens.
e. You can't fight forever.

17. In line 31, the phrase *domestic institutions of the States* refers to

a. state schools
b. state laws
c. state churches
d. state elections
e. state political parties

18. Lincoln's tone in the last paragraph of Passage 1 (lines 19–34) is
- **a.** conciliatory
- **b.** hostile
- **c.** grandiose
- **d.** humble
- **e.** firm

19. In Passage 2, lines 35–36, why does Lincoln say there is *less occasion for an extended address*?
- **a.** The war is going well.
- **b.** There is no time to speak at length.
- **c.** There is little interest in his speech.
- **d.** He doesn't know what else to say.
- **e.** Everyone already knows his position.

20. In line 44, in referring to *insurgent agents*, Lincoln means
- **a.** foreign soldiers
- **b.** foreign spies
- **c.** secessionists
- **d.** southern spies
- **e.** slave traders

21. In Passage 2, whom does Lincoln blame for the war?
- **a.** the North
- **b.** the South
- **c.** both sides
- **d.** neither side
- **e.** himself

22. In line 52, the word *it* in the phrase *the territorial enlargement of it* refers to
- **a.** territory
- **b.** slavery
- **c.** interest
- **d.** government
- **e.** the Union

Paragraph-Length Critical Reading

The passages below are followed by several questions about their content. Read each passage carefully and answer the questions based on what is stated or implied in the text.

Questions 23–25 are based on the following passage about the Great Depression.

The worst and longest economic crisis in the modern industrial world, the Great Depression in the United States had devastating consequences for American society. At its worst (1932–1933), more than 16 million people were unemployed, more than 5,000 banks had closed, and over 85,000 businesses had failed. Millions of Americans lost their jobs, their savings, and even their homes. The homeless built shacks for temporary shelter—these emerging shantytowns were nicknamed "Hoovervilles," a bitter homage to President Herbert Hoover, who refused to give government assistance to the jobless. Farmers were hit especially hard. A severe drought coupled with the economic crisis ruined small farms throughout the Great Plains as productive farmland turned to dust and crop prices dropped by 50%. The effects of the American depression—severe unemployment rates and a sharp drop in the production and sales of goods—could also be felt abroad, where many European nations were still struggling to recover from World War I.

23. The passage is most likely an introduction to which of the following?

- **a.** a discussion of the global impact of the Great Depression
- **b.** an account of the causes and effects of the Great Depression
- **c.** a proposal for changes in how the government handles economic crises
- **d.** a history of unemployment in the United States
- **e.** a comparison of economic conditions in the 1930s and that of today

24. The author cites the emergence of "Hoovervilles" (line 5) as an example of

- **a.** federally sponsored housing programs
- **b.** the resilience of Americans who lost their jobs, savings, and homes
- **c.** the government's unwillingness to assist citizens in desperate circumstances
- **d.** a new kind of social program introduced by the government
- **e.** the effectiveness of the Hoover administration in dealing with the crisis

25. In line 7, *coupled* most nearly means

- **a.** eloped
- **b.** allied
- **c.** centralized
- **d.** combined
- **e.** associated

Questions 26–27 are based on the following passage about snake venom.

Snake venom is one of the most effective methods of self-preservation in the animal kingdom. It is, essentially, toxic saliva composed of different enzymes that immobilizes prey. One type of toxin, known as a hemotoxin, targets the victim's circulatory system and muscle tissue. The other is called a neurotoxin, and it affects the nervous system by causing heart failure or breathing difficulties. Although deadly, some snake venoms have been found to have curative properties. In fact, toxinologists, herpetologists, and other scientists have used the venom of a Brazilian snake to develop a class of drugs that is used to treat hypertension.

26. What is the best synonym for *immobilizes* as it is used in line 2?

a. movement
b. dislocates
c. daunts
d. sensitizes
e. incapacitates

27. The final sentence of the passage (lines 5–6) serves primarily to

a. explain how medicines are derived from snake venom
b. show how evolutionarily advanced snakes are
c. provide evidence to support the statement made in the previous sentence
d. suggest that Brazilian snakes have more curative venom than other snakes
e. introduce the idea that there is a special class of drugs used to treat hypertension

Questions 28–32 are based on the following passage about the Aristotle's view on friendship.

If you have ever studied philosophers, you have surely been exposed to the teachings of Aristotle. A great thinker, Aristotle examines ideas such as *eudaimonia* (happiness), virtue, friendship, pleasure, and other character traits of human beings in his works. In his writings, Aristotle suggests that the goal of all human beings is to achieve happiness. Everything that we do, then, is for this purpose, even when our actions do not explicitly demonstrate this. For instance, Aristotle reasons that even when we seek out friendships, we are indirectly aspiring to be happy, for it is through our friendships, we believe, that we will find happiness. Aristotle asserts that there are three reasons why we choose to be friends with someone: because he is virtuous, because he has something to offer to us, or because he is pleasant. When two people are equally virtuous, Aristotle classifies their friendship as perfect. When, however, there is a disparity between the two friends' moral fiber; or when one friend is using the other for personal gain and or pleasure alone, Aristotle claims that the friendship is imperfect. In a perfect friendship—in this example, let's call one person friend A and the other friend B—friend A wishes friend B success for his own sake. Friend A and friend B spend time together and learn from each other, and make similar decisions. Aristotle claims, though, that a relationship of this type is merely a reflection of our relationship with ourselves. In other words, we want success for ourselves, we spend time alone with ourselves, and we make the same kinds of decisions over and over again. So, a question that Aristotle raises, then, is: Is friendship really another form of self-love?

28. The primary purpose of the passage is to
- **a.** introduce the reader to philosophy
- **b.** suggest that Aristotle was a great thinker
- **c.** show that human beings are egoistic hedonists
- **d.** introduce one aspect of Aristotle's philosophy
- **e.** pose a question for the reader to ponder

29. According to Aristotle, helping a friend get the job she always wanted by writing a recommendation letter would be an example of
- **a.** a virtuous person
- **b.** an unselfish act
- **c.** someone in a perfect friendship
- **d.** someone who has self-love
- **e.** a person who wants success for all

30. The word *disparity* in line 9 means
- **a.** similarity
- **b.** anomaly
- **c.** fluctuation
- **d.** incongruity
- **e.** shift

31. According to the passage, if A befriends B only because A enjoys B's sense of humor, this would imply that
- **a.** B is not a virtuous person
- **b.** A is a virtuous person
- **c.** both A and B are virtuous people
- **d.** A and B are involved in a perfect friendship
- **e.** A and B are involved in an imperfect friendship

32. In the last sentence (lines 16–17), the author's purpose is to
- **a.** demonstrate that human beings are selfish
- **b.** extrapolate one of Aristotle's points on friendships
- **c.** leave the reader in a quandary
- **d.** justify human beings' behavior
- **e.** illustrate for the reader that Aristotle's teachings are complex

▶ Pretest Answers

Sentence Completions

1. c. *Although* sets up a relationship of contrast, or opposition. *Although* the young girl is skinny, she behaves opposite to what one would expect of a skinny person—she eats a lot, or has a ravenous appetite.

2. c. *Because* signals cause and effect. *Sagacious* means *wise.* A wise ruler would rule with *compassion*.

3. e. There is a clue in this sentence, the phrase: *more frivolous*. Why? Because we know Percival missed the kind of experiences *more frivolous* friends had. So, we know he's not frivolous. Which of the word choices means *not frivolous?* Choice **e**, *utilitarian .. ecstatic. Ecstatic experience* can be opposed to *utilitarian approach*. None of the other pairs works in the sentence.

4. d. Think of this sentence as *Scientific knowledge is* (something), *resulting from years of hard work by* (somebody). That means the blank will be filled by a word that describes the *result* of years of hard work. The word is *cumulative*. The others don't describe such a result.

5. a. *Even though* is another phrase that sets up a relationship of opposition, or thwarted expectations. But here, the opposition is between the adjective that goes in the first blank and *grandmother's digestion*. Even though this kind of meal causes her trouble, she insists on eating it. The word in the second blank describes the kind of food she eats *even though* it causes her trouble. It is close in meaning, then, to the first word. *Piquant* and *spicy* are synonyms. None of the other pairs has this relationship.

6. b. Climate conditions in Antarctica are brutal and inhospitable for humans. Therefore, the correct choice is *inimical,* which means *hostile*, like conditions in Antarctica.

7. a. The word *because* signals a relationship of causation. Start by replacing *heedful* with a more common or familiar word, like the synonym *aware*. Now, you may want to say this sentence to help you figure out the analogy: *Because the king was* (aware) *of* (something), *he* (made sure) (something) (would happen when he died). The only answer choice that can fill in both blanks is **a**, *posterity .. legacy. Posterity* means future generations, and *legacy* refers to something left behind, so the sentence is saying that the king wanted future generations to remember the things he had done after he was gone.

8. c. *Actually* is an important word here because it signals contradiction—again, dashed expectations. So, the first part of the sentence, up to the comma, means roughly *the daredevil had the kind of temperament you wouldn't expect in a daredevil*. The rest of the sentence is an example, an illustration of that aspect of his temperament. You wouldn't expect a daredevil to have a *careful* temperament. *Perambulate* means to get around on your own, so it also works in the sentence.

Passage-Length Critical Reading

9. d. In the first paragraph of this passage, the author compares and contrasts a series of words. To correctly answer this question, first pick out the pairs of contrasting words: *poetical* vs. *philosophical; artistic* vs. *critical; concrete* vs. *abstract; synthetically* vs. *analytically;* and *wholes* vs. *aggregates.* Then you can see that *concrete* is paired with *abstract.*

10. c. In the second paragraph, the author discusses two kinds of genius, the *critical* and the *artistic.* To answer this question, you first have to read the entire paragraph. In line 8, the author says the critical genius creates according to a *prearranged theory*. In line 12, the author says

of the critical genius *he does not create.* Any of the other answer choices may be considered true, but choice **c** is the only one found in this passage, so it is the correct one.

11. e. The word *colossal* comes from the Latin *colossus* and refers to a figure of gigantic proportions. The author has been discussing Dante and Michelangelo, both of whom he obviously admires. So, when he calls Beethoven an artist of the same order as those two, even if you don't know the word *colossal,* you can assume he is complimenting Beethoven's artistry.

12. b. In answering this question, it is important to keep in mind the author's purpose in writing the passage—to praise poetical genius. Beethoven is the sole composer discussed along with other creative artists the author reveres. While some of the other choices may be true, the author does not discuss them in this passage.

13. a. This is a question about the author's main point, or purpose in writing the passage. The word *suggests* tells you the exact phrasing of the answer choices may not be found in the passage itself. The author is praising artistic, or poetical genius and writes at length about the artistic imagination. The only answer choice that summarizes the author's ideas is choice **a**. Again, while some of the other answers may be true, they are not found in the passage.

14. d. In the first paragraph, Lincoln is discussing two U.S. laws that are philosophically opposed to each other: the fugitive-slave law, which requires a runaway slave to be returned to his or her owner, even if the slave has escaped to a free state, and the law which forbids the importation of slaves into the country, a law aimed at curtailing the slave trade. He says that each law is as well enforced as any law can be when the community itself is so divided on the moral issues involved. In other words, someone who supports the fugitive-slave law would be pro-slavery; and someone who supports forbidding the foreign slave trade would be opposed to slavery. The only answer choice which correctly restates what Lincoln says is **d**.

15. b. After Lincoln makes the declaration that separation would make matters worse, he gives his reasons in the next sentence. He says that each side would grow more firmly entrenched in its own position, a position the opposing side finds offensive.

16. c. This question asks for the point of the entire paragraph. Lincoln makes several points here, and it's up to you to tie them together into a coherent whole. While each answer is partially true, only choice **c** sums up Lincoln's statements throughout the paragraph.

17. b. The phrase *domestic institutions* is used in a sense we find unfamiliar today. Both before and after this phrase, however, Lincoln is discussing laws, and *domestic institutions* is used as part of that discussion.

18. a. The key to the correct answer here lies in the phrase *worthy and patriotic citizens,* used to describe those who want to change the Constitution. Lincoln goes on to say that he does not object to the proposed amendment.

19. e. Lincoln opens his Second Inaugural Address by saying there *is less occasion for an extended address* than there was at his first inauguration. He continues by comparing the two occasions, using the words *then* and *now;* and saying that the first occasion (*then*) called for a detailed statement, but that now, *little that is new could be presented*.

20. c. After using the phrase *insurgent agents,* Lincoln says what these agents were doing—*seeking to dissolve the Union*. In other words, they were secessionists.

21. b. When Lincoln says that one side *would make war rather than let the nation survive*, he is laying blame at the feet of the secessionists—in other words, the South.

22. c. You have to carefully trace back through the sentence to determine if *it* refers to a word or phrase in that sentence. *It* does, in fact, refer to the word *interest*. You have to go back for two more sentences to discover that *interest* refers to slaves, not to slavery itself. Nevertheless, even if *interest* referred to slavery, the correct answer would still be *interest.*

Paragraph-Length Critical Reading

23. b. The passage briefly summarizes the main effects of the Great Depression, including record unemployment, bank closings, and homelessness. Although it does not refer to the early causes of the economic crisis, it does explain what ruined small farms and further deepened the Depression. Thus, this passage would be an effective introduction to a discussion of the causes and effects of the Great Depression. The focus is clearly on the impact of the crisis in America, so choice **a** is incorrect, and the passage covers many consequences of the depression, not just unemployment (choice **d**). There is no suggestion that the author will propose a change in how economic crises are handled (choice **c**) or a mention of economic conditions today, so choice **e** is also incorrect.

24. c. Lines 5–6 state that shantytowns were called "Hoovervilles" because citizens blamed their plight on the Hoover administration's refusal to offer assistance. This suggests that Hoover didn't handle homelessness effectively, but it doesn't comment on Hoover's overall handling of the crisis, so **e** is incorrect. According to the sentence, Hoovervilles were shacks built by the homeless, so it could not refer to a federal housing program (choice **a**) or a new kind of social program (choice **d**). Choice **b** may be true, but the passage does not directly support this claim.

25. d. The sentence states that the severe drought and economic crisis *together* ruined small farms, so *coupled* most nearly means *combined*. None of the other choices makes sense in the context of the sentence.

26. e. From the context of the passage, it can be deduced that *immobilizes* is synonymous with *incapacitates*, because lines 2–4 explain that the effects of venom include targeting the muscle tissue and causing breathing difficulties.

27. c. The second-to-last sentence (lines 4–5) introduces the general idea that some venom has curative properties. The last sentence (lines 5–6) illustrates this by providing a concrete example of some venom's curative properties. The last sentence does not explain how medicines are derived from snake venom (choice **a**), nor is its purpose to show how evolutionarily advanced snakes are (choice **b**) or that Brazilian snake venom has more curative properties than other snakes (choice **d**). Although the final sentence does introduce the idea that some venom is used to treat hypertension, it does this to expand on the statement made in the previous sentence, not merely to introduce a new concept, as is incorrectly suggested by choice **e**.

28. d. The passage clearly introduces and discusses one subject area of Aristotle's many philosophical musings: friendship. Choice **a** is incorrect because the passage addresses one topic covered by a particular philosopher, not philosophy as a whole. While the passage does call Aristotle a great thinker, its primary purpose is not to prove this, making choice **b**

incorrect. While the passage does state that human beings are motivated only to achieve happiness and that friendship may be a reflection of self-love, the passage does not intend to show that human beings are egoistical hedonists, thus making choice **c** incorrect. Choice **e** is incorrect because, although the passage ends in a question, it does not aim to leave the reader with an unanswered question, but rather to extrapolate one of Aristotle's points on friendship.

29. c. According to Aristotle, someone in a perfect friendship wants success for his friend. Although choice **a** seems like the right choice, the passage never defines what it means to be a virtuous person, nor does it give any examples of this kind of person. The same is true for choice **b**. Although helping a friend get a job is an unselfish act, the passage does not define or exemplify an unselfish act. Choice **d** is illogical, and choice **e** is a concept that is never addressed in the passage.

30. d. Context is a big clue here. The sentence before (lines 8–9) introduces the idea that equally virtuous people form perfect friendships. Line 9 uses the word *however*, which suggests a contrasting, or opposite idea to the one in the previous sentence.

31. e. According to Aristotle, befriending someone simply because he or she provides you with pleasure (in this example, a sense of humor) is the definition of an imperfect friendship. Choice **a** is incorrect—the example given provides no evidence that B is not a virtuous person. Choice **b** is incorrect for similar reasons to choice **a**. The example given provides no evidence that A is virtuous. Again, there is no evidence that either A or B is virtuous, so choice **c** is incorrect. Choice **d** is incorrect because, according to the passage, it is in an imperfect friendship that one friend uses the other for pleasure alone, not in a perfect one.

32. b. In the last sentence, the author attempts to extrapolate for the reader one of Aristotle's points on friendships. Choice **a** is incorrect because, although Aristotle says that everything we do is to achieve the goal of happiness, he never says that this is a selfish pursuit. Although the last sentence is a question, its purpose is not to leave the reader in a quandary, but rather to pinpoint one of Aristotle's positions on friendships; thus, **c** is incorrect. Choice **d** is incorrect; the author is not trying to justify anything with the last sentence. Choice **e** is incorrect because the author never focuses on Aristotle's teachings being complex—if anything, the author is trying to clarify for the reader Aristotle's thoughts on friendship.

▶ Part 1: Complete That Sentence!

There will be approximately 19 sentence completion questions on the SAT. You will find them in three of the critical reading sections, and they make up a little less than 40% of your total Critical Reading score. Each of these questions takes the form of a sentence that is missing either one or two words, represented by blanks. You will have five answer choices, **a**–**e**, and must determine which answer best completes the sentence.

Sentence completions test two separate aspects of your critical reading skills: your vocabulary and your ability to follow the internal logic of sentences. These sentences are often quite complex. Fortunately, there are some strategies that will greatly increase your score on these questions.

Vocabulary Rules

By now, you are surely working on your vocabulary. You've seen that a good working vocabulary is a very important asset on the critical reading portion of the exam. Remember, the best way to learn vocabulary is also the easiest: Make long lists of words you don't know and then break them down into short lists. Learn a short list every day.

Tip

When working on your vocabulary, remember to focus first on roots, prefixes, and suffixes. You will be pleasantly surprised to see how quickly learning these will increase the size of your vocabulary!

News Flash!

Try working with flash cards. They're easy to handle, portable, and friend-friendly, so you can study with a buddy. You and your friends can drill each other. If you can make games out of learning vocabulary, studying will be more fun; and you will learn more, too!

Tip

When you learn a new word, try to use it in conversation as soon as possible. Use a word three times, and it's yours!

Sentence Detective

Deciphering some of those sentences on the SAT can seem like an impossible mission, but like everything else worth doing, it's hard at first and gets easier as you practice. There are some basic skills you need to acquire, though. Think of yourself as a detective trying to decode a secret message. Once you have the key to the code, it's easy to decipher the message. The following sections will give you the keys you need to unlock the meanings of even the most complex sentences. The great thing is that these are master keys that can unlock any and all sentences, including the many complex sentences you will encounter in your college reading.

Sentence Structure

The single most important key to the meaning of a sentence is its structure. The best and easiest way to determine sentence structure is to look at its punctuation. Sentence completion questions always have one or more commas or semicolons. The basic strategy is to separate the sentence into units divided by punctuation. Often, one of the units will be complete (without a blank); then at least one unit will have one or two blanks. The complete unit will tell you what the unit(s) with a blank(s) (incomplete unit) needs to say. For example, consider this sentence: *After finding sacred objects inside numerous Mayan caves, archaeologists have begun to revise their opinion that the Maya used the caves solely for -------- functions.*

5 Words a Day = SAT Success

Try this:

1. Figure out how many days there are until you take the SAT.
2. Multiply that number by 5.
3. If you have 30 days until the exam, you can learn 150 new words, if you learn only 5 new words each day!

When you divide this sentence into punctuation-defined units, you have:

After finding sacred objects inside numerous Mayan caves,
and
archaeologists have begun to revise their opinion that the Maya used the caves solely for -------- functions.

The first unit, the unit without the blank, tells you that the second unit has something to do with what happened 1) *after* finding sacred objects and 2) in Mayan caves. The second unit, the one with a blank, tells you that 1) archaeologists have begun to revise their opinion and 2) their opinion (before being revised) was that Mayan caves were used only (solely) for some kind of function, or purpose. Your mission is to figure out what goes in the blank, namely what kind of function or purpose archaeologists used to think the caves were exclusively used for.

Now you're ready to use the first unit to illuminate the second. If scientists used to think *one thing* until they found *sacred objects,* it means they used to think the caves were *not* used for sacred purposes. Now you know you need to fill in the blank with a word that means *non-sacred,* a word such as *civic, secular,* or *non-ceremonial.* Your final step is to look at the answer choices to find the one that matches the idea you have formed about what needs to be in the blank(s).

Here's an example of a question that doesn't divide neatly into a complete unit and an incomplete unit. This question is taken from the pretest, and it has a blank in each of its two units:

The famous daredevil was actually quite -------- by temperament, as illustrated by the fact that he did not ..... until he was two years old.

The first unit is *The famous daredevil was actually quite -------- by temperament.* The word *actually* tells us that there is something unexpected going on. If *actually* were removed from the sentence, there would be no way you could know what kind of words go in the blanks. *Actually* is a clue word, one that points you toward the meaning of the sentence. The *famous daredevil actually* had an unexpected kind of temperament. What kind of temperament would you expect a famous daredevil to have? Adventurous, bold, daring, right? So the word that goes in the first blank will be one that has a contrasting relationship to that expected temperament.

The second unit of the sentence, *as illustrated by the fact that he did not -------- until he was two years old,* uses a phrase of comparison, *as illustrated by,* to let us know that the word that goes in the blank should complete the idea of the daredevil's having a non-bold temperament. Think of a synonym for "not bold." Put it in the first blank. Now read the sentence, using your word in the first blank. Think of something that, if not done before age two, would indicate that kind of temperament. Next, look at the answer choices for words similar to the ones you chose. The answer to that question,

you may recall, was *careful .. perambulate.* Even if you didn't know that to *perambulate* is to walk, or move about on one's own, you could be fairly confident that you had the right answer because *careful* is such a good choice.

A Clue for You

The second important skill you must master for sentence completion questions is the ability to identify key words and phrases. These are the words that most help you decode the sentence. Think of them as clues to a mystery. Among the most useful of these are the words that enable you to identify the logical relationship between the complete unit(s) of the sentence and the incomplete unit(s). As in the preceding example, sometimes you have to complete one portion of a two-blank sentence before you can work on the logical relationship of another unit. There are three types of logical relationships commonly expressed in sentence completion questions: contrast, comparison, and cause and effect. These three relationships will help you succeed on sentence completion questions.

Contrast

Words that logically signal a relationship of contrast are words such as: *though, although, however, despite, but,* and *yet.* Can you think of others? There are also phrases that signal a contrast between the units of the sentence, phrases such as *on the other hand* or *on the contrary.* Try making a sentence using these words and phrases. See how the two parts of your sentence oppose each other. This is the logical relationship of contrast, or opposition. No matter how complex a sentence completion sentence seems at first glance, when you see one of these words or phrases, you will know you're looking at a sentence that expresses one thought in its complete unit and a contrasting thought in the incomplete unit. First, you decipher the thought in the complete unit, and then fill in the blank in the incomplete unit with a word that expresses a contrasting thought. For example:

> *Although the tiger is primarily a solitary beast, its cousin the lion is a -------- animal.*

First, divide the sentence into two units, using the punctuation to guide you. Now you have as the first unit, *Although the tiger is primarily a solitary beast,* and, *its cousin the lion is a -------- animal,* as the second unit. The first unit tells you by the use of the word *although* that the second unit will express a relationship of opposition or contrast. You can see that tigers and lions are being contrasted. The word that goes in the blank has to be an adjective that describes *animal* in the way that *solitary* describes *beast.* Therefore, the word that will contrast with the idea in the first unit is in opposition to *solitary.* What is an antonym of *solitary? Solitary* means alone. You might choose the word *social. Friendly, gregarious,* or *sociable* are other options, all meaning "not solitary." Then you look for the word in the answer choices that is a synonym of the word you chose.

Comparison

There are two kinds of comparison relationships: comparison by similarity and comparison by restatement. Words that signal comparison are words such as *likewise, similarly,* and *and*. Phrases that introduce comparisons are *just as, as -------- as, for example, as shown* and *as illustrated by.* Words and phrases that precede restatement are *namely, in other words, in fact,* and *that is.* Relationships of logical comparison are straightforward. The idea expressed in the complete unit of the sentence is similar to or the same as the idea that needs to be expressed in the incomplete unit. When you know what the complete unit says, you know what the incomplete unit needs to say—the same thing, or very nearly so. Here's an example of a comparison sentence:

> *Until he went to military school, Foster never stood up straight; as illustrated by his -------- in this photograph.*

This sentence has three units, two complete and one incomplete. The first two units tell you that before military school, Foster slouched. The blank in the third unit, therefore, needs to be filled by a word that will illustrate his slouching. The correct answer will be *posture*, or its synonym.

Cause and Effect

A third kind of logical relationship often expressed in sentence completion questions is the cause and effect relationship. In other words, the sentence states that one thing is a result of something else. Again, you can rely on key words to point you in the right direction. Words such as *thus, therefore, consequently,* and *because* and phrases such as *due to, as a result,* and *leads to* signal a cause and effect relationship. Try making some cause and effect sentences to see how they work.

Here's an example of a cause and effect sentence from the pretest:

> *Scientific knowledge is usually --------, resulting often from years of hard work by numerous investigators.*

The complete unit of the sentence, *resulting often from years of hard work by numerous investigators,* tells you that the other unit results from *numerous investigators* working *hard* for *years.* The incomplete unit, the one with the blank, tells you that you are looking for a word to describe *scientific knowledge* as a result of those years of hard work. You know that whatever word the test-makers are looking for, it must have something to do with *lots of stuff,* because years of hard work by numerous investigators would produce a lot of something. The answer choice that was correct for that question, you may remember, was *cumulative,* which applies to *lots of stuff*.

Putting It All Together

Once you learn how to identify the complete and incomplete units of a sentence, using punctuation to guide you, you've made a good start. Next, determine the logical relationship of the units, using key words and phrases; and then you understand what the sentence is saying, even if there's some vocabulary you don't understand. But if you keep working on building your vocabulary, chances are, you will understand the most crucial words.

The Big Eight: Steps for Answering Sentence Completion Questions

When you break up sentences using punctuation as a guide, you end up with more or less manageable chunks of words. Nevertheless, when you have a 25-word sentence, which is not that uncommon on the SAT, and you break it into two units, you can still easily have a 12–15 word unit. On the real SAT, there have even been 20–30 word sentences with no punctuation except for the period at the end.

These long sentences are further complicated by the fact that they often include difficult vocabulary. Seeing words you don't know may send your anxiety level soaring, and nobody does his or her best work

Signal Words and Phrases

contrast—*although, but, despite, however, yet, though*
comparison—*likewise, just as, similarly, for example, as illustrated by, and, as . . . as*
restatement—*in other words, namely, that is*
cause and effect—*as a result, due to, therefore, thus, leads to, because, consequently*

when anxious. With practice, though, you can learn to take those long sentences and unknown words in stride. Here's how to start.

1. Start small. Don't tackle the whole sentence at once. There are several techniques for breaking sentences into smaller units. Using punctuation to guide you, as demonstrated in the previous section, is the most obvious method. If the guiding commas and semicolons aren't there, however, you will need to look for other places to break up a sentence. One way you can do this is to find a verb (an action word that tells you what's happening) and gradually incorporate the words around it into an increasingly longer phrase as you decipher its meaning. The verb provides an anchor for the meaning because it tells you what is being done.

   You can also use trial and error to find islands of meaning in a sentence. Find a word or a phrase you understand and start adding a word or two on either side. As you discover several such islands and gradually enlarge each one, you will eventually see how they fit together; and then you will understand the dynamics of the whole sentence.
2. If the vocabulary in a sentence is a problem, look at the words around it. Usually, you can figure out what function a word is serving in the sentence. Ask yourself if it's an action word. If so, it's a verb. Is it describing something? Then it's an adjective or adverb. Is it the subject (the person, place, or thing) performing the action in the sentence? It's a noun or pronoun. Use the surrounding context to help you guess the meaning or at least the part of speech of an unfamiliar word.
3. As you are reading a sentence with blanks or with words you don't know (which might as well be blanks!), it can ease your anxiety to substitute words or sounds of your choosing in place of the unknown words. The words *something* and *whatever* work well in many situations. You may find you prefer nonsense words instead, such as *yada-yada* or *blah-blah.* As the meaning of the sentence gradually becomes clear, you can start substituting words that might work in the sentence.
4. Now that you have the gist of the sentence, it's time to think about filling in the blanks. It is crucial at this point that you *do not look at the answers!* Because the SAT has so many distracter answers that will look right if you haven't deciphered the meaning of the sentence, it would be a mistake to look at the answers to see what word(s) might go in the blank(s). You have to decide first what the answer needs to express. Then you can look at the answer choices to find one that matches your idea. It is not important that you come up with the perfect single word to express your idea. A phrase is fine, as long as you are clearly expressing the *meaning* you think the correct answer choice will express.
5. As you are deciding on the correct idea for the blank or blanks to express, be sure you are sticking to what is expressed in the sentence. Don't let the idea(s) in the sentence lead you off into another area. Perhaps the sentence reminds you of something you've read or heard that would perfectly complement the idea(s) in the sentence. Your information may be true, but *it's a mistake* to use your outside knowledge in completing a sentence. Remember, there will often be key words or phrases signaling the relationship of the various parts of the sentence. And there will *always* be enough information within the sentence so that you can answer without having any outside knowledge. Stick to the information within the sentence itself.
6. When you think you know what idea the answer word needs to express, it's time to look at the answers. If you see an answer choice that seems to match your idea, try plugging the answer into the sentence to see if it is internally consistent. That

means, check to see if it fits into the sentence without introducing any new ideas. If it seems to fit but brings in an idea you can't find anywhere else in the sentence, it's the wrong answer.

7. If you can't settle on an absolutely correct answer, use the process of elimination to help you. Once you've deciphered the meaning of the sentence, breaking it apart and fitting it back together, chances are, you will immediately see one or two answers that make no sense within the existing framework of the sentence. Eliminate all answers that don't fit the meaning of the sentence.

When you eliminate an answer, draw a line through it. Cross it out, mark it off, eliminate it from your consciousness. You no longer need to consider it, so don't let it slow down your thought process by continuing to exist as a possibility.

Promise yourself, however, that you will never eliminate an answer choice just because you don't know the vocabulary. Never rule out an answer because you don't know the meaning of the word(s). Sometimes, in fact, you will be able to eliminate all the other answers, leaving you with the one answer you don't understand, but which must be the correct choice.

A final warning about eliminating answers is that it must always be a conscious choice to eliminate an answer. Many times, distracter answers are positioned as choice **a** or **b** so that you see them, think hurriedly, "Oh, that's the one!" and move on without even looking at the other answers, including the correct one. Even if you think you see the correct answer, look at all the answer choices before making your final selection.

8. When a question has two blanks, you may be able to figure out the answer to one blank but not the other. If so, that's good—you can now eliminate all answers that do not fit in the blank you know. Then you can continue your efforts by focusing exclusively on the other blank.

▶ 40 Practice Sentence Completion Questions

In each of the following sentences, one or two words have been omitted (indicated by a blank). Choose the word(s) from the answer choices provided that make the most sense in the context of the sentence.

Use the answer sheet below to record your answers.

ANSWER SHEET

1.	a	b	c	d	e	21.	a	b	c	d	e
2.	a	b	c	d	e	22.	a	b	c	d	e
3.	a	b	c	d	e	23.	a	b	c	d	e
4.	a	b	c	d	e	24.	a	b	c	d	e
5.	a	b	c	d	e	25.	a	b	c	d	e
6.	a	b	c	d	e	26.	a	b	c	d	e
7.	a	b	c	d	e	27.	a	b	c	d	e
8.	a	b	c	d	e	28.	a	b	c	d	e
9.	a	b	c	d	e	29.	a	b	c	d	e
10.	a	b	c	d	e	30.	a	b	c	d	e
11.	a	b	c	d	e	31.	a	b	c	d	e
12.	a	b	c	d	e	32.	a	b	c	d	e
13.	a	b	c	d	e	33.	a	b	c	d	e
14.	a	b	c	d	e	34.	a	b	c	d	e
15.	a	b	c	d	e	35.	a	b	c	d	e
16.	a	b	c	d	e	36.	a	b	c	d	e
17.	a	b	c	d	e	37.	a	b	c	d	e
18.	a	b	c	d	e	38.	a	b	c	d	e
19.	a	b	c	d	e	39.	a	b	c	d	e
20.	a	b	c	d	e	40.	a	b	c	d	e

1. Although the valiant explorer tried for years to reach the South Pole, his -------- was never rewarded.
a. mendacity
b. tenacity
c. husky
d. predicament
e. sport

2. Ms. Pearson's rule was that a boor would not be allowed at her salon; likewise, any person of -------- manner could be admitted.
a. illicit
b. tough
c. pretty
d. genteel
e. atrocious

3. Callie thought her cousin Amanda was the most -------- girl she had ever met; in other words, she found Amanda the height of sophistication.
a. brave
b. genuine
c. urbane
d. benevolent
e. erudite

4. As a result of the candidate's -------- replies to her opponent in the debate, the conservative newspaper wrote a scathing review of her performance.
a. deferential
b. contumelious
c. formulaic
d. systematic
e. diaphanous

5. Mr. Castle thought himself a -------- conversationalist, as he always had something to say; but others just thought him --------.
a. consummate .. garrulous
b. copious .. cowering
c. veritable .. utopian
d. stolid .. masterful
e. invincible .. pliable

6. McCafferty was widely praised for his wartime heroism, but many found his efforts on behalf of the environment similarly --------.
a. naïve
b. trite
c. acme
d. vivacious
e. laudable

7. Some manufacturers have found a simple way to secure repeat customers, namely planned -------- for their products.
a. conciliation
b. belligerence
c. obsolescence
d. utopia
e. parity

8. The fact that people seldom understood what Frances meant was due to her -------- way of expressing herself.
a. cryptic
b. contraband
c. obedient
d. mediocre
e. nominal

9. Although James took his physician's advice and moved to Miami to take advantage of the -------- effects of a warm climate, his health did not improve.
a. noxious
b. innocuous
c. salubrious
d. mawkish
e. inadvertent

10. Charles was the -------- of fitness; therefore, the coach -------- him from running laps.
a. extension .. forbade
b. epitome .. exempted
c. insurance .. prohibited
d. nihilist .. preempted
e. clinician .. nominated

11. Staying in bed for months had several effects on Hillary; for example,-------- and weakness.
a. fortitude
b. incandescence
c. laceration
d. ridicule
e. pallor

12. Sometimes, a(n) -------- nature can lead to stress.
a. fastidious
b. slovenly
c. easygoing
d. savoir-fare
e. queasy

13. Coyotes had killed three of Chester's sheep; however, he bore them no --------.
a. latency
b. veterinarian
c. fencing
d. rancor
e. enclave

14. As -------- as he was --------, the notorious cat burglar of Venice was never apprehended.
a. incisive .. inclusive
b. pedantic .. alluring
c. sporadic .. chipper
d. undulating .. vicious
e. furtive .. larcenous

15. The sales representative was given -------- when working with his clients; for instance, he could take them to the most expensive restaurant in town if he thought it would help close a deal.
a. restrictions
b. derring-do
c. carte blanche
d. quid pro quo
e. affinity

16. When Casey set a goal, she admitted no --------; thus, she nearly always overcame obstacles.
a. critics
b. impediments
c. oracles
d. junctures
e. homily

17. Genevieve usually remains -------- even when she hears bad news, but when she lost her job, there was no cheering her up.
a. impassive
b. pessimistic
c. duplicitous
d. chronic
e. sanguine

18. Because Cheryl was so -------- at home, her parents found it hard to believe she seldom spoke in class.
a. panoramic
b. pithy
c. loquacious
d. disaffected
e. credible

19. Claire's father complained bitterly about her music, though it seemed barely -------- to her.
a. scurrilous
b. droll
c. onerous
d. audible
e. bourgeois

20. Despite their -------- viewpoints, the delegates managed to reach a --------.
a. ostentatious .. discussion
b. disparate .. consensus
c. profane .. vote
d. dilatory .. promontory
e. ridiculous .. principle

21. The two siblings have a -------- nature; therefore, it was no surprise that their political discourse at the party escalated into a full-blown --------.
a. sublime . . discussion
b. compromising . . fight
c. contentious . . altercation
d. cantankerous . . reverie
e. feisty . . analysis

22. Although Mr. Brinton lived on a fixed income, his -------- to the poor was exemplary.
a. vestibule
b. oratory
c. seance
d. benevolence
e. calumny

23. Tracy's primary reading material was poorly written gossip magazines, so her English essays were likewise --------.
a. badinage
b. jaunty
c. radical
d. idyllic
e. banal

24. Over the years, Jenny went from being a casual observer of baseball to a(n) -------- ; in other words, she began to follow every game during the season.
a. amateur
b. dilettante
c. lark
d. aficionado
e. joker

25. As a result of her -------- effort to attain the mountain's --------, Lauren was exhausted.
a. venomous .. vestibule
b. protracted .. pinnacle
c. probing .. outside
d. messy .. metamorphosis
e. hysterical .. glacier

26. Hoffman tried to parlay his success as a community activist into a stint as mayor, but the -------- rebuffed his effort.
a. rhetoric
b. lunatic
c. mutant
d. defendant
e. electorate

27. Mr. Ford never seems affected by joy or grief; similarly, his son has developed the same -------- nature.
a. passionate
b. tolerant
c. optimistic
d. adroit
e. stoic

28. Due to the -------- nature of Alice's tears, she soon found herself in a pool of salty water.
a. copious
b. conspicuous
c. consolable
d. humane
e. tenable

29. Despite Doug's -------- to the instruction manual, he found it impossible to properly assemble his desk.
a. complication
b. predicament
c. instability
d. partition
e. fidelity

30. Daphne always did what she was expected to do; therefore, it was an -------- that she joined the circus when it came through town.
a. obfuscation
b. anomaly
c. achievement
d. imposition
e. exhortation

31. Durwood was born with no discernible musical talent; however, his -------- play very well.
a. misnomer
b. hasps
c. progeny
d. prosecutors
e. truants

32. The nation's new rulers tried very hard to -------- all former influences; for example, they -------- all officials with any trace of influence over the people.
a. insinuate .. surmounted
b. purge .. ousted
c. explicate .. castigated
d. debrief .. continued
e. cover .. installed

33. Children of the tribe were brought up with one prime --------; namely to -------- their elders and ancestors.
a. policy .. polish
b. errand .. cherish
c. reward .. discourage
d. dictum .. venerate
e. interest .. inculcate

34. Chelsea forgot to mail her payment for the parking ticket; thus, her -------- was late.
a. extrication
b. palliation
c. remittance
d. precedent
e. dichotomy

35. Troy was devastated that he lost the wrestling championship, yet he found some -------- in the fact that it was his best effort.
a. solace
b. attitude
c. ambition
d. decimation
e. prevalence

36. At the reunion, one -------- led to another; and the old friends ended up telling stories all night.
a. meal
b. allegory
c. insurgency
d. anecdote
e. bereavement

37. As a teen, Jacob really despised doing his chores; in fact, he considered them a(n) -------- rather than a natural part of daily life.
a. exoneration
b. reward
c. amercement
d. pretense
e. noxious

38. Because he wanted to -------- his counting error, Finn took the inventory all over again.
a. rectify
b. exacerbate
c. indemnify
d. undulate
e. masticate

39. Though Paul had been banned from all school functions, he sent Devon as his -------- to stir up trouble.
a. posse
b. surrogate
c. template
d. genome
e. missionary

40. Professor Atkins refused to _____ his point; consequently most of his students misunderstood what he had said.
a. palliate
b. capitulate
c. elucidate
d. conduct
e. elongate

▶ Sentence Completion Answers

Remember, if you don't know a vocabulary word found in these questions, look it up and learn it.

1. b. The complete unit of this sentence sets up a relationship of contrast, signaled by the word *although.* The correct word is *tenacity,* which means the ability to stick to something.

2. d. The word *likewise* signals a comparison in this sentence. However, the word *boor* (an ill-mannered person) is in a position of comparison to the word you're looking for. You have to notice that a boor would *not* be admitted to the salon (a sort of club for conversation), whereas the blank calls for a kind of person who *would* be admitted.

3. c. *In other words* is a phrase that indicates a restatement, so you are looking for another word for *sophisticated*. That word is *urbane*.

4. b. This is a cause and effect sentence. You have to determine what kind of replies would result in a scathing newspaper review. *Contumelious* is the only word that fits the bill.

5. a. This double blank sentence has a contrasting relationship between its two main parts. The phrase that begins with *as,* the second unit, is the clue to both the first blank (it indicates a restatement of the first unit) and the second blank. The word *but* indicates the contrast between the first sentence unit and the third unit. The only answer choice that fits both blanks is **a**, *consummate* and *garrulous.*

6. e. The word *but* might seem to signal a contrast within this sentence, but when you see the word *similarly*, you know that it is actually a statement of comparison.

7. c. *Namely* is the word that indicates a restatement in this sentence. A manufacturer can secure repeat business through planned *obsolescence*.

8. a. *Was due to* indicates cause and effect. A *cryptic* mode of communication would prevent understanding.

9. c. *Although* expresses the idea of contrast. Although James went to Miami to benefit from—most likely, the positive effects of the warm weather—his health did not improve. *Salubrious* is the only answer the makes sense in the context of the sentence.

10. b. The word *therefore* signals cause and effect. The only answer that sets up that relationship is *epitome* and *exempted.*

11. e. This sentence is a comparison, as you can tell by the use of the phrase *for example.* The correct answer choice is *pallor*.

12. a. A relationship of cause and effect here is signaled by the words *lead to*. The only word that makes sense here is *fastidious*.

13. d. The word *however* indicates a contrasting relationship between the sentence units. *Rancor* is the answer.

14. e. The use of *as . . . as* indicates a comparison. However, you have to look for clues in the second unit of the sentence to tell you what kind of comparison is being made. A cat burglar who was never caught would be both *furtive* and *larcenous*.

15. c. The phrase *for instance* indicates that an example of what was stated in the previous clause is about to follow. Therefore, being allowed to take clients to the most expensive restaurant in town to help close a deal is an example of *carte blanche* in this particular situation.

16. b. *Thus* is a word that signals cause and effect. An *impediment* is an *obstacle,* so refusing to admit impediments would lead to overcoming obstacles.

17. e. *But* is a word that sets up contrast, so the reader has to determine what word would be most opposite in meaning to someone who was inconsolable after losing her job.

18. c. Cause and effect in this sentence is set up by the word *because.* Her parents found it *hard to believe* she seldom spoke in class, so the answer is *loquacious* (talkative).

19. d. *Though* is a signal word for contrast. The word to contrast with is *complained.* Look for the word that contrasts with a reason to complain about music. The answer is *(barely) audible*.

20. b. The key words in the question are *despite* and *managed*. Those two words together suggest a breaking of expectations of failure (as opposed to *managed*). Think of the question as: Despite (whatever), (whoever) managed to reach (something). Now you know what happens in the sentence: *Despite* (their -------- viewpoints), (the delegates) *managed to reach* (a --------). For the sentence to make sense, the word in the first blank needs to set up a conflict with the second word. You wouldn't expect delegates with *disparate* viewpoints to be able to reach a *consensus,* so those two words work in the sentence. None of the other pairs works.

21. c. The signal word in this sentence is *therefore*, so it is a cause and effect sentence. The second clause provides a bigger clue to the correct answer than the first clause does. If it is "no surprise" that a "political discourse," or discussion at a party, escalated into a "full-blown --------," that means that whatever happened was expected. What happened was most likely a fight, since a discussion "escalated into" something else. This means that the two siblings must have a quarrelsome nature, making choices **c**, **d**, and **e** possibilities and ruling out the others. But, because we now know that their quarrelsome nature led to a fight, we can rule out choice **d**—a "full-blown reverie"—makes no sense, and choice **e**, as a "full-blown analysis" doesn't make sense in the given context either.

22. d. *Although* is a word that signals a contrasting relationship. Monetary *benevolence* is something you might not expect from someone on a fixed income and is, therefore, the correct answer.

23. e. The word *likewise* signals a comparison. *Banal* is the word that is comparable to a *poorly written gossip magazine*.

24. d. *In other words* indicates restatement. The second clause gives an example of what it means to be an aficionado of baseball.

25. b. The phrase *as a result* signals cause and effect. *Protracted* and *pinnacle* is the correct answer.

26. e. *But* indicates contrast. *Mayor* is a key word, indicating a move toward an elected office. *Electorate* is the best choice.

27. e. The word *similarly* indicates comparison. This means that if Mr. Ford never seems affected by joy or grief, then his son doesn't either. *Stoic* is the only word that makes sense in this context.

28. a. *Due to* is a phrase that shows cause and effect. Only *copious* tears would lead to a pool of water.

29. e. The word *despite* shows a contrast between the two units of the sentence. *Fidelity* is the correct answer because it is the only word that sets up a contrast with the impossibility of the assembly job.

30. b. This sentence is a little more complicated. *Therefore* sets up a cause and effect relationship; but the two units of the sentence contrast with each other, as a girl who always did what she was supposed to would be unlikely to join the circus impulsively. The correct answer, then, is *anomaly*.

31. c. *However* signals a contrasting relationship between the two sentence units. The only answer that works when inserted in the blank is *progeny*, which means offspring.

32. b. The phrase *for example* signals a comparative relationship, so you are looking for words that will express such a relationship in the sentence. In this case, the best strategy is to plug word pairs into the blanks. The words that fit the bill are *purge* and *ousted*.

33. d. *Namely* sets up a restatement. The sentence calls for a positive action word in the second blank, so you can eliminate three choices right away. Then look for the better word for the first blank. *Dictum .. venerate* is the correct choice.

34. c. *Thus* signals cause and effect. The correct choice is *remittance*, which is another word for payment.

35. a. The word *yet* indicates a contrasting relationship. Someone who is *devastated* might need *solace.*

36. d. The word *and* normally signals a complementary relationship. In this sentence, however, the word *therefore* is implied after the *and.* This tells you that whatever goes in the blank leads to *telling stories all night.* The correct answer, then, is *anecdote.*

37. e. *In fact* signals restatement or that an example will follow. If Jacob despised doing chores, it makes sense that he would consider them an amercement, or a punishment.

38. a. The word *because* signals cause and effect. An *error* calls for a correction. The correct answer is *rectify*, meaning to correct.

39. b. *Though* signals a contrasting relationship. Someone who has been *banned* cannot attend and so would need to send someone in his place. The correct answer is *surrogate*, meaning substitute.

40. c. Cause and effect is indicated here by the word *consequently.* A lack of explanation, or *elucidation,* would lead to misunderstanding. Consequently, the correct answer is *elucidate.*

▶ Part 2: Reading Is Critical

There are approximately 40 long-passage critical reading questions on the SAT. Each Critical Reading section contains at least one long passage, followed by questions about the passage. Passages are excerpted from writings in the fields of literature, humanities, and social and natural sciences. There is no poetry. Each passage is between 400 and 850 words in length, and there will be between 5 and 13 questions after each one.

In one critical reading section of the exam, there will be a set of two long passages. These two passages will complement each other in some way. Most often, they will present either supporting or opposing points of view. Some of the questions about these passages will require that you be able to analyze similarities and differences between the two passages.

Many of the reading comprehension questions are vocabulary-related. You can think of them as a variation on sentence completion questions, asking you to determine the meaning of a word or phrase in context. Sometimes, the test-makers ask about fairly common words that have multiple uses and ask you to choose the correct meaning or shade of meaning. Most often, the answer will be a more obscure meaning of the commonly used word.

Other reading comprehension questions test your ability to understand what you read. SAT passages are usually complex, densely packed with ideas; and many are somewhat overwhelming at first glance. You will be asked to extract information that may be stated explicitly or implied. In other words, a passage may contain arguments with underlying assumptions, which you will be asked to uncover. You will be asked about the logical flow of the texts and about their consistency or lack thereof. You may also have to answer questions about the tone of the passages as well as their overall theme or meaning.

Fortunately, the skills you are learning for the sentence completion questions will also serve you well for the reading comprehension questions. Additionally, learning to make sense of complex passages will make your college career even more successful.

Ready, Set, Read!

If you are already skilled at quickly reading and understanding dense prose, good for you! If not, try this approach. Feel free to adapt it and change it to suit your needs and temperament. There's no one "right" way to read. The right way to do all of these things is the way that works for you; so as you practice, try variations on the method to see what suits you.

Every reading comprehension passage has a short one- to three-sentence introduction. This introduction will provide you with some context for the passage as a whole, so read it first. Occasionally, there will be a question that requires knowledge of this introduction, so read it carefully.

Now you may want to skim the passage for its subject matter. With practice, you will find that topic sentences and key adjectives will practically leap out and grab your attention. Be sure to keep your pencil poised to write as you read. You will want to mark key words and phrases as you see them.

Next, read the passage all the way through. As you finish each paragraph, determine its main idea. Then, jot a word or phrase that expresses that idea in the margin of your test booklet. This is a note to yourself, which will enable you to easily find sections of the passage later and quickly tie the separate paragraphs into a coherent whole.

As you read the passage, mark any words or phrases that seem particularly important or expressive. Often, adjectives that set a mood or tone will help you understand the author's meaning, so underline them or jot them down in the margin. It's also important to note the location of details that support the author's main point(s).

Of course, you were paying attention in English class when the teacher discussed topic sentences, so you know that most well-written paragraphs have at

least one sentence that sums up the main thrust of the paragraph. It is most often either the first or the last sentence, so if you're having trouble determining the author's point, reread the first and last sentences of each paragraph.

Once you've quickly but carefully read the entire passage, it's time to tackle the questions. On the SAT, the questions are organized roughly in the same order as the parts of the passage to which they refer. In other words, the answer to the second question will most likely be found in the passage somewhere after the answer to the first question, and so forth. All of the passages on the SAT are numbered every five lines. Additionally, many of the questions contain the line number or numbers that will help you locate the answer. Beware, though, that you don't assume that the answer to the question will be found exactly in the line referenced in the question. Chances are, it will be found somewhere *near* that line; but it still may be a few lines away. This is when the words and phrases you have marked and the notes you have jotted in the margin will come in really handy.

When you have a set of questions on two related passages, there will be several questions without line numbers. Those questions will usually ask you to compare the two passages in various ways. Again, you will be glad for your marks and notes on the passages.

As you read each question, approach it as you would any other sentence. Underline or circle key words and phrases that help you with the meaning of the question. Whenever you see a word or phrase such as *best, primarily, most closely,* or *most nearly,* it alerts you to the likely presence of particularly good distracter answers. That is to say, there may be two or more answers that reflect language from the passage or that may be true about the passage. Rest assured, however, that with careful attention to the wording of both question and answer choices, you can determine which choice is truly best.

Nine Proven Strategies for Reading Comprehension Questions

1. Read actively! As you read, ask yourself at the end of each paragraph what it was about. Mark up the passage, and write any thoughts you have about it in the margins. Be an engaged reader. Try to become interested for a few minutes in whatever the subject of the passage is.
2. If you have an especially good short-term memory, you may want to look at the questions before you read the passage. Mark the words and phrases the questions ask about, then look for those words and phrases in the passage. When you find them, you can either go ahead and answer the question right then or mark the area to come back to later.
3. If you don't understand what a question is asking, rephrase the question, using your own words. SAT questions are written in a very precise, "hyper-grammatical" style to eliminate any ambiguity. Unfortunately, nobody talks that way, so the questions can be confusing at first glance. Once you have marked the key words and phrases, rearrange them in a way that makes sense to you. Don't be afraid to add new words to the question; just be sure the words are expressing the same ideas that are already in the question and not changing the meaning of the question in any way.
4. Once you understand a question, try to answer it in your own words before looking at the answer choices. Distracter answer choices often take one of several forms:
   - are close to the correct answer, but wrong in some detail
   - are true, but do not answer the question
   - use language found in the text, but do not answer the question correctly

5. As with all the multiple-choice questions on the SAT, elimination is an important strategy for the reading comprehension questions. Even if you don't know the answer to a particular question right away, you often will be able to eliminate one to three answer choices without even referring back to the passage. Then you know that one of the remaining answers is the correct one, and you can spend your time more productively looking up those answers in the passage.
6. If you know from your preparation and pretesting that you don't always have enough time to finish each section, don't hesitate to skip around the questions. Look them over and answer the easy ones first, coming back to the more difficult questions. Remember, each correct answer is worth one point. You don't get bonus points for answering more difficult questions. If you skip a question, though, mark it in your test booklet and come back to it if there's time.
7. When you encounter a two-passage section, read the passages with their relationship in mind. Are they in agreement? Are they opposed? Is there some other kind of relationship? How would you describe the relationship? If the passages are opposed, what are the points of difference? Jot these things down and refer back to them, if necessary.
8. Expect to refer back to the passages(s) on virtually every question. If you know the answer to a question without referring to the passage, fine; however, it might be a good idea to check the passage anyway, just to make sure you haven't fallen for a distracter answer.
9. Remember to read between the lines! You may remember that you must be extremely literal with sentence completion questions and never read anything into them or bring in any ideas that are not clearly expressed within the sentence itself. That's not true with critical reading questions. In fact, you will be called upon to interpret almost every passage, to draw conclusions from the text, and to extend the author's point of view to evaluate a statement that isn't even in the passage. That's why it is so important to be actively engaged in reading each passage. Try to understand it as though you had written it yourself.

▶ 40 Practice Long-Passage Critical Reading Questions

Read the passage and the questions that follow it. As you form your answers, be sure to base them on what is stated in the passage and introduction, or the inferences you can make from the material.

Use the answer sheet below to record your answers.

ANSWER SHEET

1.	a	b	c	d	e	21.	a	b	c	d	e
2.	a	b	c	d	e	22.	a	b	c	d	e
3.	a	b	c	d	e	23.	a	b	c	d	e
4.	a	b	c	d	e	24.	a	b	c	d	e
5.	a	b	c	d	e	25.	a	b	c	d	e
6.	a	b	c	d	e	26.	a	b	c	d	e
7.	a	b	c	d	e	27.	a	b	c	d	e
8.	a	b	c	d	e	28.	a	b	c	d	e
9.	a	b	c	d	e	29.	a	b	c	d	e
10.	a	b	c	d	e	30.	a	b	c	d	e
11.	a	b	c	d	e	31.	a	b	c	d	e
12.	a	b	c	d	e	32.	a	b	c	d	e
13.	a	b	c	d	e	33.	a	b	c	d	e
14.	a	b	c	d	e	34.	a	b	c	d	e
15.	a	b	c	d	e	35.	a	b	c	d	e
16.	a	b	c	d	e	36.	a	b	c	d	e
17.	a	b	c	d	e	37.	a	b	c	d	e
18.	a	b	c	d	e	38.	a	b	c	d	e
19.	a	b	c	d	e	39.	a	b	c	d	e
20.	a	b	c	d	e	40.	a	b	c	d	e

Questions 1–7 are based on the following passage.

This passage is excerpted from the novel Ramona*, by Helen Hunt Jackson.* Señora *is a Spanish term of respect for an older and/or married woman.* Señorita *indicates an unmarried woman.*

Juan Canito and Señor Felipe were not the only members of the Señora's family who were impatient for the sheep-shearing. There was also Ramona. Ramona was, to the world at large, a far more important person than the Señora herself. The Señora was of the past; Ramona was of the present. For one eye that could see the significant, at times solemn, beauty of the Señora's pale and shadowed countenance, there were a hundred that flashed with eager pleasure at the barest glimpse of Ramona's face; the shepherds, the herdsmen, the maids, the babies, the dogs, the poultry, all loved the sight of Ramona; all loved her, except the Señora. The Señora loved her not; never had loved her, never could love her; and yet she had stood in the place of mother to the girl ever since her childhood, and never once during the whole sixteen years of her life had shown her any unkindness in act. She had promised to be a mother to her; and with all the inalienable staunchness of her nature she fulfilled the letter of her promise.

The story of Ramona the Señora never told. To most of the Señora's acquaintances now, Ramona was a mystery. They did not know—and no one ever asked a prying question of the Señora Moreno—who Ramona's parents were, whether they were living or dead, or why Ramona, her name not being Moreno, lived always in the Señora's house as a daughter, tended and attended equally with the adored Felipe. A few gray-haired men and women here and there in the country could have told the strange story of Ramona; but its beginning was more than a half-century back, and much had happened since then. They seldom thought of the child. They knew she was in the Señora Moreno's keeping, and that was enough. The affairs of the generation just going out were not the business of the young people coming in. They would have tragedies enough of their own presently; what was the use of passing down the old ones? Yet the story was not one to be forgotten; and now and then it was told in the twilight of a summer evening, or in the shadows of vines on a lingering afternoon, and all young men and maidens thrilled who heard it.

It was an elder sister of the Señora's,—a sister old enough to be wooed and won while the Señora was yet at play,—who had been promised in marriage to a young Scotchman named Angus Phail. She was a beautiful woman; and Angus Phail, from the day that he first saw her standing in the Presidio gate, became so madly her lover, that he was like a man bereft of his senses. This was the only excuse ever to be made for Ramona Gonzaga's deed. It could never be denied, by her bitterest accusers, that, at the first, and indeed for many months, she told Angus she did not love him, and could not marry him; and that it was only after his stormy and ceaseless entreaties, that she did finally promise to become his wife. Then, almost immediately, she went away to Monterey, and Angus set sail for San Blas. He was the owner of the richest line of ships which traded along the coast at that time; the richest stuffs, carvings, woods, pearls, and jewels, which came into the country, came in his ships. The arrival of one of them was always an event; and Angus himself, having been well-born in Scotland, and being wonderfully well-mannered for a seafaring man, was made welcome in all the best houses, wherever his ships went into harbor, from Monterey to San Diego.

The Señorita Ramona Gonzaga sailed for Monterey the same day and hour her lover sailed for San Blas. They stood on the decks waving signals to each other as one sailed away to the south, the other to the north. It was remembered afterward by those who were in the ship with the Señorita, that she ceased

(37) to wave her signals, and had turned her face away, long before her lover's ship was out of sight. But the men of the *San Jose* said that Angus Phail stood immovable, gazing northward, till nightfall shut from his sight even the horizon line at which the Monterey ship had long before disappeared from view.

1. In line 4, the phrase *shadowed countenance* refers to a
- **a.** shaded veranda
- **b.** somber face
- **c.** cool bedroom
- **d.** dark companion
- **e.** lonely landscape

2. Why did Ramona live in Señora Moreno's house?
- **a.** She was the Señora's daughter.
- **b.** She loved the Señora.
- **c.** The Señora had promised to raise her.
- **d.** She was loved by the Señora.
- **e.** The Señora was her aunt.

3. In lines 9–10, what is meant by the phrase *inalienable staunchness of her nature?*
- **a.** her natural mothering instinct
- **b.** her steadfastness
- **c.** her inability to love
- **d.** her facility as a correspondent
- **e.** her potential to be a good person

4. In lines 18–19, when the author says *they would have tragedies enough of their own presently*, she means
- **a.** they should mind their own business
- **b.** young people are not especially curious about old stories
- **c.** it would be bad luck for them to hear the story
- **d.** the story was not very important to anyone
- **e.** why sadden young people with the story

5. In line 25, to what does the phrase *bereft of his senses* refer?
- **a.** heightened sensitivity
- **b.** insanity
- **c.** without potential
- **d.** persistence
- **e.** being in love

6. In lines 25–28, what excuse is offered for Ramona Gonzaga's action?
- **a.** She did not love Angus.
- **b.** She had to leave town.
- **c.** Angus had to leave town.
- **d.** She had promised to marry Angus without knowing him.
- **e.** She had tried in vain to escape Angus's attentions.

7. It can be inferred from the final paragraph (lines 34–39) that
- **a.** Ramona was more devoted than Angus was
- **b.** Ramona had a short attention span
- **c.** Ramona and Angus never married
- **d.** Angus' devotion surpassed Ramona's
- **e.** it was a very long way to San Blas

Questions 8–20 are based on the following passages.

Both these passages were written in the 19th century by authors who felt they had learned some important things about life. Passage 1, about the importance of thoughtful observation to a successful life, is excerpted from an early book on child-raising. Passage 2 is an excerpt from Walden*, by Henry David Thoreau.*

Passage 1

From the beginning to the end of this book, I have most earnestly represented the necessity of forming early habits of observation. It is a strong foundation, on which any kind of character may be built, as circumstances require. It makes good writers, good painters, good botanists, good mechanics, good cooks, good housewives, good farmers—good everything! It fits us for any situation in which Providence may place us, and enables us to make the most of whatever advantages that come in our way. It is a sort of vital principle, that gives life to everything.

Not fifty miles from Boston is a farmer, quite famous for the improvements he has made in the wild grape. He found a vine in the wood, which dozens of his neighbors passed every week, as well as he; but he observed that where the oxen fed upon the vine the grapes were largest and sweetest. He took the hint. The vine was transplanted, and closely pruned. This produced the same effect as browsing had done; the nourishment, that in a wild state supported a great weight of vines and tendrils, went entirely to the body of the grape. His neighbors would have known this as well as he, if they had thought about it; but they did not observe.

In ancient Greece, the beneficial effect of closely trimming grape-vines was discovered by observing the extreme luxuriance of a vine, which an ass had frequently nibbled as he fed by the way-side. The man who availed himself of this hint, became celebrated throughout Greece, by means of the far-famed grapes of Nauplia; and, with less justice, statues were erected to the ass, and high honors paid to his memory. The grape had never been cultivated in this country, when, by a singular coincidence, an observing American farmer made the same discovery, and by the same means, that gave celebrity to the observing Grecian farmer, in very ancient times.

Even in infancy, the foundation of this important habit should be begun, by directing the attention to the size, shape, color, etc, of whatever objects are presented. In childhood it should be constantly kept alive, by never allowing anything to be read, or done, carelessly; and during the teens, when the mind is all alive and busy, very peculiar care should be taken to strengthen and confirm it. A young lady should never be satisfied with getting through with a thing some how or other; she should know how she has done it, why she has done it, and what is the best way of doing it. She should use her thoughts in all her employments. There is always a best way of doing everything; and however trifling the occupation, this way should be discovered; in making a shirt, for instance, she should be led to observe that it is much more convenient to put in the sleeves before the collar is set on. It is the want of these habits of observation, which makes some people so left-handed and awkward about everything they undertake.

Passage 2

Let us settle ourselves, and work and wedge our feet downward through the mud and slush of opinion, and prejudice, and tradition, and delusion, and appearance, that alluvion* which covers the globe, through

* flood

Paris and London, through New York and Boston and Concord, through Church and State, through poetry and philosophy and religion, until we come to a hard bottom and rocks in place, which we can call reality, and say, This is, and no mistake; and then begin, having a point *d'appui,* below freshet** and frost and fire, a place where you might found a wall or a state, or set a lamp-post safely, or perhaps a gauge, not a Nilometer, but a Realometer, that future ages might know how deep a freshet of shams and appearances had gathered from time to time. If you stand right fronting and face to face to a fact, you will see the sun glimmer on both its surfaces, as if it were a scimitar***, and feel its sweet edge dividing you through the heart and marrow, and so you will happily conclude your mortal career. Be it life or death, we crave only reality. If we are really dying, let us hear the rattle in our throats and feel cold in the extremities; if we are alive, let us go about our business.

Time is but the stream I go a-fishing in. I drink at it; but while I drink I see the sandy bottom and detect how shallow it is. Its thin current slides away, but eternity remains. I would drink deeper; fish in the sky, whose bottom is pebbly with stars. I cannot count one. I know not the first letter of the alphabet. I have always been regretting that I was not as wise as the day I was born. The intellect is a cleaver; it discerns and rifts its way into the secret of things. I do not wish to be any more busy with my hands than is necessary. My head is hands and feet. I feel all my best faculties concentrated in it. My instinct tells me that my head is an organ for burrowing, as some creatures use their snout and forepaws, and with it I would mine and burrow my way through these hills. I think that the richest vein is somewhere hereabouts; so by the divining-rod and thin rising vapors I judge; and here I will begin to mine.

** stream
*** a curved sword

8. In line 6, what is it that the author of Passage 1 says *gives life to everything*?
- **a.** Providence
- **b.** the vital principle
- **c.** character
- **d.** habit of observation
- **e.** a strong foundation

9. In lines 10–12, what kind of improvement did the farmer decide to make in the grape?
- **a.** He pruned it.
- **b.** He ate it.
- **c.** He fed his oxen with it.
- **d.** He cross-bred it with domestic grapes.
- **e.** He supported its weight.

10. In lines 10–13, why were some grapes larger and sweeter than others?
- **a.** The oxen ate some of the grapes.
- **b.** That vine was transplanted.
- **c.** Those grapes received more nourishment.
- **d.** The farmer observed those grapevines.
- **e.** The neighbors passed them by.

11. In line 15, the word *luxuriance* refers to
- **a.** the state of being pruned
- **b.** being fed upon
- **c.** beauty
- **d.** being well observed
- **e.** abundance

12. The author of Passage 1 says in the final paragraph that in the teen years, it is most important to
- **a.** learn to make shirts correctly
- **b.** keep one's mind on the task at hand
- **c.** unlearn any left-handed habits
- **d.** have fun
- **e.** think about the best way to do everything

13. The word *peculiar* in line 24 most nearly means
- **a.** odd
- **b.** distinctive
- **c.** uniform
- **d.** rigid
- **e.** enthusiastic

14. In line 27, the phrase *however trifling the occupation* most nearly means
- **a.** no matter what the line of work
- **b.** even in the least important task
- **c.** particularly in one's employment
- **d.** whenever one needs to work
- **e.** no matter how undignified one's job is

15. In the opening of Passage 2 (lines 31–38), the author states the belief that what stands between us and reality is
- **a.** facts
- **b.** poetry and philosophy
- **c.** a wall or a state
- **d.** mud and slush
- **e.** opinion, prejudice, delusion, appearance, and tradition

16. Toward delusion, it can be inferred that the author of Passage 2 feels
- **a.** indifferent
- **b.** threatened
- **c.** frustrated that it is so pervasive
- **d.** happy that it is so rare
- **e.** ready to accept it as a part of life

17. In the last paragraph of Passage 2, the author indicates that
- **a.** our brain is our best tool
- **b.** mining is an honorable occupation
- **c.** fishing makes one foolish
- **d.** humans are superior to other animals
- **e.** it can be hard to tell up from down when looking in a stream

18. With which of the following statements would the authors of both passages agree?
- **a.** Reality is whatever you define it as.
- **b.** That which is real is plain, if not always easy, to see.
- **c.** Society cloaks reality in mystery.
- **d.** What one actually does is more important than what one thinks.
- **e.** Hard work is the most important thing in life.

19. The two passages differ in that the author of Passage 1
- **a.** offers advice, while the author of Passage 2 does not
- **b.** is writing for parents, and the author of Passage 2 is not
- **c.** believes that observation is of paramount importance, but the author of Passage 2 thinks observation is overrated
- **d.** offers practical advice, while the author of Passage 2 takes a more intellectual approach
- **e.** cares about public opinion, while the author of Passage 2 does not

20. Both passages illustrate the idea that
- **a.** thinking for oneself has many rewards
- **b.** a well-bred person is industrious
- **c.** a bird in the hand is worth two in the bush
- **d.** life in the country is more rewarding than city life
- **e.** if one takes ones time, one will do a better job

Questions 21–26 are based on the following passage.

The following selection is taken from Hawaii's Story by Hawaii's Queen, *by Liliuokalani, a Hawaiian queen.*

For the purpose of enhancing the value of their own mission, it has been at times asserted by foreigners that the abundance of the chief was procured by the poverty of his followers. To any person at all familiar, either by experience or from trustworthy tradition, with the daily life of the Hawaiian people fifty years ago, nothing could be more incorrect than such an assumption. The chief whose retainers were in any poverty or want would have felt, not only their sufferings, but, further, his own disgrace. As was then customary with the Hawaiian chiefs, my father was surrounded by hundreds of his own people, all of whom looked to him, and never in vain, for sustenance. He lived in a large grass house surrounded by smaller ones, which were the homes of those the most closely connected with his service. There was food enough and to spare for everyone. And this was equally true of all his people, however distant from his personal care. For the chief always appointed some man of ability as his agent or overseer. This officer apportioned the lands to each Hawaiian, and on these allotments were raised the taro*, the potatoes, the pigs, and the chickens which constituted the living of the family; even the forests, which furnished the material from which was made the tapa cloth, were apportioned to the women in like manner. It is true that no one of the common people could mortgage or sell his land, but the wisdom of this limitation is abundantly proved by the homeless condition of the Hawaiians at the present day. Rent, eviction of tenants, as understood in other lands, were unknown; but each retainer of any chief contributed in the productions of his holding to the support of the chief's table.

But I was destined to grow up away from the house of my parents. Immediately after my birth I was wrapped in the finest soft tapa cloth, and taken to the house of another chief, by whom I was adopted. Konia, my foster-mother, was a granddaughter of Kamehameha I, and was married to Paki, also a high chief; their only daughter, Bernice Pauahi, afterwards Mrs. Charles R. Bishop, was therefore my foster-sister. In speaking of our relationship, I have adopted the term customarily used in the English language, but there was no such modification recognized in my native land. I knew no other father or mother than my foster-parents, no other sister than Bernice. I used to climb up on the knees of Paki, put my arms around his neck, kiss him, and he caressed me as a father would his child; while on the contrary, when I met my own parents, it was with perhaps more interest, yet always with the demeanor I would have shown to any strangers who noticed me. My own father and mother had other children, ten in all, the most of them being adopted into other chiefs' families; and although I knew that these were my own brothers and sisters, yet we met throughout my younger life as though we had not known our common parentage. This was, and indeed is, in accordance with Hawaiian customs. It is not easy to explain its origin to those alien to our national life, but it seems perfectly natural to us. As intelligible a reason as can be given is that this alliance by adoption cemented the ties of friendship between the chiefs. It spread to the common people, and it has doubtless fostered a community of interest and harmony.

* an edible plant

21. In line 2, the phrase *the abundance of the chief was procured by the poverty of his followers* indicates
- **a.** the chief never bought anything the people couldn't afford
- **b.** the chief felt badly for those with less than the royals
- **c.** foreigners do not understand Hawaiian culture
- **d.** Hawaiian tradition is more important than personal wealth
- **e.** all the people's wealth went to the chief

22. In line 7, the word *sustenance* refers to
- **a.** material support
- **b.** encouragement
- **c.** shelter
- **d.** affection
- **e.** rule

23. In lines 12–13, the author states that Hawaiian women were given
- **a.** taro
- **b.** tapa cloth
- **c.** forest land
- **d.** raw materials
- **e.** nothing

24. The last two sentences of paragraph 1 (lines 13–17) portray the Hawaiian land system as
- **a.** limited in its wisdom
- **b.** responsible for homelessness
- **c.** used to support the chief's retainers
- **d.** viable in the present day
- **e.** superior to the present system

25. In paragraph 2 (lines 18–33), the explanation offered by the author for her adoption reflects her belief that
- **a.** her foster parents were superior to her birth parents
- **b.** children should never be separated from their parents
- **c.** it was her fate
- **d.** the practice encourages cooperation among the people
- **e.** brothers and sisters are more often annoying than not

26. The author's tone in this passage is one of
- **a.** belligerence regarding her parents
- **b.** defensiveness of her culture
- **c.** resentment toward Western culture
- **d.** affection toward her adoptive parents
- **e.** curiosity about traditional practices

Questions 27–32 are based on the following passage.

This passage is an excerpt from the book Concerning the Spiritual in Art, *by the artist Wassily Kandinsky.*

Every work of art is the child of its age and, in many cases, the mother of our emotions. It follows that each period of culture produces an art of its own which can never be repeated. Efforts to revive the art principles of the past will at best produce an art that is still-born. It is impossible for us to live and feel, as did the ancient Greeks. In the same way those who strive to follow the Greek methods in sculpture achieve only a similarity of form, the work remaining soulless for all time. Such imitation is mere aping. Externally the monkey completely resembles a human being; he will sit holding a book in front of his nose and turn over the pages with a thoughtful aspect, but his actions have for him no real meaning.

There is, however, in art another kind of external similarity, which is founded on a fundamental truth. When there is a similarity of inner tendency in the whole moral and spiritual atmosphere, a similarity of ideals, at first closely pursued but later lost to sight, a similarity in the inner feeling of any one period to that of another, the logical result will be a revival of the external forms that served to express those inner feelings in an earlier age. An example of this today is our sympathy, our spiritual relationship, with the Primitives. Like ourselves, these artists sought to express in their work only internal truths, renouncing in consequence all consideration of external form.

This all-important spark of inner life today is at present only a spark. Our minds, which are even now only just awakening after years of materialism, are infected with the despair of unbelief, of lack of purpose and ideal. The nightmare of materialism, which has turned the life of the universe into an evil, useless game, is not yet past; it holds the awakening soul still in its grip. Only a feeble light glimmers like a tiny star in a vast gulf of darkness. This feeble light is but a presentiment, and the soul, when it sees it, trembles in doubt whether the light is not a dream, and the gulf of darkness reality. This doubt, and the still harsh tyranny of the materialistic philosophy, divide our soul sharply from that of the Primitives. Our soul rings cracked when we seek to play upon it, as does a costly vase, long buried in the earth, which is found to have a flaw when it is dug up once more. For this reason, the Primitive phase, through which we are now passing, with its temporary similarity of form, can only be of short duration.

These two possible resemblances between the art forms of today and those of the past will be at once recognized as diametrically opposed to one another. The first, being purely external, has no future. The second, being internal, contains the seed of the future within itself. After the period of materialist effort, which held the soul in check until it was shaken off as evil, the soul is emerging, purged by trials and sufferings. Shapeless emotions such as fear, joy, grief, etc., which belonged to this time of effort, will no longer greatly attract the artist. He will endeavor to awake subtler emotions, as yet unnamed. Living himself a complicated and comparatively subtle life, his work will give to those observers capable of feeling them lofty emotions beyond the reach of words.

The observer of today, however, is seldom capable of feeling such emotions. He seeks in a work of art a mere imitation of nature which can serve some definite purpose (for example a portrait in the ordinary sense) or a presentment of nature according to a certain convention ("impressionist" painting), or some inner feeling expressed in terms of natural form (as we say—a picture with Stimmung*). All those

* feeling

varieties of picture, when they are really art, fulfill their purpose and feed the spirit. Though this applies to the first case, it applies more strongly to the third, where the spectator does feel a corresponding thrill in himself. Such harmony or even contrast of emotion cannot be superficial or worthless; indeed the Stim-
(40) mung of a picture can deepen and purify that of the spectator. Such works of art at least preserve the soul from coarseness; they "key it up," so to speak, to a certain height, as a tuning-key the strings of a musical instrument. But purification, and extension in duration and size of this sympathy of soul, remain one-sided, and the possibilities of the influence of art are not exerted to their utmost.

27. In line 1, *Every work of art is the child of its age* means
- **a.** all art matures over time
- **b.** art reflects its era
- **c.** art has different meanings for different people
- **d.** every age has produced art
- **e.** art reflects the innocence of children

28. In lines 5–7, the author uses the example of the monkey to
- **a.** show that human beings and apes are similar
- **b.** demonstrate that monkeys can imitate human beings
- **c.** prove that imitation is mechanical
- **d.** show that all art can be replicated
- **e.** draw a connection between imitating art and monkeys

29. In line 19, *presentiment* most nearly means
- **a.** despair
- **b.** precursor
- **c.** intellect
- **d.** trust
- **e.** premonition

30. In paragraph 3, the author believe that the Primitive phase will be short-lived because
- **a.** the human soul is cracked like a vase
- **b.** the spark of inner life is only a spark
- **c.** darkness is the true reality
- **d.** doubt and materialism prevail
- **e.** society is not prepared for it

31. It can be inferred that the author feels art
- **a.** should render nature exactly
- **b.** is best when viewed in a museum
- **c.** should enrich the spirit
- **d.** changes over time
- **e.** improves with every generation

32. In line 26, *diametrically* most nearly means
- **a.** unalike
- **b.** ideally
- **c.** identically
- **d.** unusually
- **e.** harmonious

Questions 33–40 are based on the following passage.

The following excerpt from Charles Darwin's The Voyage of the Beagle *tells of a defining chapter in the life of a budding scientist.*

The voyage of the "Beagle" has been by far the most important event in my life, and has determined my whole career; yet it depended on so small a circumstance as my uncle offering to drive me thirty miles to Shrewsbury, which few uncles would have done, and on such a trifle as the shape of my nose. I have always felt that I owe to the voyage the first real training or education of my mind; I was led to attend closely to several branches of natural history, and thus my powers of observation were improved, though they were always fairly developed.

The investigation of the geology of all the places visited was far more important, as reasoning here comes into play. On first examining a new district nothing can appear more hopeless than the chaos of rocks; but by recording the stratification and nature of the rocks and fossils at many points, always reasoning and predicting what will be found elsewhere, light soon begins to dawn on the district, and the structure of the whole becomes more or less intelligible. I had brought with me the first volume of Lyell's *Principles of Geology*, which I studied attentively; and the book was of the highest service to me in many ways. The very first place which I examined, namely St. Jago in the Cape de Verde islands, showed me clearly the wonderful superiority of Lyell's manner of treating geology, compared with that of any other author, whose works I had with me or ever afterwards read. Another of my occupations was collecting animals of all classes, briefly describing and roughly dissecting many of the marine ones; but from not being able to draw, and from not having sufficient anatomical knowledge, a great pile of manuscripts which I made during the voyage has proved almost useless. I thus lost much time, with the exception of that spent in acquiring some knowledge of the Crustaceans, as this was of service when in after years I undertook a monograph of the Cirripedia.

During some part of the day I wrote my journal, and took much pains in describing carefully and vividly all that I had seen; and this was good practice. My journal served also, in part, as letters to my home, and portions were sent to England whenever there was an opportunity.

The above various special studies were, however, of no importance compared with the habit of energetic industry and of concentrated attention to whatever I was engaged in, which I then acquired. Everything about which I thought or read was made to bear directly on what I had seen or was likely to see; and this habit of mind was continued during the five years of the voyage. I feel sure that it was this training which has enabled me to do whatever I have done in science.

Looking backwards, I can now perceive how my love for science gradually preponderated over every other taste.

33. In line 4, when the author speaks of *the first real training or education of my mind,* he refers to
- **a.** the voyage of the Beagle
- **b.** the development of his career
- **c.** the branches of natural history
- **d.** his powers of observation
- **e.** the shape of his nose

34. In line 7, the author says he considers geology *far more important* due to the fact that
- **a.** its structure is obvious
- **b.** it helped him learn to reason
- **c.** he made sense out of chaos
- **d.** play is as important as work
- **e.** he learned how to study

35. In line 9, the word *stratification* most nearly means
- **a.** coloration
- **b.** calcification
- **c.** layers
- **d.** composition
- **e.** location

36. In lines 10–11, the phrase *the structure of the whole becomes more or less intelligible* refers to
- **a.** the break of day
- **b.** the ability to predict findings
- **c.** a comprehensive knowledge
- **d.** the assurance of correctness
- **e.** the fitting together of disparate facts

37. In line 18, the admission that many of the author's manuscripts *proved almost useless* depends on the notion that
- **a.** it is necessary to draw and know anatomy when collecting animals
- **b.** additional description would have been required for clarity
- **c.** a rough dissection is better than no dissection
- **d.** publication requires more finesse than he possessed
- **e.** describing and dissection are a waste of time

38. In line 19, the word *monograph* most nearly means
- **a.** a line drawing
- **b.** a comprehensive treatment
- **c.** a one-page summary
- **d.** a thorough dissection
- **e.** a written treatment

39. In lines 21–23, the author sees the primary value of his journal as being
- **a.** a contribution to English society
- **b.** good preparation for his future work
- **c.** practice in painstaking description
- **d.** killing two birds with one stone
- **e.** to serve as letters home

40. In lines 24–25, the author is saying that
- **a.** the study of geology is not as interesting as he had hoped
- **b.** learning about Crustaceans was tedious
- **c.** his studies on the Beagle turned out to be unimportant
- **d.** the studies were not as important as acquiring systematic study habits
- **e.** acquiring good study habits was the best part of his trip

▶ Long-Passage Critical Reading Answers

1. b. A *countenance* is a face and/or its expression. Therefore, a *shadowed countenance* is a *somber face*. In lines 4–5, a clue is given when the author contrasts the Señora's *shadowed countenance* with Ramona's face.

2. c. Lines 9–10 contain the answer to this question. *She had promised to be a mother to her* is the applicable phrase.

3. b. *Staunchness* is the quality of being steadfast or firm. *Inalienable* means not able to be changed. *She fulfilled the letter of her promise* in line 10 is a contextual clue to the answer.

4. e. In lines 11–19, the author gives several reasons Ramona's story was seldom told. Don't be distracted by answer choices that refer to reasons other than *they would have tragedies enough of their own presently.* That phrase means that enough sadness will come into the young people's lives soon, so there's no need to sadden them with this story.

5. b. *Bereft of his senses* in line 25 is a phrase that uses the word *senses* to mean *sanity. Bereft* means to be without, especially to be deprived of. It is important in this sentence of the passage to notice that the author says he was *like* someone *bereft of his senses.* The phrase *madly in love* which precedes the phrase in question is your clue to the meaning of the expression *bereft of his senses.*

6. e. The author relates that Ramona Gonzaga for months told Angus she didn't love him and couldn't marry him, but that she finally gave in, due to his *stormy and ceaseless entreaties* (lines 27–28). That was the *only excuse ever to be made for Ramona Gonzaga's deed* (lines 25–26).

7. d. The fact that Ramona turned away long before Angus did as their ships sailed apart (lines 36–37) indicates that he loved her more than she loved him.

8. d. The author talks about this *vital principle that gives life to everything* for a whole paragraph (lines 1–6), using the pronoun *it* to refer to the original statement about *early habits of observation.*

9. a. The paragraph in which this reference is found (lines 7–13) relates in detail what the farmer observed and what he did. He transplanted the wild vine and pruned it, to replicate what the oxen did.

10. c. The author states that, after pruning, all the nourishment *went entirely to the body of the grape* (lines 11–12).

11. e. *Luxuriance* means abundance or richness. The word *extreme*, which modifies *luxuriance*, as well as the fact that the author is talking about the vines in a positive light, are clues to the word's meaning.

12. e. The author is building upon the necessity for good observation by discussing how to apply observation to everyday life. The sentence that addresses the question is *She should use her thoughts in all her employments* (lines 26–27).

13. b. A synonym for *peculiar* is *distinctive*. It is the meaning intended by the author, and the only word that fits as a substitute for *peculiar*.

14. b. *Trifling* means unimportant. Your context clue is the word *however* in line 27. An occupation, in this sense, is whatever one is doing.

15. e. Punctuation is the key to deciphering this complex sentence. Tracing backward from the word *reality* (line 34), you discover that it is *opinion, and prejudice, and tradition, and delusion, and appearance* (lines 31–32) that prevent our getting at reality.

16. c. Lines 31–34 provide a big clue here. The author makes a very long list to make the point that delusion and prejudice is pervasive everywhere.

17. a. There is no one phrase or sentence that reveals the author's meaning in this paragraph. He is writing about the mind, or the intellect. Your best clue is in line 48 where the author says *My head is hands and feet.*

18. b. The author of the first passage writes about the importance of observing what is in front of you, even though many won't see it. The second author also writes about using your mind to see what is real.

19. d. While both authors offer advice, after a fashion, the approach of author 1 is practical, while author 2 is more intellectual and abstract in his advice.

20. a. Both authors value thinking for oneself.

21. e. You can see that the author of this passage is sympathetic to the Hawaiians' culture. She is defending against the claim that the chiefs exploited their followers.

22. a. *Sustenance* refers most often to food, but in this context (line 7), it includes all kinds of material support.

23. c. Forests furnished the materials for the tapa cloth, and it was the forests which were given to the women (lines 12–13).

24. e. The author uses the homeless condition of present-day (at the time of her writing) Hawaiians as a contrast to the lack of homelessness under the traditional system. (lines 13–17). She offers this as evidence of the traditional system's superiority.

25. d. You have to read this entire paragraph to discover that the reason the author offers for the adoption custom is that it *cemented the ties of friendship* (line 32) among the chiefs and the common people.

26. b. The author feels that her people's traditional customs need defending against assaults from foreigners. Lines 1–2 set the tone for the entire passage.

27. b. By *age*, the author means era. In lines 1–2, he states, " . . . each period of culture produces an art of its own . . . ," which helps explain what he means by *Every work of art is the child of its age* in line 1.

28. c. The author is drawing a parallel between humans imitating art and monkeys imitating the behavior of humans. He does this to prove that replicating art is empty and mechanical, as is a monkey pretending to be human.

29. e. *Presentiment* refers to the feeling that something is about to occur, or *premonition*.

30. d. In paragraph 3, the author describes how and why doubt and materialism are present in society. Lines 23–24 say, "For this reason, the Primitive phase . . . can only be of short duration"; "this reason" refers to the prevalence of doubt and materialism. Although the author does say that the human soul is cracked like a vase (choice **a**), this is the result of human doubt and despair—the true cause of a short-lived Primitive phase. The author also mentions choice **b** in paragraph 3, but again, this is a symptom of the greater issue: the prevalence of fear and doubt. Choice **c** is incorrect; the author never says this is the case, but rather that humans consider it as a possibility when in doubt. Choice **e** is incorrect, as the author never mentions this as a possibility.

31. c. The author is extremely passionate about this, and the passage provides many clues to demonstrate this. For instance, in paragraph 3, the author refers to materialism as a "nightmare." In line 37, he says that when art fulfils it purpose, it feeds the spirit. The author never implies any of the possibilities offered by choices **a**, **b**, **d**, or **e**.

32. a. The definition of diametrically is "opposite"; thus, *unalike* is best choice.

33. d. It was the training in several branches of natural history that led to the improvement of the author's powers of observation (lines 4–6).

34. b. The author says the investigation of geology brought reasoning into play (lines 7–8), meaning he had to develop his reasoning.

35. c. *Stratification* means layers. In lines 8–11, *stratification* is opposed to *chaos*, as the way in which rocks are ordered.

36. e. As the author works through the logic of geology, the many disparate facts begin to make sense (lines 9–11).

37. a. The author says that the facts that he was not *able to draw* and did not have *sufficient anatomical knowledge* (lines 16–18) made his manuscripts worthless.

38. e. *Monograph* is a word for a narrowly focused written treatment of a subject. Compare *monograph* (line 19) with *manuscripts* (line 17) for your context clue. In the context, a *monograph* could not be less thorough than a *manuscript.*

39. c. The author says he *took much pains in describing carefully and vividly*, and that *this was good practice* (lines 21–22).

40. d. Although they do mention "special studies," lines 24–25 do not say that geology was not as interesting as the author had hoped (choice **a**), or that the study of Crustaceans was tedious (choice **b**). Although Darwin does say that the studies themselves were not as important as the skills he acquired, he does not imply that his studies on the Beagle turned out to be unimportant (choice **c**)—on the contrary. Again, although Darwin does indeed state that the studies were secondary to the skills he acquired, he does not say that acquiring these skills was the best part of his trip, making choice **e** incorrect.

▶ Part 3: Paragraph-Length Critical Reading

Out with the old and in with the new: New paragraph-length critical reading questions have replaced the old analogies on the SAT. And that's good news for you, because these paragraph-length critical reading passages are essentially the same as those in the reading comprehension section, only much shorter and easier to manage.

The SAT has about eight paragraph-length critical reading questions. The questions should be divided more or less equally among the three Critical Reading sections. You can expect the passages for paragraph-length critical reading questions to be just that—one paragraph. Most passages will be 100–350 words long followed by two to five questions—a sharp contrast to the half-dozen or more questions that follow the 400–850-word reading comprehension passages.

While the paragraph-length critical reading passages and questions are very similar to their long passage counterparts, there are a few important differences to keep in mind and some specific strategies you can use to answer these questions more effectively.

Structure and Strategy

For paragraph-length critical reading passages, you can expect fewer questions about specific facts and details (which are easy to find in such short passages) and more questions about the **structure** of the passage and the **strategies** the author uses to convey his or her idea. These questions may ask you about the order of ideas or the purpose of specific lines in the passage. They may ask you to consider why the writer uses certain words or includes a particular piece of information. Here is a good example of this type of question:

1. In lines 1–2, the author refers to a list of pros and cons to
   a. show that there are both positive and negative aspects of utilitarianism
   b. suggest that making a list of pros and cons is not an effective way to make a decision
   c. emphasize that utilitarians consider both the good and the bad before making a decision
   d. indicate that readers will learn how to make decisions using pro/con lists
   e. show readers that they are probably already familiar with the principles of utilitarian reasoning

So while you should continue to hone your general reading comprehension skills and expect questions about vocabulary, the main idea, inferences, and specific details, you should also be prepared for more question stems like the following:

- The passage is developed primarily through . . .
- The author's use of *X* (e.g., a specific word, list, quotation, etc.) suggests that . . .
- By comparing *X* to *Y*, the author implies that . . .
- The author describes/presents/refers to *X* to . . .
- Which of the following techniques is used in the last sentence?
- The passage uses *X* (e.g., first-person point of view) to . . .

In other words, structure and strategy questions ask you to consider *how* the writer expresses his or her ideas and what *effect* those writing strategies have on the reader. What kind of examples does the writer use to support the main idea? What is the impact of comparing *X* to *Y*?

It might help to think of writing as a series of *decisions*. Writers choose their words carefully. They think about how to punctuate and paragraph their sentences

Don't Forget: General Critical Reading Strategies

Keep in mind these general critical reading strategies as you prepare for the new paragraph-length critical reading questions on the SAT.

1. Be sure to read each question carefully and understand exactly what it is asking.
2. Try to formulate an answer in your own words before looking at the answer choices. This will help you avoid choosing tricky distracters.
3. Remember that many answer choices are distracters that (1) are true, but do not answer the question; (2) are close to the correct answer, but wrong in some detail; or (3) use language from the passage, but do not correctly answer the question.
4. Remember that any conclusion you draw from the passage must have evidence *in the passage*. An answer may be true, or you may believe it to be true, but if there is no evidence for it in the text, it cannot be a correct answer.
5. Remember to use the process of elimination. Rule out any obviously incorrect answers to narrow down the possible choices.

for clarity and impact. They decide which example or comparison or image will best convey their ideas, support their argument, or arouse the desired emotion in their readers. These critical reading questions simply ask you to look at the decisions the writers made and consider the impact of their choices.

On test day, you may come across a question or two asking you to identify the specific strategy a writer uses in a particular line or phrase. You might be asked about the effect of a strategy, or you may need to draw an inference based upon the writer's use of a specific technique.

Active Reading for Short Passages

Because the paragraph-length critical reading passages are so short, your active reading strategies should be slightly different from those for the longer critical reading passages.

1. Each passage is usually only one paragraph (two at the most), so you don't need to skim ahead before you actually read the text. Just read quickly, carefully, and actively the first time.
2. To save time, keep your notes to a minimum, if you take any at all.
3. *Do* underline and circle key words and ideas as you read.
4. Pay attention to strategic issues such as word choice and structure as you read. For example, how are the ideas in the passage organized? What support does the author offer for his or her ideas? Does the writer use certain words to suggest ideas or elicit emotions from the reader?
5. After you finish the paragraph, try to sum up the main idea in your own words. Even if there isn't a question about the main idea or purpose of the passage, at least one question will probably depend upon your understanding of the passage as a whole. If you have trouble determining the main idea, reread the first and last sentences—these are the most common places to find a topic sentence in a paragraph.

▶ 40 Practice Paragraph-Length Critical Reading Questions

The passages below are followed by several questions about their content. Read each passage carefully and answer the questions based on what is stated or implied in the text. Use the answer sheet below to record your answers.

ANSWER SHEET

1.	a	b	c	d	e		21.	a	b	c	d	e
2.	a	b	c	d	e		22.	a	b	c	d	e
3.	a	b	c	d	e		23.	a	b	c	d	e
4.	a	b	c	d	e		24.	a	b	c	d	e
5.	a	b	c	d	e		25.	a	b	c	d	e
6.	a	b	c	d	e		26.	a	b	c	d	e
7.	a	b	c	d	e		27.	a	b	c	d	e
8.	a	b	c	d	e		28.	a	b	c	d	e
9.	a	b	c	d	e		29.	a	b	c	d	e
10.	a	b	c	d	e		30.	a	b	c	d	e
11.	a	b	c	d	e		31.	a	b	c	d	e
12.	a	b	c	d	e		32.	a	b	c	d	e
13.	a	b	c	d	e		33.	a	b	c	d	e
14.	a	b	c	d	e		34.	a	b	c	d	e
15.	a	b	c	d	e		35.	a	b	c	d	e
16.	a	b	c	d	e		36.	a	b	c	d	e
17.	a	b	c	d	e		37.	a	b	c	d	e
18.	a	b	c	d	e		38.	a	b	c	d	e
19.	a	b	c	d	e		39.	a	b	c	d	e
20.	a	b	c	d	e		40.	a	b	c	d	e

Questions 1–3 are based on the following passage about public art.

Although all art is inherently public—created in order to convey an idea or emotion to others—"public art," as opposed to art that is sequestered in museums and galleries, is art specifically designed for a public arena where the art will be encountered by people in their normal day-to-day activities. Public art can
Line be purely ornamental or highly functional; it can be as subtle as a decorative door knob or as conspicu-
(5) ous as the Chicago Picasso. The more obvious forms of public art include monuments, sculptures, fountains, murals, and gardens. But public art also takes the form of ornamental benches or street lights, decorative manhole covers, and mosaics on trash bins. Many city dwellers would be surprised to discover just how much public art is really around them and how much impact public art has on their day-to-day lives.

1. According to the passage, public art is differentiated from private art mainly by
- **a.** the kind of ideas or emotions it aims to convey to its audience
- **b.** its accessibility
- **c.** its perceived value
- **d.** its importance to the city
- **e.** the recognition that artists receive for their work

2. The use of the word *sequestered* in line 2 suggests that the author feels
- **a.** private art is better than public art
- **b.** private art is too isolated from the public
- **c.** the admission fees for public art arenas prevent many people from experiencing the art
- **d.** private art is more difficult to understand than public art
- **e.** private art is often controversial in nature

3. The main purpose of this passage is to
- **a.** define public art
- **b.** make readers more aware of the public art around them
- **c.** argue that public art is more interesting than private art
- **d.** describe the functions of public art
- **e.** provide examples of public art

Questions 4–8 are based on the following passage about asbestos.

Asbestos is generally made up of fiber bundles that can be broken up into long, thin fibers. We now know from various studies that when this friable substance is released into the air and inhaled into the lungs over a period of time, it can lead to a higher risk of lung cancer and a condition known as asbestosis. Asbestosis, a thickening and scarring of the lung tissue, usually occurs when a person is exposed to high asbestos levels over an extended period of time. Unfortunately, the symptoms do not usually appear until about twenty years after initial exposure, making it difficult to reverse or prevent. In addition, smoking while exposed to asbestos fibers could further increase the risk of developing lung cancer. When it comes to asbestos exposure in the home, school, and workplace, there is no safe level; any exposure is considered harmful and dangerous. Prior to the 1970s, asbestos use was ubiquitous—many commercial building and home insulation products contained asbestos. In the home in particular, there are many places where asbestos hazards might be present. Building materials that may contain asbestos include fireproofing material (sprayed on beams), insulation material (on pipes and oil and coal furnaces), acoustical or soundproofing material (sprayed onto ceilings and walls), and miscellaneous materials such as asphalt, vinyl, and cement used to make products like roofing felts, shingles, siding, wallboard, and floor tiles.

Line
(5)
(10)

4. In line 2, the word *friable* most nearly means
- **a.** ability to freeze
- **b.** warm or liquid
- **c.** easily broken down
- **d.** poisonous
- **e.** crunchy

5. The main purpose of this passage is to
- **a.** teach asbestos awareness in the home and schools
- **b.** explain the properties of asbestos
- **c.** encourage preventative measures such as early lung cancer screening
- **d.** provide a list of materials that may include asbestos
- **e.** use scare tactics to make homeowners move to newer houses

6. The word *ubiquitous* (line 9) and the list of building materials containing asbestos (lines 11–14) serve primarily to
- **a.** allay fears of becoming ill from asbestos
- **b.** encourage reforms in building practice
- **c.** describe the effects of asbestos in the home
- **d.** urge readers to check their homes for asbestos
- **e.** show how common asbestos is in homes built before 1970

7. The tone of this passage is best described as
- **a.** cautionary
- **b.** apathetic
- **c.** informative
- **d.** admonitory
- **e.** idiosyncratic

8. For whom is the author writing this passage?
- **a.** professional contractors
- **b.** students
- **c.** school principals
- **d.** health officials
- **e.** lay persons

Questions 9–10 are based on the following passage about the blues.

The blues—a neologism attributed to the American writer Washington Irving (author of *The Legend of Sleepy Hollow*) in 1807—evolved from African American folk music. Its beginnings can be traced to songs sung in the fields and around slave quarters on southern plantations, songs of pain and suffering, of injustice, of longing for a better life. A fundamental principle of the blues, however, is that the music be cathartic. Listening to the blues will drive the blues away; it is music that has the power to overcome sadness. Thus, "the blues" is something of a misnomer, for the music is moving but not melancholy; it is, in fact, music born of hope, not despair.

9. The word *neologism* in line 1 means a
- **a.** mistake
- **b.** characteristic of blues
- **c.** new word
- **d.** musical score
- **e.** pen name

10. According to the passage, the primary purpose of blues music is to
- **a.** celebrate African American roots.
- **b.** lift the spirits of the listener.
- **c.** record African American history.
- **d.** inspire listeners to improve their lives.
- **e.** preserve the tradition of folk music.

Questions 11–14 are based on the following passage about sushi.

Burgers, fries, pizza, raw fish. Raw fish? Fast food in America is changing. *Sushi,* the thousand-year-old Japanese delicacy, was once thought of in this country as unpalatable and too exotic. But tastes have changed, for a number of reasons. Beginning in the 1970s, Americans became increasingly more aware of diet and health issues and began rejecting their traditional red-meat diets in favor of healthier, lower-fat choices such as fish, poultry, whole grains, rice, and vegetables. The way food was prepared began to change, too; rather than frying food, people started opting for broiled, steamed, and raw versions. *Sushi,* a combination of rice and fish, fit the bill.

Sushi started small in the United States, in a handful of restaurants in big cities. But it quickly caught on. Today, *sushi* consumption in American restaurants is 40% greater than it was in the late 1990s, according to the National Restaurant Association. The concession stands at almost every major league stadium sell *sushi,* and many colleges and universities offer it in their dining halls. But we're not just eating it out. The National Sushi Association reports that there are over 5,000 *sushi* bars in supermarkets, and that number is growing monthly. This incredible growth in availability and consumption points to the fact that Americans have decided that *sushi* isn't just good for them—it's also truly delicious.

11. The author asks the question *Raw fish?* in line 1 to
- **a.** demonstrate surprise that *sushi* is a popular fast food
- **b.** highlight the differences between *sushi* and other fast foods
- **c.** express his dislike for *sushi*
- **d.** provide a definition of *sushi*
- **e.** suggest that *sushi* is much healthier than other fast foods

12. The passage describes Americans' *sushi* consumption as
- **a.** beginning for many in college
- **b.** important when watching baseball
- **c.** taking place primarily in their homes
- **d.** a trend due to supermarket marketing
- **e.** more than it was five years ago

13. In line 2, *unpalatable* most nearly means
- **a.** not visually appealing
- **b.** not good tasting
- **c.** bad smelling
- **d.** too expensive
- **e.** rough to the touch

14. The author supports the main idea of the passage primarily by
- **a.** describing where *sushi* is sold
- **b.** providing a brief history of *sushi* in the United States
- **c.** comparing *sushi* to other fast food options
- **d.** citing statistics about *sushi* consumption
- **e.** describing how *sushi* is made

Questions 15–17 are based on the following passage about the Supreme Court's power of judicial review.

"It is emphatically the province and duty of the judicial department to say what the law is," stated Chief Justice John Marshall in a unanimous opinion in the 1803 Supreme Court case of *Marbury v. Madison.* This landmark case established the doctrine of judicial review, which gives the court the authority to declare
Line executive actions and laws invalid if they conflict with the U.S. Constitution. The court's ruling on the con-
(5) stitutionality of a law is nearly final—it can only be overcome by a constitutional amendment or by a new ruling of the court. Through the power of judicial review, the court shapes the development of law, assures individual rights, and maintains the Constitution as a "living" document by applying its broad provisions to complex new situations.

15. The passage suggests that the practice of judicial review allows the court to
- **a.** wield enormous power
- **b.** determine foreign policy
- **c.** make laws that reflect the principles of the Constitution
- **d.** rewrite laws that are unconstitutional
- **e.** make amendments to the Constitution

16. The image of *the Constitution as a "living" document* (line 7) implies that
- **a.** the supreme law of the land cannot be altered in any way
- **b.** it can only be amended through a difficult process
- **c.** its principles need to be adapted to contemporary life
- **d.** the original document is fragile and needs to be preserved in the Library of Congress so that it will not deteriorate
- **e.** its principles are kept alive only by the Supreme Court

17. In line 1, *emphatically* most nearly means
- **a.** equivocally
- **b.** unwittingly
- **c.** enormously
- **d.** positively
- **e.** surprisingly

Questions 18–22 are based on the following excerpt from Frank McCourt's 1996 memoir Angela's Ashes, *in which the author describes what it was like to go to school as a young boy.*

We go to school through lanes and back streets so that we won't meet the respectable boys who go to the Christian Brothers' School or the rich ones who go to the Jesuit school, Crescent College. The Christian Brothers' boys wear tweed jackets, warm woolen sweaters, shirts, ties, and shiny new boots. We know they're the ones who will get jobs in the civil service and help the people who run the world. The Crescent College boys wear blazers and school scarves tossed around their necks and over their shoulders to show they're cock o' the walk. They have long hair which falls across their foreheads and over their eyes so that they can toss their quaffs like Englishmen. We know they're the ones who will go to university, take over the family business, run the government, run the world. We'll be the messenger boys on bicycles who deliver their groceries or we'll go to England to work on the building sites. Our sisters will mind their children and scrub their floors unless they go off to England, too. We know that. We're ashamed of the way we look and if boys from the rich schools pass remarks we'll get into a fight and wind up with bloody noses or torn clothes. Our masters will have no patience with us and our fights because their sons go to the rich schools and, Ye have no right to raise your hands to a better class of people so ye don't.

Line (5) (10)

18. The "we" the author uses throughout the passage refers to
- **a.** his family
- **b.** the poor children in his neighborhood
- **c.** the children who attend rich schools
- **d.** the author and his brother
- **e.** the reader and writer

19. The passage suggests that the author goes to school
- **a.** in shabby clothing
- **b.** in a taxi cab
- **c.** in warm sweaters and shorts
- **d.** on a bicycle
- **e.** to become a civil servant

20. The word *pass,* as used in line 11, means to
- **a.** move ahead of
- **b.** go by without stopping
- **c.** be approved or adopted
- **d.** utter
- **e.** come to an end

21. The author quotes his school masters saying "Ye have no right to raise your hands to a better class of people so ye don't" (lines 12–13) in order to
- **a.** demonstrate how strict his school masters were
- **b.** contrast his school to the Christian Brothers' School and Crescent College
- **c.** show how his teachers reinforced class lines
- **d.** prove that the author was meant for greater things
- **e.** show how people talked

22. The passage implies that
- **a.** the author was determined to go to England
- **b.** the author was determined to be someone who will run the world
- **c.** the author often got into fights
- **d.** the author didn't understand the idea of class and rank in society
- **e.** one's class determined one's future

Questions 23–26 are based on the following passage, adapted from My Body the Billboard *by Jen Johnston.*

Traditional body signage seems largely to have disappeared. Well, many of the old symbols and names are still around, of course, but they are part of the commercial range of options. Seeing someone in a Harvard or Oxford sweatshirt or a kilt or a military tie now communicates nothing at all significant about that person's life other than the personal choice of a particular consumer. Religious signs are still evocative, to be sure, but are far less common than they used to be. Why should this be? I suspect one reason may be that we have lost a sense of significant connection to the various things indicated by such signs. Proclaiming our high school or university or our athletic team or our community has a much lower priority nowadays, in part because we live such rapidly changing lives in a society marked by constant motion that the stability essential to confer significance on such signs has largely gone. But we still must attach ourselves to something. Lacking the conviction that the traditional things matter, we turn to the last resort of the modern world: the market. Here there is a vast array of options, all equally meaningless in terms of traditional values, all equally important in identifying the one thing left to us for declaring our identity publicly: our fashion sense and disposable income.

Line
(5)
(10)

23. The main purpose of the passage is to
- **a.** discuss trends in fashion
- **b.** relate the history of commerce
- **c.** lament the passing of old traditions
- **d.** help the reader discover his or her own true identity
- **e.** discuss commercialism's powerful influence upon personal identity

24. What does the author mean by *the commercial range of options* (line 2)?
- **a.** the variety of commercials on television and radio
- **b.** the numerous products available to today's consumer
- **c.** the ability to shop on the Internet
- **d.** let the buyer beware
- **e.** technology's impact upon the world

25. The author would agree with all the following statements EXCEPT
- **a.** a person wearing a New York Yankees baseball hat is not necessarily a fan of the team or a resident of New York
- **b.** pride in our school or community is not as strong today as it was years ago
- **c.** in today's society, being trendy is more important than keeping tradition
- **d.** you can tell a lot about somebody by what he or she is wearing
- **e.** the market has many choices but few values

26. The author uses all of the following techniques to convince the reader EXCEPT
- **a.** an informal style
- **b.** specific examples that readers can relate to
- **c.** references to religious doctrine
- **d.** use of the first-person plural pronoun *we*
- **e.** avoiding absolute statements

Questions 27–29 are based on the following passage about the physical activity of American adolescents.

According to the U.S. Center for Disease Control (CDC), a vast number of American teens are not vigorously active on a regular basis, contributing to a trend of sluggishness among Americans of all ages. In February of 2004, the American Academy of Family Physicians reported that physical activity among American
Line adolescents continues to decline substantially with each year. This is particularly true among adolescent
(5) girls, 48% of whom report low levels of physical activity by the time they are in the 12th grade. Unfortunately, the sedentary habits of young couch potatoes often continue into adulthood. Presently, less than one-third of Americans meet the federal recommendations to engage in at least 30 minutes of moderate physical activity at least five days a week. Inactivity can be a serious health risk factor; setting the stage for obesity and associated chronic illnesses like heart disease or diabetes. The benefits of exercise include build-
(10) ing bone and muscle; maintaining healthy joints; controlling weight; and preventing the development of high blood pressure.

27. The passage serves all of the following purposes EXCEPT to
- **a.** provide statistical information to support the claim that teenagers do not exercise enough
- **b.** list long-term health risks associated with lack of exercise
- **c.** express skepticism that teenagers can change their exercise habits
- **d.** show a correlation between inactive teenagers and inactive adults
- **e.** highlight some health benefits of exercise

28. In line 2, *sluggishness* most nearly means
- **a.** unemployment
- **b.** lethargy
- **c.** willingness
- **d.** animation
- **e.** energy

29. The primary purpose of the passage is to
- **a.** refute an argument
- **b.** make a prediction
- **c.** praise an outcome
- **d.** promote change
- **e.** justify a conclusion

Questions 30–34 are based on the following passage about affirmative action.

The United Sates is the only industrialized nation in the world that does not provide healthcare to all of its citizens. Instead, healthcare for those under 65 is managed by a complex web of insurance companies, representing mostly for-profit business. This results in exorbitant healthcare premiums, leaving approxi-
Line mately 45 million citizens uninsured and unable to receive regular healthcare. And this is not limited to
(5) those who are unemployed. Many businesses can't afford to provide their employees with health insurance, leaving not just the poor, but also the working middle-class to fend for themselves. The best solution to this crisis is to move toward a single-payer system. Simply put, this would entail financing healthcare through a single source, most likely the federal government. Everyone would be covered under this system, regardless of age, preexisting conditions, or employment status. Although income and sales taxes would
(10) be progressively increased to fund universal healthcare, the benefits far outweigh the drawbacks. For instance, this public system would be more inexpensive to run than the current system. Administrative costs would be centralized and therefore greatly reduced. Money would no longer be spent frivolously as it is now in the for-profit sector. Currently, insurance companies spend millions on advertisements, market analysis, utilization review, patient tracking, and CEO salaries. All of that money could be used instead for
(15) what it should be, the provision of medical services. In Canada, for instance, which acknowledges that healthcare is a right of every citizen and implements the single-payer system, spends only 8% on administration, whereas the United States spends approximately 24% for the same purpose. Also, the single-payer system puts healthcare back in the hands of the physicians. They will be able to make decisions based on what is best for their patients, not on what insurance companies deem allowable. Furthermore, universal
(20) healthcare will increase the mortality of U.S. citizens by 25%. Studies suggest that in countries where healthcare is universal, citizens visit their primary care physicians more frequently, and as a result, stay healthier by taking preventative measures.

30. Based on the tone of the passage, it can be inferred that the author
- **a.** is indifferent to the healthcare crisis
- **b.** is a Democrat
- **c.** favors implementing the single-payer system
- **d.** writes for a newspaper
- **e.** is a physician

31. In line 3, *exorbitant* most nearly means
- **a.** modest
- **b.** costly
- **c.** unreliable
- **d.** powerful
- **e.** valuable

32. From the information provided in the passage, one can conclude that the author
- **a.** has lived in Canada
- **b.** is unemployed
- **c.** believes that universal healthcare is an attainable goal
- **d.** is uninsured
- **e.** favors tax increases

33. The author uses all of the following techniques to convince the reader EXCEPT
- **a.** provide statistics to support his or her viewpoint
- **b.** compare the U.S. healthcare system to Canada's
- **c.** explain some of the problems associated with the current system
- **d.** provide a solution to the healthcare crisis
- **e.** present an opposing point of view on the issue

34. The primary purpose of the passage is
- **a.** to introduce the single-payer healthcare system
- **b.** to compare the U.S. healthcare system to Canada's
- **c.** to propose a solution to the current healthcare crisis
- **d.** to empower physicians
- **e.** to smear the reputation of insurance companies

Questions 35–36 are based on the following passage about geometry's Divine Proportion.

PHI, the Divine Proportion of 1.618, is the ratio of any two sequential numbers in the Fibonacci sequence. If you take the numbers 0 and 1, then create each subsequent number in the sequence by adding the previous two numbers, you get the Fibonacci sequence. For example, 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144.
Line If you sum the squares of any series of Fibonacci numbers, they will equal the last Fibonacci number used
(5) in the series times the next Fibonacci number. This property results in the Fibonacci spiral seen in everything from seashells to galaxies, and is written mathematically as: $1^2 + 1^2 + 2^2 + 3^2 + 5^2 = 5 \times 8$. Plants illustrate the Fibonacci series in the numbers of leaves, the arrangement of leaves around the stem, and in the positioning of leaves, sections, and seeds. A sunflower seed illustrates this principal as the number of clockwise spirals is 55 and the number of counterclockwise spirals is 89; 89 divided by 55 = 1.618, the Divine
(10) Proportion. Pinecones and pineapples illustrate similar spirals of successive Fibonacci numbers.

35. According to the passage, PHI is
- **a.** rare in nature
- **b.** a reflection of nature's genius
- **c.** prevalent throughout the universe
- **d.** artificially created order
- **e.** a little-known mathematical concept

36. The passage relies primarily on which of the following techniques to explain PHI?
- **a.** explanation of terms
- **b.** comparison of different arguments
- **c.** contrast of opposing views
- **d.** generalized statement
- **e.** illustration by example

Questions 37–40 are based on the following passage about the design of New York City's Central Park.

Although it is called Central Park, New York City's great green space has no "center"—no formal walkway down the middle of the park, no central monument or body of water, no single orienting feature. The paths wind, the landscape constantly shifts and changes, the sections spill into one another in a seemingly ran-
Line dom manner. But this "decentering" was precisely the intent of the park's innovative design. Made to look
(5) as natural as possible, Frederick Law Olmsted's 1858 plan for Central Park had as its main goal the creation of a democratic playground—a place with many centers to reflect the multiplicity of its uses and users. Olmsted designed the park to allow interaction among the various members of society, without giving preference to one group or class. Thus, Olmsted's ideal of a "commonplace civilization" could be realized.

37. In lines 1–4, the author describes specific park features to
- **a.** provide evidence that the park has no center
- **b.** present the park in a favorable light
- **c.** present both sides of an argument
- **d.** demonstrate how large the park is
- **e.** show how well the author knows the park

38. The main idea of this passage is that
- **a.** New York City is a democratic city
- **b.** Olmsted was a brilliant designer
- **c.** more parks should be designed without centers
- **d.** Central Park is used by many people for many different purposes
- **e.** Central Park is democratic by design

39. The passage suggests that Olmsted's design
- **a.** was like most other parks being designed at the time
- **b.** was radically different from other park designs
- **c.** was initially very unpopular with New Yorkers
- **d.** was inspired by similar parks in Europe
- **e.** did not succeed in creating a democratic playground

40. In line 6, *a democratic playground* most nearly means a
- **a.** playground that is free of charge
- **b.** place where the visitors have a say in the design
- **c.** place that is for kids as well as adults
- **d.** park that is for all people, regardless of class
- **e.** park that is easily accessible

▶ Paragraph-Length Critical Reading Answers

1. b. Lines 2–3 state that public art is *specifically designed for a public arena where the art will be encountered by people in their normal day-to-day activities.* This is in contrast to private art, which is less accessible because it is kept in specific, non-public places such as museums and galleries. The passage does not discuss the ideas or emotions conveyed through either public or private art, so choice **a** is incorrect. It also does not discuss the value (real or perceived) of either public or private art, so choice **c** is incorrect. The passage notes that people may be surprised by how much impact public art may have on them, but it does not discuss the importance of public versus private art (choice **d**), and although it mentions Picasso, it does not discuss the difference in recognition that public and private artists may receive (choice **e**).

2. b. To *sequester* is to seclude or isolate. Thus, the use of this word suggests that the author feels private art is too isolated and cut off from the public. *Sequestered* emphasizes the separation of the art from the public, so accessibility is the key issue, not whether one kind of art is better than the other (choice **a**), more difficult to understand (choice **d**), or more controversial (choice **e**). Admission fees may further isolate works of private art (choice **c**), but the word *sequestered* does not imply cost and many museums and other private art galleries are free to the public.

3. a. The passage defines public art in several ways. The first sentence explains how public art is different from private art, the second sentence describes the general types of public art (ornamental and functional), and the third and fourth sentences list the most common forms of public art. After reading the passage, readers may be more aware of the public art around them (choice **b**), but the emphasis of the passage is the definition of public art. The author does not compare public to private art beyond the issue of intended audience, so choice **c** cannot be correct. Choices **d** and **e** are both part of the larger purpose of defining public art.

4. c. The phrase *broken up into long, thin fibers,* used to describe asbestos bundles in line 1, suggests that *friable* means easily broken down. Although asbestos is a serious health hazard, it is not *poisonous* (choice **d**). None of the other choices is supported by or makes sense in the context of the passage.

5. a. While the passage does explain some of the properties of asbestos (choice **b**) and includes a list of materials that may include asbestos (choice **d**), these elements serve the larger purpose of the passage, which is to teach asbestos awareness in the home and school. The passage does state that lung cancer can be caused by exposure to asbestos, but it does not discuss preventative measures such as screening for lung cancer (choice **c**). Readers may be frightened by the prospect of asbestos in older homes, but the passage does not aim to scare readers into purchasing newer homes (choice **e**). Instead, it creates awareness of the possible presence and dangers of asbestos in homes as well as other buildings.

6. e. *Ubiquitous* means being everywhere at the same time, omnipresent. This definition, combined with the very long list of building materials that could contain asbestos, emphasize how common asbestos is in older homes. It may cause readers to want to check their homes for asbestos (choice **d**), but the primary goal is to highlight the extent of asbestos usage. The sheer number of building materials would likely increase rather than allay fears about asbestos, so choice **a** is

incorrect. The passage suggests that building materials have changed since 1970; these asbestos-laden materials were used *prior to 1970* before the *various studies* that show the link between asbestos and lung cancer. Thus, reforms in building materials have already been made, and choice **b** is incorrect. The passage describes effects of asbestos on health, but not on the home, so choice **c** cannot be correct.

7. c. The tone of this passage is informative, serving to instruct the reader about asbestos. Choices **a** and **d** (*cautionary* and *admonitory*) are synonyms, and while the passage does show the dangers of asbestos, the general tone is not cautionary. *Apathetic* (choice **b**) means indifferent and *idiosyncratic* (choice **e**) means distinctive, neither of which applies.

8. e. The author is writing for a lay person, meaning a homeowner, parent, or student. Choices **a** and **d** describe professionals, while **b** and **c** describe people you would find in a school setting, all of whom may be interested in this information, but none of whom is the specific, targeted audience.

9. c. This is the only choice that makes sense in the given context. A clue to the correct answer can be found in the prefix of the word itself—*neo* means *new*.

10. b. While the blues may do all of the things listed in the other answer choices, the primary purpose of the blues is to lift the spirits of the listener. The passage states that it is a *fundamental principle of the blues* that the music have *the power to overcome sadness* (lines 5–6).

11. a. The repetition of *raw fish* in the form of a question suggests surprise, even shock, that raw fish be included in a list of fast-food items in the first sentence. *Sushi* is indeed very different from other types of fast foods, but the repetition/question serves to register surprise, not emphasize difference (choice **b**). The author does not express his personal opinion anywhere in the passage, so choice **c** is incorrect. Most *sushi* is raw fish, but if the author were defining *sushi* (choice **d**), then he wouldn't express it as a question. The passage does argue that *sushi* is much healthier than other fast foods (choice **e**), but this is not suggested by the repetition/question.

12. e. Line 9 states that *sushi consumption in America is 40% higher than it was in the late 1990s* (five years ago). While the other answers might be true, they are not described in the passage.

13. b. *Unpalatable* may be defined as not agreeable to taste. You might know the word *palate* as the roof of the mouth, so *unpalatable* most likely has to do with the sense of taste. A key context clue is the phrase *tastes have changed* (lines 2–3), suggesting that Americans have learned to like something they once would not have eaten.

14. d. The main idea of the passage is that *sushi* is a healthy and popular fast-food alternative in America. This is supported by specific statistics cited in the passage—a 40% increase in *sushi* consumption (lines 8–9) and the *over 5,000* sushi *bars in supermarkets* (lines 11–12). The passage does describe a few places where *sushi* is sold (choice **a**), but that does far less to support the main idea than the impressive numbers. The passage does not provide any real history of *sushi* in the United States before 1970, so choice **b** is incorrect. There is no specific comparison of *sushi* to other fast-food options (choice **c**), just a general discussion of a shift toward a healthier diet. The passage does not discuss how *sushi* is made, so choice **e** is incorrect.

15. a. The fact that judicial review can override decisions made by the legislative and executive branches implies that it gives the court great authority. This suggestion is reinforced by the fact that the court's ruling *is nearly final* and that it can only be overridden by a constitutional amendment or new court ruling (lines 5–6), as well as the use of the word *power* in the phrase *through the power of judicial review* (line 6). There is no mention of foreign policy in the passage, ruling out choice **b**. The Supreme Court interprets but does not make or rewrite laws, so choices **c** and **d** are incorrect. Likewise, the Supreme Court does not make amendments, so choice **e** is incorrect.

16. c. To maintain the "life" of the Constitution, the court applies *its broad provisions to complex new situations* (lines 7–8) that arise in current law. The passage clearly contradicts choice **a** by stating that the court *shapes the development of law* (line 6). The passage suggests that it is difficult to amend the Constitution by stating that the court's ruling *can only be overcome by a constitutional amendment or by a new ruling of the court* (lines 5–6), but this difficulty is not something implied by the image of the Constitution as a living document. The Constitution is spoken of throughout the passage as a set of laws and ideas, not a physical document, so choice **d** is incorrect. While the passage states that the court *maintains the Constitution as a "living" document* (line 7), the image does not imply that the court is the only entity keeping alive the principles of the Constitution (choice **e**).

17. d. *Positively* is the only word that is close in meaning to *emphatically*. A clue here can be found in line 2, which says that the statement made in line 1 was a *unanimous opinion*.

18. b. The "we" of the passage go to school, so the reference must be to school-aged children and cannot include his parents, ruling out choice **a**. In addition, the passage contrasts *we* with the respectable boys and the rich ones (lines 1–2), so *we* are neither wealthy (choice **c**) nor respected. The author also compares *we* to the boys of other schools as a group, so *we* likely refers to all the poor school children, not just the author and his brother (choice **d**). Readers may be of all ages and economic classes, so choice **e** is incorrect.

19. a. The author and his classmates go to school through lanes and back streets (line 1) to avoid the students who go to school dressed in warm and respectable clothing. He also states in line 10 that they are ashamed of the way they look, implying that they are poorly dressed, ruling out choice **c**. Because they are afraid the boys from the rich school will see what they are wearing, they are not likely to be riding in a taxi cab (choice **b**), which would obscure most of their attire from view (and which he couldn't afford anyway). The boys from the Christian Brothers' school are the ones who will become civil servants (choice **e**). Bicycles (choice **d**) are mentioned in line 8, but the author might ride one later as a messenger; he does not ride one now on his way to school.

20. d. The boys would get into fights if the rich boys were to utter derogatory words or pass remarks. The other choices are all possible meanings of *pass*, but they do not make sense in the context of the sentence.

21. c. While the quote here does show how the author's school masters talked (choice **e**), it has a more important function: to show that his school masters reinforced the class system by telling the author and his classmates to stay

in their place and not challenge the existing class structure. The quote does not refer to rules or punishments, so choice **a** does not make sense. The passage does not compare the author's school masters with those of the other schools, so choice **b** is incorrect. While the passage may demonstrate that the author was meant for greater things (choice **d**), the quote shows that his teachers believed otherwise.

22. e. The author "knows," based only on the fact of which school the boys attend, what they will be when they grow up—the respectable boys will have the administrative jobs (lines 3–4), while the rich boys will *run the government, run the world* (line 8). The author and those in his socioeconomic class will be laborers (lines 8–10). The author emphasizes the certainty of this knowledge with the repetition of the phrase *we know* and the sentence *We know that* (line 10). Thus, he demonstrates that their future was already set based upon their socioeconomic standing. There's no sense of the author's determination to go to England (choice **a**) or run the world (choice **b**), and it is clear that he does understand the idea of class and rank in his society (choice **d**)—though he may not accept it. The passage states that the author would fight *if boys from the rich schools pass remarks* (lines 10–11), but he also states that they avoided the rich boys, so we don't know whether these fights were frequent or not (choice **c**).

23. e. The author's primary purpose in writing this passage is to discuss his belief that commercialism's strong presence in today's society strongly influences a person's view of his or her personal identity. A good illustration of this can be found in lines 10–13, where the author states that we use the market to declare our identity to others. The passage discusses fashion only in the context of signage and identity, so choice **a** is incorrect. Though the passage refers to *old symbols and names* (line 1), it does not discuss the history of commerce (choice **b**). The author does lament that we lack *the conviction that the traditional things matter* (line 10), but the focus of the passage is commercialism and identity, so choice **c** is incorrect. The passage does not offer any guidance in helping readers discover their own identities (choice **d**).

24. b. The *commercial range of options* in line 2 is the numerous products available for purchase by today's consumer. Lines 2–4 hold a clue to answering this question: The author refers to the modern practice of wearing old symbols such as a kilt as the personal choice of a particular consumer. The passage does not refer to radio, television, the Internet, or other technologies, so choices **a**, **c** and **e** are incorrect. Choice **d**, *let the buyer beware*, does not make sense in the context of the passage.

25. d. The statement that one can tell a lot about somebody by what he or she is wearing is directly contradicted by the claim the author makes in lines 2–4: *Seeing someone in a Harvard or Oxford sweatshirt or a kilt or a military tie now communicates nothing at all significant about that person's life other than the personal choice of a particular consumer.* Choice **a** supports this statement. The other choices all restate or reinforce ideas stated in the passage. Choice **b** supports the statement in lines 6–7, *Proclaiming our high school or university or our athletic team or our community [. . .]*. Choice **c** supports the idea that trendiness is more important than tradition (lines 11–13), while choice **e** supports the idea that the options in the market are *all equally meaningless in terms of traditional values* (lines 11–12).

26. c. While the author states that *religious signs are still evocative* (line 4), he does not refer to any religious doctrine. He does use a relatively informal style (choice **a**), as in lines 1–2 when he writes, *Well, many of the old symbols and names are still around.* The passage provides some specific examples that readers can relate to (choice **b**), such as the Harvard or Oxford sweatshirt, and it uses the collective pronoun *we* to bring reader and writer together (choice **d**). The author also avoids absolute statements (choice **e**), softening his argument with qualifying phrases such as *seems largely to have disappeared* (line 1) and *I suspect* (line 5).

27. c. Nowhere in the passage does the author speculate about whether teenagers can change their exercise habits. The passage does provide several statistics to support its claim that teens do not exercise enough (choice **a**) and lists the long-term health risks of inactivity (choice **b**) in lines 8–9. The author shows a correlation between inactive teens and adults (choice **d**) in line 6 and concludes with the benefits of exercise (choice **e**).

28. b. This is the only choice that makes sense in the context of the sentence. A context clue can be found in lines 1–2, which says, " . . . teens are not vigorously active . . ."

29. d. The passage aims to promote change in teen exercise habits by emphasizing the problems caused by lack of activity and the benefits of exercise. There is no counterargument addressed in the passage, so choice **a** is incorrect. The author does not provide any predictions (choice **b**) or praise an outcome (choice **c**). The passage offers facts in support of a claim about exercise, but it does not offer a justification for a conclusion (choice **e**); it is not that argumentative of a passage.

30. c. The author clearly favors the single-payer system. Line 12 provides a big clue; using the word *frivolously* indicates that the author feels disdain toward the current system. Lines 14–15 also show how the author feels about the matter: *All of that money could be used instead for what it should be, . . .* Choices **b**, **d**, and **e** are all certainly possibilities, but they cannot be inferred with as much certainty as choice **c**.

31. b. This is the only choice that makes sense in the given context. A clue can be found in the last clause of the sentence: . . . *leaving approximately 45 million citizens uninsured and unable to receive regular healthcare*. If *exorbitant* healthcare premiums leave so many without insurance, it can be inferred that the word means *costly*.

32. c. Clearly, the author thinks that universal healthcare is attainable. He or she provides plenty of examples that show why it is a better system than the existing one.

33. e. This is the only method the author does not use to support his or her viewpoint.

34. c. The author of this passage is clearly proposing and advocating the single-payer system as a solution to the existing crisis. Although the author does introduce the single-payer system (choice **a**) and does compare the U.S. healthcare system to Canada's (choice **b**), neither of these serve as the primary purpose of the passage. Choice **d** doesn't apply either—the author is not directing the passage toward physicians; and **e**, too, is incorrect, as it is not the author's primary intent.

35. c. Even though the concept of PHI in nature may seem unusual or unique at first, it is actually a very common and predictable occurrence, and the passage specifically states that the Fibonacci spiral is *seen in everything from seashells to galaxies* (line 6). The author also provides many examples of PHI, and just the example of plants shows how prevalent PHI is

in the universe. Choice **a** directly contradicts this fact, and choice **d** contradicts the fact that PHI is a natural occurrence. Choices **b** and **e** may be true, but they are not supported by the passage. **Note:** Be careful not to get caught up in trying to do the math in a passage like this. If you find yourself confused by the content of a passage, take a quick look at the questions. This should let you know whether or not you need to figure out whatever sentences are stumping you.

36. e. The passage lists many examples to explain PHI—mathematical expressions of the Fibonacci sequence and spiral, as well as examples of the sequence and spiral in nature. The passage defines PHI and the Fibonacci sequence (choice **a**), but even these definitions are primarily through example. The passage does not compare arguments (choice **b**) or contrast opposing views (choice **c**), and because the passage cites many specific examples, choice **d**, *generalized statement*, is incorrect.

37. a. The description of the winding paths, shifting landscape and sections that spill into one another support the assertion that the park lacks a center. It is described in a matter-of-fact manner, so choice **b** is incorrect. The description focuses on the park, not on any arguments about the park, so **c** is incorrect. The passage does not specify the size of the park, and the description emphasizes its winding, decentered nature, so choice **d** is incorrect. The description may suggest how well the author knows the park (choice **e**), but that is not the main purpose of the description.

38. e. Lines 8–9 state that Olmsted wanted to create a democratic playground, so he designed the park to have many centers that would *allow interaction among the various members of society* (line 7). The passage does not make any statements about the nature of the city as a whole, ruling out choice **a**. Choice **b** may be true, and author's respect for Olmsted is implied throughout the passage, but the focus of the passage is Olmsted's purpose in his design, not Olmsted's brilliance. Choices **c** and **d** may also be true, but the author doesn't make any statements about how other parks should be designed, and the fact that Central Park is used by many people for many different purposes is the *result* of Olmsted's design.

39. b. Line 4 states that the park's design was innovative, suggesting it was very different from other park designs and thus ruling out choices **a** and **d**. There is no reference to how the park was received by New Yorkers, so choice **c** is incorrect. Choice **e** is directly contradicted by the last sentence, which states that *Olmsted's ideal of a "commonplace civilization" could be realized.*

40. d. If students cannot determine the meaning of a democratic playground, a clue can be found in the last clause of the sentence: . . . *the multiplicity of its uses and users.*

▶ Now You Know

Now you've tried your hand at some practice questions in each of the three kinds of critical reading questions. You've read strategies and started to absorb them. You've already learned some new vocabulary.

Go back and assess your performance on each of the three sections. Why did you miss the questions you missed? Are there strategies that would help you if you practiced them? Were there many words you didn't know?

Whatever your weaknesses are, it's much better to learn about them now and spend the time between now and the SAT turning them into strengths than it is to pretend they don't exist. It can be hard to focus on

your weaknesses. But if you focus on the task of doing well on the SAT, your effort will repay you many times over. You will go to the kind of school you want and enjoy the kind of career you want, and it will have all started with the relatively few hours you devoted to preparing for a standardized test. What are you waiting for?

One last consideration about the Critical Reading section of the SAT is the effect of good time management during the exam. The basic rule is one minute per question, but some questions will take less time, and others will take more. Don't hold yourself to a strict schedule, but you shouldn't spend too much time on any one question. Remember, if you can eliminate one or more answers on a tough question, you should make a guess, and if you have time left at the end of the section, you can go back and reconsider your answers.

If one type of question in a section is easier for you than another type, go ahead and do those questions first. Remember, you get the same point for an easy correct answer as you do for a difficult correct answer. So answer the easy questions and save the hard ones for last.

These time management strategies are not only effective on the Critical Reading section of the SAT, but can also be useful for the Math and Writing sections. Doing practice questions under timed conditions will help you prepare more thoroughly for the time limits you will face on test day.

Good luck!

CHAPTER

4 The SAT Math Section

What to Expect in the Math Section

The SAT Math section has two 25-minute sections and one 20-minute section, for a total of 70 minutes. There are two types of math questions: **five-choice** and **grid-in**. Since the beginning of March 2005, the exam no longer includes quantitative-comparison questions, and covers a wider range of topics, including algebra II.

The **five-choice** math questions, as the name implies, are questions for which you are given five answer choices. Five-choice questions test your mathematical reasoning skills. Questions are drawn from the areas of arithmetic, geometry, algebra and functions, statistics and data analysis, and probability. As in the other sections of the SAT, the problems will be easier at the beginning and will get increasingly difficult as you progress. More than 80% of the questions in the Math section are five-choice questions.

Grid-in questions are also referred to as *student-produced responses*. There are only about ten of these questions, and they are the only questions on the whole exam for which the answers are not provided. You will be asked to solve a variety of math problems and then fill in the correct numbered ovals on your answer sheet. As with the multiple-choice questions, the key to success with these problems is to think through them logically, and that's easier than it may seem to you right now.

Taking the time to work through this entire math chapter will help you practice the kinds of math questions on the exam and refine the skills needed to score high. Also, you will learn many strategies that can be used to master each type of question at test time.

As you read this chapter, keep in mind that you do not have to memorize all of the formulas. Most of these formulas will be given to you on the test. Your task is to make sure you understand how and when to use them. There may be times when you see a problem that you are unable to solve. Don't let this stop you! It is important to break difficult problems down into smaller parts and to look for clues to help you find the solution. Many times, these problems become relatively easy when you simplify them yourself.

Test Your Skills

To start things off, you will be given a pretest. This test will help you figure out what skills you have mastered and what skills you need to improve. After you check your answers, read through the skills sections and concentrate on the topics that gave you trouble on the pretest.

After the skills sections, you will find an overview of both question types on the Math section: five-choice and grid-ins. These overviews will give you strategies for each question type as well as practice problems. Make sure to look over the explanations as well as the answers when you check your practice problems. Finally, make sure you look up any unfamiliar words in the math glossary on page 255. Learning the language of math is very important to your success on the SAT.

Good luck!

SAT Math at a Glance

There are one 20-minute and two 25-minute math sections, for a total of 70 minutes. Of these questions, the majority are multiple choice. You will also be required to answer about ten grid-in questions. Math concepts tested include arithmetic, geometry, algebra and functions, statistics and data analysis, and probability. There are two types of math questions:

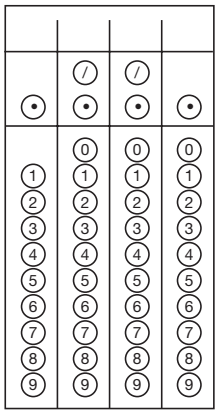
Five-choice questions—test your ability to find logical solutions to a variety of multiple-choice questions in the areas of arithmetic, geometry, algebra and functions, statistics and data analysis, and probability. More than 80% of the math section will be multiple choice.

Grid-in questions—test your ability to solve a variety of math problems and then fill in the correct numbered ovals on your answer sheet. There are no answer choices to choose from in this section. There are about ten of these questions on the exam.

ANSWER SHEET

1.	a	b	c	d	e
2.	a	b	c	d	e
3.	a	b	c	d	e
4.	a	b	c	d	e
5.	a	b	c	d	e
6.	a	b	c	d	e
7.	a	b	c	d	e
8.	a	b	c	d	e
9.	a	b	c	d	e
10.	a	b	c	d	e
11.	a	b	c	d	
12.	a	b	c	d	
13.	a	b	c	d	
14.	a	b	c	d	
15.	a	b	c	d	

16.



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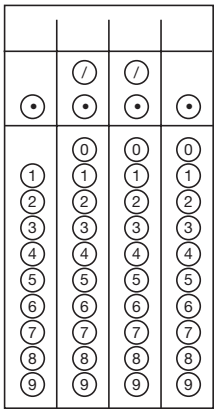

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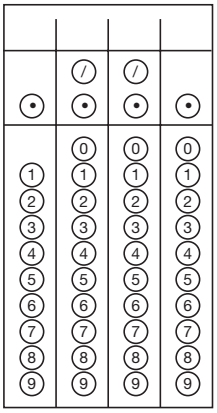

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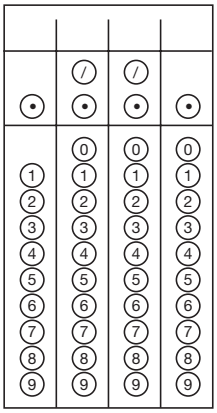

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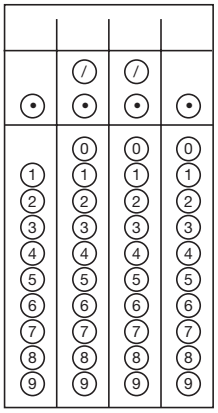

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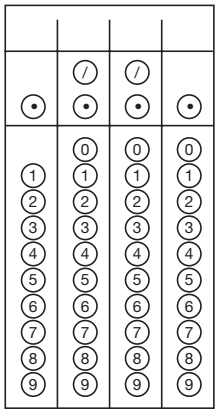

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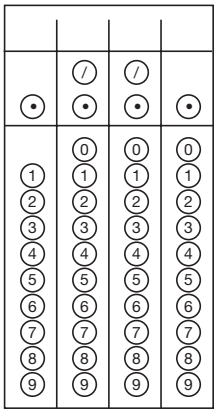

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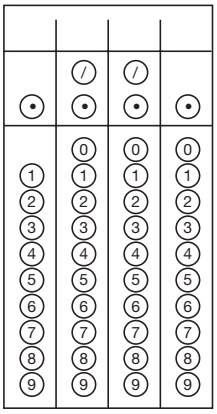

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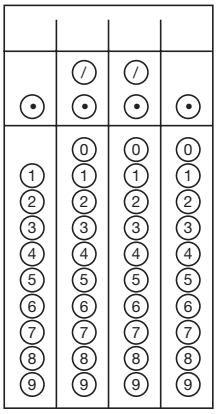

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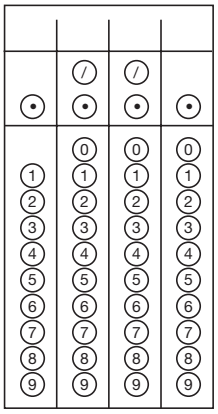

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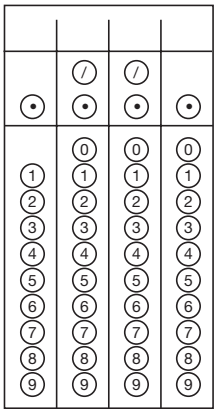

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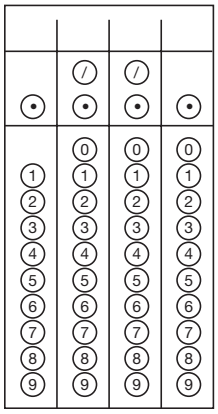

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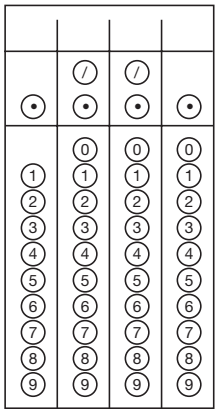

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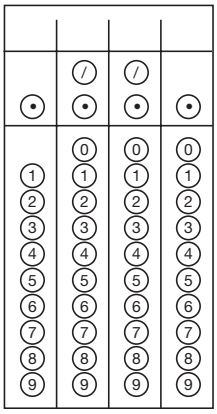

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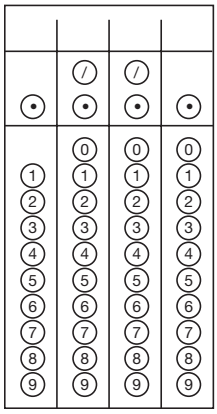
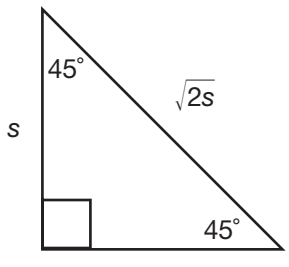
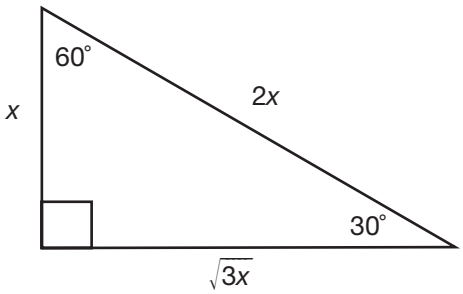


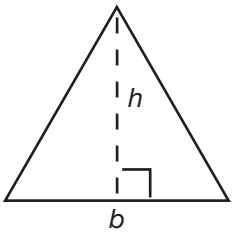
REFERENCE SHEET

- The sum of the interior angles of a triangle is 180°.
- The measure of a straight angle is 180°.
- There are 360 degrees of arc in a circle.

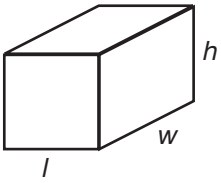




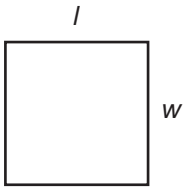
Special Right Triangles



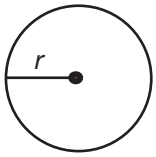
$A = \frac{1}{2}bh$



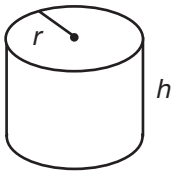
$V = lwh$



$A = lw$



$A = \pi r^2$
$C = 2\pi r$



$V = \pi r^2 h$

▶ Math Pretest

- All numbers in the problems are real numbers.
- You may use a calculator.
- Figures that accompany questions are intended to provide information useful in answering the questions. Unless otherwise indicated, all figures lie in a plane. Unless a note states that a figure is drawn to scale, you should NOT solve these problems by estimating or by measurement, but by using your knowledge of mathematics.

Five-Choice Questions

Solve each problem. Then, decide which of the answer choices is best, and fill in the corresponding oval on your answer sheet.

1. By how much does the product of 8 and 25 exceed the product of 15 and 10?
a. 25
b. 50
c. 75
d. 100
e. 125

2. If $k - 1$ is a multiple of 4, what is the next larger multiple of 4?
a. $k + 1$
b. $4k$
c. $k - 5$
d. $k + 3$
e. $4(k - 1)$

3. If $2^{x+1} = 32$, then $(x + 1)^2 =$
a. 5
b. 4
c. 16
d. 25
e. 31

4. If $(x + 7)(x - 3) = 0$, then $x =$
a. 7 or 3
b. 7 or –3
c. –7 or 3
d. –7 or –3
e. –4 or –3

5. Which of the following expressions represents the phrase "3 less than 2 times x"?
a. $3 - 2x$
b. $2 - 3x$
c. $3x - 2$
d. $2x - 3$
e. $2(3 - x)$

6. A recipe for 4 servings requires salt and pepper to be added in the ratio of 2:3. If the recipe is adjusted to make 8 servings, what is the ratio of the salt and pepper that must now be added?
a. 4:3
b. 2:6
c. 2:3
d. 3:2
e. 8:4

7. In a triangle in which the lengths of two sides are 5 and 9, the length of the third side is represented by x. Which statement is always true?

a. $x > 5$
b. $x < 9$
c. $5 \leq x \leq 9$
d. $4 < x < 14$
e. $5 \leq x < 14$

8. What is the area of a circle with a circumference of 10π?

a. $\sqrt{10\pi}$
b. 5π
c. 25π
d. 100π
e. $100\pi^2$

9. An ice cream parlor makes a sundae using one of six different flavors of ice cream, one of three different flavors of syrup, and one of four different toppings. What is the total number of different sundaes that this ice cream parlor can make?

a. 72
b. 36
c. 30
d. 26
e. 13

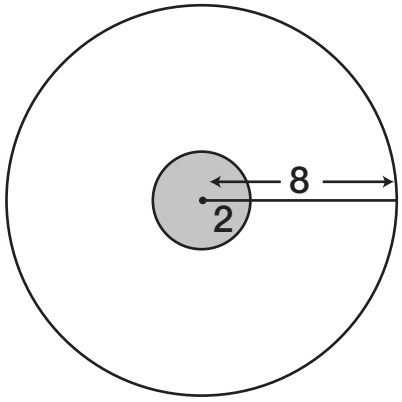
10. $a^1, a^2, a^3, a^4, a^5, \ldots a^n$
In the sequence of positive integers above, $a^1 = a^2 = 1$, $a^3 = 2$, $a^4 = 3$, and $a^5 = 5$.
If each term after the second is obtained by adding the two terms that come before it and if $a^n = 55$, what is the value of n?

a. 12
b. 10
c. 9
d. 8
e. 5

11. Consider this sequence:
9, 45, 225, . . .
What will the eighth term of the sequence be?

a. 45,000
b. 78,125
c. 390,625
d. 703,125
e. 1,953,125

12. Alex wore a blindfold and shot an arrow at the target shown below. Judging by the noise made on impact, he can tell that he hit the target. What is the probability that he hit the shaded region shown?



a. 1 out of 4
b. 1 out of 8
c. 1 out of 16
d. 1 out of 32
e. 1 out of 64

13. Given the following:

Set A is the set of prime integers.
Set B is the set of positive odd integers.
Set C is the set of positive even integers.

Which of the following are true?

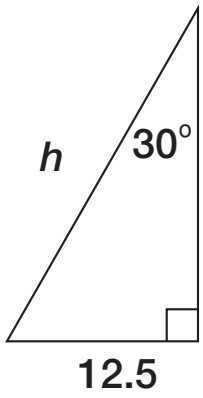
I. Set A | Set C yields Ø.
II. Set A | Set B contains more elements than Set A | Set C.
III. Set B | Set C yields Ø.

a. I only
b. II and III only
c. II only
d. III only
e. I and III only

14. Line l has the equation $3x - y = 8$.
What is the y-intercept of line l?

a. (8,0)
b. (0,8)
c. (–8,–8)
d. (0,–8)
e. (–8,0)

15. In the triangle below, what is the length of the hypotenuse, h?



a. $12.5\sqrt{3}$
b. $\frac{12.5\sqrt{3}}{3}$
c. 25
d. $25\sqrt{3}$
e. $\frac{25\sqrt{3}}{3}$

Grid-in Questions

For the next 15 questions, solve the problem and enter your solution into the grid by marking the ovals, as shown below.

Answer: $\frac{4}{3}$

4	/	3	
	●	/	
⊙	⊙	⊙	⊙
	0	0	0
1	1	1	1
2	2	2	2
3	3	●	3
●	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

Answer: 1.47

1	.	4	7
	/	/	
⊙	●	⊙	⊙
	0	0	0
●	1	1	1
2	2	2	2
3	3	3	3
4	4	●	4
5	5	5	5
6	6	6	6
7	7	7	●
8	8	8	8
9	9	9	9

Note: You may start your answers in any of the columns, as long as there is space.

- The answer sheets are scored by a machine, so regardless of what else is written on the answer sheet, you will only receive credit if you have filled in the ovals correctly.
- Be sure to mark only one oval in each column.
- You may find it helpful to write your answer in the boxes on top of the columns.
- If you find that a problem has more than one correct answer, grid only one answer.
- None of the grid-in questions will have a negative number as a solution.
- Mixed numbers like $1\frac{1}{3}$ must be entered as 1.3333 . . . or $\frac{4}{3}$. (If the response is "gridded" as $\frac{11}{3}$, it will be read as $\frac{11}{3}$, not $1\frac{1}{3}$.)
- If your answer is a decimal, use the most accurate value that can be entered into the grid. For example, if your solution is 0.333 . . . , your "gridded" answer should be .333. A less precise answer, like .3 or .33, will be scored as an incorrect response.

These are both acceptable ways to grid $\frac{1}{3} = 0.3\overline{33}$.

	1	/	3
	/	●	
⊙	⊙	⊙	⊙
	0	0	0
1	●	1	1
2	2	2	2
3	3	3	●
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

.	3	3	3
	/	/	
●	⊙	⊙	⊙
	0	0	0
1	1	1	1
2	2	2	2
3	●	●	●
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

16. A wealthy businessperson bought charity auction tickets that were numbered consecutively, 5,027 through 5,085. How many tickets did she purchase?

17. For some value of x, $5(x + 2) = y$. After the value of x is increased by 3, $5(x + 2) = z$. What is the value of $z - y$?

18. When a positive integer k is divided by 6, the remainder is 3. What is the remainder when $5k$ is divided by 3?

19. If $(x - 1)(x - 3) = -1$, what is a possible solution for x?

20. If 4 times an integer x is increased by 10, the result is always greater than 18 and less than 34. What is the least value of x?

21. A string is cut into two pieces that have lengths in the ratio 4:5. If the length of the string is 45 inches, what is the length of the longer string?

22. If $x - 8$ is 4 greater than $y + 2$, then by how much is $x + 12$ greater than y?

23. A brand of paint costs \$14 a gallon, and 1 gallon of paint will cover an area of 150 square feet. What is the minimum cost of paint needed to cover the 4 walls of a rectangular room that is 12 feet wide, 16 feet long, and 8 feet high?

24. How many degrees does the minute hand of a clock move from 5:25 P.M. to 5:47 P.M. of the same day?

25. If the operation ∇ is defined by the equation $x \nabla y = 3x + 3y$, what is the value of $3 \nabla 4$?

26. What is the value of s below?

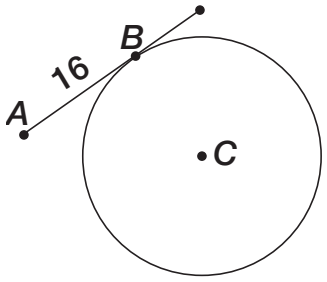
$$\begin{bmatrix} 5 & 8 \\ 4 & 1 \end{bmatrix} \begin{bmatrix} 1 & 8 \\ 2 & 1 \end{bmatrix} = \begin{bmatrix} q & r \\ s & t \end{bmatrix}$$

When multiplying two 2×2 matrices, use the formulas:

$$\begin{bmatrix} a_1 & a_2 \\ a_3 & a_4 \end{bmatrix} \times \begin{bmatrix} b_1 & b_2 \\ b_3 & b_4 \end{bmatrix} = \begin{bmatrix} a_1b_1 + a_2b_3 & a_1b_2 + a_2b_4 \\ a_3b_1 + a_4b_3 & a_3b_2 + a_4b_4 \end{bmatrix}$$

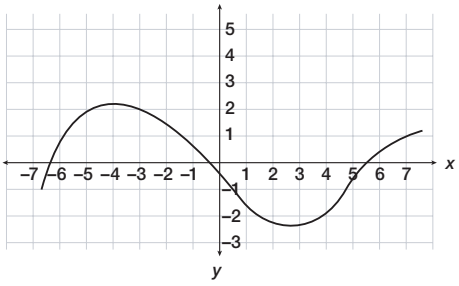
27. If $x^5 = 243$, what is the value of x^{-3}?

28. In the diagram below, $\overline{AB}$ is tangent to circle C at point B. What is the radius of circle C if $\overline{AC}$ is 20?



29. Given $f(x) = 3x^2 + 2^{-x} + \frac{3}{8}$, find $f(3)$.

30. For the portion of the graph shown, for how many values of x does $f(x) = 0$?



▶ Math Pretest Answers

1. b. To figure out by what amount quantity A exceeds quantity B, calculate $A - B$: $(8 \times 25) - (15 \times 10) = 200 - 150 = 50$.

2. d. Consecutive multiples of 4, such as 4, 8, and 12, always differ by 4. If $k - 1$ is a multiple of 4, then the next larger multiple of 4 is obtained by adding 4 to $k - 1$, which gives $k - 1 + 4$ or $k + 3$.

3. d. Since $2^{x+1} = 32$ and $32 = 2^5$, then $2^{x+1} = 2^5$. Therefore, $x + 1 = 5$, so $(x + 1)^2 = 5^2 = 25$.

4. c. If $(x + 7)(x - 3) = 0$, then either or both factors may be equal to 0. If $x + 7 = 0$, then $x = -7$. Also, if $x - 3 = 0$, then $x = 3$. Therefore, x may be equal to -7 or 3.

5. d. The phrase "3 less than 2 times x" means $2x$ minus 3 or $2x - 3$.

6. c. When the recipe is adjusted from 4 to 8 servings, the amounts of salt and pepper are each doubled; however, the ratio of 2:3 remains the same.

7. d. In a triangle, the length of any side is less than the sum of the lengths of the other two sides. If the lengths of two sides are 5 and 9, and the length of the third side is x, then

- $x < 5 + 9$ or $x < 14$
- $5 < x + 9$
- $9 < x + 5$ or $4 < x$

Since $x < 14$ and $4 < x$, $4 < x < 14$.

8. c. If the circumference of a circle is 10π, its diameter is 10 and its radius is 5. Therefore, its area is $\pi(5^2) = 25\pi$.

9. a. The total number of different sundaes that the ice cream parlor can make is the number of different flavors of ice cream times the number of different flavors of syrup times the number of different toppings: $6 \times 3 \times 4 = 72$.

10. b. Following the given rule for the sequence up to and including 55:

1, 1, 2, 3, 5, 8, 13, 21, 34, 55.

Since 10 numbers are listed, $n = 10$.

11. d. Notice that:

term 1 = 9
term 2 = 9×5^1
term 3 = 9×5^2
term 4 = 9×5^3

This question asks you for the eighth term, so you know that term 8 must equal $9 \times 5^7 = 9 \times 78{,}125 = 703{,}125$.

12. c. The area of the big circle is $\pi r^2 = 64\pi$, and the area of the shaded circle is $\pi r^2 = 4\pi$. So, the probability of hitting the shaded part is 4π out of 64π, which reduces to 1 out of 16.

13. b. The symbol | means intersection. Consider Set A | Set C. This yields positive integers that are both prime and even. There is only one such positive integer: 2. Statement I is **not true** because the intersection of the two sets does not yield the empty set (Ø). Now consider statement II. We already saw that Set A | Set C contains one element. Set A | Set B contains all positive integers that are prime and odd, such as 3, 5, 7, and so on. Set A | Set B does contain more elements than Set A | Set C, so statement II is **true**. Set B | Set C does yield Ø, so statement III is **true**. Thus, the correct answer is **b**.

14. d. Rearrange the given equation into the form $y = mx + b$, and use the value of b to find the y value of the (x,y) coordinates of the intercept; $3x - y = 8$ becomes $3x - 8 = y$, which is equivalent to $y = 3x - 8$. Thus, $b = -8$. The y-intercept is then $(0,-8)$.

15. c. Recall that $\cos \theta = \frac{\text{Adjacent}}{\text{Hypotenuse}}$. Using the knowledge that $\cos 60 = \frac{1}{2}$, we know that h is equal to 12.5×2, or 25.

16. 59. If A and B are positive integers, then the number of integers from A to B is $(A - B) + 1$. Therefore, the number of tickets is equal to $(5{,}085 - 5{,}027) + 1 = 59$.

17. **15.** If the value of x is increased by 3, then the value of y is increased by 15. After x is increased by 3, $5(x + 2) = z$. Therefore, the value of $z - y = 15$.

18. **0.** When k is divided by 6, the remainder is 3, so let $k = 9$. Then $5k = 45$ and 45 is divided evenly by 3. Therefore, the remainder is 0.

19. **2.** If $(x - 1)(x - 3) = -1$, then $x^2 - 4x + 3 = -1$, and therefore, $x^2 - 4x + 4 = 0$. After factoring, this equation results in $(x - 2)(x - 2) = 0$. Hence, a possible value is 2.

20. **3.** This problem can be written as $18 < 4x + 10 < 34$. Subtracting 10 from both sides gives the equation $8 < 4x < 24$. Dividing by 4 will result in the following: $2 < x < 6$. Since 2 is less than x, the least integer value for x is 3.

21. **25.** Since the lengths of the two pieces of string are in the ratio 4:5, let $4x$ and $5x$ represent their lengths. Therefore, $4x + 5x = 45$, $9x = 45$, and $x = 5$. Hence, the longest piece of string is $(5)(5) = 25$.

22. **26.** If $x - 8$ is 4 greater than $y + 2$, then $x - 8 = y + 2 + 4$.

$$x - 8 = y + 6$$
$$x = y + 14$$

Since $x + 12 = (y + 14) + 12 = y + 26$, then $x + 12$ is 26 greater than y.

23. **42.** First, find the sum of the areas of the four walls: $2(12 \times 8) + 2(16 \times 8) = 448$. Since 1 gallon of paint provides coverage of an area 150 square feet, simply divide 448 by 150, which results in $2.98\overline{6}$, meaning a minimum of 3 gallons of paint is needed. Since the paint costs \$14 a gallon, to find the cost of the paint, simply multiply 14 by 3 = \$42.

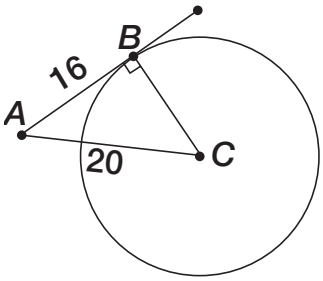
24. **132.** From 5:25 P.M. to 5:47 P.M., the minute hand moves 22 minutes. Since there are 60 minutes in one hour, 22 minutes represents $\frac{22}{60}$ of the clock circle. Because there are 360 degrees in a circle, multiply $\frac{22}{60}$ by 360, or 22×6, to get 132.

25. **21.** Since $x\nabla y = 3x + 3y$, then $3\nabla 4 = 3(3) + 3(4) = 9 + 12 = 21$.

26. **6.** To find the value of s, we use the formula that corresponds to the position of s. The formula is $a_3b_1 + a_3b_4 = (4)(1) + (1)(2) = 4 + 2 = 6$.

27. $\frac{1}{27}$. $243 = 3 \times 3 \times 3 \times 3 \times 3$. Since $3^5 = 243$, x is equal to 3. Next, find $3^{-3} = \frac{1}{3^3} = \frac{1}{27}$.

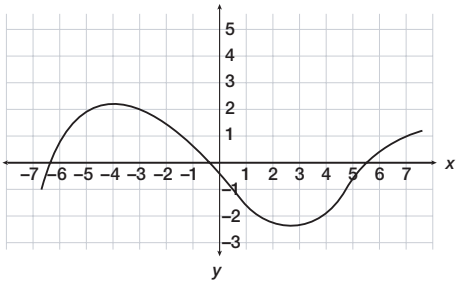
28. **12.** Since $\overline{AB}$ is tangent to circle C at point B, we know (by definition) that it is perpendicular to the radius of the circle. The radius is $\overline{BC}$. By constructing a right triangle with sides $\overline{AB}$, $\overline{AC}$, and $\overline{BC}$, we can use a Pythagorean triplet to solve for $\overline{BC}$ (the radius).



Using the double of the Pythagorean triplet 6-8-10 ($6^2 + 8^2 = 10^2$), we can see that we have a 12-16-20 right triangle. The radius, $\overline{BC}$, is 12. Note that the popular Pythagorean triplets are 3-4-5, 6-8-10, and 5-12-13.

29. **27.5.** Substitute 3 for x in the function $f(x) = 3x^2 + 2^{-x} + \frac{3}{8}$ to get $f(3) = 3(3)^2 + 2^{-3} + \frac{3}{8} = 3(9) + \frac{1}{2^3} + \frac{3}{8} = 27 + \frac{1}{8} + \frac{3}{8} = 27 + \frac{4}{8} = 27.5$.

30. **3.** For the portion of the graph shown, there are three values of x where $f(x) = 0$.



▶ Arithmetic Review

Numbers

All of the numbers you will encounter on the SAT are real numbers:

- **Whole numbers**—Whole numbers are also known as counting numbers: 0, 1, 2, 3, 4, 5, 6, . . .
- **Integers**—Integers are both positive and negative whole numbers including zero: . . . -3, –2, –1, 0, 1, 2, 3, . . .
- **Rational numbers**—Rational numbers are all numbers that can be written as fractions ($\frac{2}{3}$), terminating decimals (.75), and repeating decimals $.\overline{666}\ldots$
- **Irrational numbers**—Irrational numbers are numbers that cannot be expressed as terminating or repeating decimals: π or $\sqrt{2}$.

Comparison Symbols

The following table will illustrate the different comparison symbols on the SAT.

=	is equal to	5 = 5
≠	is not equal to	4 ≠ 3
>	is greater than	5 > 3
≥	is greater than or equal to	$x \geq 5$ (x can be 5 or any number > 5)
<	is less than	4 < 6
≤	is less than or equal to	$x \leq 3$ (x can be 3 or any number < 3)

Symbols of Multiplication

When two or more numbers are being multiplied, they are called **factors**. The answer that results is called the **product**.

Example:

$5 \times 6 = 30$ 5 and 6 are *factors* and 30 is the *product*.

There are several ways to represent multiplication in the above mathematical statement.

- A dot between factors indicates multiplication: $5 \cdot 6 = 30$
- Parentheses around any part of the one or more factors indicates multiplication: $(5)6 = 30$, $5(6) = 30$, and $(5)(6) = 30$
- Multiplication is also indicated when a number is placed next to a variable: $5a = 30$ In this equation, 5 is being multiplied by a.

Like Terms

A **variable** is a letter that represents an unknown number. Variables are frequently used in equations, formulas, and mathematical rules to help you understand how numbers behave.

When a number is placed next to a variable, indicating multiplication, the number is said to be the **coefficient** of the variable.

Example:

$8c$ 8 is the coefficient to the variable c.

$6ab$ 6 is the coefficient to both variables, a and b.

If two or more terms have exactly the same variable(s), they are said to be **like terms**.

Example:

$7x + 3x = 10x$ The process of grouping like terms together performing mathematical operations is called **combining like terms**.

It is important to combine like terms carefully, making sure that **the variables are exactly the same**. This is especially important when working with exponents.

Example:

$7x^3y + 8xy^3$ These are not like terms because x^3y is not the same as xy^3. In the first term, the x is cubed, and in the second term, it is the y that is cubed. Because the two terms differ in more than just their coefficients, they cannot be combined as like terms. This expression remains in its simplest form as it is written.

Laws of Arithmetic

Listed below are several "math laws," or properties. Just think of them as basic rules that you can use as tools when solving problems on the SAT exam.

- **Commutative Property**. This law enables you to change the order of numbers being either multiplied or added.

  Examples:

  $5 \times 2 = 2 \times 5$ $\qquad 5a = a5$

- **Associative Property.** This law states that parentheses can be moved to group numbers differently when adding or multiplying.

  Examples:

  $2 \times (3 \times 4) = (2 \times 3) \times 4$ $\qquad 2(ab) = (2a)b$

- **Distributive Property.** When a value is being multiplied by a quantity in parentheses, you can multiply that value by each variable or number within the parenthesis and then take the sum.

  Example:

  $5(a + b) = 5a + 5b$ This can be proven by doing the math:

  $5(1 + 2) = (5 \times 1) + (5 \times 2)$

  $5(3) = 5 + 10$

  $15 = 15$

Order of Operations

There is an order for doing every mathematical operation. That order is illustrated by the following acronym: ***P**lease **E**xcuse **M**y **D**ear **A**unt **S**ally*. Here is what it means mathematically:

P: Parentheses. Perform all operations within parentheses first.
E: Exponents. Evaluate exponents.
M/D: Multiply/Divide. Work from left to right in your division.
A/S: Add/Subtract. Work from left to right in your subtraction.

Example:

$$5 + \left[\frac{20}{(3-2)^2}\right] = 5 + \left[\frac{20}{(1)^2}\right]$$
$$= 5 + \frac{20}{1}$$
$$= 5 + 20$$
$$= 25$$

Powers and Roots

Exponents

An exponent tells you how many times the number, called the **base**, is a factor in the product.

Example:

$2^{5\text{-exponent}} = 2 \times 2 \times 2 \times 2 \times 2 = 32$

$\Uparrow$

base

Sometimes, you will see an exponent with a variable: b^n. The "b" represents a number that will be a factor to itself "n" times.

Example:

b^n where $b = 5$ and $n = 3$ Don't let the variables fool you. Most expressions are very easy once you substitute in numbers.

$b^n = 5^3 = 5 \times 5 \times 5 = 125$

Laws of Exponents

- Any base to the zero power is always 1.
  Examples:
  $5^0 = 1$ $70^0 = 1$ $29{,}874^0 = 1$
- When multiplying identical bases, you add the exponents.
  Examples:
  $2^2 \times 2^4 \times 2^6 = 2^{12}$ $a^2 \times a^3 \times a^5 = a^{10}$
- When dividing identical bases, you subtract the exponents.
  Examples:
  $\frac{2^5}{2^3} = 2^2$ $\frac{a^7}{a^4} = a^3$

Here is another method of illustrating multiplication and division of exponents:

$b^m \times b^n = b^{m+n}$

$\frac{b^m}{b^n} = b^{m-n}$

- If an exponent appears outside of the parentheses, you multiply the exponents together.
  Examples:
  $(3^3)^7 = 3^{21}$ $(g^4)^3 = g^{12}$

Squares and Square Roots

The **square root** of a number is the product of a number and itself. For example, in the expression $3^2 = 3 \times 3 = 9$, the number 9 is the **square** of the number 3. If we reverse the process, we can say that the number 3 is the square root of the number 9. The symbol for square root is $\sqrt{\ }$ and it is called the **radical**. The number inside of the radical is called the **radicand**.

Example:

$5^2 = 25$; therefore, $\sqrt{25} = 5$

Since 25 is the square of 5, we also know that 5 is the square root of 25.

Perfect Squares

The square root of a number might not be a whole number. For example, the square root of 7 is 2.645751311 . . . It is not possible to find a whole number that can be multiplied by itself to equal 7. A whole number is a **perfect square** if its square root is also a whole number.

Examples of perfect squares:

1, 4, 9, 16, 36, 49, 64, 81, 100, . . .

Properties of Square Root Radicals

- The product of the square roots of two numbers is the same as the square root of their product.
  Example:
  $\sqrt{a} \times \sqrt{b} = \sqrt{a \times b}$
  $\sqrt{5} \times \sqrt{3} = \sqrt{15}$
- The quotient of the square roots of two numbers is the square root of the quotient.
  Example:
  $\frac{\sqrt{a}}{\sqrt{b}} = \sqrt{\frac{a}{b}} \quad (b \neq 0)$

  $\frac{\sqrt{15}}{\sqrt{3}} = \sqrt{\frac{15}{3}} = \sqrt{5}$
- The square of a square root radical is the radicand.
  Example:
  $(\sqrt{N})^2 = N$
  $(\sqrt{3})^2 = \sqrt{3} \times \sqrt{3} = \sqrt{9} = 3$

- To combine square root radicals with the same radicands, combine their coefficients and keep the same radical factor. You may add or subtract radicals with the same radicand.
  Example:
  $a\sqrt{b} + c\sqrt{b} = (a + c)\sqrt{b}$
  $4\sqrt{3} + 2\sqrt{3} = 6\sqrt{3}$
- Radicals cannot be combined using addition and subtraction.
  Example:
  $\sqrt{a + b} \neq \sqrt{a} + \sqrt{b}$
  $\sqrt{4 + 11} \neq \sqrt{4} + \sqrt{11}$
- To simplify a square root radical, write the radicand as the product of two factors, with one number being the largest perfect square factor. Then write the radical over each factor and simplify.
  Example:
  $\sqrt{8} = \sqrt{4} \times \sqrt{2} = 2\sqrt{2}$

Integer and Rational Exponents

Integer Exponents

When dealing with negative exponents, remember that $a^{-n} = \frac{1}{a^n}$.

Examples:

$4^{-2} = \frac{1}{4^2} = \frac{1}{16}$

$-2^{-3} = \frac{1}{-2^3} = \frac{1}{-8} = -\frac{1}{8}$

Rational Exponents

Recall that rational numbers are all numbers that can be written as fractions ($\frac{2}{3}$), terminating decimals (.75), and repeating decimals (.666 . . .). Keeping this in mind, it's no surprise that numbers raised to rational exponents are just numbers raised to a fractional power.

What is the value of $4^{\frac{1}{2}}$?

$4^{\frac{1}{2}}$ can be rewritten as $\sqrt{4}$, so it is equal to 2.

Any time you see a number with a fractional exponent, the numerator of that exponent is the power you raise the number to, and the denominator is the root you take.

Examples:

$25^{\frac{1}{2}} = \sqrt[2]{25^1}$

$8^{\frac{1}{3}} = \sqrt[3]{8^1}$

$16^{\frac{1}{2}} = \sqrt[2]{16^1}$

Divisibility and Factors

Like multiplication, division can be represented in a few different ways:

$8 \div 3 \qquad 3\overline{)8} \qquad \frac{8}{3}$

In each of the above, 3 is the divisor and 8 is the dividend.

Odd and Even Numbers

An **even** number is a number that can be divided by the number 2: 2, 4, 6, 8, 10, 12, 14, . . . An **odd** number cannot be divided evenly by the number 2: 1, 3, 5, 7, 9, 11, 13, . . . The even and odd numbers listed are also examples of consecutive even numbers and consecutive odd numbers because they differ by two.

Here are some helpful rules for how even and odd numbers behave when added or multiplied:

even + even = even	and	even × even = even
odd + odd = even	and	odd × odd = odd
odd + even = odd	and	even × odd = even

Dividing by Zero

Dividing by zero is not possible. This is important to remember when solving for a variable in the denominator of a fraction.

Example:

$\frac{6}{a - 3}$

In this problem, we know that a cannot be equal to 3, because that would yield a zero in the denominator.

$a - 3 = 0$

$a \neq 3$

Factors and Multiples

Factors are numbers that can be divided into a larger number without a remainder.

Example:

$12 \div 3 = 4$ The number 3 is, therefore, a factor of the number 12. Other factors of 12 are 1, 2, 4, 6, and 12.

The **common factor** of two numbers are the factors that both numbers have in common.

Example:

The factors of 24 = 1, 2, 3, 4, 6, 8, 12, and 24.
The factors of 18 = 1, 2, 3, 6, 9, and 18.

From the above, you can see that the common factors of 24 and 18 are 1, 2, 3, and 6. From this list, we can also determine that the **greatest common factor** of 24 and 18 is 6. Determining the greatest common factor is useful for reducing fractions.

Any number that can be obtained by multiplying a number x by a positive integer is called a **multiple** of x.

Example:

Some multiples of 5 are: 5, 10, 15, 20, 25, 30, 35, 40 . . .
Some multiples of 7 are: 7, 14, 21, 28, 35, 42, 49, 56 . . .

From the above, you can also determine that the **least common multiple** of the numbers 5 and 7 is 35. The least common multiple, or LCM, is used when performing various operations with fractions.

Prime and Composite Numbers

A positive integer that is greater than the number 1 is either prime or composite, but not both.

- A **prime number** has only itself and the number 1 as factors.

  Examples:

  2, 3, 5, 7, 11, 13, 17, 19, 23, . . .
- A **composite** number is a number that has more than two factors.

  Examples:

  4, 6, 8, 9, 10, 12, 14, 15, 16, . . .
- The number 1 is neither prime nor composite.

Prime Factorization

The SAT will ask you to combine several skills at once. One example of this, called **prime factorization**, is a process of breaking down factors into prime numbers.

Examples:

$18 = 9 \times 2$ The number 9 can also be written as 3×3. So, the prime factorization of 18 is:
$18 = 3 \times 3 \times 2$

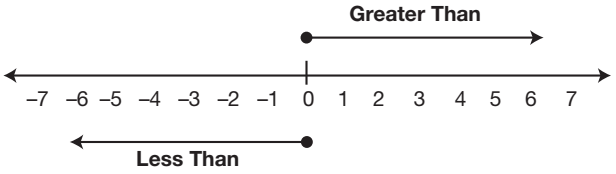
This can also be demonstrated with the factors 6 and 3: $18 = 6 \times 3$

Because we know that 6 is equal to 2×3, we can write: $18 = 2 \times 3 \times 3$

According to the *commutative law*, we know that $3 \times 3 \times 2 = 2 \times 3 \times 3$.

Number Lines and Signed Numbers

You have surely dealt with number lines in your career as a math student. The concept of the number line is simple: *Less than* is to the left and *greater than* is to the right . . .



Sometimes, however, it is easy to get confused about the value of negative numbers. To keep things simple, remember this rule: If $a > b$, then $-b > -a$.

Example:

If $7 > 5$, then $-5 > -7$.

Absolute Value

The **absolute value** of a number or expression is always positive because it is the distance a number is away from zero on a number line.

Example:

$|-1| = 1 \qquad |2 - 4| = |-2| = 2$

Working with Integers

Multiplying and Dividing

Here are some rules for working with integers:

$(+) \times (+) = +$ $\qquad$ $(+) \div (+) = +$
$(+) \times (-) = -$ $\qquad$ $(+) \div (-) = -$
$(-) \times (-) = +$ $\qquad$ $(-) \div (-) = +$

A simple rule for remembering the above is that if the signs are the same when multiplying or dividing, the answer will be positive and if the signs are different, the answer will be negative.

Adding

Adding the same sign results in a sum of the same sign:

$(+) + (+) = +$ $\qquad$ and $\qquad$ $(-) + (-) = -$

When adding numbers of different signs, follow this two-step process:

1. Subtract the absolute values of the numbers.
2. Keep the sign of the larger number.

Examples:

$-2 + 3 =$

1. Subtract the absolute values of the numbers:

   $3 - 2 = 1$
2. The sign of the larger number (3) was originally positive, so the answer is positive 1.

$8 + -11 =$

1. Subtract the absolute values of the numbers:

   $11 - 8 = 3$
2. The sign of the larger number (11) was originally negative, so the answer is –3.

Subtracting

When subtracting integers, change all subtraction to addition and change the sign of the number being subtracted to its opposite. Then follow the rules for addition.

Examples:

$(+10) - (+12) = (+10) + (-12) = -2$
$(-5) - (-7) = (-5) + (+7) = +2$

Decimals

The most important thing to remember about decimals is that the first place value to the right begins with tenths. The place values are as follows:

1	2	6	8	•	3	4	5	7
THOUSANDS	HUNDREDS	TENS	ONES	DECIMAL POINT	TENTHS	HUNDREDTHS	THOUSANDTHS	TEN THOUSANDTHS

In expanded form, this number can also be expressed as . . .

$1{,}268.3457 = (1 \times 1{,}000) + (2 \times 100) + (6 \times 10) + (8 \times 1) + (3 \times .1) + (4 \times .01) + (5 \times .001) + (7 \times .0001)$

Comparing Decimals

Comparing decimals is actually quite simple. Just line up the decimal points and fill in any zeroes needed to have an equal number of digits.

Example:

Compare .5 and .005.

Line up decimal points and add zeroes.
.500
.005

Then ignore the decimal point and ask, which is bigger: 500 or 5?

500 is definitely bigger than 5, so .5 is larger than .005.

Fractions

To do well when working with fractions, it is necessary to understand some basic concepts. Here are some math rules for fractions using variables:

$$\frac{a}{b}\times\frac{c}{d}=\frac{a\times c}{b\times d} \qquad \frac{a}{b}+\frac{c}{b}=\frac{a+c}{b}$$

$$\frac{a}{b}\div\frac{c}{d}=\frac{a}{b}\times\frac{d}{c}=\frac{a\times d}{b\times c} \qquad \frac{a}{b}+\frac{c}{d}=\frac{ad+bc}{bd}$$

Multiplying Fractions

Multiplying fractions is one of the easiest operations to perform. To multiply fractions, simply multiply the numerators and the denominators, writing each in the respective place over or under the fraction bar.

Example:

$$\frac{4}{5}\times\frac{6}{7}=\frac{24}{35}$$

Dividing Fractions

Dividing fractions is the same thing as multiplying fractions by their **reciprocal**. To find the reciprocal of any number, switch its numerator and denominator.

For example, the reciprocals of the following numbers are:

$$\frac{1}{3}=\frac{3}{1}=3 \qquad x=\frac{1}{x} \qquad \frac{4}{5}=\frac{5}{4} \qquad 5=\frac{1}{5}$$

When dividing fractions, simply multiply either fraction by the other's reciprocal to get the answer.

Example:

$$\frac{12}{21}\div\frac{3}{4}=\frac{12}{21}\times\frac{4}{3}=\frac{48}{63}=\frac{16}{21}$$

Adding and Subtracting Fractions

- To add or subtract fractions with like denominators, just add or subtract the numerators and leave the denominator as it is. For example,
  $\frac{1}{7}+\frac{5}{7}=\frac{6}{7}$ and $\frac{5}{8}-\frac{2}{8}=\frac{3}{8}$
- To add or subtract fractions with unlike denominators, you must find the **least common denominator,** or LCD.

For example, if given the denominators 8 and 12, 24 would be the LCD because $8\times3=24$ and $12\times2=24$. In other words, the LCD is the smallest number divisible by each of the denominators.

Once you know the LCD, convert each fraction to its new form by multiplying both the numerator and denominator by the necessary number to get the LCD, and then add or subtract the new numerators.

Example:

$$\frac{1}{3}+\frac{2}{5}=\frac{5(1)}{5(3)}+\frac{3(2)}{3(5)}=\frac{5}{15}+\frac{6}{15}=\frac{11}{15}$$

Sets

Sets are collections of numbers and are usually based on certain criteria. All the numbers within a set are called the **members** of the set. For example, the set of integers looks like this:

$\{\ldots -3, -2, -1, 0, 1, 2, 3, \ldots\}$

The set of whole numbers looks like this:

$\{0, 1, 2, 3, \ldots\}$

When you find the elements that two (or more) sets have in common, you are finding the **intersection** of the sets. The symbol for intersection is: $\cap$.

For example, the intersection of the integers and the whole numbers is the set of the whole numbers itself. This is because the elements (numbers) that they have in common are {0, 1, 2, 3, ...}. Consider the set of positive even integers and the set of positive odd integers. The positive even integers are:

{2, 4, 6, 8, . . . }

The positive odd integers are:

{1, 3, 5, 7, . . . }

If we were to combine the set of positive even numbers with the set of positive odd numbers, we would have the **union** of the sets:

{1, 2, 3, 4, 5, . . . }

The symbol for union is: $\cup$.

Mean, Median, and Mode

To find the average or **mean** of a set of numbers, add all of the numbers together and divide by the quantity of numbers in the set.

$$\text{Average} = \frac{\text{number set}}{\text{quantity of set}}$$

Example:

Find the average of 9, 4, 7, 6, and 4.

$\frac{9+4+7+6+4}{5} = \frac{30}{5} = 6$

(because there are 5 numbers in the set)

To find the **median** of a set of numbers, arrange the numbers in ascending order and find the middle value.

- If the set contains an odd number of elements, then simply choose the middle value.

  Example:

  Find the median of the number set: 1, 5, 3, 7, 2. First, arrange the set in ascending order: 1, 2, 3, 5, 7, and then, choose the middle value: 3. The answer is 3.

- If the set contains an even number of elements, simply average the two middle values.

  Example:

  Find the median of the number set: 1, 5, 3, 7, 2, 8. First, arrange the set in ascending order: 1, 2, 3, 5, 7, 8, and then, choose the middle values 3 and 5. Find the average of the numbers 3 and 5: $\frac{3+5}{2}$ = 4. The answer is 4.

The **mode** of a set of numbers is the number that occurs the greatest number of times.

Example:

For the number set 1, 2, 5, 3, 4, 2, 3, 6, 3, 7, the number 3 is the mode because it occurs the most number of times.

Percent

A percent is a measure of a part to a whole, with the whole being equal to 100.

- To change a decimal to a percentage, move the decimal point two units to the right and add a percentage symbol.

  Examples:

  .45 = 45% .07 = 7% .9 = 90%

- To change a percentage to a decimal, simply move the decimal point two places to the left and eliminate the percentage symbol.

  Examples:

  64% = .64 87% = .87 7% = .07

- To change a fraction to a percentage, first change the fraction to a decimal. To do this, divide the numerator by the denominator. Then change the decimal to a percentage.

  Examples:

  $\frac{4}{5}$ = .80 = 80% $\frac{2}{5}$ = .4 = 40% $\frac{1}{8}$ = .125 = 12.5%

- To change a percentage to a fraction, divide by 100 and reduce.
  Examples:
  $64\% = \frac{64}{100} = \frac{16}{25}$ $75\% = \frac{75}{100} = \frac{3}{4}$ $82\% = \frac{82}{100} = \frac{41}{50}$
- Keep in mind that any percentage that is 100 or greater will need to reflect a whole number or mixed number when converted.
  Examples:
  $125\% = 1.25$ or $1\frac{1}{4}$
  $350\% = 3.5$ or $3\frac{1}{2}$

Here are some conversions you should be familiar with:

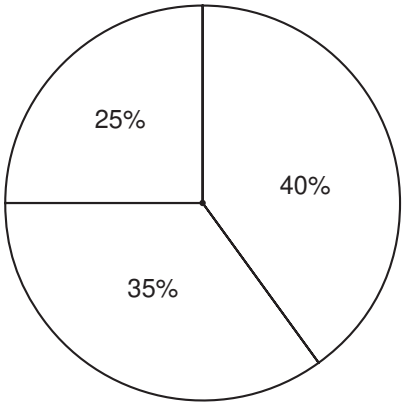
FRACTION	DECIMAL	PERCENTAGE
$\frac{1}{2}$	.5	50%
$\frac{1}{4}$	.25	25%
$\frac{1}{3}$	.333 . . .	$33.\overline{3}\%$
$\frac{2}{3}$	.666 . . .	$66.\overline{6}\%$
$\frac{1}{10}$	.1	10%
$\frac{1}{8}$	.125	12.5%
$\frac{1}{6}$	.1666 . . .	$16.\overline{6}\%$
$\frac{1}{5}$	.2	20%

Graphs and Tables

The SAT will test your ability to analyze graphs and tables. It is important to read each graph or table very carefully before reading the question. This will help you process the information that is presented. It is extremely important to read all of the information presented, paying special attention to headings and units of measure. Following is an overview of the types of graphs you will encounter.

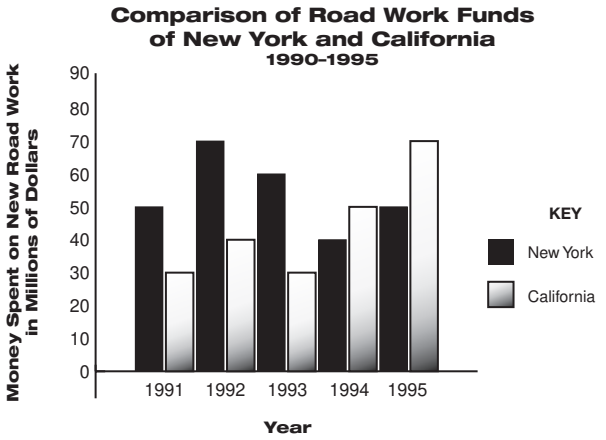
Circle Graphs or Pie Charts

This type of graph is representative of a whole and is usually divided into percentages. Each section of the chart represents a portion of the whole, and all of these sections added together will equal 100% of the whole.



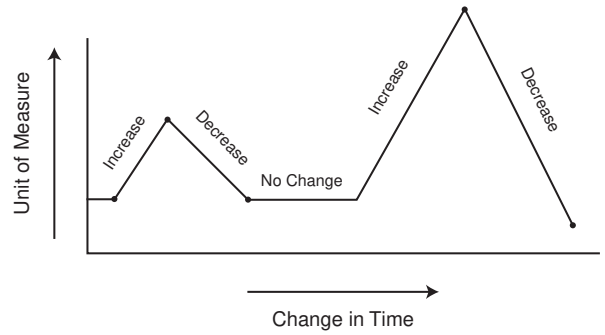
Bar Graphs

Bar graphs compare similar things with bars of different length representing different values. On the SAT, these graphs frequently contain differently shaded bars used to represent different elements. Therefore, it is important to pay attention to both the size and shading of the graph.



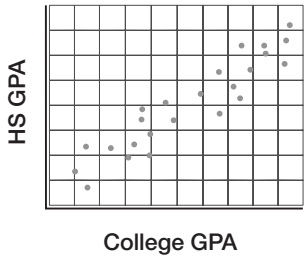
Broken-Line Graphs

Broken-line graphs illustrate a measurable change over time. If a line is slanted up, it represents an increase whereas a line sloping down represents a decrease. A flat line indicates no change as time elapses.

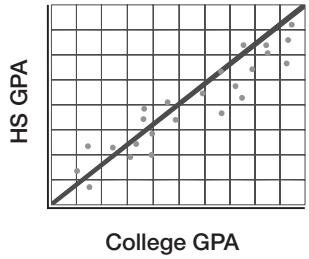


Scatterplots

Scatterplots illustrate the relationship between two quantitative variables. Typically, the values of the independent variables are the x-coordinates, and the values of the dependent variables are the y-coordinates. When presented with a scatterplot, look for a trend. Is there a line that the points seem to cluster around? For example:



In the scatterplot above, notice that a "line of best fit" can be created:



Matrices

Matrices are rectangular arrays of numbers. Below is an example of a 2 by 2 matrix:

$$\begin{bmatrix} a_1 & a_2 \\ a_3 & a_4 \end{bmatrix}$$

Review the following basic rules for performing operations on 2 by 2 matrices.

Addition

Add the given entries as shown below:

$$\begin{bmatrix} a_1 & a_2 \\ a_3 & a_4 \end{bmatrix} + \begin{bmatrix} b_1 & b_2 \\ b_3 & b_4 \end{bmatrix} = \begin{bmatrix} a_1 + b_1 & a_2 + b_2 \\ a_3 + b_3 & a_4 + b_4 \end{bmatrix}$$

Subtraction

Subtract the given entries as shown below:

$$\begin{bmatrix} a_1 & a_2 \\ a_3 & a_4 \end{bmatrix} - \begin{bmatrix} b_1 & b_2 \\ b_3 & b_4 \end{bmatrix} = \begin{bmatrix} a_1 - b_1 & a_2 - b_2 \\ a_3 - b_3 & a_4 - b_4 \end{bmatrix}$$

Scalar Multiplication

Multiply every entry by the given constant (shown below as k):

$$k\begin{bmatrix} a_1 & a_2 \\ a_3 & a_4 \end{bmatrix} = \begin{bmatrix} ka_1 & ka_2 \\ ka_3 & ka_4 \end{bmatrix}$$

Multiplication of Matrices

Multiply the given entries as shown below:

$$\begin{bmatrix} a_1 & a_2 \\ a_3 & a_4 \end{bmatrix} \times \begin{bmatrix} b_1 & b_2 \\ b_3 & b_4 \end{bmatrix} = \begin{bmatrix} a_1b_1 + a_2b_3 & a_1b_2 + a_2b_4 \\ a_3b_1 + a_3b_3 & a_3b_2 + a_4b_4 \end{bmatrix}$$

▶ Algebra Review

Equations

An **equation** is solved by finding a number that is equal to an unknown variable.

Simple Rules for Working with Equations

1. The equal sign separates an equation into two sides.
2. Whenever an operation is performed on one side, the same operation must be performed on the other side.
3. Your first goal is to get all of the variables on one side and all of the numbers on the other.
4. The final step often will be to divide each side by the coefficient, leaving the variable equal to a number.

Cross Multiplying

You can solve an equation that sets one fraction equal to another by **cross multiplication**. Cross multiplication involves setting the products of opposite pairs of terms equal.

Example:

$\frac{x}{6} = \frac{x+10}{12}$ becomes $12x = 6(x) + 6(10)$

$12x = 6x + 60$

$-6x \quad -6x$

$\frac{6x}{6} = \frac{60}{6}$

Thus, $x = 10$.

Checking Equations

To check an equation, substitute the number equal to the variable in the original equation.

Example:

To check the equation above, substitute the number 10 for the variable x.

Example:

$\frac{x}{6} = \frac{x+10}{12}$ $\quad \frac{10}{6} = \frac{10+10}{12} = \frac{10}{6} = \frac{20}{12}$

$1\frac{2}{3} = 1\frac{2}{3}$ $\quad \frac{10}{6} = \frac{10}{6}$

Because this statement is true, you know the answer $x = 10$ must be correct.

Special Tips for Checking Equations

1. If time permits, be sure to check all equations.
2. If you get stuck on a problem with an equation, check each answer, beginning with choice **c**. If choice **c** is not correct, pick an answer choice that is either larger or smaller. This process will be further explained in the strategies for answering five-choice questions.
3. Be careful to answer the question that is being asked. Sometimes, this involves solving for a variable and then performing an operation.

Example:

If the question asks the value of $x - 2$, and you find $x = 2$, the answer is not 2, but $2 - 2$. Thus, the answer is 0.

Equations with More Than One Variable

Many equations have more than one variable. To find the solution, solve for one variable in terms of the other(s). To do this, follow the rule regarding variables and numbers on opposite sides of the equal sign. Isolate only one variable.

Example:

$2x + 4y = 12$

$-4y = -4y$ — To isolate the x variable, move the $4y$ to the other side.

$2x = 12 - 4y$ — Then divide both sides by the coefficient of x.

$\frac{2x}{2} = \frac{12-4y}{2}$ — The last step is to simplify your answer.

$x = 6 - 2y$ — This expression for x is written in terms of y.

Polynomials

A **polynomial** is the sum or difference of two or more unlike terms.

Example:

$2x + 3y - z$

The above expression represents the sum of three unlike terms $2x$, $3y$, and $-z$.

Three Kinds of Polynomials

- A **monomial** is a polynomial with one term, as in $2b^3$.
- A **binomial** is a polynomial with two unlike terms, as in $5x + 3y$.
- A **trinomial** is a polynomial with three unlike terms, as in $y^2 + 2z - 6$.

Operations with Polynomials

- To add polynomials, be sure to change all subtraction to addition and the sign of the number that was being subtracted. Then simply combine like terms.

  Example:

  $(3y^3 - 5y + 10) + (y^3 + 10y - 9)$

  Change all subtraction to addition and the sign of the number being subtracted.

  $3y^3 + -5y + 10 + y^3 + 10y + -9$

  Combine like terms.

  $3y^3 + y^3 + -5y + 10y + 10 + -9 = 4y^3 + 5y + 1$
- If an entire polynomial is being subtracted, change all of the subtraction to addition within the parentheses and then add the opposite of each term in the polynomial.

  Example:

  $(8x - 7y + 9z) - (15x + 10y - 8z)$

  Change all subtraction within the parentheses first:

  $(8x + \mathbf{-7y} + 9z) - (15x + 10y + \mathbf{-8z})$

  Then change the subtraction sign outside of the parentheses to addition and the sign of each polynomial being subtracted:

  $(8x + -7y + 9z) + \mathbf{(-15x + -10y + 8z)}$

  Note that the sign of the term 8z changes twice because it was being subtracted twice.

  All that is left to do is combine like terms:

  $8x + -15x + -7y + -10y + 9z + 8z = -7x + -17y + 17z$ is your answer.
- To multiply monomials, multiply their coefficients and multiply like variables by adding their exponents.

  Example:

  $(-5x^{3y})(2x^{2y3}) = (-5)(2)(x^3)(x^2)(y)(y^3) = -10x^{5y4}$
- To divide monomials, divide their coefficients and divide like variables by subtracting their exponents.

  Example:

  $\frac{16x^4y^5}{24x^3y^2} = \frac{(16)(x^4)\,(y^5)}{(24)\,(x^3)\,(y^2)} = \frac{2xy^3}{3}$
- To multiply a polynomial by a monomial, multiply each term of the polynomial by the monomial and add the products.

  Example:

  $6x(10x - 5y + 7)$

  Change subtraction to addition: $6x(10x + -5y + 7)$

  Multiply: $(6x)(10x) + (6x)(-5y) + (6x)(7)$

  $60x^2 + -30xy + 42x$
- To divide a polynomial by a monomial, divide each term of the polynomial by the monomial and add the quotients:

  Example:

  $\frac{5x - 10y + 20}{5} = \frac{5x}{5} - \frac{10y}{5} + \frac{20}{5} = x - 2y + 4$

FOIL

The **FOIL** method is used when multiplying binomials. FOIL stands for the order used to multiply the terms: **F**irst, **O**uter, **I**nner, and **L**ast. To multiply binomials, you multiply according to the FOIL order and then add the products.

Example:

$(3x + 1)(7x + 10)$

$3x$ and $7x$ are the first pair of terms,
$3x$ and 10 are the outermost pair of terms,
1 and $7x$ are the innermost pair of terms, and
1 and 10 are the last pair of terms.
Therefore, $(3x)(7x) + (3x)(10) + (1)(7x) + (1)(10) = 21x^2 + 30x + 7x + 10$.
After we combine like terms, we are left with the answer: $21x^2 + 37x + 10$.

Factoring

Factoring is the reverse of multiplication:

$2(x + y) = 2x + 2y$	Multiplication
$2x + 2y = 2(x + y)$	Factoring

Three Basic Types of Factoring

- Factoring out a common monomial:
  $10x^2 - 5x = 5x(2x - 1)$ and $xy - zy = y(x - z)$
- Factoring a quadratic trinomial using the reverse of FOIL:
  $y^2 - y - 12 = (y - 4)\ (y - +3)$ and
  $z^2 - 2z + 1 = (z - 1)(z - 1) = (z - 1)^2$
- Factoring the difference between two squares using the rule:
  $a^2 - b^2 = (a + b)(a - b)$ and
  $x^2 - 25 = (x + 5)(x - 5)$

Removing a Common Factor

If a polynomial contains terms that have common factors, the polynomial can be factored by using the reverse of the distributive law.

Example:

In the binomial $49x^3 + 21x$, $7x$ is the greatest common factor of both terms.

Therefore, you can divide $49x^3 + 21x$ by $7x$ to get the other factor.

$$\frac{49x^3 + 21x}{7x} = \frac{49x^3}{7x} + \frac{21x}{7x} = 7x^2 + 3$$

Thus, factoring $49x^3 + 21x$ results in $7x(7x^2 + 3)$.

Isolating Variables Using Fractions

It may be necessary to use factoring in order to isolate a variable in an equation.

Example:

If $ax - c = bx + d$, what is x in terms of a, b, c, and d?

1. The first step is to get the x terms on the same side of the equation.
   $ax - bx = c + d$
2. Now you can factor out the common x term on the left side.
   $x(a - b) = c + d$
3. To finish, divide both sides by $a - b$ to isolate the variable of x.
   $\frac{x(a-b)}{a-b} = \frac{c+d}{a-b}$
4. The $a - b$ binomial cancels out on the left, resulting in the answer:
   $x = \frac{c+d}{a-b}$

Quadratic Trinomials

A **quadratic trinomial** contains an x^2 term as well as an x term. $x^2 - 5x + 6$ is an example of a quadratic trinomial. It can be factored by reversing the FOIL method.

- Start by looking at the last term in the trinomial, the number 6. Ask yourself, "What two integers, when multiplied together, have a product of positive 6?"
- Make a mental list of these integers:
  1×6 $\quad -1 \times -6$ $\quad 2 \times 3$ $\quad -2 \times -3$
- Next, look at the middle term of the trinomial, in this case, the $-5x$. Choose the two factors from the above list that also add up to -5. Those two factors are:
  -2 and -3
- Thus, the trinomial $x^2 - 5x + 6$ can be factored as $(x - 3)(x - 2)$.

- Be sure to use the FOIL method to double-check your answer:

  $(x-3)(x-2) = x^2 - 5x + 6$

  The answer is correct.

Algebraic Fractions

Algebraic fractions are very similar to fractions in arithmetic.

Example:

Write $\frac{x}{5} - \frac{x}{10}$ as a single fraction.

Just like in arithmetic, you need to find the LCD of 5 and 10, which is 10. Then change each fraction into an equivalent fraction that has 10 as a denominator.

$$\frac{x}{5} - \frac{x}{10} = \frac{x(2)}{5(2)} - \frac{x}{10}$$
$$= \frac{2x}{10} - \frac{x}{10}$$
$$= \frac{x}{10}$$

Reciprocal Rules

There are special rules for the sum and difference of reciprocals. Memorizing this formula might make you more efficient when taking the SAT.

- If x and y are not 0, then $\frac{1}{x} + 1y = \frac{x+y}{xy}$
- If x and y are not 0, then $\frac{1}{x} - \frac{1}{y} = \frac{y-x}{xy}$

Quadratic Equations

A **quadratic equation** is an equation in which the greatest exponent of the variable is 2, as in $x^2 + 2x - 15 = 0$. A quadratic equation has two roots, which can be found by breaking down the quadratic equation into two simple equations.

Zero-Product Rule

The **zero-product rule** states that if the product of two or more numbers is 0, then at least one of the numbers is 0.

Example:

$(x+5)(x-3) = 0$

Using the zero-product rule, it can be determined that either $x + 5 = 0$ or that $x - 3 = 0$.

$x + 5 = 0$ or $x - 3 = 0$

$-5 \quad -5$ $\quad +3 \quad +3$

$x = -5$ or $x = +3$

Thus, the possible values of x are –5 and 3.

Solving Quadratic Equations by Factoring

- If a quadratic equation is not equal to zero, you need to rewrite it.

  Example:

  Given $x^2 - 5x = 14$, you will need to subtract 14 from both sides to form $x^2 - 5x - 14 = 0$. This quadratic equation can now be factored using the zero-product rule.
- It may be necessary to factor a quadratic equation before solving it and to use the zero-product rule.

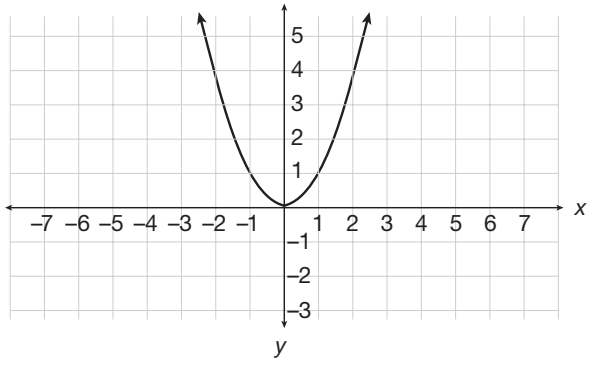
  Example:

  $x^2 + 4x = 0$ must first be factored before it can be solved: $x(x + 4)$.

Graphs of Quadratic Equations

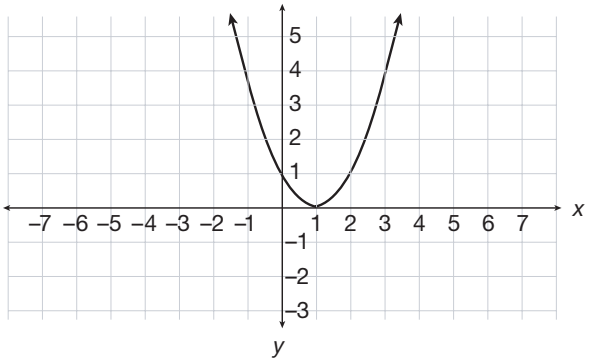
The (x,y) solutions to quadratic equations can be plotted. It is important to look at the equation at hand and to be able to understand the calculations that are being performed on every value that gets substituted into the equation.

For example, below is the graph of $y = x^2$.



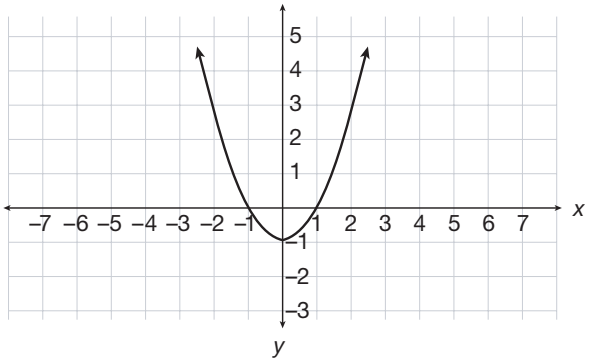
For every number you put into the equation (as an x value), you know that you will simply square the number to get the corresponding y value.

The SAT may ask you to compare the graph of $y = x^2$ with the graph of $y = (x-1)^2$. Think about what happens when you put numbers (your x values) into this equation. If you have an $x = 2$, the number that gets squared is 1. The graph will look identical to the $y = x^2$ graph, except it will be shifted to the right by 1:



How would the graph of $y = x^2$ compare with the graph of $y = x^2 - 1$?

In this case, you are still squaring your x value, and *then* subtracting 1. This means that the whole graph of $y = x^2$ has been moved down 1 point.



Rational Equations and Inequalities

Recall that **rational numbers** are all numbers that can be written as fractions ($\frac{2}{3}$), terminating decimals (.75), and repeating decimals (.666 . . .). Keeping this in mind, it's no surprise that **rational equations** are just equations in fraction form. **Rational inequalities** are also in fraction form and involve the symbols $<$, $>$, $\leq$, and $\geq$ instead of an equals sign.

Example:

Given $\frac{(x+5)(x^2-x-12)}{x^2+x-20} = 10$, find the value of x.

Factor the top and bottom:

$\frac{(x+5)(x+3)(x-4)}{(x+5)(x-4)} = 10$

Note that you can cancel out the $(x + 5)$ and the $(x - 4)$ terms from the top and bottom to yield:

$x + 3 = 10$

Thus, $x = 7$.

Radical Equations

Some algebraic equations on the SAT will include the square root of the unknown. The first step is to isolate the radical. When you have accomplished this, you can then square both sides of the equation to solve for the unknown.

Example:

$4\sqrt{b} + 11 = 27$

To isolate the variable, subtract 11 from both sides:
$4\sqrt{b} = 16$

Next, divide both sides by 4:
$\sqrt{b} = 4$

Last, square both sides:
$\sqrt{b^2} = 4^2$

$b = 16$

Sequences Involving Exponential Growth

When analyzing a sequence, you always want to try and find the mathematical operation that you can perform to get the next number in the sequence. Look carefully at the sequence:

2, 6, 18, 54, . . .

You probably noticed that each successive term is found by multiplying the prior term by 3; ($2 \times 3 = 6$, $6 \times 3 = 18$, and so on.) Since we are multiplying each term by a constant number, there is a constant ratio between the terms. Sequences that have a constant ratio between terms are called **geometric sequences**.

On the SAT, you may, for example, be asked to find the thirtieth term of a geometric sequence like the one above. There is not enough time for you to actually write out all the terms, so you should notice the pattern:

2, 6, 18, 36, . . .
Term 1 = 2
Term 2 = 6, which is 2×3
Term 3 = 18, which is $2 \times 3 \times 3$
Term 4 = 54, which is $2 \times 3 \times 3 \times 3$

Another way of looking at this, would be to use exponents:

Term 1 = 2
Term 2 = 2×3^1
Term 3 = 2×3^2
Term 4 = 2×3^3

So, if the SAT asks you for the thirtieth term, you know that term 30 = 2×3^{29}.

Systems of Equations

A system of equations is a set of two or more equations with the same solution. Two methods for solving a system of equations are **substitution** and **linear combination**.

Substitution

Substitution involves solving for one variable in terms of another and then substituting that expression into the second equation.

Example:

$2p + q = 11$ and $p + 2q = 13$

1. First, choose an equation and rewrite it, isolating one variable in terms of the other. It does not matter which variable you choose.
   $2p + q = 11$ becomes $q = 11 - 2p$
2. Second, substitute $11 - 2p$ for q in the other equation and solve:
   $p + 2(11 - 2p) = 13$
   $p + 22 - 4p = 13$
   $22 - 3p = 13$
   $22 = 13 + 3p$
   $9 = 3p$
   $p = 3$
3. Now substitute this answer into either original equation for p to find q.
   $2p + q = 11$
   $2(3) + q = 11$
   $6 + q = 11$
   $q = 5$
4. Thus, $p = 3$ and $q = 5$.

Linear Combination

Linear combination involves writing one equation over another and then adding or subtracting the like terms so that one letter is eliminated.

Example:

$x - 9 = 2y$ and $x + 3 = 5y$

1. Rewrite each equation in the same form.
   $x - 9 = 2y$ becomes $x - 2y = 9$ and $x + 3 = 5y$ becomes $x - 5y = 3$

2. If you subtract the two equations, the x terms will be eliminated, leaving only one variable:
   Subtract:
   $x - 2y = 9$
   $-(x - 5y = 3)$
   $\frac{3y}{3} = \frac{6}{3}$
   $y = 2$ is the answer.
3. Substitute 2 for y in one of the original equations and solve for x:
   $x - 2y = 9$
   $x - 2(2) = 9$
   $x - 4 = 9$
   $x - 4 + 4 = 9 + 4$
   $x = 13$
4. The answer to the system of equations is $y = 2$ and $x = 13$.

Functions, Domain, and Range

Functions are written in the form beginning with:

$f(x) =$

For example, consider the function $f(x) = 3x - 8$. If you are asked to find $f(5)$, you simply substitute the 5 into the given function equation.

$f(x) = 3x - 8$
becomes
$f(5) = 3(5) - 8$
$f(5) = 15 - 8 = 7$

In order to be classified as a function, the function in question must pass the **vertical line test**. The vertical line test simply means that a vertical line drawn through a graph of the function in question CANNOT pass through more than one point of the graph. If the function in question passes this test, then it is indeed a function. If it fails the vertical line test, then it is NOT a function.

All of the x values of a function, collectively, are called its **domain**. Sometimes, there are x values that are outside of the domain, and these are the x values for which the function is not defined.

All of the solutions to $f(x)$ are collectively called the **range**. Values that $f(x)$ cannot equal are said to be outside of the range.

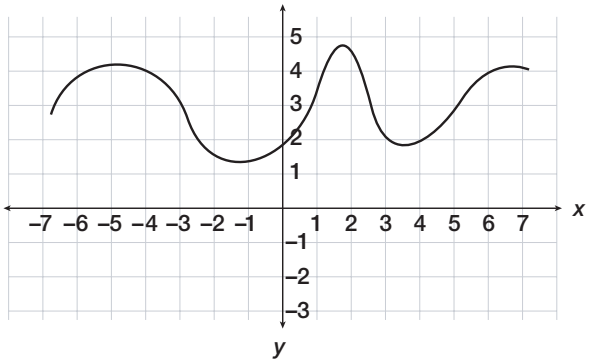
The x values are known as the **independent variables**. The outcome of the function *depends* on the x values, so the y values are called the **dependent variables**.

Qualitative Behavior of Graphs and Functions

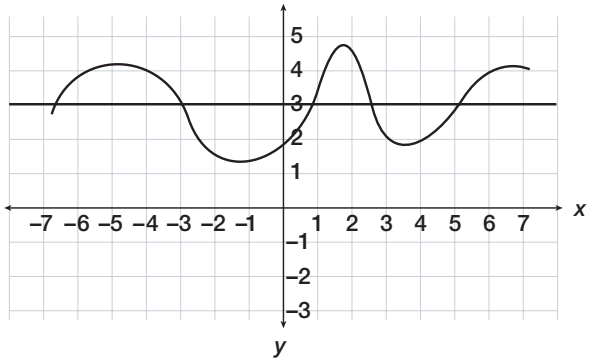
In addition to being able to solve for $f(x)$ and make judgments regarding the range and domain, you should also be able to analyze the graph of a function and interpret, qualitatively, something about the function itself.

Look at the x-axis, and see what value for $f(x)$ corresponds to each x value.

For example, consider the portion of the graph shown below. For how many values does $f(x) = 3$?



When $f(x) = 3$, the y value (use the y-axis) will equal 3. As shown below, there are five such points.



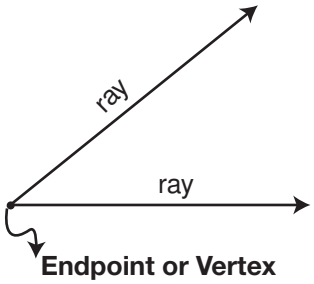
▶ Geometry Review

To begin this section, it is helpful to become familiar with the vocabulary used in geometry. The list below defines some of the main geometrical terms. It is followed by an overview of geometrical equations and figures.

arc	part of a circumference
area	the space inside a two-dimensional figure
bisect	cut in two equal parts
circumference	the distance around a circle
chord	a line segment that goes through a circle, with its endpoint on the circle
congruent	identical in shape and size. The geometric notation of "congruent" is $\cong$.
diameter	a chord that goes directly through the center of a circle—the longest line you can draw in a circle
equidistant	exactly in the middle
hypotenuse	the longest leg of a right triangle, always opposite the right angle
line	a straight path that continues infinitely in two directions. The geometric notation for a line is $\overleftrightarrow{AB}$.
line segment	the part of a line between (and including) two points. The geometric notation for a line segment is $\overline{PQ}$.
parallel	lines in the same plane that will never intersect
perimeter	the distance around a figure
perpendicular	two lines that intersect to form 90-degree angles
quadrilateral	any four-sided figure
radius	a line from the center of a circle to a point on the circle (half of the diameter)
ray	a line with an endpoint that continues infinitely in one direction. The geometric notation for a ray is $\overrightarrow{AB}$.
tangent line	a line meeting a smooth curve (such as a circle) at a single point without cutting across the curve. Note that a line tangent to a circle at point *P* will always be perpendicular to the radius drawn to point *P*.
volume	the space inside a three-dimensional figure

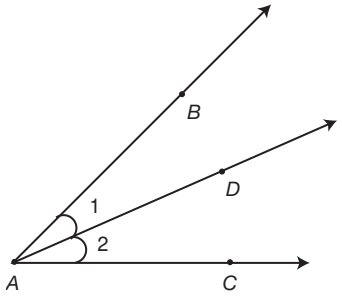
Angles

An **angle** is formed by an endpoint, or **vertex**, and two rays.



Naming Angles

There are three ways to name an angle.

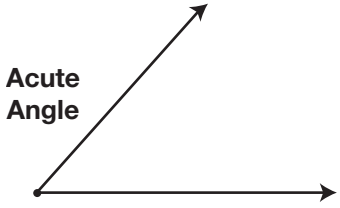


1. An angle can be named by the vertex when no other angles share the same vertex: $\angle A$.
2. An angle can be represented by a number written across from the vertex: $\angle 1$.
3. When more than one angle has the same vertex, three letters are used, with the vertex always being the middle letter: $\angle 1$ can be written as $\angle BAD$ or as $\angle DAB$, $\angle 2$ can be written as $\angle DAC$ or as $\angle CAD$.

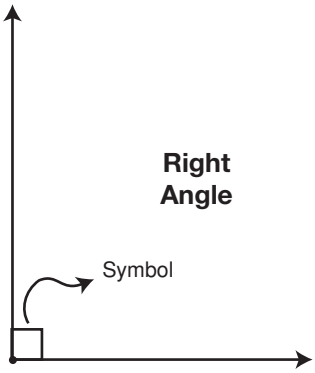
Classifying Angles

Angles can be classified into the following categories: acute, right, obtuse, and straight.

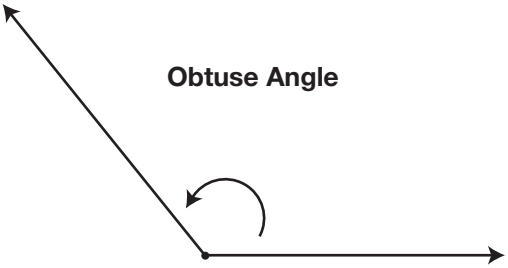
- An **acute** angle is an angle that measures less than 90°.



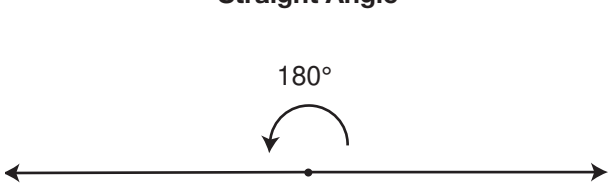
- A **right** angle is an angle that measures 90°. A right angle is symbolized by a square at the vertex.



- An **obtuse** angle is an angle that measures more than 90°, but less than 180°.

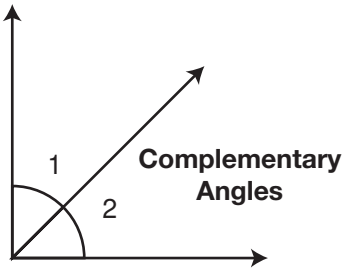


- A **straight** angle is an angle that measures 180°. Thus, both of its sides form a line.



Complementary Angles

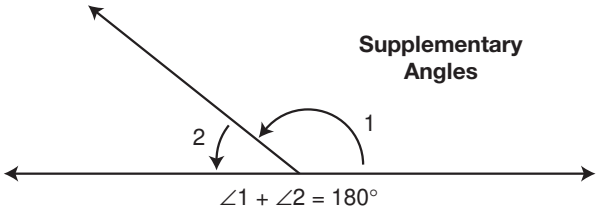
Two angles are **complementary** if the sum of their measures is equal to 90°.



$\angle 1 + \angle 2 = 90°$

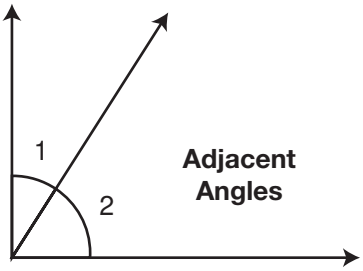
Supplementary Angles

Two angles are **supplementary** if the sum of their measures is equal to 180 degrees.



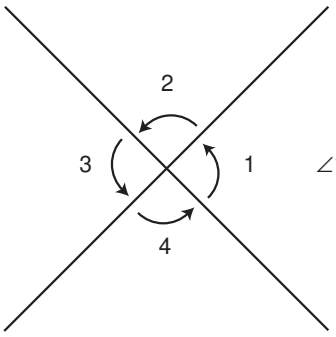
Adjacent Angles

Adjacent angles have the same vertex, share a side, and do not overlap.



∠1 and ∠2 are adjacent.

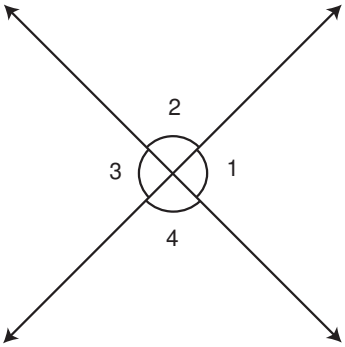
The sum of all adjacent angles around the same vertex is equal to 360°.



∠1 + ∠2 + ∠3 + ∠4 = 360°

Angles of Intersecting Lines

When two lines intersect, vertical angles are formed. Vertical angles have equal measures and are supplementary to adjacent angles.

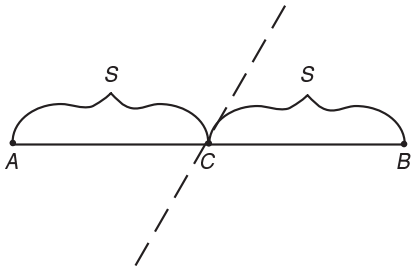


- m∠1 = m∠3 and m∠2 = m∠4
- m∠1 = m∠4 and m∠3 = m∠2
- m∠1 + m∠2 = 180° and m∠2 + m∠3 = 180°
- m∠3 + m∠4 = 180° and m∠1 + m∠4 = 180°

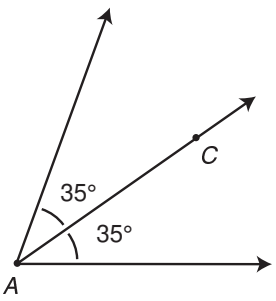
Bisecting Angles and Line Segments

Both angles and lines are said to be bisected when divided into two parts with equal measures.

Example:



Therefore, line segment *AB* is bisected at point *C*.

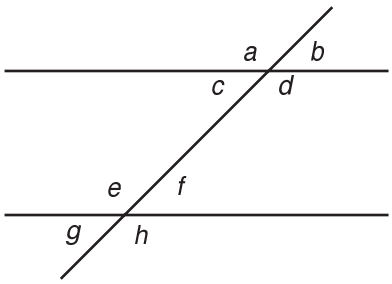


According to the figure, ∠*A* is bisected by ray *AC*.

Angles Formed by Parallel Lines

When two parallel lines are intersected by a third line, vertical angles are formed.

- Of these vertical angles, four will be equal and acute, and four will be equal and obtuse.
- Any combination of an acute and obtuse angle will be supplementary.



In the above figure:

- $\angle b$, $\angle c$, $\angle f$, and $\angle g$ are all acute and equal.
- $\angle a$, $\angle d$, $\angle e$, and $\angle h$ are all obtuse and equal.
- Also, any acute angle added to an any obtuse angle will be supplementary.

  Examples:

  $m\angle b + m\angle d = 180°$

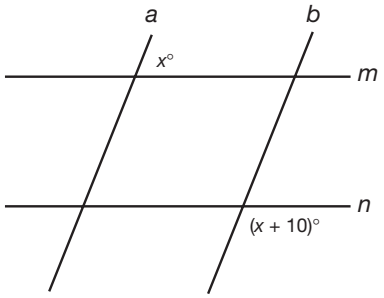
  $m\angle c + m\angle e = 180°$

  $m\angle f + m\angle h = 180°$

  $m\angle g + m\angle a = 180°$

Example:

In the figure below, if $m \parallel n$, what is the value of x?



Because $\angle x$ is acute, you know that it can be added to $x + 10$ to equal 180. The equation is thus $x + x + 10 = 180$.

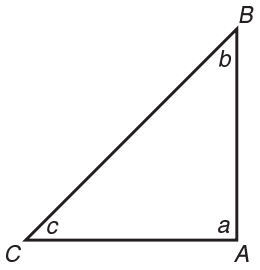
Solve for x:

$$2x + 10 = 180$$
$$\underline{-10 \quad -10}$$
$$\frac{2x}{2} = \frac{170}{2}$$
$$x = 85$$

Therefore, $m\angle x = 85$ and the obtuse angle is equal to $180 - 85 = 95$.

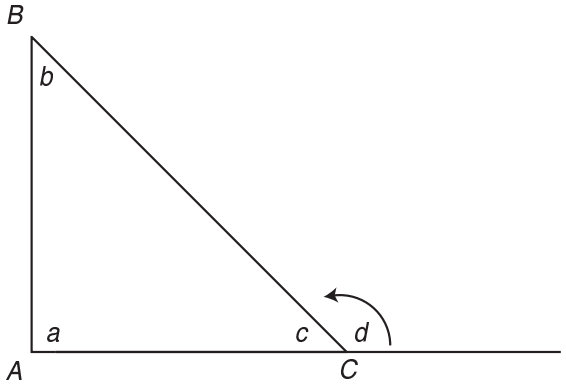
Angles of a Triangle

The measures of the three angles in a triangle always equal 180°.



$a + b + c = 180°$

Exterior Angles

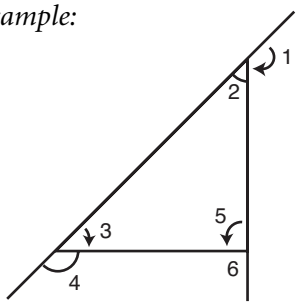


$d + c = 180°$ and $d = b + a$

An **exterior angle** can be formed by extending a side from any of the three vertices of a triangle. Here are some rules for working with exterior angles:

- An exterior angle and interior angle that share the same vertex are supplementary.
- An exterior angle is equal to the sum of the non-adjacent interior angles.

Example:



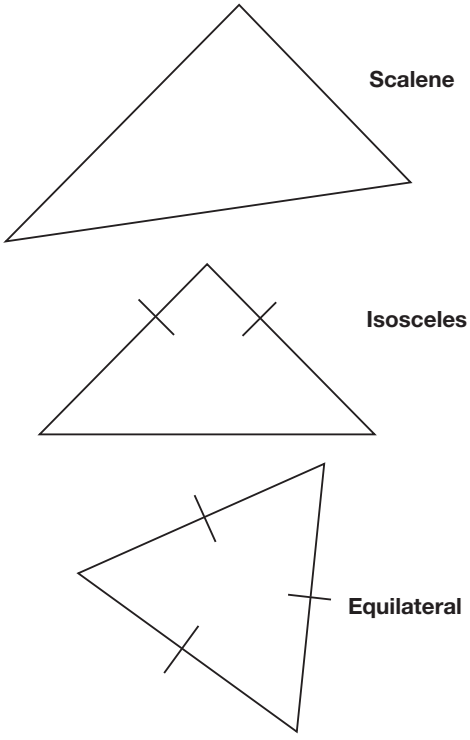
$m\angle 1 = m\angle 3 + m\angle 5$
$m\angle 4 = m\angle 2 + m\angle 5$
$m\angle 6 = m\angle 3 + m\angle 2$

- The sum of the exterior angles of a triangle equals 360°.

Triangles

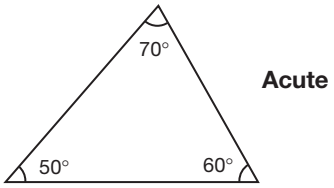
It is possible to classify triangles into three categories based on the number of equal sides:

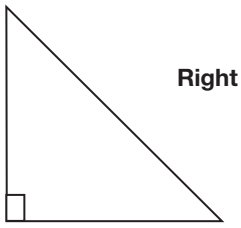
Scalene Triangle	**Isosceles Triangle**	**Equilateral Triangle**
(no equal sides)	(two equal sides)	(all sides equal)

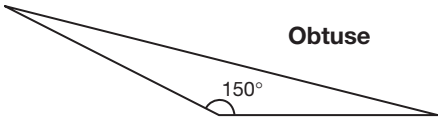


It is also possible to classify triangles into three categories based on the measure of the greatest angle:

Acute Triangle	**Right Triangle**	**Obtuse Triangle**
greatest angle is acute	greatest angle is 90°	greatest angle is obtuse



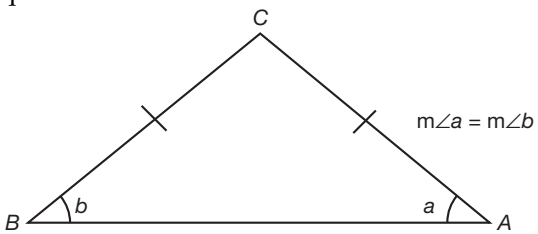




Angle-Side Relationships

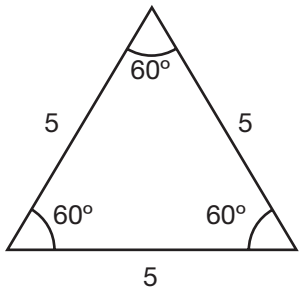
Knowing the angle-side relationships in isosceles, equilateral, and right triangles is useful knowledge to have in taking the SAT.

- In isosceles triangles, equal angles are opposite equal sides.



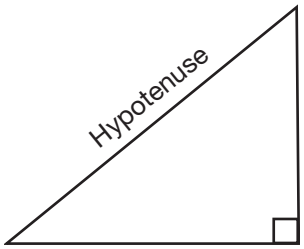
- In equilateral triangles, all sides are equal and all angles are equal.

Equilateral



- In a right triangle, the side opposite the right angle is called the **hypotenuse**.

Right

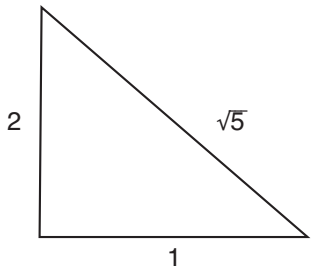


Pythagorean Theorem

The **Pythagorean theorem** is an important tool for working with right triangles. It states:

$a^2 + b^2 = c^2$, where a and b represent the legs and c represents the hypotenuse.

This theorem allows you to find the length of any side as long as you know the measure of the other two.



$a^2 + b^2 = c^2$
$1^2 + 2^2 = c^2$
$1 + 4 = c^2$
$5 = c^2$
$\sqrt{5} = c$

Pythagorean Triples

In a **Pythagorean triple**, the square of the largest number equals the sum of the squares of the other two numbers.

Example:

As demonstrated above: $1^2 + 2^2 = (\sqrt{5})^2$
1, 2, and $\sqrt{5}$ are also a Pythagorean triple because:
$1^2 + 2^2 = 1 + 4 = 5$ and $(\sqrt{5})^2 = 5$.

Pythagorean triples are useful for helping you identify right triangles. Some common Pythagorean triples are:

3:4:5 8:15:17 and 5:12:13

Multiples of Pythagorean Triples

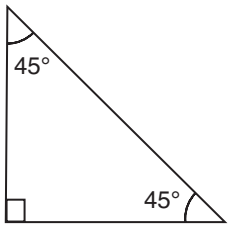
Any multiple of a Pythagorean triple is also a Pythagorean triple. Therefore, if given 3:4:5, then 9:12:15 is also a Pythagorean triple.

Example:

If given a right triangle with sides measuring 6, x, and 10, what is the value of x?

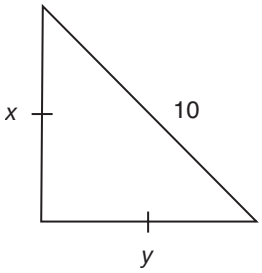
Because it is a right triangle, use the Pythagorean theorem. Therefore,
$10^2 - 6^2 = x^2$
$100 - 36 = x^2$
$64 = x^2$
$8 = x$

45-45-90 Right Triangles



A right triangle with two angles each measuring 45° is called an **isosceles right triangle**. In an isosceles right triangle:

- The length of the hypotenuse is $\sqrt{2}$ multiplied by the length of one of the legs of the triangle.
- The length of each leg is $\frac{\sqrt{2}}{2}$ multiplied by the length of the hypotenuse.

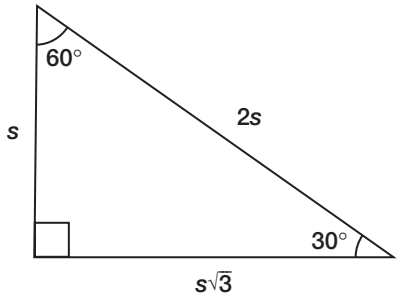


$$x = y = \frac{\sqrt{2}}{2} \times \frac{10}{1} = \frac{10\sqrt{2}}{2} = 5\sqrt{2}$$

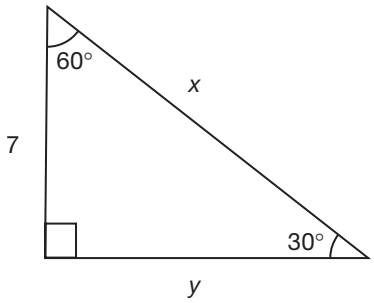
30-60-90 Triangles

In a right triangle with the other angles measuring 30° and 60°:

- The leg opposite the 30-degree angle is half the length of the hypotenuse. (And, therefore, the hypotenuse is two times the length of the leg opposite the 30-degree angle.)
- The leg opposite the 60 degree angle is $\sqrt{3}$ times the length of the other leg.



Example:



$x = 2 \times 7 = 14$ and $y = 7\sqrt{3}$

Triangle Trigonometry

There are special ratios we can use with right triangles. They are based on the trigonometric functions called **sine**, **cosine**, and **tangent**. The popular mnemonic to use is:

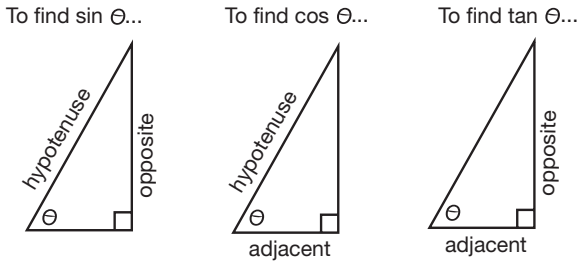
SOH CAH TOA

For an angle, θ, within a right triangle, we can use these formulas:

$$\sin\theta = \frac{\text{Opposite}}{\text{Hypotenuse}}$$

$$\cos\theta = \frac{\text{Adjacent}}{\text{Hypotenuse}}$$

$$\tan\theta = \frac{\text{Opposite}}{\text{Adjacent}}$$

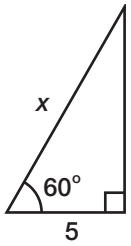


TRIG VALUES OF SOME COMMON ANGLES

	sin	cos	tan
30°	$\frac{1}{2}$	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{3}}{3}$
45°	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{2}}{2}$	1
60°	$\frac{\sqrt{3}}{2}$	$\frac{1}{2}$	$\sqrt{3}$

Whereas it is possible to solve some right triangle questions using the knowledge of 30-60-90 and 45-45-90 triangles, an alternative method is to use trigonometry.

For example, solve for *x* below.

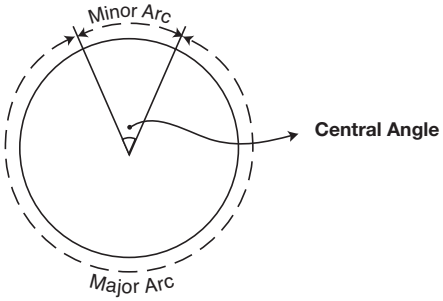


Using the knowledge that $\cos 60° = \frac{1}{2}$, just substitute into the equation: $\frac{5}{x} = \frac{1}{2}$, so $x = 10$.

Circles

A **circle** is a closed figure in which each point of the circle is the same distance from a fixed point called the center of the circle.

Angles and Arcs of a Circle



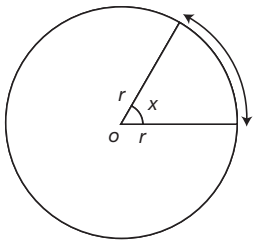
- An **arc** is a curved section of a circle. A **minor arc** is smaller than a semicircle and a **major arc** is larger than a semicircle.
- A **central angle** of a circle is an angle that has its vertex at the center and that has sides that are radii.
- Central angles have the same degree measure as the arc it forms.

Length of an Arc

To find the length of an arc, multiply the circumference of the circle, $2\pi r$, where r = the radius of the circle by the fraction $\frac{x}{360}$, with x being the degree measure of the arc or central angle of the arc.

Example:

Find the length of the arc if $x = 36$ and $r = 70$.



$$L = \frac{36}{360} \times 2(\pi)70$$

$$L = \frac{1}{10} \times 140\pi$$

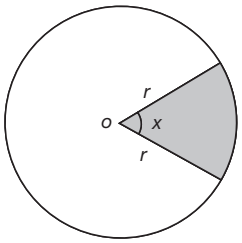
$$L = 14\pi$$

Area of a Sector

The area of a **sector** is found in a similar way. To find the area of a sector, simply multiply the area of a circle $(\pi)r^2$ by the fraction $\frac{x}{360}$, again using x as the degree measure of the central angle.

Example:

Given $x = 60$ and $r = 8$, find the area of the sector.



$A = \frac{60}{360} \times (\pi)8^2$

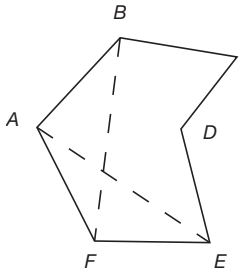
$A = \frac{1}{6} \times 64(\pi)$

$A = \frac{64}{6}(\pi)$

$A = \frac{32}{3}(\pi)$

Polygons and Parallelograms

A **polygon** is a figure with three or more sides.

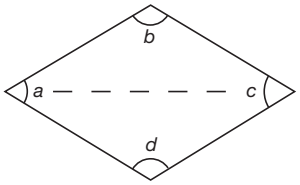


Terms Related to Polygons

- **Vertices** are corner points, also called *endpoints,* of a polygon. The vertices in the above polygon are: *A*, *B*, *C*, *D*, *E*, and *F*.
- A **diagonal** of a polygon is a line segment between two nonadjacent vertices. The two diagonals in the polygon above are line segments *BF* and *AE*.
- A **regular** (or *equilateral*) polygon has sides that are all equal.
- An **equiangular** polygon has angles that are all equal.

Angles of a Quadrilateral

A **quadrilateral** is a four-sided polygon. Since a quadrilateral can be divided by a diagonal into two triangles, the sum of its angles will equal 180 + 180 = 360°.



$a + b + c + d = 360°$

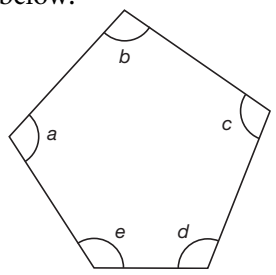
Interior Angles

To find the sum of the interior angles of any polygon, use this formula:

$S = 180(x - 2)$, with x being the number of polygon sides.

Example:

Find the sum of the angles in the polygon below:



$S = (5 - 2) \times 180$

$S = 3 \times 180$

$S = 540$

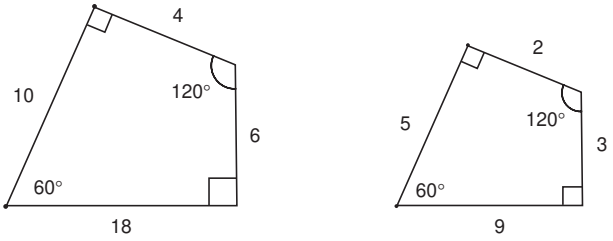
Exterior Angles

Similar to the exterior angles of a triangle, the sum of the exterior angles of *any* polygon equal 360°.

Similar Polygons

If two polygons are similar, their corresponding angles are equal and the ratio of the corresponding sides are in proportion.

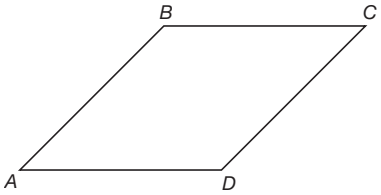
Example:



These two polygons are similar because their angles are equal and the ratio of the corresponding sides are in proportion.

Parallelograms

A **parallelogram** is a quadrilateral with two pairs of parallel sides.



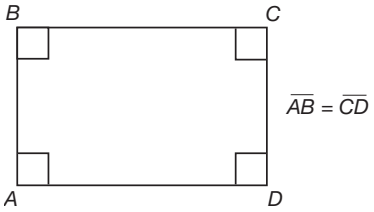
In the figure above, $\overline{AB} \parallel \overline{CD}$ and $\overline{BC} \parallel \overline{AD}$.

A parallelogram has . . .

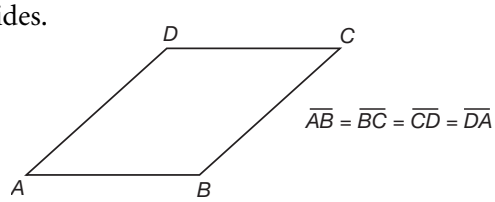
- opposite sides that are equal ($\overline{AB} = \overline{CD}$ and $\overline{BC} = \overline{AD}$)
- opposite angles that are equal ($m\angle a = m\angle c$ and $m\angle b = m\angle d$)
- and consecutive angles that are supplementary ($\angle a + \angle b = 180°$, $\angle b + \angle c = 180°$, $\angle c + \angle d = 180°$, $\angle d + \angle a = 180°$)

Special Types of Parallelograms

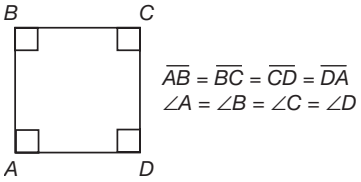
- A **rectangle** is a parallelogram that has four right angles.



- A **rhombus** is a parallelogram that has four equal sides.



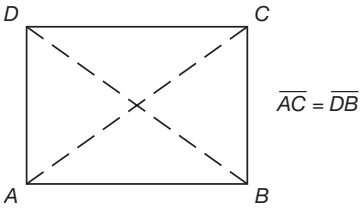
- A **square** is a parallelogram in which all angles are equal to 90° and all sides are equal to each other.



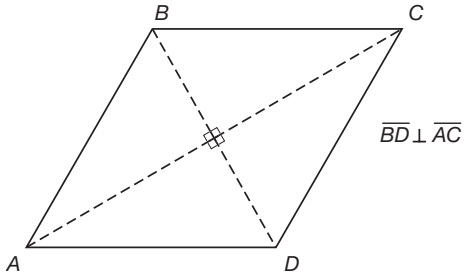
Diagonals

In all parallelograms, **diagonals** cut each other into two equal halves.

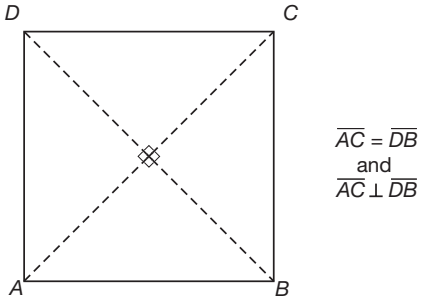
- In a rectangle, diagonals are the same length.



- In a rhombus, diagonals intersect to form 90-degree angles.



- In a square, diagonals have both the same length and intersect at 90-degree angles.

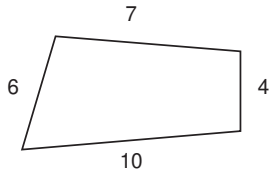


Solid Figures, Perimeter, and Area

The SAT will give you several geometrical formulas. These formulas will be listed and explained in this section. It is important that you be able to recognize the figures by their names and to understand when to use which formulas. Don't worry. You do not have to memorize these formulas. You will find them at the beginning of each math section on the SAT.

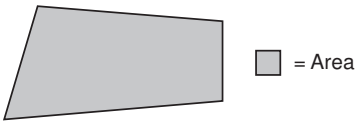
To begin, it is necessary to explain five kinds of measurement:

1. **Perimeter.** The perimeter of an object is simply the sum of all of its sides.

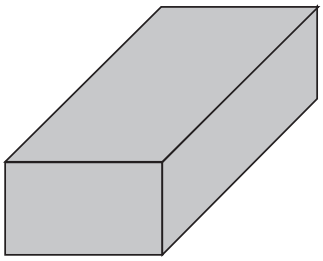


Perimeter = 6 + 7 + 4 + 10 = 27

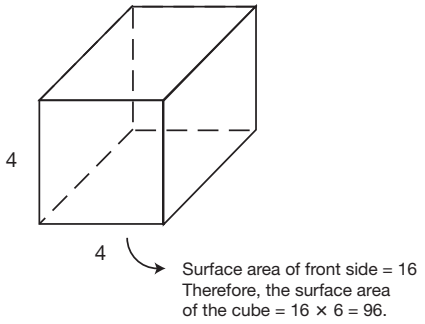
2. **Area.** Area is the space inside of the lines defining the shape.



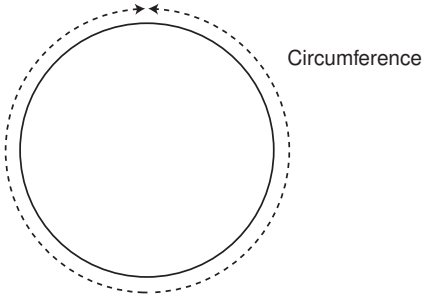
3. **Volume.** Volume is a measurement of a three-dimensional object such as a cube or a rectangular solid. An easy way to envision volume is to think about filling an object with water. The volume measures how much water can fit inside.



4. **Surface Area.** The surface area of an object measures the area of each of its faces. The total surface area of a rectangular solid is the double the sum of the areas of the three faces. For a cube, simply multiply the surface area of one of its sides by 6.



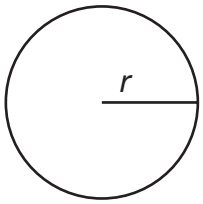
5. **Circumference.** Circumference is the measure of the distance around a circle.



Formulas

The following are formulas that will be given to you on the SAT, as well as the definitions of variables used. Remember, you do not have to memorize them.

Circle



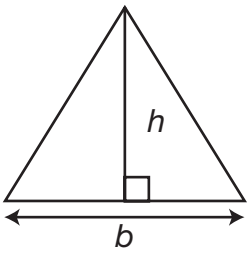
$C = 2\pi r$

$A = \pi r^2$

Rectangle

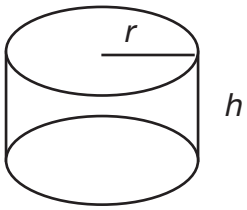
$A = lw$

Triangle



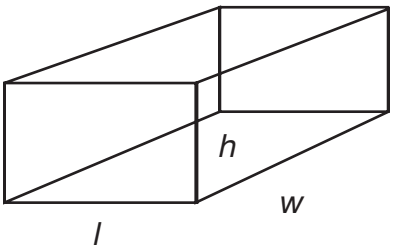
$A = \frac{1}{2}bh$

Cylinder



$V = \pi r^2 h$

Rectangle Solid



$V = lwh$

C =	Circumference	w =	Width
A =	Area	h =	Height
r =	Radius	V =	Volume
l =	Length	b =	Base

Coordinate Geometry

Coordinate geometry is a form of geometrical operations in relation to a coordinate plane. A **coordinate plane** is a grid of square boxes divided into four quadrants by both a horizontal (x) axis and a vertical (y) axis. These two axes intersect at one coordinate point, (0,0), the **origin**. A **coordinate point**, also called an **ordered pair**, is a specific point on the coordinate plane with the first point representing the horizontal placement and the second point representing the vertical. Coordinate points are given in the form of (x,y).

Graphing Ordered Pairs

The *X*-Coordinate

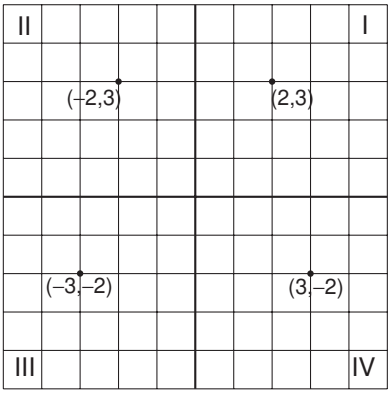
The x-coordinate is listed first in the ordered pair and it tells you how many units to move to either the left or to the right. If the x-coordinate is positive, move to the right. If the x-coordinate is negative, move to the left.

The *Y*-Coordinate

The y-coordinate is listed second and tells you how many units to move up or down. If the y-coordinate is positive, move up. If the y-coordinate is negative, move down.

Example:

Graph the following points: (2,3), (3,–2), (–2,3), and (–3,–2)



Notice that the graph is broken up into four quadrants with one point plotted in each one. Here is a chart to indicate which quadrants contain which ordered pairs based on their signs:

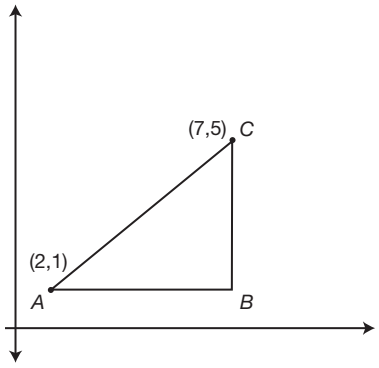
Points	Sign of Coordinates	Quadrant
(2,3)	(+,+)	I
(–2,3)	(–,+)	II
(–3,–2)	(–,–)	III
(3,–2)	(+,–)	IV

Lengths of Horizontal and Vertical Segments

Two points with the same y-coordinate lie on the same horizontal line and two points with the same x-coordinate lie on the same vertical line. The distance between a horizontal or vertical segment can be found by taking the absolute value of the difference of the two points.

Example:

Find the length of $\overline{AB}$ and $\overline{BC}$.



$|2 - 7| = 5 = \overline{AB}$

$|1 - 5| = 4 = \overline{BC}$

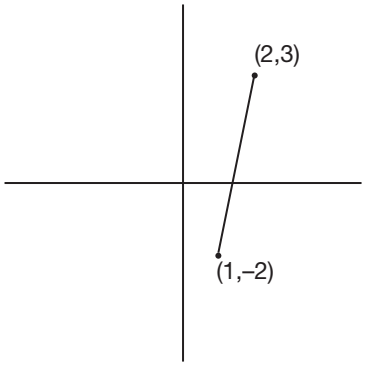
Distance of Coordinate Points

To find the distance between two points, use this variation of the Pythagorean theorem:

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 + y_1)^2}$$

Example:

Find the distance between points (2,3) and (1,–2).



$d = \sqrt{(1-2)^2 + (-2-3)^2}$
$d = \sqrt{(1+-2)^2 + (-2+-3)^2}$
$d = \sqrt{(-1)^2 + (-5)^2}$
$d = \sqrt{1+25}$
$d = \sqrt{26}$

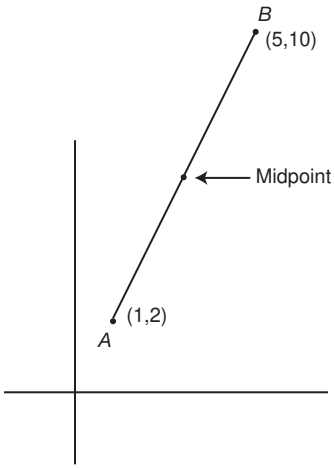
Midpoint

To find the midpoint of a segment, use the following formula:

Midpoint $x = \frac{x_1 + x_2}{2}$ Midpoint $y = \frac{y_1 + y_2}{2}$

Example:

Find the midpoint of $\overline{AB}$.



Midpoint $x = \frac{1+5}{2} = \frac{6}{2} = 3$

Midpoint $y = \frac{2+10}{2} = \frac{12}{2} = 6$

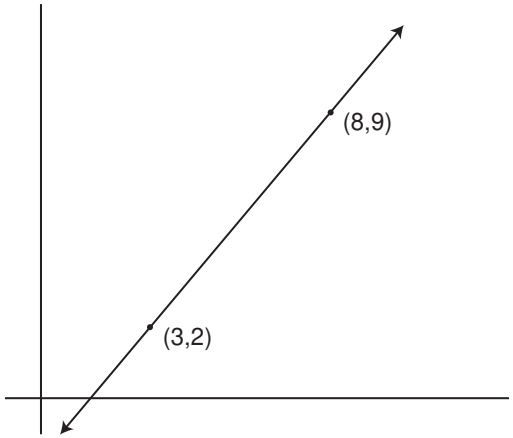
Therefore, the midpoint of $\overline{AB}$ is (3,6).

Slope

The **slope** of a line measures its steepness. It is found by writing the change in *y*-coordinates of any two points on the line, over the change of the corresponding *x*-coordinates. (This is also known as rise over run.) The last step is to simplify the fraction that results.

Example:

Find the slope of a line containing the points (3,2) and (8,9).



$\frac{9-2}{8-3} = \frac{7}{5}$

Therefore, the slope of the line is $\frac{7}{5}$.

Note: If you know the slope and at least one point on a line, you can find the *coordinate* point of other points on the line. Simply move the required units determined by the slope. In the example above, from (8,9), given the slope $\frac{7}{5}$, move up seven units and to the right five units. Another point on the line, thus, is (13,16).

Important Information about Slope

- A line that rises to the right has a positive slope and a line that falls to the right has a negative slope.
- A horizontal line has a slope of 0 and a vertical line does not have a slope at all—it is undefined.
- Parallel lines have equal slopes.
- Perpendicular lines have slopes that are negative reciprocals.

Word Problems and Data Analysis

This section will help you become familiar with the word problems on the SAT and learn how to analyze data using specific techniques.

Translating Words into Numbers

The most important skill needed for word problems is being able to translate words into mathematical operations. The following will assist you in this by giving you some common examples of English phrases and their mathematical equivalents.

- **"Increase" means add.**
  Example:
  A number increased by five = $x + 5$.
- **"Less than" means subtract.**
  Example:
  10 less than a number = $x - 10$.
- **"Times" or "product" means multiply.**
  Example:
  Three times a number = $3x$.
- **"Times the sum" means to multiply a number by a quantity.**
  Example:
  Five times the sum of a number and three = $5(x + 3)$.
- **Two variables are sometimes used together.**
  Example:
  A number y exceeds five times a number x by ten.
  $y = 5x + 10$
- **Inequality signs are used for "at least" and "at most," as well as "less than" and "more than."**
  Examples:
  The product of x and 6 is greater than 2.
  $x \times 6 > 2$
  When 14 is added to a number x, the sum is less than 21.
  $x + 14 < 21$
  The sum of a number x and four is at least nine.
  $x + 4 \geq 9$
  When seven is subtracted from a number x, the difference is at most four.
  $x - 7 \leq 4$

Assigning Variables in Word Problems

It may be necessary to create and assign variables in a word problem. To do this, first identify an unknown and a known. You may not actually know the exact value of the "known," but you will know at least something about its value.

Examples:

Max is three years older than Ricky.
Unknown = Ricky's age = x.
Known = Max's age is three years older.
Therefore, Ricky's age = x and Max's age = $x + 3$.

Siobhan made twice as many cookies as Rebecca.
Unknown = number of cookies Rebecca made = x.
Known = number of cookies Siobhan made = $2x$.

Cordelia has five more than three times the number of books that Becky has.
Unknown = the number of books Becky has = x.
Known = the number of books Cordelia has = $3x + 5$.

Percentage Problems

There is one formula that is useful for solving the three types of percentage problems:

$$\frac{\#}{} = \frac{\%}{100}$$

When reading a percentage problem, substitute the necessary information into the above formula based on the following:

- 100 is always written in the denominator of the percentage sign column.

- If given a percentage, write it in the numerator position of the number column. If you are not given a percentage, then the variable should be placed there.
- The denominator of the number column represents the number that is equal to the whole, or 100%. This number always follows the word "of" in a word problem.
- The numerator of the number column represents the number that is the percent.
- In the formula, the equal sign can be interchanged with the word "is."

Examples:

Finding a percentage of a given number:

What number is equal to 40% of 50?

$$\frac{\#}{\frac{x}{50}} = \frac{\%}{\frac{40}{100}}$$

Solve by cross multiplying.

$100(x) = (40)(50)$

$100x = 2{,}000$

$\frac{100x}{100} = \frac{2{,}000}{100}$

$x = 20$ Therefore, 20 is 40% of 50.

Finding a number when a percentage is given:

40% of what number is 24?

$$\frac{\#}{\frac{24}{x}} = \frac{\%}{\frac{40}{100}}$$

Cross multiply:

$(24)(100) = (40)(x)$

$2{,}400 = 40x$

$\frac{2{,}400}{40} = \frac{40x}{40}$

$60 = x$ Therefore, 40% of 60 is 24.

Finding what percentage one number is of another:

What percentage of 75 is 15?

$$\frac{\#}{\frac{15}{75}} = \frac{\%}{\frac{x}{100}}$$

Cross multiply:

$15(100) = (75)(x)$

$1{,}500 = 75x$

$\frac{1{,}500}{75} = \frac{75x}{75}$

$20 = x$ Therefore, 20% of 75 is 15.

Ratio and Variation

A **ratio** is a comparison of two quantities measured in the same units. It is symbolized by the use of a colon—*x*:*y*.

Ratio problems are solved using the concept of multiples.

Example:

A bag contains 60 red and green candies. The ratio of the number of green to red candies is 7:8. How many of each color are there in the bag?

From the problem, it is known that 7 and 8 share a multiple and that the sum of their product is 60. Therefore, you can write and solve the following equation:

$7x + 8x = 60$

$15x = 60$

$\frac{15x}{15} = \frac{60}{15}$

$x = 4$

Therefore, there are $(7)(4) = 28$ green candies and $(8)(4) = 32$ red candies.

Variation

Variation is a term referring to a constant ratio in the change of a quantity.

- A quantity is said to **vary directly** with another if they both change in an equal direction. In other words, two quantities vary directly if an increase

in one causes an increase in the other. This is also true if a decrease in one causes a decrease in the other. The ratio, however, must be the same.

Example:

Assuming each child eats the same amount, if 300 children eat a total of 58.5 pizzas, how many pizzas will it take to feed 800 children?

Since each child eats the same amount of pizza, you know that they vary directly. Therefore, you can set the problem up the following way:

$$\frac{\text{Pizza}}{\text{Children}} = \frac{300}{58.5} = \frac{800}{x}$$

Cross multiply to solve:

$(800)(58.5) = 300x$

$46{,}800 = 300x$

$\frac{46{,}800}{300} = \frac{300x}{300}$

$156 = x$

Therefore, it would take 156 pizzas to feed 800 children.

- If two quantities change in opposite directions, they are said to **vary inversely**. This means that as one quantity increases, the other decreases, or as one decreases, the other increases.

Example:

If two people plant a field in six days, how may days will it take six people to plant the same field? (Assume each person is working at the same rate.)

As the number of people planting increases, the days needed to plant decreases. Therefore, the relationship between the number of people and days varies inversely. Because the field remains constant, the two expressions can be set equal to each other.

2 people $\times$ 6 days = 6 people $\times$ x days

$2 \times 6 = 6x$

$\frac{12}{6} = \frac{6x}{6}$

$2 = x$

Thus, it would take six people two days to plant the same field.

Rate Problems

You will encounter three different types of rate problems on the SAT: cost, movement, and work-output. **Rate** is defined as a comparison of two quantities with different unites of measure.

$$\text{Rate} = \frac{x \text{ units}}{y \text{ units}}$$

Examples:

$\frac{\text{miles}}{\text{hour}}, \frac{\text{dollars}}{\text{hour}}, \frac{\text{cost}}{\text{pound}}$

Cost Per Unit

Some problems on the SAT will require you to calculate the cost of a quantity of items.

Example:

If 60 pens cost \$117.00, what will the cost of four pens be?

$$\frac{\text{total cost}}{\text{\# of pens}} = \frac{117}{60} = \frac{\$1.95}{\text{pen}}$$

To find the cost of 4 pens, simply multiply $\$1.95 \times 4 = \$7.80$.

Movement

When working with movement problems, it is important to use the following formula:

(Rate)(Time) = Distance

Example:

A scooter traveling at 15 mph traveled the length of a road in $\frac{1}{4}$ of an hour less than it took when the scooter traveled 12 mph. What was the length of the road?

First, write what is known and unknown.

Unknown = time for scooter traveling

12 mph = x

Known = time for scooter traveling 15 mph = $x - \frac{1}{4}$

Then, use the formula, (Rate)(Time) = Distance to make an equation. The distance of

the road does not change; therefore, you know to make the two expressions equal to each other:

$$\begin{aligned} 12x &= 15(x-\tfrac{1}{4}) \\ 12x &= 15x-\tfrac{15}{4} \\ \underline{-15x} &\quad \underline{-15x} \\ \frac{-3x}{-3} &= \frac{\frac{-15}{4}}{-3} \\ x &= \tfrac{5}{4}, \text{ or } 1\tfrac{1}{4} \text{ hours} \end{aligned}$$

Be careful, $1\frac{1}{4}$ is not the distance; it is the time. Now you must plug the time into the formula: (Rate)(Time) = Distance. Either rate can be used.

$12x$ = distance

$12(\frac{5}{4})$ = distance

15 miles = distance

Work-Output Problems

Work-output problems are word problems that deal with the rate of work. The following formula can be used of these problems:

(rate of work)(time worked) = job or part of job completed

Example:

Danette can wash and wax two cars in six hours, and Judy can wash and wax the same two cars in four hours. If Danette and Judy work together, how long will it take to wash and wax one car?

Since Danette can wash and wax two cars in six hours, her rate of work is $\frac{2 \text{ cars}}{6 \text{ hours}}$, or one car every three hours. Judy's rate of work is therefore $\frac{2 \text{ cars}}{4 \text{ hours}}$, or one car every two hours. In this problem, making a chart will help:

	Rate	Time	=	Part of Job Completed
Danette	$\frac{1}{3}$	x	=	1 car
Judy	$\frac{1}{2}$	x	=	1 car

Since they are both working on only one car, you can set the equation equal to one:

$\frac{1}{3}x + \frac{1}{2}x = 1$

Solve by using 6 as the LCD for 3 and 2:

$$\begin{aligned} 6(\tfrac{1}{3}x) + 6(\tfrac{1}{2}x) &= 6(1) \\ 2x + 3x &= 6 \\ \frac{5x}{5} &= \frac{6}{5} \\ x &= 1\tfrac{1}{5} \end{aligned}$$

Thus, it will take Judy and Danette $1\frac{1}{5}$ hours to wash and wax one car.

Special Symbols Problems

The SAT will sometimes invent a new arithmetic operation symbol. Don't let this confuse you. These problems are generally very easy. Just pay attention to the placement of the variables and operations being performed.

Example:

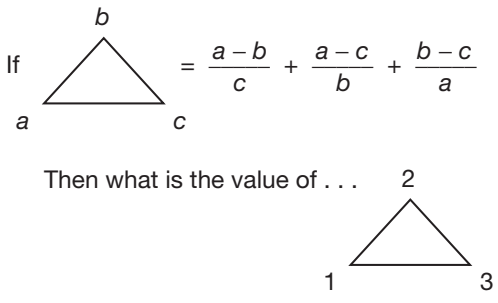
Given $a \nabla b = (a \times b + 3)^2$, find the value of $1 \nabla 2$.

Fill in the formula with 1 being equal to a and 2 being equal to b.

$(1 \times 2 + 3)^2 = (2 + 3)^2 = (5)^2 = 25$

So, $1 \nabla 2 = 25$.

Example:



Fill in variables according to the placement of number in the triangular figure; $a = 1$, $b = 2$, and $c = 3$.

$$\frac{1-2}{3} + \frac{1-3}{2} + \frac{2-3}{1} = -\frac{1}{3} + -1 + -1 = -2\frac{1}{3}$$

Counting Principle

Some word problems may describe *a* possibilities for one thing and *b* possibilities for another. To quickly solve, simply multiply $a \times b$.

For example, if a student has to choose one of 8 different sports to join and one of five different community service groups to join, we would find the total number of possibilities by multiplying 8×5, which gives us the answer: 40 possibilities.

Permutations

Some word problems may describe *n* objects taken *r* at a time. In these questions, *the order of the objects matters*.

To solve, you will perform a special type of calculation known as a **permutation**. The formula to use is:

$$_nP_r = \frac{n!}{(n-r)!}$$

For example, if there are six students (*A*, *B*, *C*, *D*, *E*, and *F*), and three will be receiving a ribbon (First Place, Second Place, and Third Place), we can calculate the number of possible ribbon winners with:

$$_nP_r = \frac{n!}{(n-r)!}$$

Here, $n = 6$, and $r = 3$.

$$_nP_r = \frac{n!}{(n-r)!} = {}_6P_3 = \frac{6!}{(6-3)!} = \frac{6!}{(3)!} =$$

$$\frac{6\times5\times4\times3\times2\times1}{3\times2\times1} = 6\times5\times4 = 120$$

Combinations

Some word problems may describe the selection of *r* objects from a group of *n*. In these questions, *the order of the objects does NOT matter*.

To solve, you will perform a special type of calculation known as a **combination**. The formula to use is:

$$_nC_r = \frac{{}_nP_r}{r!}$$

For example, if there are six students (*A*, *B*, *C*, *D*, *E*, and *F*), and three will be chosen to represent the school in a nationwide competition, we calculate the number of possible combinations with:

$$_nC_r = \frac{{}_nP_r}{r!}$$

Note that here *order does NOT matter*.
Here, $n = 6$ and $r = 3$.

$$_nC_r = \frac{{}_nP_r}{r!} = {}_6C_3 = \frac{{}_6P_3}{3!} = \frac{120}{3\times2\times1} = \frac{120}{6} = 20$$

Probability

Probability is expressed as a fraction and measures the likelihood that a specific event will occur. To find the probability of a specific outcome, use this formula:

$$\text{Probability of an event} = \frac{\text{Number of specific outcomes}}{\text{Total number of possible outcomes}}$$

Example:

If a bag contains 5 blue marbles, 3 red marbles, and 6 green marbles, find the probability of selecting a red marble.

$$\text{Probability of an event} = \frac{\text{Number of specific outcomes}}{\text{Total number of possible outcomes}} = \frac{3}{5+3+6}$$

Therefore, the probability of selecting a red marble is $\frac{3}{14}$.

Multiple Probabilities

To find the probability that two or more events will occur, add the probabilities of each. For example, in the problem above, if we wanted to find the probability of drawing either a red or blue marble, we would add the probabilities together.

The probability of drawing a red marble = $\frac{3}{14}$ and the probability of drawing a blue marble = $\frac{5}{14}$. So, the probability for selecting either a blue or a red = $\frac{3}{14} + \frac{5}{14} = \frac{8}{14}$.

Helpful Hints about Probability

- If an event is certain to occur, the probability is 1.
- If an event is certain not to occur, the probability is 0.
- If you know the probability of all other events occurring, you can find the probability of the remaining event by adding the known probabilities together and subtracting from 1.

▶ Part 1: Five-Choice Questions

The five-choice questions in the Math section of the SAT will comprise about 80% of your total math score. Five-choice questions test your mathematical reasoning skills. This means that you will be required to apply several basic math techniques for each problem. In the math sections, the problems will be easy at the beginning and will become increasingly difficult as you progress. Here are some helpful strategies to help you improve your math score on the five-choice questions:

- **Read the questions carefully and know the answer being sought.** In many problems, you will be asked to solve an equation and then perform an operation with that variable to get an answer. In this situation, it is easy to solve the equation and feel like you have the answer. Paying special attention to what each question is asking, and then double-checking that your solution answers the question, is an important technique for performing well on the SAT.
- **If you do not find a solution after 30 seconds, move on.** You will be given 25 minutes to answer questions for two of the Math sections, and 20 minutes to answer questions in the other section. In all, you will be answering 54 questions in 70 minutes! That means you have slightly more than one minute per problem. Your time allotted per question decreases once you realize that you will want some time for checking your answers and extra time for working on the more difficult problems. The SAT is designed to be too complex to finish. Therefore, do not waste time on a difficult problem until you have completed the problems you know how to do. The SAT Math problems can be rated from 1–5 in levels of difficulty, with 1 being the easiest and 5 being the most difficult. The following is an example of how questions of varying difficulty have been distributed throughout a math section on a past SAT. The distribution of questions on your test will vary.

1. 1	**8.** 2	**15.** 3	**22.** 3
2. 1	**9.** 3	**16.** 5	**23.** 5
3. 1	**10.** 2	**17.** 4	**24.** 5
4. 1	**11.** 3	**18.** 4	**25.** 5
5. 2	**12.** 3	**19.** 4	
6. 2	**13.** 3	**20.** 4	
7. 1	**14.** 3	**21.** 4	

From this list, you can see how important it is to complete the first fifteen questions before getting bogged down in the complex problems that follow. After you are satisfied with the first fifteen questions, skip around the last ten, spending the most time on the problems you find to be easier.

- **Don't be afraid to write in your test booklet. That is what it is for.** Mark each question that you don't answer so that you can easily go back to it later. This is a simple strategy that can make a lot of difference. It is also helpful to cross out the answer choices that you have eliminated.
- **Sometimes, it may be best to substitute in an answer.** Many times it is quicker to pick an answer and check to see if it is a solution. When you do this, use the **c** response. It will be the middle number and you can adjust the outcome to the problem as needed by choosing **b** or **d** next, depending on whether you need a larger or smaller answer. This is also a good strategy when you are unfamiliar with the information the problem is asking.
- **When solving word problems, look at each phrase individually and write it in math language.** This is very similar to creating and assigning variables, as addressed earlier in the word problem section. In addition to identifying what is known and unknown, also take time to translate operation words into the actual symbols. It is best when working with a word problem to represent every part of it, phrase by phrase, in mathematical language.

- **Make sure all the units are equal before you begin. This will save a great deal of time doing conversions.** This is a very effective way to save time. Almost all conversions are easier to make at the beginning of a problem rather than at the end. Sometimes, a person can get so excited about getting an answer that he or she forgets to make the conversion at all, resulting in an incorrect answer. Making the conversion at the start of the problem is definitely more advantageous for this reason.
- **Draw pictures when solving word problems if needed.** Pictures are always helpful when a word problem doesn't have one, especially when the problem is dealing with a geometric figure or location. Many students are also better at solving problems when they see a visual representation. Do not make the drawings too elaborate; unfortunately, the SAT does not give points for artistic flair. A simple drawing, labeled correctly, is usually all it takes.
- **Avoid lengthy calculations.** It is seldom, if ever, necessary to spend a great deal of time doing calculations. The SAT is a test of mathematical concepts, not calculations. If you find yourself doing a very complex, lengthy calculation—stop! Either you are not doing the problem correctly or you are missing a much easier way. Use your calculator sparingly. It will not help you much on this test.
- **Be careful when solving Roman numeral problems.** Roman numeral problems will give you several answer possibilities that list a few different combinations of solutions. You will have five options: **a**, **b**, **c**, **d**, and **e**. To solve a Roman numeral problem, treat each Roman numeral as a true or false statement. Mark each Roman numeral with a "T" or "F," then select the answer that matches your "Ts" and "Fs."

These strategies will help you to do well on the five-choice questions, but simply reading them will not. You must practice, practice, and practice. That is why there are 40 problems for you to solve in the next section. Keep in mind that on the SAT, you will have fewer questions at a time. By doing 40 problems now, it will seem easy to do smaller sets on the SAT. Good luck!

▶ 40 Practice Five-Choice Questions

- All numbers in the problems are real numbers.
- You may use a calculator.
- Figures that accompany questions are intended to provide information useful in answering the questions. Unless otherwise indicated, all figures lie in a plane. Unless a note states that a figure is drawn to scale, you should NOT solve these problems by estimating or by measurement, but by using your knowledge of mathematics.

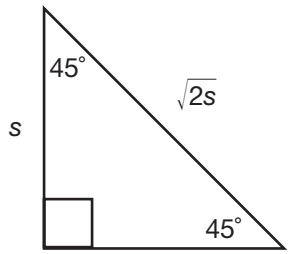
Solve each problem. Then, decide which of the answer choices is best, and fill in the corresponding oval on the answer sheet below.

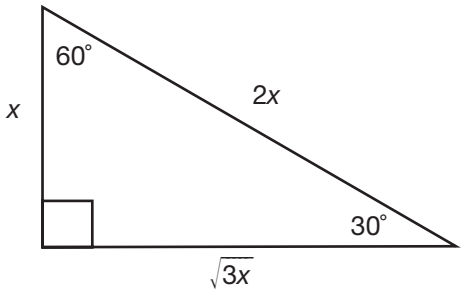
ANSWER SHEET

1.	(a)	(b)	(c)	(d)	(e)	16.	(a)	(b)	(c)	(d)	(e)	31.	(a)	(b)	(c)	(d)	(e)
2.	(a)	(b)	(c)	(d)	(e)	17.	(a)	(b)	(c)	(d)	(e)	32.	(a)	(b)	(c)	(d)	(e)
3.	(a)	(b)	(c)	(d)	(e)	18.	(a)	(b)	(c)	(d)	(e)	33.	(a)	(b)	(c)	(d)	(e)
4.	(a)	(b)	(c)	(d)	(e)	19.	(a)	(b)	(c)	(d)	(e)	34.	(a)	(b)	(c)	(d)	(e)
5.	(a)	(b)	(c)	(d)	(e)	20.	(a)	(b)	(c)	(d)	(e)	35.	(a)	(b)	(c)	(d)	(e)
6.	(a)	(b)	(c)	(d)	(e)	21.	(a)	(b)	(c)	(d)	(e)	36.	(a)	(b)	(c)	(d)	(e)
7.	(a)	(b)	(c)	(d)	(e)	22.	(a)	(b)	(c)	(d)	(e)	37.	(a)	(b)	(c)	(d)	(e)
8.	(a)	(b)	(c)	(d)	(e)	23.	(a)	(b)	(c)	(d)	(e)	38.	(a)	(b)	(c)	(d)	(e)
9.	(a)	(b)	(c)	(d)	(e)	24.	(a)	(b)	(c)	(d)	(e)	39.	(a)	(b)	(c)	(d)	(e)
10.	(a)	(b)	(c)	(d)	(e)	25.	(a)	(b)	(c)	(d)	(e)	40.	(a)	(b)	(c)	(d)	(e)
11.	(a)	(b)	(c)	(d)	(e)	26.	(a)	(b)	(c)	(d)	(e)						
12.	(a)	(b)	(c)	(d)	(e)	27.	(a)	(b)	(c)	(d)	(e)						
13.	(a)	(b)	(c)	(d)	(e)	28.	(a)	(b)	(c)	(d)	(e)						
14.	(a)	(b)	(c)	(d)	(e)	29.	(a)	(b)	(c)	(d)	(e)						
15.	(a)	(b)	(c)	(d)	(e)	30.	(a)	(b)	(c)	(d)	(e)						

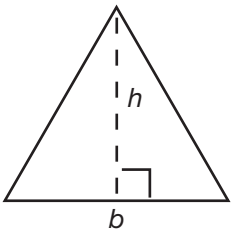
REFERENCE SHEET

- The sum of the interior angles of a triangle is 180°.
- The measure of a straight angle is 180°.
- There are 360 degrees of arc in a circle.

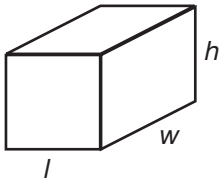




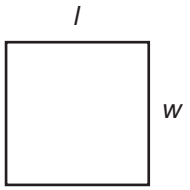
Special Right Triangles



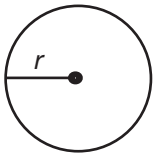
$A = \frac{1}{2}bh$



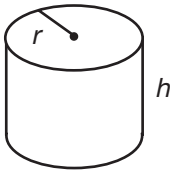
$V = lwh$



$A = lw$



$A = \pi r^2$
$C = 2\pi r$



$V = \pi r^2 h$

1. Three times as many robins as cardinals visited a bird feeder. If a total of 20 robins and cardinals visited the feeder, how many were robins?

a. 5
b. 10
c. 15
d. 20
e. 25

2. One of the factors of $4x^2 - 9$ is

a. $(x + 3)$.
b. $(2x + 3)$.
c. $(4x - 3)$.
d. $(x - 3)$.
e. $(3x + 5)$.

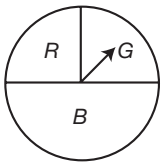
3. In right triangle ABC, $m\angle C = 3y - 10$, $m\angle B = y + 40$, and $m\angle A = 90$. What type of right triangle is triangle ABC?

a. scalene
b. isosceles
c. equilateral
d. obtuse
e. obscure

4. If $x > 0$, what is the expression $(\sqrt{x})(\sqrt{2x})$ equivalent to?

a. $\sqrt{2x}$
b. $2x$
c. $x^2\sqrt{2}$
d. $x\sqrt{2}$
e. $x - 2$

5. At a school fair, the spinner represented in the accompanying diagram is spun twice.



What is the probability that it will land in section *G* the first time and then in section *B* the second time?

a. $\frac{1}{2}$
b. $\frac{1}{4}$
c. $\frac{1}{8}$
d. $\frac{1}{16}$
e. $\frac{3}{8}$

6. If a and b are integers, which equation is always true?
a. $\frac{a}{b} = \frac{b}{a}$
b. $a + 2b = b + 2a$
c. $a - b = b - a$
d. $a + b = b + a$
e. $a - b$

7. If $x \neq 0$, the expression $\frac{x^2 + 2x}{x}$ is equivalent to
a. $x + 2$.
b. 2.
c. $3x$.
d. 4.
e. 5.

8. Given the statement: "If two sides of a triangle are congruent, then the angles opposite these sides are congruent."

Given the converse of the statement: "If two angles of a triangle are congruent, then the sides opposite these angles are congruent."

What is true about this statement and its converse?
a. Both the statement and its converse are true.
b. Neither the statement nor its converse is true.
c. The statement is true, but its converse is false.
d. The statement is false, but its converse is true.
e. There is not enough information given to determine an answer.

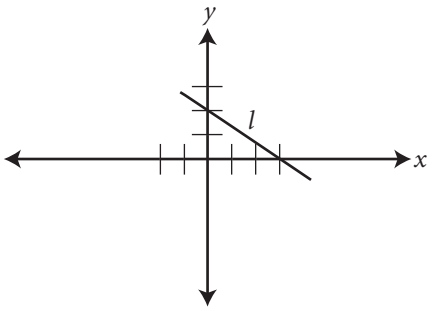
9. Which equation could represent the relationship between the x and y values shown below?

x	y
0	2
1	3
2	6
3	11
4	18

a. $y = x + 2$
b. $y = x^2 + 2$
c. $y = x^2$
d. $y = 2^x$
e. y^2

10. If $bx - 2 = K$, then x equals
a. $\frac{K}{b} + 2$.
b. $\frac{K-2}{b}$.
c. $\frac{2-K}{b}$.
d. $\frac{K+2}{b}$.
e. $k - 2$.

11. What is the slope of line l in the following diagram?



a. $-\frac{3}{2}$
b. $-\frac{2}{3}$
c. $\frac{2}{3}$
d. $\frac{3}{2}$
e. $2\frac{2}{3}$

12. From January 3 to January 7, Buffalo recorded the following daily high temperatures: 5°, 7°, 6°, 5°, 7°. Which statement about the temperatures is true?
a. mean = median
b. mean = mode
c. median = mode
d. mean < median
e. median < mode

13. In which of the following figures are segments XY and YZ perpendicular?

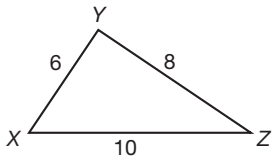


Figure 1

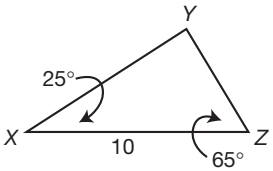
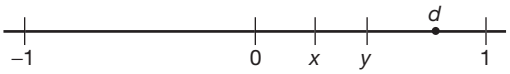
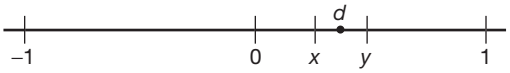


Figure 2

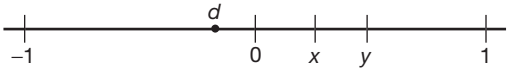
a. Figure 1 only
b. Figure 2 only
c. both Figure 1 and Figure 2
d. neither Figure 1 nor Figure 2
e. not enough information given to determine an answer

14. Let x and y be numbers such that $0 < x < y < 1$, and let $d = x - y$. Which graph could represent the location of d on the number line?

a.


b.


c.


d.


e.


15. A car travels 110 miles in 2 hours. At the same rate of speed, how far will the car travel in h hours?
a. $55h$
b. $220h$
c. $\frac{h}{55}$
d. $\frac{h}{220}$
e. $10h$

16. In the set of positive integers, what is the solution set of the inequality $2x - 3 < 5$?
a. {0, 1, 2, 3}
b. {1, 2, 3}
c. {0, 1, 2, 3, 4}
d. {1, 2, 3, 4}
e. {0}

17. Which is a rational number?
a. $\sqrt{8}$
b. π
c. $5\sqrt{9}$
d. $6\sqrt{2}$
e. 2π

18. Which polynomial is the quotient of $\frac{6x^3 + 9x^2 + 3x}{3x}$?
- **a.** $2x^2 + 3x + 1$
- **b.** $2x^2 + 3x$
- **c.** $2x + 3$
- **d.** $6x^2 + 9x$
- **e.** $2x - 3$

19. If the length of a rectangular prism is doubled, its width is tripled, and its height remains the same, what is the volume of the new rectangular prism?
- **a.** double the original volume
- **b.** triple the original volume
- **c.** six times the original volume
- **d.** nine times the original volume
- **e.** four times the original volume

20. A hotel charges $20 for the use of its dining room and $2.50 a plate for each dinner. An association gives a dinner and charges $3 a plate but invites four nonpaying guests. If each person has one plate, how many paying persons must attend for the association to collect the exact amount needed to pay the hotel?
- **a.** 60
- **b.** 44
- **c.** 40
- **d.** 20
- **e.** 50

21. One root of the equation $2x^2 - x - 15 = 0$ is
- **a.** $\frac{5}{2}$.
- **b.** $\frac{3}{2}$.
- **c.** 3.
- **d.** –3.
- **e.** $-\frac{2}{5}$.

22. A boy got 50% of the questions on a test correct. If he had 10 questions correct out of the first 12, and $\frac{1}{4}$ of the remaining questions correct, how many questions were on the test?
- **a.** 16
- **b.** 24
- **c.** 26
- **d.** 28
- **e.** 18

23. In isosceles triangle *DOG*, the measure of the vertex angle is three times the measure of one of the base angles. Which statement about ΔDOG is true?
- **a.** ΔDOG is a scalene triangle.
- **b.** ΔDOG is an acute triangle.
- **c.** ΔDOG is a right triangle.
- **d.** ΔDOG is an obtuse triangle.
- **e.** ΔDOG is an alien triangle.

24. Which equation illustrates the distributive property for real numbers?
- **a.** $\frac{1}{3} + \frac{1}{2} = \frac{1}{2} + \frac{1}{3}$
- **b.** $\sqrt{3} + 0 = \sqrt{3}$
- **c.** $(1.3 \times 0.07) \times 0.63 = 1.3 \times (0.07 \times 0.63)$
- **d.** $-3(5 + 7) = (-3)(5) + (-3)(7)$
- **e.** $3x + 4y = 12$

25. Factor completely:
$3x^2 - 27 =$
- **a.** $3(x - 3)^2$
- **b.** $3(x^2 - 27)$
- **c.** $3(x + 3)(x - 3)$
- **d.** $(3x + 3)(x - 9)$
- **e.** $3x - 9$

26. A woman has a ladder that is 13 feet long. If she sets the base of the ladder on level ground 5 feet from the side of a house, how many feet above the ground will the top of the ladder be when it rests against the house?

a. 8
b. 9
c. 11
d. 12
e. 14

27. At a school costume party, seven girls wore masks and nine boys did not. If there were 15 boys at the party and 20 students did not wear masks, what was the total number of students at the party?

a. 30
b. 33
c. 35
d. 42
e. 50

28. If one-half of a number is 8 less than two-thirds of the number, what is the number?

a. 24
b. 32
c. 48
d. 54
e. 22

29. If a is an odd number, b an even number, and c an odd number, which expression will always be equivalent to an odd number?

a. $a(bc)$
b. acb^0
c. acb^1
d. acb^2
e. a^2b

30. Which statement is NOT always true about a parallelogram?

a. The diagonals are congruent.
b. The opposite sides are congruent.
c. The opposite angles are congruent.
d. The opposite sides are parallel.
e. The lines that form opposite sides will never intersect.

31. Of the numbers listed, which choice is NOT equivalent to the others?

a. 52%
b. $\frac{13}{25}$
c. 52×10^{-2}
d. .052
e. none of the above

32. On Amanda's tests, she scored 90, 95, 90, 80, 85, 95, 100, 100, and 95. Which statement is true?

I. The mean and median are 95.
II. The median and the mode are 95.
III. The mean and the mode are 95.
IV. The mode is 92.22.

a. statements I and IV
b. statement III
c. statement II
d. statement I
e. All of the statements are true.

33. Which figure can contain an obtuse angle?

a. right triangle
b. square
c. rectangle
d. isosceles triangle
e. cube

34. If 5% of a number is 20, what would 50% of that number be?

a. 250
b. 100
c. 200
d. 400
e. 500

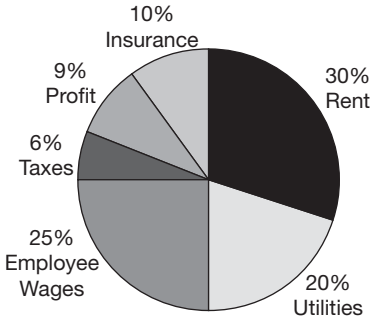
35. Use the pattern below to determine which statement(s) are correct.

x	y
1	2
4	11
7	20
12	35

I. The pattern is $3x - 1$.
II. The pattern is $2x + 1$.
III. The pattern is $3x + 1$.
IV. Of the first 100 terms, half will be even numbers.

a. statement I only
b. statement II only
c. statement III only
d. statements I and IV
e. All of the above statements are correct.

36. The pie graph below is a representation of the allocation of funds for a small Internet business last year.



Suppose this year's budget was $225,198. According to the graph, what was the dollar amount of profit made?

a. $13,511.88
b. $18,015.84
c. $20,267.82
d. $22,519.80
e. $202,678.20

37. What type of number solves the equation $x^2 - 1 = 36$?

a. a prime number
b. irrational number
c. rational number
d. an integer
e. There is no solution.

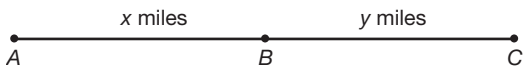
38. Points A and B lie on the graph of the linear function $y = 2x + 5$. The x-coordinate of B is 4 greater than the x-coordinate of A. What can you conclude about the y-coordinates of A and B?

a. The y-coordinate of B is 5 greater than the y-coordinate of A.
b. The y-coordinate of B is 7 greater than the y-coordinate of A.
c. The y-coordinate of B is 8 greater than the y-coordinate of A.
d. The y-coordinate of B is 10 greater than the y-coordinate of A.
e. The y-coordinate of B is 20 greater than the y-coordinate of A.

39. Marguerite is remodeling her bathroom floor. Each imported tile measures $1\frac{2}{7}$ inch by $1\frac{4}{5}$ inch. What is the area of each tile?

a. $1\frac{8}{35}$ square inches
b. $1\frac{11}{35}$ square inches
c. $2\frac{11}{35}$ square inches
d. $3\frac{3}{35}$ square inches
e. $4\frac{1}{32}$ square inches

40. If Deirdre walks from Point *A* to Point *B* to Point *C* at a constant rate of 2 mph without stopping, what is the total time she takes?



a. $(x + y) \times 2$
b. $2x + 2y$
c. $xy \div 2$
d. $(x + y) \div 2$
e. xy^2

▶ Five-Choice Answers

1. c. After reading the problem, you realize that the amount of robins at the feeder is related to the number of cardinals. When this is the case, you have to set up a legend or a key defining the number of cardinals. Then, relate it to the number of robins.

Step 1: Let x = number of cardinals
Let $3x$ = number of robins

Step 2: Now, you have to come up with a formula to solve for x.

(number of cardinals) + (number of robins) = total number of birds

$$x + 3x = 20$$
$$4x = 20$$
$$x = 5$$

Step 3: Take your answer for x and substitute it back into the legend.

x = number of cardinals
$3x$ = number of robins
5 = number of cardinals
3(5) = number of robins
15 = number of robins

The answer is choice **c**.

2. b. You should realize that since the question asks for a factor of $4x^2 - 9$, you have to begin factoring this expression.

The question you should ask yourself is: Which method of factoring should I use?

Looking at the expression $4x^2 - 9$, you should notice that there are no common factors between the two terms. Therefore, you cannot factor out a common factor.

Also, this is not a trinomial. Thus, you cannot factor this expression like a trinomial.

The method that you have to use in factoring is the difference of two perfect squares.

There are a couple of hints in the problem that clue you in on this.

First, there are only two terms.

Second, the operation between the two terms is subtraction. Remember, the word *difference* means subtraction.

Now, we have to factor $4x^2 - 9$.

$4x^2 - 9 = (2x + 3)(2x - 3)$

This is now factored and we can see that one of the factors is choice **b**, $(2x + 3)$. The answer is choice **b.**

3. a. The first thing you should remember is that the sum of the angles of a triangle equals 180°.

$m\angle A + m\angle B + m\angle C = 180°$

Now, you can substitute the values of each angle into the formula and solve for y.

Step 1: $90 + y + 40 + 3y - 10 = 180$
Step 2: $4y + 120 = 180$
$\underline{\quad - 120 - 120}$
Step 3: $\frac{4y}{4} = \frac{60}{4}$
Step 4: $y = 15$

Next, you have to substitute the y value back into your angle measure in order to find out the degree measure of each angle.

$m\angle A = 90$
$m\angle B = y + 40$
$= (15) + 40$
$= 55$
$m\angle C = 3y - 10$
$= 3(15) - 10$
$= 35$

The three angle measures are 90, 55, and 35, respectively, and their sum is 180.

Finally, you have to look at your answer choices and determine what type of right triangle this is.

Choice **a** is scalene. You remember that a scalene right triangle is a right triangle that has three sides of different length and three angles of different measure. The triangle in your problem fits this definition, but check the other three choices before you settle on choice **a**.

Choice **b** is isosceles. An isosceles right triangle has two base angles that are equal. This is not the correct answer.

Choice **c** is equilateral. This is not an equilateral triangle since the three angles are not equal.

Choice **d** is obtuse. An obtuse right triangle cannot exist since the angles of a triangle add up to 180°. An obtuse angle is between 90° and 180°, and if you add this to a right angle, you have a sum over 180°. Therefore, choice **d** is incorrect.

The answer is choice **a**.

4. d. Remember, when multiplying radical expressions, multiply terms outside the radical together and multiply terms inside the radical together. The formula is demonstrated below.

$$a\sqrt{b} \times c\sqrt{d} = (a \times c)\sqrt{b} \times \sqrt{d}$$

Therefore, $(\sqrt{x})(\sqrt{2x}) = \sqrt{x \times 2x}$

$$= \sqrt{2x^2}$$

Of course, you remember that $x \times 2x = 2x^2$ because when multiplying terms with like bases, you add the exponents.

This is your answer, $\sqrt{2x^2}$; however, it is not one of the choices. Therefore, you must reduce this expression to simplest form in order to match your answer to one of the choices.

Remember, you can break a radical down into separate terms:

$$\sqrt{2x^2} = \sqrt{2} \times \sqrt{x^2}$$

$\sqrt{2}$ cannot be simplified, but $\sqrt{x^2}$ can be simplified to x.

$$\sqrt{2} \times \sqrt{x^2} = \sqrt{2} \times x$$

$$= \sqrt{2x}$$

This answer is not listed as one of the four choices. Yet, $x\sqrt{2}$ is choice **d**. Multiplication is commutative, so $\sqrt{2}(x) = x\sqrt{2}$.

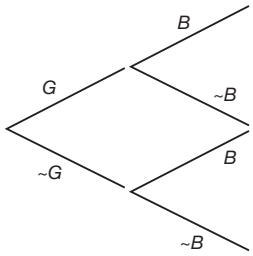
Important: Many times, the answer that you calculate will not be one of the answers listed in a multiple-choice problem. Trust your work if you have done it correctly. You may have to manipulate your answer or simplify it so that it matches one of the answers.

The answer is choice **d.**

5. c. This involves multiple probabilities. The first thing you should try to figure out is what you are trying to find.

The spinning of the spinner is an independent event each time. This means that the outcome on the first trial does not influence the outcome of the second trial.

Now, you must figure out the probabilities of each event. When trying to figure out the probabilities of multiple events, a tree diagram is most helpful. This is shown below.



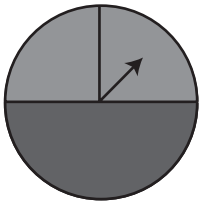
The first two branches represent the first event, *G* or not *G*. The second set of branches represents what can happen on the second spin of the spinner, *B* or not *B*.

You are interested in the events of the top branch, *G* then *B*.

These probabilities are $P(G \text{ then } B) = \frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$.

You can calculate the $P(G)$ by noticing that *G* is $\frac{1}{4}$ of the circle. Likewise, you can find the $P(B)$ by noticing *B* is $\frac{1}{2}$ of the circle. Since you want the event (*G* then *B*), you multiply the probabilities to get $\frac{1}{8}$.

You can also find the probabilities of *G* and *B*, respectively, by subdividing area *B* into two sections as shown on the following page.



The $P(G) = \frac{1}{4}$.
However, $P(B) = \frac{2}{4}$.
If you do the problem this way, you will find that:
$P(G \text{ then } B) = P(G) \times P(B)$.
$\frac{1}{4} \times \frac{2}{4} = \frac{2}{16}$ or $\frac{1}{8}$.

The answer is choice **c**.

6. d. Method 1: There are two different ways you can approach this problem. The first way is to identify the four choices and see which one looks like a mathematical property that you remember. If you can do this, you will clearly see that choice **d** is the commutative property and this is always true. If you can't remember or don't see that choice **d** is the commutative property, don't worry. You can always solve the problem another way.

Method 2: You can solve this problem by substituting values in for *a* and *b*. Then, see which answer choice is true. Let's see how this works:

Let *a* and *b* equal 2 and 3, respectively.

Choice **a**: $\frac{2}{3} \neq \frac{3}{2}$

Choice **b**: $2 + 2(3) = 3 + 2(2)$
$2 + 5 = 3 + 4$
$7 = 7$

This looks like this answer choice might be true. You should try two different values just to be sure.

Let *a* and *b* equal 1 and 2, respectively.
$1 + 2(2) = 2 + 2(1)$
$1 + 4 \neq 2 + 2$
$5 \neq 4$

So, by double-checking your choice, you can see that choice **b** is not true.

Choice **c**: $2 - 3 \times 3 - 2$

Therefore, choice **c** is false.

Now, you know that choice **d** must be the answer. You should check it to be sure.

Choice **d**: $2 + 3 = 3 + 2$ $\quad 1 + 2 = 2 + 1$
$5 = 5$ $\quad 3 = 3$

Therefore, the answer is choice **d.**

7. a. The first thing that you have to realize is that the question requires you to simplify the expression.

If you are simplifying rational expressions (rational expressions look like fractions), you have to factor the numerator and denominator if possible.

Step 1: Factor the numerator, $x^2 + 2x$.

There is a common factor of *x* between the two terms.

Then, factor out an *x* and place it outside a pair of parentheses.

Then, divide x^2 and $2x$, respectively, by *x* in order to find out what terms are on the inside of the parentheses.

So, $x^2 + 2x$ becomes $x(x + 2)$.

Step 2: The denominator cannot be factored. Therefore, you can now cancel out the like terms between the numerator and denominator.

$\frac{x(x+2)}{x} = (x + 2)$

The answer is choice **a.**

8. a. You should recognize this first statement.

Think to yourself: Is there a triangle that has two sides congruent and, thus, two angles opposite the sides congruent?

The answer is yes. It is an isosceles triangle.

Now, look at the converse statement.

If two angles are congruent in a triangle, are the sides opposite these angles also congruent?

The answer is yes.

An isosceles triangle has two sides congruent and two angles opposite these sides congruent.

So, both statements are true. The answer is choice **a**.

9. b. One way that you could find your answer is to substitute the values of x and y into each equation. The equation that is true in each five cases is the answer. The method of doing this is shown below.

Choice **a**: $y = x + 2$
Coordinate 1: (0,2) $2 = 0 + 2$
$2 = 2$ (True)
Coordinate 2: (1,3) $3 = 1 + 2$
$3 = 3$ (True)

You may think, at this point, choice **a** is the answer, but you should try the third coordinate.

Coordinate 3: (2,6) $6 = 2 + 2$
$6 = 4$ (False)

Therefore, by trying all the points, you can see that choice **a** is not the answer.

Choice **b**: $y = x^2 + 2$
Coordinate 1: (0,2) $y = x^2 + 2$
$2 = 0^2 + 2$
$2 = 2$ (True)
Coordinate 2: (1,3) $y = x^2 + 2$
$3 = (1)^2 + 2$
$3 = 1 + 2$
$3 = 3$ (True)
Coordinate 3: (2,6) $y = x^2 + 2$
$6 = (2)^2 + 2$
$6 = 4 + 2$
$6 = 6$ (True)
Coordinate 4: (3,11) $y = x^2 + 2$
$11 = (3)^2 + 2$
$11 = 9 + 2$
$11 = 11$ (True)

At this point, you may believe that choice **b** is the answer. You should check in order to be sure.

Coordinate 5: (4,18) $y = x^2 + 2$
$18 = (4)^2 + 2$
$18 = 16 + 2$
$18 = 18$ (True)

Therefore, all the coordinates make equation **b** true. The answer is choice **b.**

10. d. You have to solve for the variable, x, so you need to get x by itself in the problem. Therefore, eliminate the other terms on the same side of the equation as x by doing the inverse operation on both sides of the equal sign. This is demonstrated below—first add 2 to both sides:

$$bx - 2 = K$$
$$\underline{+2 \quad +2}$$
$$bx = K + 2$$

Next, you have to divide both sides by b.

$$\frac{bx}{b} = \frac{K+2}{b}$$
$$x = \frac{K+2}{b}$$

The answer is choice **d**.

11. b. You should remember that the formula for the slope of a line is equal to:

$$m = \frac{\text{the change in the } y\text{-coordinate}}{\text{the change in the } x\text{-coordinate}}$$

You should also remember the formula

$$m = \frac{(y_2 - y_1)}{(x_2 - x_1)}$$

If you look at the graph, you will see that the line crosses through exactly two points. They are:

Point 1 (0,2)
Point 2 (3,0)

Now, all you have to do is substitute the values of point 1 and point 2 into the formula for slope.

$x_1 = 0 \;\; y_1 = 2$
$x_2 = 3 \;\; y_2 = 0$
$m = \frac{(0-2)}{(3-0)}$ or $-\frac{2}{3}$

The answer is choice **b**.

12. a. This problem is difficult if you make it difficult, but it's easy if you make it easy. The easiest way to do this problem is to calculate the mean, median, and mode for the data set.

Remember:

- The mean is the same as the average.
- The median is the middle number of data. First, you must order the numbers from least to greatest.
- The mode is the most frequently occurring number.

So, the mean equals: $\frac{5+7+6+5+7}{5} = 6$

The median, if found by rearranging the numbers in the data set as shown, is {5, 5, 6, 7, 7}. Therefore, the median is 6.

The mode is the most frequently occurring number. In this data set, there are two numbers that appear most frequently: {5, 7}.

Now, inspect the answers.

You will quickly see that choice **a** is correct: The mean = median, because 6 = 6.

13. c. You have to figure out if $\overline{XY}$ and $\overline{YZ}$ are perpendicular. The key thing to remember here is that perpendicular lines intersect to form right angles. If you can find a right angle at the point that $\overline{XY}$ and $\overline{YZ}$ intersect, then you know that the two segments are perpendicular.

In Figure 1, if $\overline{XY}$ and $\overline{YZ}$ are perpendicular, then ΔXYZ is a right triangle because it contains a right angle at Y.

In ΔXYZ, you are given three sides. If ΔXYZ is a right triangle, then the Pythagorean theorem should hold true for these three sides.

$(Leg\ 1)^2 + (Leg\ 2)^2 = (Hypotenuse)^2$

$(6)^2 + (8)^2 = (10)^2$

Note: 10 is the hypotenuse because it is across from the largest angle of the triangle.

$36 + 64 = 100$

$100 = 100$

ΔXYZ is a right triangle and, likewise, $\overline{XY}$ is perpendicular to $\overline{YZ}$ because the Pythagorean theorem is true for Figure 1.

In Figure 2, you are given the two angles of ΔXYZ. If a third angle measures 90°, then $\angle Y$ is a right triangle. Thus, $\overline{XY}$ is perpendicular to $\overline{YZ}$.

$m\angle X + m\angle Y + m\angle Z = 180°$, since the sum of the angles of a triangle = 180.

$25° + x + 65° = 180°$

$90° + x = 180°$

Therefore, $x = 90°$. $\angle Y$ is a right angle and $\overline{XY}$ is perpendicular to $\overline{YZ}$.

Thus, $\overline{XY}$ is perpendicular to $\overline{YZ}$ in both figures. The answer is choice **c**.

14. d. The first thing that you should realize is that x and y are both greater than 0, but less than 1. So, x and y are going to be between 0 and 1 on the number line.

Next, you see the formula for d; $d = x - y$.

To solve for d, you must substitute a value in for x and y. However, you do not have a value. You should recognize however that x is less than y. Thus, whatever value you choose for x, the answer for d is going to be negative.

Therefore, the answer is choice **d**.

15. a. This question involves calculating distance. The pieces of information that you are given or have to calculate are rate of speed and time.

The formula for distance (with these specific given pieces of information) is:

$Distance = Rate \times Time$

The first step is to calculate the rate traveled at by the car.

Solving for rate, you have

$Rate = \frac{Distance}{Time} = \frac{110 \text{ miles}}{2 \text{ hours}} = 55 \text{ mph}$

Now, all you have to do is substitute into the formula above using the rate you just solved for.

$Distance = Rate \times Time = (\frac{55 \text{ miles}}{\text{hour}}) \times (h \text{ hours}) = 55h$

The answer is choice **a**.

If you solve the formula above incorrectly, the other choices might seem to be correct. Therefore, double-check that you are using the correct formula and you are solving exactly what the question is asking for.

16. b. Inequalities can be solved just like equations. The difference between equations and inequalities is that equations have an equal sign and inequalities have a greater than (>) or less than (<) sign where the equal sign would be in an equation. The first part of this problem, then, is to figure out what type of number the answer is going to be. The problem states that the solution set is the set of positive integers. Therefore, the answers will come from the set of numbers that include {1, 2, 3, 4, 5, 6, . . . }. Now, look at the answer choices. You notice that 0 is included in choices **e** and **c**. Zero is not a positive integer; therefore, you can eliminate those choices. The answer must be either choice **b** or **d**.

Now, you must solve the equation in order to figure out the answer.

$$2x - 3 < 5$$
$$\underline{\quad +3 \quad +3}$$
$$\frac{2x}{2} < \frac{8}{2}$$

Thus, $x < 4$.

The only positive integers that satisfy this statement are {1, 2, 3}. 4 is not less than 4. The answer is choice **b**.

17. c. You should remember the form of a rational number. A rational number is any number that can be expressed as $\frac{p}{q}$ where p and q are integers and $q \neq 0$.

You should recognize that π is an irrational number. It is a nonterminating, nonrepeating decimal. Choices **b** and **e** are incorrect.

Choice **a** is $\sqrt{8}$. This can be simplified to $2\sqrt{2}$. The $\sqrt{2}$ is an irrational number. It is nonterminating and nonrepeating. Therefore, $\sqrt{8}$ is not rational. The same reasoning informs you that choice **d** cannot be rational; $6\sqrt{2}$ contains the number, $\sqrt{2}$. It is irrational. Choice **c** is $5\sqrt{9}$ and $\sqrt{9} = 3$. Therefore, $5\sqrt{9} = 5 \times 3 = 15$.

15 can be written as $\frac{15}{1}$. Thus, it is a rational number.

The answer is choice **c**.

18. a. You should remember that the word *quotient* means the answer to a division problem. In this problem, you are dividing a polynomial by a monomial. Once you have realized all of this, you can divide each individual term in the numerator by the monomial in the denominator. Remember, you can only do this when there is a monomial, or single term, in the denominator.

First, separate the fraction above into three separate fractions.

$$\frac{6x^2}{3x} + \frac{9x^2}{3x} + \frac{3x}{3x}$$

Next, you have to divide each monomial. This is accomplished by dividing the coefficients first. It is important to remember that sometimes you may have to simply reduce the fraction instead of dividing.

After dividing the coefficients, you must divide the base part of the monomials.

Remember: The way to divide terms with similar bases is to simply subtract the exponents. However, be careful! If you do not see an exponent, remember, that the exponent is implied to be 1. You should see the rules that were explained above in the following example.

Example:

$\frac{6x^3}{3x^1} = 2x^2$

$(6 \div 3 = 2 \text{ AND } x^{3-1} = x^2)$

You should see that by following these rules, the answer to $\frac{9x^2}{3x} = 3x$.

Now, what is $\frac{3x}{3x}$?

Easy, what is anything divided by itself?

The answer is 1. However, if you aren't careful, you may simply cancel out these last terms. You cannot do this because you are dividing.

The answer is choice **a**. If you haven't realized this yet, choice **b** looks like the answer if you made a mental error and crossed out the $3x$ term. Don't make this mistake!

19. c. First, you have to remember the formula for the volume of a rectangular prism.

The formula is:

Volume = length × width × height

$V = l \times w \times h$

Now, you have to interpret and write, in algebraic terms, what is happening to the dimensions of the prism. This is best achieved by using a key or legend.

KEY:

Let $2 \times l$ = the length is doubled.

Let $3 \times w$ = the width is tripled.

Let h = the height remains the same.

Next, interpret the new volume based on the new dimensions.

New Volume = $(2l) \times (3w) \times (h)$

$= 6(l \times w \times h)$

You should see that the original volume was equal to $l \times w \times h$. The new volume, $6(l \times w \times h)$ is six times the original volume. Therefore, the answer is choice **c**.

Trying the formula for volume with simple numbers inserted into it, like 1, then recalculating the new volume using the changes mentioned in the problem may be an easy alternative. For example, $V = l \times w \times h$. Setting all three quantities equal to one yields a volume of 1 (one times one times one is one). Now if you double the length, the length is now two and tripling the width makes it three. Using the equation again with these new quantities gives: $V = 2 \times 3 \times 1 = 6$, the answer to the question.

20. a. This problem requires you to read carefully and determine what is actually given and what you are really trying to solve. You are told that the association is charged the following:

Given:

$20 charge for rental of the dining room.

$2.50 charge for each dinner plate.

Also, the association invited four nonpaying guests and they must have enough money to pay the entire bill to the hotel.

Four nonpaying guests cost the association $10 because $4 \times \$2.50 = \$10$.

The association incurs the following costs: \$30 + \$2.50 × (*# of paying people attending*).

The $30 comes from the $20 charge for the dining room and $10 fee for inviting the four nonpaying guests.

The association charges: \$3.00 × (*# of paying people attending*).

So, if the association must have enough money to pay the hotel, what the association charges must be equal to what the hotel charges the association.

Amount the association is charged = Amount the association charges guests

\$30 + \$2.50 (*# of paying people*) = \$3.00 (*# of paying people*)

Let x = # of paying people.

Thus:

$\$30 + \$2.50\,x = \$3.00x$

$\$30 = \$.50x$

$60 = x$

Therefore, 60 guests must attend. The answer is choice **a**.

21. **c.** If you want to find the roots of an equation algebraically, you have to factor the equation and solve for the variable term.

So, looking at the trinomial $2x^2 - x - 15$, you should notice the following:

(1) There are no common factors between the three terms.

(2) There are three terms. This eliminates the technique of factoring by difference of two perfect squares.

(3) You can always use the quadratic formula to find the roots. This is sometimes difficult, especially if you do not remember the formula.

Let's try factoring into two binomials.

After trial and error, you will see that the expression can be factored into $(2x + 5)(x - 3) = 0$.

Now, you are multiplying two binomials together and the product is equal to zero. Thus, one of the binomial terms, if not both, equals zero.

So, let's set each term equal to zero and solve for x.

$$\begin{array}{cc} 2x + 5 = 0 & x - 3 = 0 \\ \underline{\quad -5 \quad -5} & \underline{\quad +3 \quad +3} \\ \frac{2x}{2} = -\frac{5}{2} & x = 3 \end{array}$$

$x = -\frac{5}{2}$ and $x = 3$

The answer is choice **c**. However, watch out for the other choices because they are there to trick you; $x = -\frac{5}{2}$ is an answer, however, it is not listed. Only $\frac{5}{2}$ is listed and that is not the same answer.

22. **d.** This question requires a different type of problem-solving technique. The most effective way to solve this question is through trial and error. You start to eliminate wrong answers by testing their validity. Here is what that means.

Choice **a**: 16 questions. The boy got 50% of the questions correct. An easy math calculation shows that he got 8 correct if there were only 16 questions on the test. However, you know that he had 10 out of the first 12 correct. This answer is not possible and cannot be true.

You can rule out choice **e**, 18, using the same logic: Half of 18 is 9, and you know that the boy got at least 10 questions correct, so choice **e** is also incorrect.

Choice **b**: 24 questions on the test. You have to set up a proportion in order to check this answer. The proportion is:

$$\frac{\#\ of\ questions\ correct}{\#\ of\ total\ questions} = \frac{\%}{100}$$

The percentage that he got correct is 50%. Thus, the formula for choice **b** is:

$$\frac{x \text{ correct}}{24} = \frac{50}{100}$$

If you solve for x by cross multiplying, the answer is $x = 12$.

The boy got 10 out of the first 12 correct. This means that he only had 2 out of the next 12 remaining questions correct; $\frac{2}{12}$ is equal to .1666. . . . and this is not equal to $\frac{1}{4}$; $\frac{1}{4}$ is the fraction of remaining questions correct. Thus, choice **b** is incorrect.

Choice **c**: 26 questions on the test. The proportion for choice **c** is:

$$\frac{x \text{ correct}}{26} = \frac{50}{100}$$

After solving the proportion, you find that $x = 13$. Once again, the boy had 10 out of the first 12 correct. Therefore, he had only 3 questions correct out of the next 14 if there were 26 questions on the test; $\frac{3}{14} = .214\ldots$ This answer is not equal to $\frac{1}{4}$ or .25. Therefore, choice **c** is incorrect.

Choice **d**: 28 questions on the test.

Hopefully, by process of elimination, this is the answer. You should still check it however. The proportion is:

$$\frac{x \text{ correct}}{28} = \frac{50}{100}$$

You find that $x = 14$ after cross multiplying. Therefore, the boy had 4 correct out of the 16 remaining questions. You know this because he had 10 out of the first 12 correct; $\frac{4}{16} = \frac{1}{4} = .25$. This is the answer.

There were 28 questions on the test.

The answer is choice **d**.

23. d. As a point of reference:

A scalene triangle has three unequal sides.

An acute triangle contains an angle less than 90 degrees.

A right triangle contains an angle equal to 90 degrees.

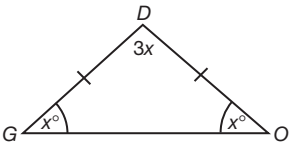
The first thing you should do when you encounter a word problem involving geometry is to draw a diagram and create a legend.

Legend:

Let x = base angle.

Let $3x$ = the vertex angle.

Now that you have defined the angles, it is time to draw a diagram similar to the one below.



You will see that in an isosceles triangle the base angles are equal. Next, in order to classify the triangle, you need to find out the exact angle measures.

This is done by remembering the fact that the sum of the angles of a triangle is 180°.

Step 1: $x + x + 3x = 180$

$$\frac{5x}{5} = \frac{180}{5}$$

$$x = 36$$

Step 2: Since $x = 36$, the base angles are both 36° and the vertex angle is $3(36) = 108°$.

Step 3: This triangle is an obtuse triangle since there is one angle contained in the triangle that is obtuse. The obtuse angle is the vertex angle.

The answer is choice **d**.

24. d. Real numbers have many properties. You need to remember a few of them. Let's take a look at each one of the five choices in order to determine which one is the distributive property.

Choice **a**: $\frac{1}{3} + \frac{1}{2} = \frac{1}{2} + \frac{1}{3}$

Does this look familiar to you? It should. This is the commutative property. If the order of the terms is switched, but you still have the same answer when the operation is performed, then the commutative property exists.

Choice **b**: $\sqrt{3 + 0} = \sqrt{3}$

This is known as the identity property for addition. Sometimes, it is called the zero property of addition. Either way, this is not the distributive property.

Choice **c**: $(1.3 \times 0.07) \times 0.63 = 1.3 \times (0.07 \times 0.63)$

This is the associative property. The parenthesis may be placed around different groups of numbers but the answer does not change. Multiplication is associative.

Choice **d**: $-3(5 + 7) = (-3)(5) + (-3)(7)$

This is the distributive property. You can multiply the term outside the parentheses by each term inside the parentheses. The left side of the equation is equal to the right side. This is the answer and it is an important property to remember.

The answer is choice **d**.

25. c. You have to factor this expression accordingly. Notice that there are only two terms and there is a subtraction sign between them. Sometimes, that is a clue to try to factor using the difference of two perfect squares technique. However, in this case, $3x^2$ and 27 are not perfect squares. Therefore, you have to try a different method.

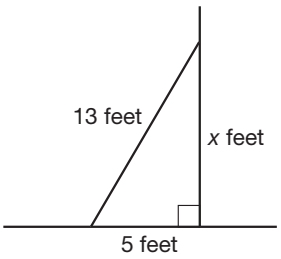
First, notice that there is a common factor of 3 in both terms. Factor this term out of both terms. Once you do, the expression is $3(x^2 - 9)$.

The job is not done. You have to factor COMPLETELY! Look at the expression $(x^2 - 9)$. This is a binomial with two perfect squares separated by a subtraction sign. Thus, this binomial can be factored according the difference of two perfect squares. The expression now becomes: $3(x + 3)(x - 3)$.

The answer is choice **c**. If you are not careful, you may select one of the alternate choices. Remember, factor completely and do not stop factoring until each term is simplified to lowest terms.

26. d. This is a word problem involving geometry and figures. The best way of solving a problem like this is to read it carefully and then try to draw a diagram that best illustrates what is being described.

You should draw a diagram similar to the one below.



You are trying to find out the height of the ladder as it rests against the house. This height is represented as x.

The ground and the house meet at a right angle because you are told that it is level ground. This makes the diagram a right triangle. Thus, in order to solve for x, you have to use the Pythagorean theorem. Remember, the Pythagorean theorem is $a^2 + b^2 = c^2$, where c is the hypotenuse, or longest side, of a right triangle. It can also be written as $(leg\ 1)^2 + (leg\ 2)^2 = (hypotenuse)^2$.

In this case, the ladder is 5 feet from the house. This distance is leg 1 or a.

The ladder is across from the right angle. This makes it the hypotenuse.

The hypotenuse, or c, is 13 feet.

Thus, you have to solve for leg 2, or b, the following way.

$5^2 + b^2 = 13^2$

$25 + b^2 = 169$

$b^2 = 144$

$b = 12$ feet

The answer is choice **d**.

Note: You could easily solve this equation if you recognize that this right triangle is a Pythagorean triplet. It is a 5-12-13 right triangle and 12 feet had to be the length of leg 2 once you saw that 5 feet was leg 1's length and 13 feet was the length of the hypotenuse.

27. b. You can outline all the possibilities that can occur. First, you have either boys or girls at the party. You also know that they are either wearing a mask or not wearing a mask. Therefore, you can start outlining the possible events.

You are told that 20 students did not wear masks. In addition, you know that 9 boys did not wear masks. Therefore, calculations tell you that 11 girls did not wear masks.

Now, if 11 girls did not wear masks and 7 girls did wear masks, then 18 girls attended the party.

If 18 girls attended the party and 15 boys were at the party, then 33 students attended the school costume party overall. The answer is choice **b**.

28. c. You have to be able to read and interpret the wording in this problem in order to develop an equation to solve.

Let x = the number.

Now, "One-half of a number" is $\frac{1}{2}x$.

The word "is" means equals. So, you have written $\frac{1}{2}x =$.

The last phrase is "8 less than two-thirds of the number." The phrase "less than" means to subtract and switch the order of the numbers. The reason for reversing the order of the terms is that 8 is deducted from $\frac{2}{3}$ of the number. Thus, the last part is $\frac{2}{3}x - 8$.

The equation to solve is $\frac{1}{2}x = (\frac{2}{3})x - 8$.

Finally, you have to solve the equation.

$$\frac{1}{2}x = (\frac{2}{3})x - 8$$

$$-\frac{1}{2}x \quad -\frac{1}{2}x$$

$$0 = \frac{4}{6x} - 8 \longrightarrow$$ Find a common denominator in order to subtract the like terms.

$$-\frac{3}{6}x$$

$$0 = \frac{1}{6}x - 8$$

$$+8 \quad +8$$

$$8 = \frac{1}{6}x \longrightarrow$$ Multiply both sides by $\frac{6}{1}$ in order to solve for x.

$$48 = x$$

The answer is choice **c**.

29. b. This problem can be difficult if you simply look at it and try to guess. It becomes easier if you try each answer by substituting into the expression. Here is a way of doing it.

Choice **a**: $a(bc)$

You are told that a and c are odd and b is even. Following order of operations, you multiply bc first. Remember, that an even × odd = even number. This is always true. Thus, the product of bc is even. Since a is odd, $a \times$ (even #) = even number. Therefore, this expression is even and not the answer you are searching for.

Another way you could try this problem (if you do not remember the even × odd = even number rule) is to substitute numbers for a, b, c. Let's say $a = 5$; $b = 6$; $c = 9$.

Then $a(bc) = 5(6 \times 9) = 5(54) = 270$. This is an even number and not the answer that you are looking for.

Choice **b**: acb^0

This expression requires that you evaluate b^0 first. This is an important rule to remember. Any term raised to the zero power is 1. Well, $a \times c$ is an odd number times an odd number. The product of any two odd numbers is an odd number. Thus, an odd number times 1 is an odd number. Choice **b** is an odd number. There is no need to try the other expressions.

30. a. This question fortunately, or unfortunately, requires simple memorization. You must remember the properties of a parallelogram in order to get this question correct. There are six basic properties of every parallelogram.

They are:

1. The opposite sides of a parallelogram are congruent.
2. The opposite sides of a parallelogram are parallel.
3. The opposite angles of a parallelogram are congruent.
4. The consecutive angles of a parallelogram are supplementary.
5. The diagonals of a parallelogram bisect each other.
6. The diagonal of a parallelogram divides the parallelogram into two congruent triangles.

Every parallelogram has these six properties. However, specific types of parallelograms, such as rectangles, rhombus, and squares, have additional properties. One of the properties shared by both rectangles and squares happens to be that the diagonals are congruent. So, the answer is choice **a**. Not every parallelogram has this property, only specific parallelograms such as rectangles or squares.

31. d. 52% is the same as .52 (drop the % sign and move the decimal point two places to the left); $\frac{13}{25} = \frac{26}{50} = \frac{52}{100}$; $52 \times 100 = .52$; And $52 \times 10^{-2} = 52 \times .01 = .52$. Obviously, .052 does not equal .52, so your answer is **d**.

32. c. The mean is the average. First, you add 80 + 85 + 90 + 90 + 95 + 95 + 95 + 100 + 100 = 830. Divide by the number of tests: 830 ÷ 9 = 92.22, which shows that statement I is false. The median is the middle number, which is 95. And the mode is the number that appears most frequently, which is also 95; therefore, statement II is correct.

33. d. An obtuse angle measures greater than 90°. A square has four angles that are 90° each, as does a rectangle and cube. The angles inside a triangle add up to 180°, and one angle in a right triangle is 90°, so the other two add up to 90°, so there cannot be one angle that alone has more than 90 degrees. Therefore, the answer is **d**.

34. c. Set up a proportion: $\frac{5}{100} = \frac{20}{x}$. Cross multiply: $5x = 2{,}000$. Then divide both sides by 5 to get $x = 400$. This is only the first part of the problem. If you chose answer **d**, you forgot to do the next step, which is to find what number is 50% of 400; $\frac{50}{100} = \frac{x}{400}$, or reduce to $\frac{1}{2} = \frac{x}{400}$. Then again, cross multiply: $400 = 2x$. Divide both sides by 2 to get $x = 200$.

35. d. If you look at the pattern, you will see it is $3x - 1$. Plug in some numbers, like $3(1) - 1 = 2$, $3(2) - 1 = 5$, $3(3) - 1 = 8$, etc. You can see that since every other number is even, of the first 100 terms, half will be even.

36. c. The total amount of profit according to the graph is 9% of the year's income.

Therefore, $225{,}198 \times .09 = 20{,}267.2$.

37. b. First, solve for x:

$x^2 - 1 = 36$ Add 1 to both sides.

$+1 \quad +1$

$x^2 = 37$

$x^2 = 37$ Take the square root of both sides.

$\sqrt{x^2} = \sqrt{37}$

$x = \sqrt{37}$

$\sqrt{37}$ is an irrational number. Irrational numbers cannot be expressed as a ratio of two integers. (Simply put, irrational numbers have decimal extensions that never terminate or extensions that never repeat.)

A prime number has only two positive factors, itself and 1. Rational numbers can be expressed as a ratio of two integers. The set of integers is: { . . . –3, –2, –1, 0, 1, 2, 3, . . . }. $\sqrt{37}$ is not prime, rational, or an integer. You can use your calculator to see that it is 6 with a decimal extension that neither terminates nor repeats.

38. c. An effective way figure out this question is to plug in some low, easy numbers to see what will happen. Below we picked (1,7) as our point A and (5,15) as our point B. (Note that the x-coordinate of our point B is 4 greater than the x-coordinate of our point A.)

x	y	
0	5	
1	7	pick as A
2	9	
3	11	
4	13	
5	15	pick as B
6	17	

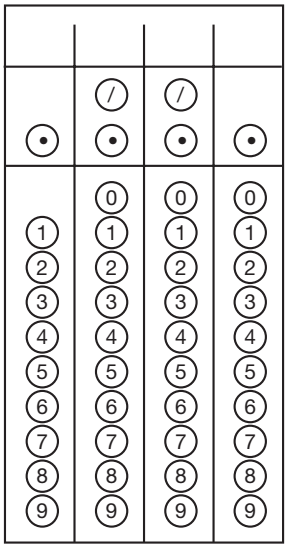
As you can see, the y-coordinate of B is 8 greater than the y-coordinate of A.

39. **c.** Converting mixed numbers into improper fractions is a two-step process. First, multiply the whole number by the denominator (bottom number) of the fraction. Then add that number to the numerator of the fraction. So $1\frac{2}{7}$ becomes $\frac{9}{7}$ and $1\frac{4}{5}$ becomes $\frac{9}{5}$. Since *Area* = *length* × *width*, $\frac{9}{7} \times \frac{9}{5} = \frac{81}{35} = 2\frac{11}{35}$. Remember, to convert the improper fraction ($\frac{81}{35}$) back into a mixed number, you divide the denominator (35) into the numerator (81). Any remainder becomes part of the mixed number (35 goes into 81 twice with a remainder of 11, hence $2\frac{11}{35}$).

40. **d.** We use $D = RT$, and rearrange for T. Dividing both sides by R, we get $T = D \div R$. The total distance, $D = (x + y)$, and $R = 2$ mph. Thus, $T = D \div R$ becomes $T = (x + y) \div 2$.

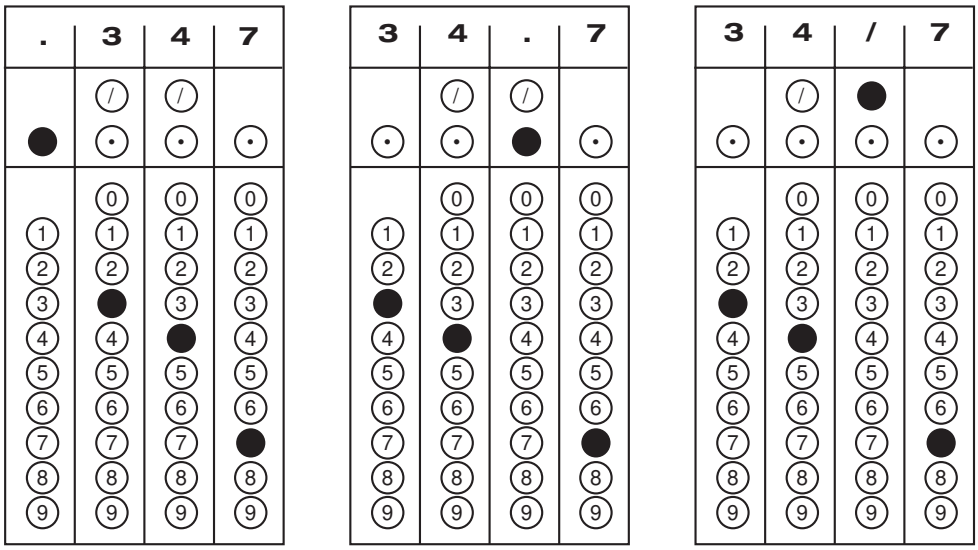
▶ Part 2: Grid-in Questions

"Grid-in" questions are also called student-response questions because no answer choices are given; you, the student, generate the response. Otherwise, grid-in questions are just like five-choice questions. In responding to the grid-in questions on the SAT, there are several things you will need to know about the special four-column grid. Become familiar with the answer grid below.



The above answer grid can express whole numbers from 0 to 9999, as well as some fractions and decimals. To grid an answer, write it in the top row of the column. If you need to write a decimal point or a fraction bar, skip a column and fill in the necessary oval below it.

- **Very important:** No grid-in questions will have a negative answer. If you get a negative number, you have done something wrong.
- Write the answer in the column above the oval. The answer you write will be completely disregarded because the scoring machine will only read the ovals. It is still important to write this answer, however, because it will help you check your work at the end of the test and ensure that you marked the appropriate ovals.
- Answers that need fewer than four columns, except 0, may be started in any of the four columns, provided that the answer fits. If you are entering a decimal, do not begin with a 0. For example, simply enter .5 if you get 0.5 for an answer.
- Enter mixed numbers as improper fractions or decimals. This is important for you to know when working on the grid-in section. As a math student, you are used to always simplifying answers to their lowest terms and often converting improper fractions to mixed numbers. On this section of the test, however, just leave improper fractions as they are. For example, it is impossible to grid $1\frac{1}{2}$ in the answer grid, so simply grid in $\frac{3}{2}$ instead. You could also grid in its decimal form of 1.5. Either answer is correct.
- If the answer fits the grid, do not change its form. If you get a fraction that fits into the grid, do not waste time changing it to a decimal. Changing the form of an answer can result in a miscalculation and is completely unnecessary.
- Enter the decimal point first, followed by the first three digits of a long or repeating decimal. Do not round the answer. It won't be marked as wrong if you do, but it is not necessary.
- If the answer is a fraction that requires more than four digits, like $\frac{17}{25}$, write the answer as a decimal instead. The fraction $\frac{17}{25}$ does not fit into the grid and it cannot be reduced; therefore, you must turn it into a decimal by dividing the numerator by the denominator. In this case, the decimal would be .68.
- If a grid-in answer has more than one possibility, enter any of the possible answers. This can occur when the answer is an inequality or the solution to a quadratic equation. For example, if the answer is $x < 5$, enter a 4. If the answer is $x = \pm 3$, enter positive 3, since negative numbers cannot be entered into the grid.
- If you are asked for a percentage, only grid the numerical value without the percentage sign. There is no way to grid the symbol, so it is simply not needed. For example, 54% should be gridded as .54. Don't forget the decimal point!



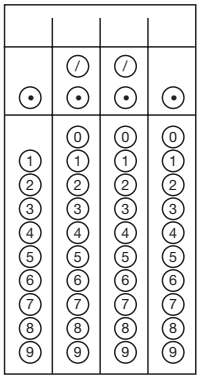
- Remember these important tips:
  - ► If you write in the correct answer but do not fill in the oval(s), you will get the question marked wrong.
  - ► If you know the correct answer but fill in the wrong oval(s), you will get the question marked wrong.
  - ► If you do not fully erase an answer, it may be marked wrong.
  - ► Check your answer grid to be sure you didn't mark more than one oval per column.

Be especially careful that a fraction bar or decimal point is not marked in the same column as a digit.

Now it is time to do some grid-in practice problems. Be sure to review the strategies listed above to ensure that you fully understand the grid system. Remember: *You will never be penalized for an incorrect answer on the grid-in questions*—so go ahead and guess. Good luck!

ANSWER SHEET

1.



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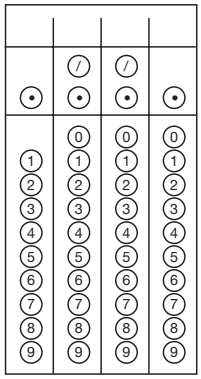

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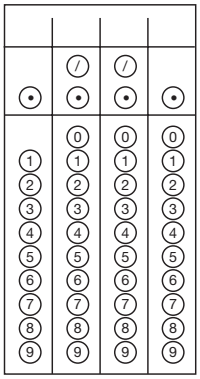

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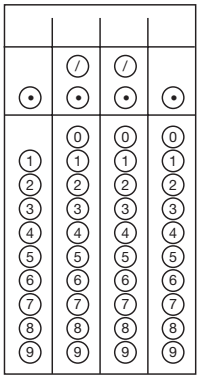

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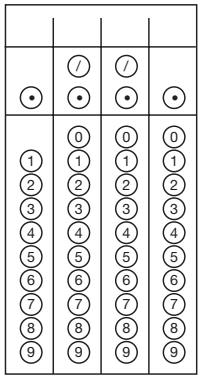

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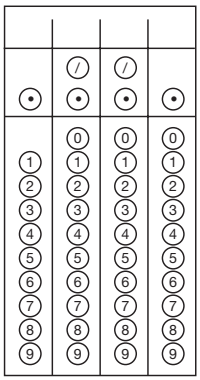

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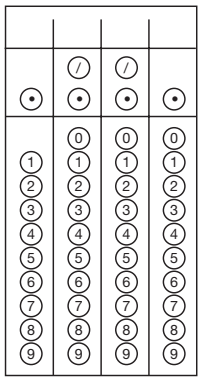

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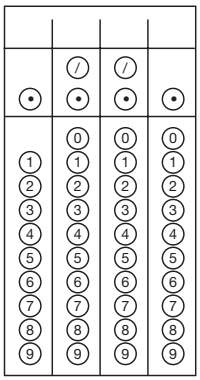

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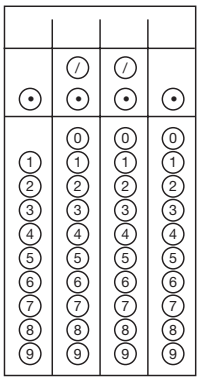

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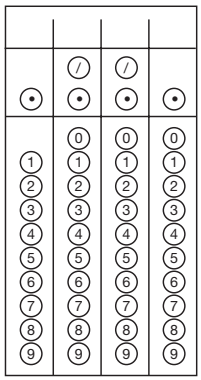

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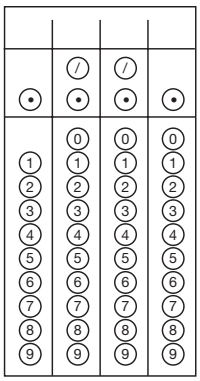

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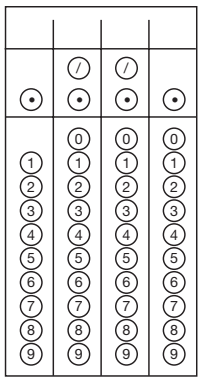

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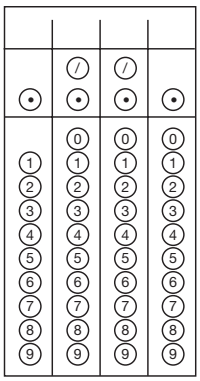

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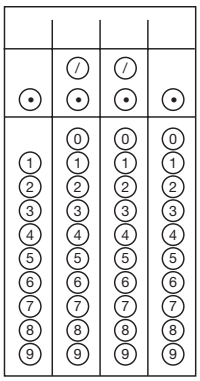

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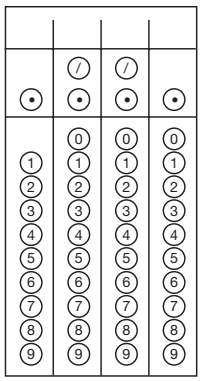

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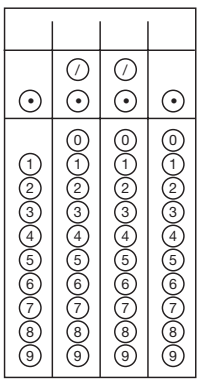

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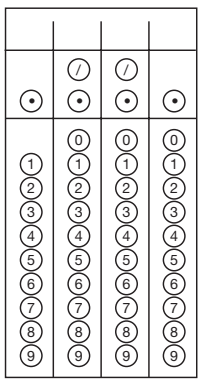

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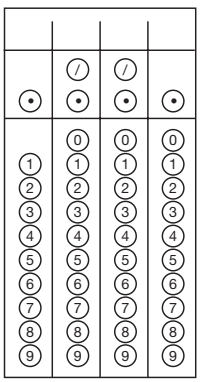

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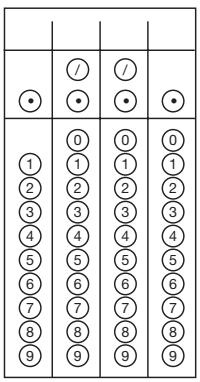

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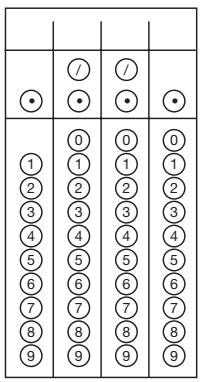

ANSWER SHEET (continued)

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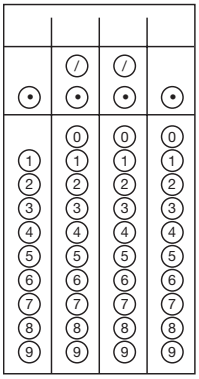

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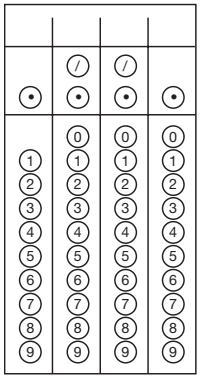

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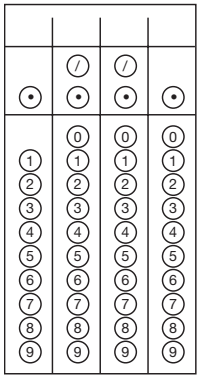

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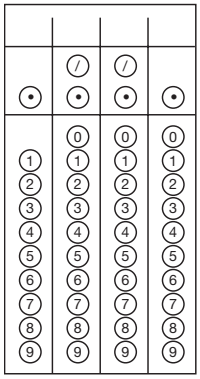

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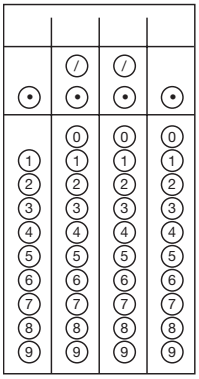

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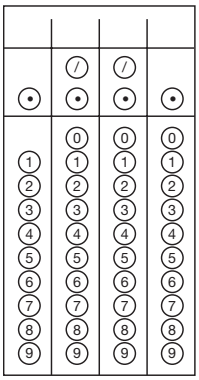

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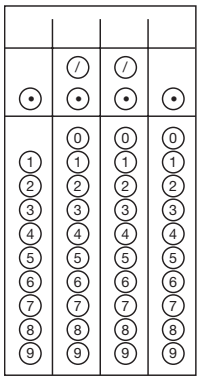

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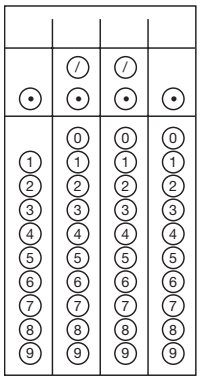

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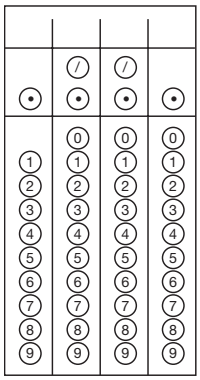

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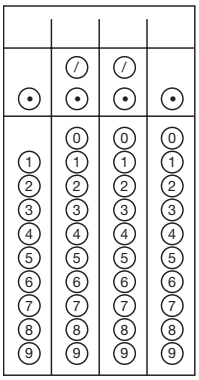

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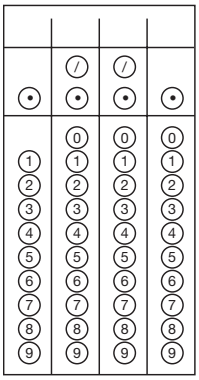

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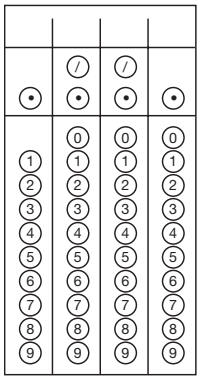

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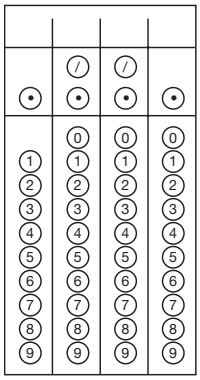

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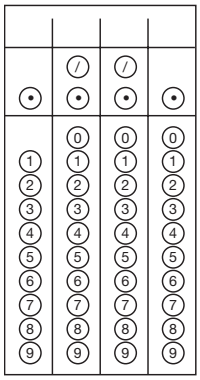

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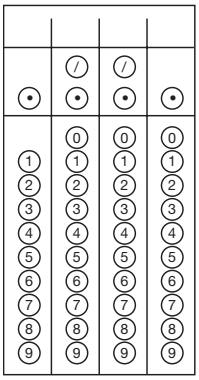

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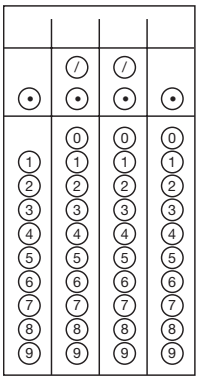

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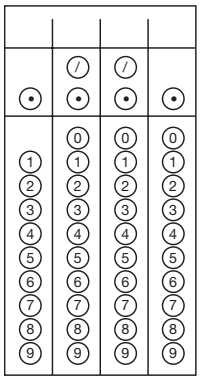

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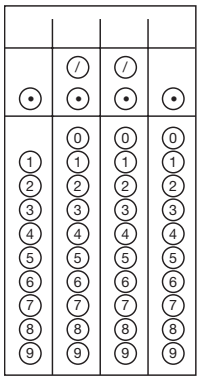

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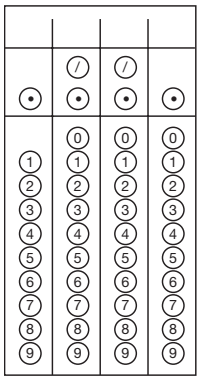

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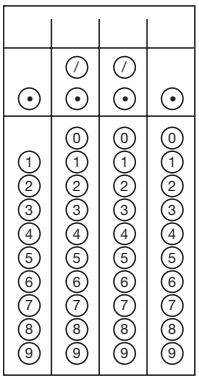


▶ Grid-in Practice Problems

1. The barns in a certain county are numbered consecutively from 2,020 to 2,177. How many barns are in the county?

2. For some fixed value of x, $8(x + 4) = y$. After the value of x is increased by 3, $8(x + 4) = z$. What is the value of $z - y$?

3. If $2^8 \times 4^2 = 16^x$, then $x = ?$

4. If $(y - 1)^3 = 27$, what is the value of $(y + 1)^2$?

5. When a is divided by 6, the remainder is 5; and when b is divided by 6, the remainder is 4. What is the remainder when $a + b$ is divided by 6?

6. When a positive integer k is divided by 7, the remainder is 2. What is the remainder when $6k$ is divided by 3?

7. During course registration, 28 students enroll in biology. After three boys are dropped from the class, 44% of the class consists of boys. What percent of the original class did girls comprise?

8. If $3x - 1 = 11$ and $4y = 12$, what is the value of $\frac{x}{y}$?

9. If $1 - x - 2x - 4x = 7x - 1$, what is the value of x?

10. If $4x^2 + 20x + r = (2x + s)^2$ for all values of x, what is the value of $r - s$?

11. If $(3p + 2)^2 = 64$ and $p > 0$, what is a possible value of p?

12. If $(x - 1)(x - 3) = -1$, what is a possible value of x?

13. For what integer value of y is $y + 5 > 8$ and $2y - 3 < 7$?

14. If $\frac{5}{3}$ of x is 15, what number is x decreased by 1?

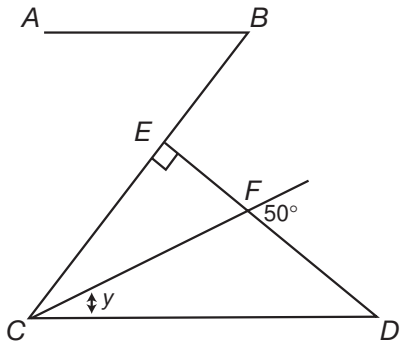
15. Half the difference of two positive numbers is 20. If the smaller of the two numbers is 3, what is the sum of the two numbers?

16. In a club of 35 boys and 28 girls, 80% of the boys and 25% of the girls have been members for more than two years. If n percent of the club have been members for more than two years, what is the value of n?

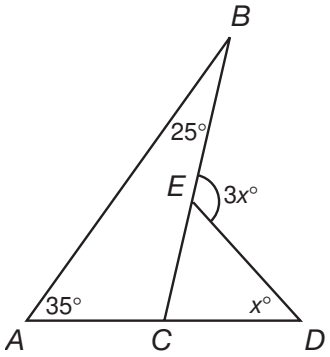
17. A string is cut into two pieces that have lengths in the ratio of 3:8. If the differences between the lengths of the two pieces of string is 45 inches, what is the length, in inches, of the shorter piece?

18. Fruit for a dessert costs $2.40 a pound. If 10 pounds of fruit are needed to make a dessert that serves 36 people, what is the cost of the fruit needed to make enough of the same dessert to serve 48 people?

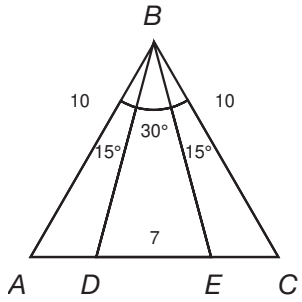
19. In the figure below, if line segment AB is parallel to line segment CD and $\overline{BE}$ is perpendicular to $\overline{ED}$, what is the value of y?



20. In the figure below, what is the value of x?



21. In the figure below, what is the length of line segment AD?

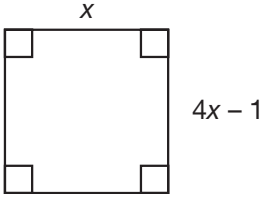


22. If the lengths of two sides of an isosceles triangle are 9 and 20, what is the perimeter of the triangle?

23. If the integer lengths of the three sides of a triangle are 5, x, and 10, what is the least possible perimeter of the triangle?

24. If the product of the lengths of the three base sides of a triangle is 120, what is a possible perimeter of the triangle?

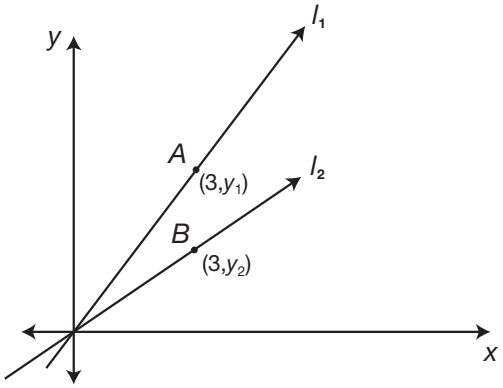
25. What is the area of the square below?



26. Through how many degrees does the minute hand of a clock move from 12:25 A.M. to 12:40 A.M. of the same day?

27. A line with a slope of $\frac{3}{14}$ passes through points $(7,3k)$ and $(0,k)$. What is the value of k?

28. In the figure below, the slope of line l_1 is $\frac{5}{6}$ and the slope of line l_2 is $\frac{1}{3}$. What is the distance from point A to point B?



29. The dimensions of a rectangular box are integers greater than 1. If the area of one side of this box is 12 and the area of another side is 15, what is the volume of the box?

30. What is the number of inches in the minimum length of $\frac{1}{4}$-inch-wide tape needed to cover completely a cube whose volume is 8 cubic inches?

31. What is the greatest of four consecutive even integers whose average is 19?

32. If the average of x, y, and z is 12, what is the average of $3x$, $3y$, and $3z$?

33. The probability of selecting a green marble at random from a jar that contains only green, white, and yellow marbles is $\frac{1}{4}$. The probability of selecting a white marble at random form the same jar is $\frac{1}{3}$. If this jar contains 10 yellow marbles, what is the total number of marbles in the jar?

34. If the operation Φ is defined by the equation $x \Phi y = 2x + 3y$, what is the value of a in the equation $a \Phi 4 = 1 \Phi a$?

35. x, y, 22, 14, 10, . . .

In the sequence above, each term after the first term, x, is obtained by halving the term that comes before it and then adding 3 to that number. What is the value of $x - y$?

36. If $x + 2x + 3x + 4x = 1$, then what is the value of x^2?

37. What is the least positive integer p for which $441p$ is the cube of an integer?

38. The average of 14 scores is 80. If the average of four of these scores is 75, what is the average of the remaining 10 scores?

39. If $3^{x-1} = 9$ and $4^{y+2} = 64$, what is the value of $\frac{x}{y}$?

40. If $\frac{p+p+p}{p \times p \times p} = 12$ and $p > 0$, what is the value of p?

▶ Grid-In Answers

1. 158. If you are given two numbers, A and B, then $B - A + 1$ is the formula for finding the quantity of items between the two numbers. Therefore, $2{,}177 - 2{,}020 + 1 = 157 + 1$.

2. 24. If the value of x is increased by 3, then the value of y is increased by $8 \times 3 = 24$. Since after x is increased by 3, $8(x + 4) = z$, the value of $z - y = 24$.

3. 3. Find the value of x by expressing each side of the equation as a power of the same base.

$$2^8 \times 2^4 = 2^{4x}$$
$$2^{12} = 2^{4x}$$
$$12 = 4x, \text{ so } 3 = x$$

4. 25. Since $3^3 = 27$ and $(y - 1)^3 = 27$, then $y - 1 = 3$, so $y = 4$. Thus, $(y + 1)^2 = (4 + 1)^2 = 5^2 = 25$.

6. 0. Let k equal 9, then $6k = 54$. When 54 is divided by 3 the remainder is 0.

7. 50. After three boys are dropped from the class, 25 students remain. Of those 25, 44% are boys, so 56% are girls. Since 56% of 25 = .56 × 25 = 14, 14 girls are enrolled in biology. Hence, 14 of the 28 students in the original class were girls. Thus, the number of girls in the original class comprised $\frac{14}{28}$ or 50%.

8. $\frac{4}{3}$. If $3x - 1 = 11$, then $3x = 12$, and $x = 4$. Since $4y = 12$, then $y = 3$. Therefore, $\frac{x}{y} = \frac{4}{3}$. You can grid this in as $\frac{4}{3}$ or 1.333.

9. $\frac{2}{14}$. If $1 - x - 2x - 4x - 7x = 7x - 1$, then $1 - 7x = 7x - 1$, so $1 + 1 = 7x + 7x$ and $2 = 14x$. Hence, $\frac{2}{14} = x$.

10. 20.
$$4x^2 + 20x + r = (2x + s)^2$$
$$= (2x + s)(2x + s)$$
$$= (2x)(2x) + (2x)(s) + (s)(2x) + (s)(s)$$
$$= 4x^2 + 2xs + 2xs + s^2$$
$$= 4x^2 + 4xs + s^2$$

Since the coefficients of x on each side of the equation must be the same, $20 = 4s$, so $s = 5$. Comparing the last terms of the polynomials on the two sides of the equation makes $r = s^2 = 5^2 = 25$. Therefore, $r - s = 25 - 5 = 20$.

11. 2. If $(3p + 2)^2 = 64$ and $p > 0$, the expression inside the parentheses is either 8 or –8. Since $p > 0$, let $3p + 2 = 8$; then $3p = 6$ and $p = 2$. A possible value of p is 2.

12. 2. If $(x - 1)(x - 3) = -1$, then $x^2 - 4x + 3 = -1$, so $x^2 - 4x + 4 = 0$. Factoring this equation gives $(x - 2)(x - 2) = 0$; $x = 2$. Thus, a possible value for x is 2.

13. 4. If $2y - 3 < 7$, then $2y < 10$, so $y < 5$. Since $y + 5 > 8$ and $2y - 3 < 7$, then $y > 3$ and at the same time $y < 5$. Thus, the integer must be 4.

14. 8. If $\frac{5}{3}$ of x is 15, then $\frac{5}{3}x = 15$, so $x = \frac{3}{5}(15) = 9$. Therefore, x decreased by 1 is $9 - 1 = 8$.

15. 46. If half the difference of two positive numbers is 20, then the difference of the two positive numbers is 40. If the smaller of the two numbers is 3, then the other positive number must be 43 since $43 - 3 = 40$. Thus, the sum of the two numbers is $43 + 3 = 46$.

16. 55.5. Since 80% of 35 = .80 × 35 = 28 and 25% of 28 = .25 × 28 = 7, then 35 of the 63 boys and girls have been club members for more than two years. Since $\frac{35}{63} = .5555\ldots$, 55.5% of the club have been members for more than two years.

17. 27. Since the lengths of the two pieces of string are in the ratio 3:8, let $3x$ and $8x$ represent their lengths:

$$8x - 3x = 45$$
$$5x = 45$$
$$x = 9$$

Since $3x = (3)9 = 27$, the length of the shorter piece of string is 27 inches.

18. 32. If 10 pounds of fruit serve 36 people, then $\frac{10}{36}$ pound serves one person. So, $48 \times \frac{10}{36} = 4 \times \frac{10}{3} = \frac{40}{3}$ pounds. Since the fruit costs \$2.40 a pound, the cost of the fruit needed to serve 48 people is $\frac{40}{3} \times \$2.40 = 40 \times .80 = \$32.00$.

19. 20. The measures of vertical angles are equal, so $\angle EFC = 50$. In right triangle CEF, the measures of the acute angles add up to 90, so $\angle ECF + 50 = 90$ or $\angle ECF = 90 - 50 = 40$.

Since the measures of acute angles formed by parallel lines are equal, $y + \angle ECF = 50$. Hence, $y + 40 = 50$, so $y = 10$.

20. 35. In triangle ABC, $\angle ACB = 180 - 35 - 25 = 120$. Since angles ACB and DCE form a straight line, $\angle DCE = 180 - 120 = 60$. Angle BED is an exterior angle of triangle ECD. Therefore, $3x = 60 + x$

$$2x = 60$$
$$x = 30$$

21. 1.5. Angle B measures $15 + 30 + 15$ or 60°, so the sum of the measures of angles A and C is 120. Since $\overline{AB} = \overline{BC} = 10$, then $\angle A = \angle C = 60$, so triangle ABC is equiangular. A triangle that is equiangular is also equilateral, so $\overline{AC} = 10$. Angles BDE and BED each measure $60 + 15 = 75°$, since they are exterior angles of triangles ADB and CEB. Therefore, triangles ADB and CEB have the same shape and size, so $\overline{AD} = \overline{CE}$. Since you are given that $\overline{DE} = 7$, then $\overline{AD} + \overline{CE} = 3$, so $\overline{AD} = 1.5$.

22. 49. If the lengths of two sides of an isosceles triangle are 9 and 20, then the third side must be 9 or 20. Since 20 is not less than $9 + 9$, the third side cannot be 9. Therefore, the lengths of the three sides of the triangle must be 9, 20, and 20. The perimeter is $9 + 20 + 20 = 49$.

23. 21. In the given triangle, $10 - 5 < x < 10 + 5$ or, equivalently, $5 < x < 15$. Since the smallest possible integer value of x is 6, the least possible perimeter of the triangle is $5 + 6 + 10 = 21$.

24. 15. Factor 120 as $4 \times 5 \times 6$. Since each number of the set 4, 5, and 6 is less than the sum, and greater than the difference of the other two, a possible perimeter of the triangle is $4 + 5 + 6 = 15$.

25. $\frac{1}{9}$. Since the figure is a square, $x = 4x - 1$

$$1 = 3x$$
$$\frac{1}{3} = x$$

To find the area of the square, square $\frac{1}{3} = (\frac{1}{3})^2 = \frac{1}{9}$.

26. 90. From 12:25 A.M. to 12:40 A.M. of the same day, the minute hand of the clock moves 15 minutes since $40 - 25 = 15$. There are 60 minutes in an hour, so 15 minutes represents $\frac{15}{60}$ of a complete rotation. Since there are 360° in a complete rotation, the minute hand moves $\frac{15}{60} \times 360 = 15 \times 6 = 90$.

27. $\frac{3}{4}$. Since the line that passes through points $(7,3k)$ and $(0,k)$ has a slope of $\frac{3}{14}$, then:

$$\frac{3k-k}{7-0} = \frac{3}{14}$$
$$\frac{2k}{7} = \frac{3}{14}$$
$$28k = 21$$
$$k = \frac{21}{28} = \frac{3}{4}$$

28. $\frac{3}{2}$. Since the slope of the line l_1 is $\frac{5}{6}$, then

$$\frac{y^1 - 0}{3 - 0} = \frac{5}{6} \qquad \text{or } y^1 = \frac{15}{6} = \frac{5}{2}$$

The slope of line l_2 is $\frac{1}{3}$, so

$$\frac{y^2 - 0}{3 - 0} = \frac{1}{3} \qquad \text{or } y^2 = \frac{3}{3} = 1$$

Since points A and B have the same x-coordinates, they lie on the same vertical line, so the distance from A to $B = y^{1 - y^2}$

$$= \frac{5}{2} - 1 \text{ or } \frac{3}{2}$$

Grid as $\frac{3}{2}$.

29. 60. You are given that all the dimensions of a rectangular box are integers greater than 1. Since the area of one side of this box is 12, the dimensions of this side must be either 2 by 6 or 3 by 4. The area of another side of the box is given as 15, so the dimensions of this side must be 3 and 5. Since the two sides must have at least one dimension in common, the dimensions of the box are 3 by 4 by 5, so its volume is $3 \times 4 \times 5 = 60$.

30. 96. A cube whose volume is 8 cubic inches has an edge length of 2 inches, since $2 \times 2 \times 2 = 8$. Since a cube has six square faces of equal area, the surface area of this cube is 6×2^2 or 6×4 or 24. The minimum length, or L, of $\frac{1}{4}$-inch-wide tape needed to completely cover the cube must have the same surface area of

the cube. Therefore, $L \times \frac{1}{4} = 24$ and $L = 24 \times 4 = 96$ inches.

31. 22. Let x, $x + 2$, $x + 4$, and $x + 6$ represent four consecutive even integers. If their average is 19, then

$$\frac{x + (x + 2) + (x + 4) + (x + 6)}{4} = 19$$

or

$$4x + 12 = 4 \times 19 = 76$$

Then,

$$4x = 76 - 12 = 64$$

$$x = \frac{64}{4} = 16$$

Therefore, $x + 6$, the greatest of the four consecutive integers is 16 + 6 or 22.

32. 36. Since the average of x, y, and z is 12, then $x + y + z = 3 \times 12 = 36$. Thus, $3x + 3y + 3z = 3(36)$ or 108.

The average of $3x$, $3y$, and $3z$ is their sum, 108, divided by 3 since three values are being added: $\frac{108}{3}$ or 36.

33. 24. Since $1 - (\frac{1}{4} + \frac{1}{3}) = 1 - \frac{7}{12}$, the probability of selecting a yellow marble is $\frac{5}{12}$. If 10 of the x marbles in the jar are yellow, then $\frac{5}{12} = \frac{10}{x}$. Since 10 is two times 5, x must be two times 12 or 24.

34. 10. Since $x \Phi y = 2x + 3y$, evaluate $a \Phi 4$ by letting $x = a$ and $y = 4$:

$$a \Phi 4 = 2a + 3(4) = 2a + 12$$

Evaluate $1 \Phi a$ by letting $x = 1$ and $y = 4$:

$$1 \Phi a = 2(1) + 3a = 2 + 3a$$

Since $a \Phi 4 = 1 \Phi a$, then $2a + 12 = 2 + 3a$, or $12 - 2 = 3a - 2a$, so $10 = a$.

35. 32. In the sequence x, y, 22, 14, 10, . . . each term after the first term, x, is obtained by halving the term that comes before it and then adding 3 to that number. Hence, to obtain y, do the opposite to 22: Subtract 3 and then double the result, getting 38. To obtain x, subtract 3 from 38 and then double the result, getting 70. Thus, $x - y = 70 - 38 = 32$.

36. 0.01. If $x + 2x + 3x + 4x = 1$, then $10x = 1$, so $x = \frac{1}{10}$ and $x^2 = (\frac{1}{10})^2 = \frac{1}{100}$. Since $\frac{1}{100}$ does not fit in the grid, grid in .01 instead.

37. 21. Since $441p = 9 \times 49 \times p = 3^2 \times 7^2 \times p$, let $p = 3 \times 7$, which makes $441p = 3^3 \times 7^3 = (3 \times 7)^3 = 21^3$.

38. 82. If the average of 14 scores is 80, the sum of the 14 scores is 14×80 or 1,120. If the average of four of these scores is 75, the sum of these four scores is 300, so the sum of the remaining 10 scores is 11,200 – 300 or 820. The average of these 10 scores is $\frac{820}{10}$ or 82.

39. 3. To find the value of $\frac{x}{y}$, given that $3^x - 1 = 9$ and $4^{y+2} = 64$, use the two equations to find the values of x and y.

Since, $3^{x-1} = 9 = 3^2$, then $x - 1 = 2$, so $x = 3$. And $4^{y+2} = 64 = 4^3$, then $y + 2 = 3$, so $y = 1$. Therefore, $\frac{x}{y} = \frac{3}{1} = 3$.

40. $\frac{1}{2}$. Since $\frac{p + p + p}{p \times p \times p} = \frac{3p}{p \times p} = \frac{3}{p^2} = 12$ then $\frac{p^2}{3} = \frac{1}{12}$, so $p^2 = \frac{3}{12} = \frac{1}{4}$. Therefore, $p = \frac{1}{2}$, since $\frac{1}{4} \times \frac{1}{4} = \frac{1}{2}$. Grid in as $\frac{1}{2}$.

▶ Finally

Don't forget to keep track of your time during the Math section. Although most questions will take you about a minute or so—the amount of time it takes to answer a particular question can vary according to difficulty. Don't hold yourself to a strict schedule, but learn to be aware of the time you are taking. Never spend too much time on any one question. Feel free to skip around and answer any questions that are easier for you, but be sure to keep track of which questions you have skipped. Remember that, in general, each set of questions begins with easy problems and becomes increasingly harder. Finally, if you can eliminate one or more answers on a tough question, go ahead and make a guess, and if you have time at the end of the section, go back and check your answers.

Good luck!

CHAPTER

5 The SAT Writing Section

What to Expect in the Writing Section

In March 2005, the SAT® was revamped to include a Writing section that consists of 49 multiple-choice grammar and usage questions and an essay. The essay has essentially the same structure and content as the one on the old SAT II™ Writing Test, which means that you will be able to easily prepare for it.

In the multiple-choice part of the Writing section, you will have 35 minutes, split into one 25-minute section and one 10-minute section. The multiple-choice questions, too, are essentially the same as the multiple-choice questions on the old SAT II Writing Test. They will ask you to identify errors in grammar and usage and/or select the most effective way to revise a sentence or passage. They are designed to measure your knowledge of basic grammar and usage rules as well as general writing and revising strategies.

There are three types of multiple-choice questions: identifying sentence errors, improving sentences, and improving paragraphs. None of the multiple-choice questions ask you to formally name grammatical terms, or test you on spelling.

SAT Writing Section at a Glance

There are four question types on the Writing section:

- Identifying Sentence Errors—items require you to read a sentence and identify the error (if any) in grammar or usage
- Improving Sentences—items require you to determine the best way to correct a sentence
- Improving Paragraphs—items ask you how a draft essay could best be improved
- Essay—requires you to write a coherent, well-constructed essay in response to a prompt

Identifying Sentence Errors

Each sentence will have four underlined words or phrases. You need to determine which underlined portion, if any, contains an error in grammar or usage. If none of the four underlined portions contain an error, you will need to select choice **e**, which is "No error." Approximately 18 of the 49 multiple-choice questions in the Writing section will be this type.

Improving Sentences

With these question types, you will need to determine which of five versions of a sentence is the most clear and correct. Approximately 25 of the 49 questions in this section will be this type.

Improving Paragraphs

With these question types, you will be asked about ways in which a draft version of a short essay can be improved. These questions can cover everything from grammar issues to matters of organization and development of ideas. Approximately 6 of the 49 questions will be this type.

Essay

For the essay portion of the Writing section, you will have 25 minutes to respond to a prompt. This prompt will be one of two types:

- **Responding to Quotes.** You will be given one or two quotes and asked to evaluate or compare them by writing an essay.
- **Completing a Statement or Idea.** You will be given an incomplete statement and asked to fill in the blank; then you will use the completed statement as the basis for an essay.

For both types of prompts, you will be asked to develop a point of view and to back up your opinion with examples from your own experience or from subjects you have studied.

▶ Why Write an Essay?

Anyone who has gone to college can tell you that writing is a big part of the experience. Students have to take accurate notes in all classes, write essays and papers for different subjects, and often have to respond to essay questions on exams. Students need to be able to think logically in order to do this, and be able to take a stance on an issue and defend their position in writing.

▶ Scoring

As in the Math and Critical Reading sections, for the multiple-choice questions in the Writing section, you will receive one point for each correct answer and lose $\frac{1}{4}$ point for each wrong answer. The essay will be scored by two expert graders who will evaluate your writing based on a 0–6 rubric, which will be described in detail later in this chapter.

Your raw score of 20–80 for the multiple-choice questions will be combined with your raw score of 2–12 on the essay and both will be converted to a scaled score of 200–800 for the entire Writing section.

▶ Writing Pretest

On the pretest that begins on page 187, there are ten multiple-choice questions and one essay question. Give yourself ten minutes to complete the multiple-choice questions and 25 minutes to write the essay. After you have finished, you can check your answers and essay against the correct answers and sample essays (found at the end of the pretest) at each score level from 1–6. Use the answer sheet below to fill in your answer choices for questions 1–10.

ANSWER SHEET

1.	a	b	c	d	e
2.	a	b	c	d	e
3.	a	b	c	d	e
4.	a	b	c	d	e
5.	a	b	c	d	e
6.	a	b	c	d	e
7.	a	b	c	d	e
8.	a	b	c	d	e
9.	a	b	c	d	e
10.	a	b	c	d	e

Essay

Using the space provided on this page and the next, write an essay in response to the prompt below.

> "An influential person is one who leaves a footprint in the sand of our soul. To me, the most influential person I can think of is . . ."

Assignment: Complete the sentence above with an appropriate phrase. Then write an essay supporting your completed statement.

Identifying Sentence Errors

Each of the following sentences has four underlined words or phrases. Read each sentence and determine which underlined portion, if any, has an error in grammar, usage, word choice, or idiom (standard expression). If there is no error, select choice (**e**). No sentence has more than one error.

1. Although he is best known for his Sherlock Holmes series, Sir Arthur Conan Doyle having penned dozens
(**a**) (**b**) (**c**)
of stories and novels that did not include his beloved sleuth. No error
(**d**) (**e**)

2. Often mistaken for termites, carpenter ants have longer bodies and shorter wings than termites, and while
(**a**) (**b**) (**c**)
termite antennae are straight, the antennae of the carpenter variety is bent or "elbowed." No error
(**d**) (**e**)

3. Contrary from their expectations, many people find themselves wanting to go back to work
(**a**) (**b**) (**c**)
within months of their retirement. No error
(**d**) (**e**)

4. Mary Cassatt, an American Impressionist painter born in 1844, became famous mainly
(**a**)
for her portraits of women and their children, unlike other Impressionists of her time
(**b**) (**c**)
who were known for their landscapes. No error
(**d**) (**e**)

5. The hit television series *CSI: Crime Scene Investigation* has spawned a new interest in criminal studies,
(**a**)
resulting in the expansion of many existing criminal justice programs and which created many new
(**b**) (**c**) (**d**)
programs across the country. No error
(**e**)

Improving Sentences

In each of the sentences below, part or all of the sentence is underlined. The underlined text may contain an error in sentence construction, grammar, word choice, or punctuation. Choice **a** repeats the original underlined text. If there is no error in the underlined portion, choose **a**. If there is an error, select the answer choice that most effectively expresses the meaning of the sentence without any ambiguity or awkwardness.

6. When choosing a college, one should consider several factors, <u>such as class size, teacher-to-student ratio, and where the school is located</u>.

a. such as class size, teacher-to-student ratio, and where the school is located
b. such as class size, the teacher-to-student ratio, and location
c. such as class size, teacher-to-student ratio, and location
d. such as class size, how many teachers to every student, and location
e. such as the class size, teacher-to-student ratio, and the location

7. <u>Held in 1927, President Calvin Coolidge presided over the ceremony to officially commence the carving of Mount Rushmore.</u>

a. Held in 1927, President Calvin Coolidge presided over the ceremony to officially commence the carving of Mount Rushmore.
b. Held in 1927, it was President Calvin Coolidge who presided over the ceremony to officially commence the carving of Mount Rushmore.
c. The carving of Mount Rushmore was officially commenced in 1927 at a ceremony that was presided over by President Calvin Coolidge.
d. President Calvin Coolidge presided over the 1927 ceremony that officially commenced the carving of Mount Rushmore.
e. The 1927 ceremony, presided over by President Calvin Coolidge, which officially commenced the carving of Mount Rushmore.

8. In the 1950s, families that were lucky enough to have a television had three or four channels to choose from, <u>although today's families may have three or four TVs and hundreds of channel choices.</u>

a. although today's families may have three or four TVs and hundreds of channel choices
b. while today's families may have three or four TVs and hundreds of channel choices
c. however, today's families may have three or four TVs and hundreds of channel choices
d. families today may have three or four TVs and hundreds of channels on them
e. although for today's families, there may be three or four TVs and hundreds of channel choices

Improving Paragraphs

Questions 9–10 are based on the following passage, a first draft of an essay about student volunteer programs. Read the passage and the questions that follow. For each question, choose the answer that will most improve the passage. Some questions ask you to choose the best revision of a particular sentence or pair of sentences. Other questions ask you to consider how to best improve the overall organization of the passage. In each case, the correct answer is the one that most closely conforms to the conventions of formal writing.

(1) Student volunteerism continues to be a hot topic in education. (2) It is a growing trend in middle school and high school curriculums, and even in some elementary schools. (3) In a typical volunteer program, students are required to volunteer a certain number of hours each marking period. (4) Typically students choose from a short list of charities or organizations to work with. (5) More progressive or established programs allow students to develop their own non-profit program to benefit a cause of their choosing.

(6) For me, volunteering has been an amazing experience. (7) I discovered that it felt really good every time I accomplished something for my organization. (8) It felt especially good to know that I was helping people who really needed it. (9) I volunteered four hours a week, sometimes five if I had the time. (10) I got to spend time with my friends while we made a difference in our community.

(11) In my school, the volunteer program is called the "Kids Care Core." (12) The word "core" signifies that it's an essential part of our curriculum and a requirement for everyone. (13) We are divided into small teams. (14) Each team chooses a local organization and we donate our time throughout the semester. (15) My group chose to help collect unwanted eyeglasses, which get sent around the world to people who can't afford glasses. (16) Together we collected over 100 pairs of eyeglasses!

(17) From my experience I know that I will continue to volunteer after I graduate, and I want to encourage everyone to do the same.

9. Which of the following is the most logical order of the paragraphs?

a. 1, 2, 3, 4
b. 1, 3, 2, 4
c. 2, 3, 4, 1
d. 4, 3, 2, 1
e. 1, 4, 2, 3

10. Which of the following is the most effective combination of sentences 13 and 14 (reprinted below)?

(13) We are divided into small teams. (14) Each team chooses a local organization and we donate our time throughout the semester.

a. We are divided into small teams, each of which chooses a local organization and we donate our time throughout the semester.
b. We are divided into small teams, and we each choose a local organization to which we donate our time to throughout the semester.
c. We are divided into small teams and local organizations to donate our time to throughout the semester.
d. Divided into small teams, we choose a local organization and donate our time throughout the semester.
e. After we are divided into small teams, we choose a local organization to donate our time to throughout the semester.

▶ Answers

Essay

Read these sample responses and note their strengths and weaknesses. Compare your response to the samples given.

Sample 6-point Response

Have you ever imagined how your life would be different if a key person were not in it, like a mother, father, spouse, or child? Some people are so integral to making us who we are that without them, our very identity would be changed. My grandmother is a key figure in my life who has left an indelible impression on me. She is a woman of great influence because of her stability, her work ethic and her independent spirit.

Grandma is the matriarch of our family. Because she has a close relationship with us and a great deal of wisdom, her seven children and sixteen grandchildren often seek her out for advice. We look to her for advice on everything from how to potty-train a toddler to how to break up with a boyfriend. Grandma relishes the fact that we ask her for advice, but she never offers it without being sought out. She is like a rock: never-changing. My own parents got divorced when I was twelve, but I always knew that Grandma's house was a source of stability when the rest of my world seemed tumultuous. This sense of security has helped me face other challenges as they come along in life, like when we moved during my freshman year of high school.

Grandma also inspired me to pursue my goals. Because of the trials she faced without shrinking back, I am able to have the strength to work hard and try to realize my dreams. Grandma didn't have it easy. Because she was a single parent from a fairly young age, she had to work and sacrifice to support her children. She worked full-time cleaning offices to save for her children's college educations. She received no help from the outside and was totally independent from her own family's help. Grandma always stressed the importance of education to all of us in achieving our goals. Grandma's example of hard work and her emphasis on education have strengthened me to pursue a college degree, and eventually a PhD. Even though I will have to work to get through school, I know that if Grandma worked while raising seven children alone, I can handle taking care of myself. Her tireless example is truly inspirational. She has also encouraged me in my chosen career, teaching, because she feels it will blend well with family life when I eventually have my own children.

Perhaps the most significant legacy Grandma has left me is her example of always voicing her opinion despite what others may think. Grandma would never bow down to prejudice; she never cared what people would say behind her back. In an age where segregation in social circles was common, Grandma's dinners after church on Sundays would look like a United Nations meeting. She would include all races and nationalities, and became close friends with a very diverse group of people. If someone tried to put down another race, she would quickly voice her disagreement. This refusal to be swayed by "popular" opinion had a huge impact on me, and is a guiding principle in my life today.

I certainly would not be the person I am today, inside or out, without the influence of my grandmother upon my life. I can only aspire to imitate her in her stability, her work ethic, and her refusal to be silenced by other people's disapproval.

Scoring Explanation

This essay shows an insightful understanding of the assignment. The writer clearly chooses a strong example of an influential person, and then skillfully develops her ideas with well-developed and specific examples. We learn much about Grandma, and the writer constantly connects these details back to the main idea: that Grandma had a huge impact on her life in three major areas. The writer shows an excellent command of language. There are no grammatical

errors, and she varies her sentence structure to make the reading interesting and enjoyable. This essay fully addresses all areas of the rubric in a strong way and is a good example of clear competence in writing.

Sample 5-point Response

"A teacher affects eternity." This quotation reminds us that a teacher's influence goes far beyond the school year. Many people have pointed to influential teachers in their pasts, crediting them with helping them become motivated to rise beyond their circumstances. In my case, Miss Reynolds, my third grade teacher, had a huge impact on the entire course of my life. She influenced me in three major areas: education, self-respect and attitude.

Miss Reynolds was the most demanding teacher I've had in my school years. Even though I was only in third grade, I had at least 90 minutes of homework every night. The reason none of us resented it, though, was that Miss Reynolds made everything fascinating. She had been in the Peace Corps earlier in her life, and she loved to tell us stories of her teaching experiences there. She always reminded us of how fortunate we were to be in America, receiving free public education. She also stressed that education would be our ticket out of the rough neighborhood in which we lived. And as we saw her constantly reading, she showed us what it means to be a life-long learner. I think the value I place on education, and my desire to be a doctor, can be directly traced to Miss Reynolds's demanding teaching style.

On a personal level, Miss Reynolds instilled self-respect in all her students. She made me believe in myself, but I had to earn it. She didn't compliment us for things that we didn't earn, but when I really applied myself and mastered something difficult, she genuinely was excited for me. I remember, for example, struggling with fractions. I just couldn't get the concept at eight years old. Miss Reynolds brought in pizza pies, and we had a fraction party. She worked with me at recess, and gave me extra homework on fractions. During free time, she set me up on the computer in the back of the room with special fraction software. When I finally got an A on a fraction test, she actually took me out to lunch. Riding with her in her beat-up Volkswagen was something I'll never forget. She taught me to work hard and earn the self-respect that comes from achieving a goal.

Maybe the most important effect Miss Reynolds had on me was showing me the importance of a positive attitude. No matter what the circumstances, Miss Reynolds kept her spirits up. She never married, and when I was in 8th grade, I heard she got cancer. Despite her cancer, she continued to teach until 3 months before she passed away.

I will never forget the amazingly positive influence Miss Reynolds had on me. I am a different person today because of the value she placed on education, self-respect and a positive attitude. Her legacy is shared not only by me, but by all the students who were lucky enough to be in her classroom. Her footprint's imprint in the sand of my soul is not easily erased.

Scoring Explanation

This student shows a good understanding of the assignment. The writer has a strong, clear thesis, which is developed with specific and appropriate examples. Although the examples are adequately developed, the essay might have earned a higher score if the paragraph on "positive attitude" were more concretely developed. The paper is well organized, and the writer shows a good command of written English. The writer uses sophisticated vocabulary in many sentences, with few errors. Overall, this shows a clear competence in writing.

Sample 4-point Response

When someone comes into our lives for a long time, he or she leaves a footprint on our soul. I would say the biggest footprint in my soul comes from my little brother, Mario. Even though we've never had a

conversation, Mario is a very big influence for three main reasons.

Mario is a peaceful person. He has a brain disease called lissencephaly. That happens when the brain is not bumpy and grooved like it's supposed to be. He has been like this from birth, and there's no cure. But Mario is like a little angel. He sits in his wheelchair and plays with his toys. Even though he is eight years old, he can't walk or talk. But he has an inner peace that shines in his eyes. He never seems to worry about anything. He hardly ever cries or gets upset. He isn't impatient like the rest of us. He just takes each day, each hour, each minute as it comes. He has taught me about being peaceful no matter what is going on around me.

Mario has also taught me about unconditional love. Unconditional love means you love someone not because of what they can do for you, or what they have done for you, but just because you love them.

Mario also has influenced me to enjoy the simple gifts in life. I can run, walk, talk, and learn. Most of my friends complain about homework, girlfriends, and petty, stupid fights with their friends. But Mario, without saying anything, reminds me that it's all good.

Not many people have a special gift like Mario in their life. I am really lucky because he has influenced me, I think, to be a better person. I've learned a lot about life from him, how to live and how not to live.

Scoring Explanation

This student shows a basic understanding of the assignment. By using the example of his brother Mario, he develops a basic response to the question. Unfortunately, he uses very little sentence variety, and this detracts from the strength of the response. The vocabulary is also very basic. There is a fair amount of development, particularly in the second paragraph, with specific examples. However, the second body paragraph, about unconditional love, is unsupported. This is a fair response with good ideas that would benefit from more sophisticated grammar and vocabulary, as well as more concrete support.

Sample 3-point Response

My mother is the person who influenced me the most. She is a very hard worker. She is a very devoted mother, and she is tough.

My mother works at Macy's, cleaning the rest rooms and straightening up the stock after the store closes. It is not an easy job, she does it from 12 midnight til 8 in the morning. My mother wanted to go to college, but her parents didn't have the money. She really want us to all go. I would love to make her proud of myself. That would be a great reward to her for all she did for us.

My mother cares about all the things that no other mothers pay attention to anymore. She won't let me hang out with my friends without calling, no boys in the house when she's not home, I have to cook and clean, etc. She is a very devoted mother.

One day, some lady almost ran me over in front of my house. My mother went out there and tryd to find what the cause was. Well, the lady starting screaming at my mother, and she was the one at fault! My mother yelled back and even called the cops on this lady, she isn't afraid of anybody.

I think I will probably turn out to be just like my mother, and that would be fine with me.

Scoring Explanation

This response shows a basic understanding of the assignment, but little development. The writer lays out three ways her mother has been influential in her life, but then fails to adequately develop them with examples. In the third paragraph, the writer never makes a connection between her mother's strictness and being a devoted mother, an idea introduced in the introduction. Also, the author doesn't really give examples of how her mother has changed her life. There is a weak introduction with no real "hook," and a short conclusion that weakens the organization of the essay. The

sentences are simple and contain noticeable errors, particularly run-on sentences. Overall, this response shows marginal competence in writing.

Sample 2-point Response

Who are the most influtential people? I would say politicians, teachers, and writers. Also our friends. Politicians influence us because they make laws. We have to follow them, if we dont, we are going to be in jail. That is a big influence on you, where you will spend your life. Teachers make you think a certain way, or they try to, at least. So they have influence too. Writers feed our brains for good or bad, their also an influence. Our friends are also a big influence. With kids our age, probly the biggest.

My friends help me decided what is important in life. One of my friends, Maria, convinced me to break up with my boyfriend. This was probably good, since I want to go to college. So she influence me positive.

Writers have also influenced me. I love to read, anything I can get my hands on. Sometimes if I'm feeling depressed, reading a book is good for me. It feels good to escape into somebody else for a while.

Probably the last group for me is politicians, since I don't break any laws their not to important to me. Teachers are more important.

We should all try to influence people in our life. That would be a big help.

Scoring Explanation

In the meaning category, it is clear that this student had little understanding of the assignment. Instead of focusing on the single most influential person in his life, he rambles on in generalities about several influential groups: politicians, writers, and friends. There is very little development, and the ideas are haphazardly thrown together without evidence of a plan. The student attempts to use examples, which are inappropriate for the task. The essay is very disorganized, jumping from one topic to another, making it hard to follow. There are also many grammatical errors that seriously detract from the paper.

Sample 1-point Response

I think I am the most influential person, what I do effects eternaty. There is nothing I can't do if I put my mind to it. There is always a way to suceed if you try, try again. The only thing that can limmit me is me, I can do all things I put my mind to them. There isn't anything to be afraid of, don't let anyone keep you down. There is a way out if you just try to. So don't be afraid, just believe in yourself, I do and that's good enough for me.

One time, I thought I was defeated, I wanted to be on the swim team so bad, but I had to practice. I practiced every day in the summer, and then when school start, I made the team, this shows you have to work hard.

Scoring Explanation

This student's essay reveals that she had no understanding of the assignment. The essay she wrote is completely off the topic. Instead of writing about an influential person in her life, she begins to discuss how she is influential in the first sentence, then inexplicably drifts to other topics. This response basically consists of inspirational phrases that are very general and unsupported. There is a total lack of development. The only example given is totally off-topic. There is no visible organizational strategy, and the grammar and spelling errors make comprehension difficult. This essay shows incompetence in writing.

Identifying Sentence Errors

1. c. The verb should be in the simple past tense (*penned*). Even if the sentence did require the past participle form, the helping verb would be *had*, not *having*. All other underlined portions are correct.

2. d. The subject of the verb *is* is *antennae*, a plural noun. Thus, the verb must be the plural *are*.

The prepositional phrase *of the carpenter variety* may mislead you to believe that *variety* is the subject, but subjects are never found in a prepositional phrase. All other underlined portions are correct.

3. a. The proper preposition to use after *contrary* is *to—contrary to their expectations.* All other underlined portions are correct.

4. e. There is no error in this sentence. The use of the plural pronoun *their* agrees with its antecedent, *women*.

5. d. This sentence lacks parallel structure. The phrase *which created* should have the same structure as *the expansion of*. Thus, the sentence should read . . . *and the creation of many new programs.*

Improving Sentences

6. c. The original item lacks parallel structure. The clause *where the school is located* is not in the same grammatical form as the other items in the series, which are both nouns. Only choice **c** corrects the error. Choice **b** places the article *the* before only the second item in the series, and choice **e** places *the* before only two items. The phrase *how many teachers to every student* in choice **d** is not parallel to the two nouns in the series.

7. d. Choice **a** has a misplaced modifier. It was the *ceremony* that was held in 1927, not President Coolidge. Choice **b** retains this error and adds the wordy *it was . . . who* construction. Choice **c** is grammatically correct but not as concise as choice **d** because it uses the passive voice. Choice **e** is a sentence fragment; removing *which* would correct that error.

8. b. In choice **a**, *although* does not express the correct relationship between the two clauses. In choice **b**, the subordinate conjunction *while* clearly and effectively expresses the right relationship. Choice **c**'s use of *however* is correct, but it is preceded by a comma instead of a semicolon, creating a run-on sentence. Choice **d** also creates a run-on sentence and does not offer a coordinating or subordinating conjunction to express the contrast between the two clauses. Choice **e** repeats the error in **a** and adds unnecessarily wordy constructions.

Improving Paragraphs

9. b. Choice **b** puts the paragraphs in the most logical order. Paragraph 1 introduces the general topic of student volunteer programs in schools. Paragraph 3 then moves to a specific program and describes volunteerism in the author's school and her particular class. Paragraph 2 then describes how she benefited from that experience; thus, paragraph 2 can only come *after* the description of the program in her class in paragraph 3. Finally, paragraph 4 (an underdeveloped paragraph) moves from her specific personal experience to the broader audience with a concluding thought encouraging others to participate.

10. e. Choice **e** expresses the chronology more effectively than the other choices by using the subordinating conjunction *After*. Choice **a** is unnecessarily wordy and has an overall awkward construction. Choice **b** uses a wordy *which* phrase and unnecessarily repeats *to*. Choice **c** is illogical; the students are divided into teams, but they are not divided into local organizations. Choice **d** is correct, but is not as clear as choice **e**, which includes the chronology and makes it clear that the students donate their time *to* a local organization.

▶ Part 1: Identifying Sentence Errors

Identifying Sentence Errors questions are exactly what they sound like; they ask you to spot which part of a sentence is incorrect, if any. You don't have to cite any grammar or usage rules, and you don't have to correct the error once you find it, making these the easiest of the three multiple-choice question types. Of the 49 multiple-choice questions in the Writing section, approximately 18 are Identifying Sentence Errors.

Identifying Sentence Errors questions (we'll just call them "Sentence Errors" from now on) are designed to measure your knowledge of what is and what is not acceptable in standard written English and, by extension, your ability to find grammar and usage errors in your own writing. The kinds of errors tested in these questions range from subject-verb agreement to verb tense, from pronoun case to parallel structure. Fortunately, the ETS likes to focus on a handful of key grammar and usage concepts, which you will review shortly. You will also learn a handful of key strategies that can help you more quickly and accurately identify sentence errors.

Question Structure

Each question will present a sentence with four underlined words or phrases. These underlined sections are lettered **a**–**d**. Choice **e**, No error, is placed at the end of the sentence. Most of the time, one of the underlined words or phrases will contain an error in grammar, usage, idiom, or word choice. About one in five times, the sentence will be correct, so the correct answer will be choice **e**, No error.

Sample Identifying Sentence Errors Question

Every decade, a <u>few popular</u> television shows
a
<u>transcends</u> mere <u>cleverness and</u> high ratings <u>to reflect</u>
b **c** **d**
the social issues of out times. <u>No error</u>
e

The correct choice is **b**. This is an error in subject-verb agreement. The subject, *television shows*, is plural and requires a plural verb form. In this case, the correct form is *transcend*, not the singular form *transcends.*

Strategies for Sentence Errors

Obviously, your best preparation for this kind of question is to know the rules of standard written English. But whatever your level of grammar expertise, the following strategies can help you identify the errors in these questions quickly and correctly.

1. **Listen to the sentence as you read it.** By hearing how the sentence sounds in your head, you are much more likely to identify the error. We can often hear that something is wrong even if we can't identify *why* it is wrong.
2. **Take it one at a time.** Examine each underlined part individually as you read the sentence. Look at it carefully in the context of the phrase or clause in which it is used. As you go, eliminate choices that you know are grammatically correct.
3. **Look for the bare bones of the sentence.** If you are having trouble identifying the error, try to determine the core structure of the sentence. What is the subject of the sentence? The verb? Who or what is performing what kind of action? Focusing on the core sentence can help you avoid being distracted by "fillers" so you can better identify problems in agreement, parallel structure, and so on.

4. **Trust your instincts.** If it sounds wrong to you, it probably is, even if you can't identify the grammar or usage rule that is being broken. Because every other part of the sentence is correct, there aren't likely to be many tricky distracters. So if something doesn't sound right, it's probably the right answer.
5. **Look for the most commonly tested errors.** There are eight kinds of mistakes that pop up most often in Sentence Errors on the SAT. If you are having trouble finding an error, do a quick check for the common errors described in this section.
6. **Remember the "No error" option.** Approximately one in five sentences will be correct. If you reach the end of the sentence and haven't found a mistake, choice **e** (No error) is probably the correct answer.

Agreement

Grammatically speaking, *agreement* means that sentence elements are balanced. Verbs, for example, must agree with their subjects: If the subject is singular, the verb should be singular; if the subject is plural, the verb should also be plural.

You can expect at least one of your Sentence Error questions to be about agreement. The most common agreement issues are between subject and verb and between pronoun and antecedent. In subject-verb agreement questions, you will often find a "filler" phrase between the subject and verb intended to distract you. Here's an example from the pretest:

Often mistaken for termites, carpenter ants have
a
longer bodies and shorter wings than termites,
b
and while termite antennae are straight, the antennae
c
of the carpenter variety is bent or "elbowed."
d
No error
e

Notice how the prepositional phrase *of the carpenter variety* can mislead you. If you assume *variety* is the subject, then the verb *is* seems correct—it agrees with what you think is the singular subject. But subjects are never found in prepositional phrases, so *variety* can't be the subject of the verb *is*. Look again at the sentence. What is bent? Not the *variety*, but the *antennae*—a plural noun. Thus, the verb must be *are* to agree with the subject, so choice **d** contains the error and is therefore the correct answer.

Use the same strategy for pronoun-antecedent agreement questions. (An **antecedent** is the noun that a pronoun replaces.) If a pronoun is underlined, determine exactly what noun it refers to, and then see if they agree. Watch out for this kind of very common error.

Eight Errors to Expect

There are many different kinds of errors that might appear in this section of your SAT, and indeed *any* grammar or usage issue is fair game. However, you can expect a healthy majority of the questions to have errors in one of the following eight categories:

1. agreement
2. consistency
3. parallelism
4. verb form
5. pronoun case
6. idiom
7. word choice
8. confusing adjectives and adverbs

Incorrect: Luckily, nobody lost <u>their</u> luggage on the flight.
Correct: Luckily, nobody lost <u>his or her</u> luggage on the flight.

In the above example, the subject is the singular indefinite pronoun *nobody*. Because *nobody* is always singular, the pronoun that refers to it must also be singular. Although many times when we speak we use the plural pronoun *their* to refer to *nobody*, this is grammatically incorrect.

Consistency

Just as sentences must be balanced, they must also be consistent. If, for example, a sentence begins in the past tense, it should stay in the past tense. Likewise, pronouns need to be consistent in person and number. A shift from the singular *I* to the plural *we*, for example, can leave the reader wondering just who is doing what in the sentence.

Errors like the following may appear on the exam:

Incorrect: After hours of negotiations, the leaders finally settled their differences and <u>have come</u> to an agreement.
Correct: After hours of negotiations, the leaders finally settled their differences and <u>came</u> to an agreement.

Incorrect: One's genetic makeup, one's upbringing, and one's environment are all important factors in shaping who <u>you</u> are.
Correct: <u>Your</u> genetic makeup, <u>your</u> upbringing, and <u>your</u> environment are all important factors shaping who <u>you</u> are.

In the first example, the past tense verb *settled* is followed by the present participle *have come*. To be correct, both verbs should be in the simple past: The leaders *settled* their differences and *came* to an agreement. In the second example, the author uses the indefinite third-person pronoun *one* three times and then switches to the second-person *you*. To be correct, all pronouns should be the same; either *one* or *you* will do, as long as the sentence is consistent.

Parallelism

Parallel structure means that the words and phrases in a sentence follow the same grammatical pattern. This makes ideas easier to follow and expresses thoughts more gracefully. Parallelism is especially important in **lists** and in any **two-part sentence construction**. These two-part constructions include:

- not only . . . but also
- the more (less, better) . . . the more (less, better)
- both . . . and
- neither . . . nor
- either . . . or

Notice the difference in the following examples:

Not parallel: I'm looking for a job that offers a competitive salary, provides full health benefits, and <u>one in which I will be challenged</u> so that I can grow professionally.
Parallel: I'm looking for a job that offers a competitive salary, provides full health benefits, and <u>presents me with challenges</u> so that I can grow professionally.

Not parallel: Not only is this the most delicious pizza I've ever eaten, but <u>it also costs the most of any pizza</u>.
Parallel: Not only is this the most delicious pizza I've ever eaten, but <u>it's also the most expensive</u>.

Parallelism is one of the favorite issues of SAT developers. You can expect at least one Sentence Error with a parallelism mistake as well as parallelism issues in Improving Sentences.

Verb Form

Verbs are the heart of a sentence. They express the action or state of being of the subject, telling us what the subject is doing, thinking, or feeling. Correct verb form is essential to sentence clarity, and you can expect to find at least one question with an incorrect verb form. These errors include:

1. **Incorrectly conjugated irregular verbs.** There are dozens of irregular verbs in the English language, and the ETS wants to make sure you know how to conjugate them. Here's an example:

   Incorrect: I <u>shaked</u> his hand when my colleague introduced us.
   Correct: I <u>shook</u> his hand when my colleague introduced us.

   The past tense of the irregular verb *shake* is *shook*.
2. **Incorrect tense.** If there's an error in tense, the sentence will provide enough context for you to determine the tense the verb should be in. Here's an example:

   Incorrect: Rebecca <u>seen</u> the movie the day it came out.
   Correct: Rebecca <u>saw</u> the movie the day it came out.

   Seen is the past participle of the verb *to see*. Past participles require a helping verb, such as *have* or *had*. This sentence requires the simple past tense *saw*.

   Incorrect: I <u>have</u> been waiting for an hour when LuAnn finally arrived.
   Correct: I <u>had</u> been waiting for an hour when LuAnn finally arrived.

   The sentence requires the past perfect tense, which describes when an action happens in the past *before* another action in the past. In this case, the subject, *I*, was waiting (in the past) before LuAnn arrived, which also happened in the past. The past perfect is formed with the helping verb *had*, not *have*.
3. **Missing subjunctive.** The **subjunctive** (formed by using the past tense *were*) is used to express something that is wished for or contrary to fact. But we often forget to use it, both in speech and in writing:

   Incorrect: If I <u>was</u> you, I would take a vacation.
   Correct: If I <u>were</u> you, I would take a vacation.

   The *if* tells us that the situation is contrary to fact, so the verb needs to be in the subjunctive.

Pronoun Case

Personal pronouns have two main forms: the subjective and objective cases. This simply means that we use one form when the pronoun is acting as a subject and another form when the pronoun is acting as an object.

SUBJECTIVE CASE	OBJECTIVE CASE
I	me
you	you
he, she, it	him, her, it
we	us
they	them
who	whom

We	see	them.
subject		object

They	see	us.
subject		object

Pronoun questions on the SAT will often purposefully confuse the subjective and objective cases, as in the following example:

Incorrect: I am taller than him.

This is a very common mistake. Whenever a pronoun follows *than*, it should be in the subjective case, because in the *than* + *(pro)noun* construction the verb is understood, even if that verb is not articulated:

Correct: I am taller than he [is].

Though we usually cut off the verb, the pronoun must still act as if it is there. Thus, use the subjective case with *than* constructions.

The other common pronoun error is to have the subjective case in a prepositional phrase:

Incorrect: We will split the profits evenly between her and I.

Nouns and pronouns in prepositional phrases are always objects, so the sentence requires the objective pronoun:

Correct: We will split the profits evenly between her and me.

And finally, the often-confused *who* and *whom* errors fall into this category. *Who* is the subjective form, *whom* the objective. (A memory trick: *Whom* and *him* are both objects and both end in *m*.)

Incorrect: Whom lives in this house?
Correct: Who lives in this house? (*He* lives in this house.)

Incorrect: To who shall I address this letter?
Correct: To whom shall I address this letter? (Address the letter to *him*.)

Idiom

Idioms are expressions that are characteristic of a particular language, and they are often the most difficult aspect of a language to learn. But they are essential to clear and effective communication, and you can expect at least one question about idioms on the Writing section of the exam.

Most of the time, the idioms that are tested are (1) **prepositional idioms** (e.g., take care *of,* according *to)* and (2) idiomatic use of **infinitives** and **gerunds** (e.g., want *to meet*, practice *swimming*). And most of the time, by listening carefully to the sentence as you read it, you will be able to hear this kind of mistake. Listen to the following sentences as you read them, and you should be able to hear the errors:

Incorrect: His behavior gets under my nerves.
Correct: His behavior gets on my nerves.

In this case, the correct idiom uses the preposition *on*. An idiom similar in meaning, *gets under my skin*, uses the preposition *under*.

Idioms with infinitives (*to* + verb: *to water*) and gerunds (verb + *ing*: *watering*) are equally likely to appear on the exam. Here's an example:

Incorrect: Experts suggest to water your garden late in the day when the sun is less intense.

While there are some general guidelines for when to use infinitives and gerunds, there are no hard and fast rules, and the best guide is your ear. It simply *sounds* wrong to say *suggest to water*. Indeed, *suggest* should always be followed by a gerund:

Correct: Experts suggest watering your garden late in the day when the sun is less intense.

Word Choice

Affect or *effect*? *Whether* or *weather*? *Fewer* or *less?* Commonly confused words are another question topic you are likely to see on the SAT Writing section.

Here's a short list of some of the most frequently-tested word pairs:

accept/except
adapt/adept
affect/effect
allusion/illusion
emigration/immigration
eminent/imminent
fewer/less
lay/lie
leave/let
number/amount
raise/rise
sit/set
than/then

If one of the underlined words or phrases in the Sentence Errors questions contains a commonly confused word, check to be sure the right one is being used. Chances are that's where the error lies. Here's an example:

Incorrect: There are less students enrolled then last year.

Both *less* and *then* are misused here. The corrected sentence would read:

Correct: There are fewer students enrolled than last year.

In addition, remember to keep your pronouns straight. The possessive pronouns *its, your, their,* and *whose* are often confused with the contractions *it's* (it is), *you're* (you are), *they're* (they are), and *who's* (who is), as in the following example:

Incorrect: The debate ended and the delegates placed they're votes.

The votes belong to the delegates, so the possessive *their* is the correct word for this sentence:

Correct: The debate ended and the delegates placed their votes.

Confusing Adjectives and Adverbs

Because adjectives and adverbs serve similar functions—they both modify or describe—they are often confused and therefore make good candidates for SAT questions. Remember that adjectives modify nouns or pronouns while adverbs modify verbs, adjectives, and other adverbs. If a descriptive word is underlined in a sentence, and you haven't found another error, double-check to make sure the descriptive word is in its proper form.

Incorrect: The path dropped steep after we rounded the turn.

Steep modifies the verb *drop*, so it needs to be in the adverb form:

Correct: The path dropped steeply after we rounded the turn.

Other frequently tested issues with adjectives and adverbs include comparisons. Remember that the comparative form (*-er*) is for comparisons between two things. The superlative (*-est*) is for comparisons among three or more things. Instead of *-er* or *-est* endings, some two-syllable modifiers and all modifiers with three or more syllables form the comparative degree with *more* and the superlative degree with *most*.

Comparative: Tony's Pizza is <u>better</u> than Zach's.
Superlative: Tony's Pizza is the <u>tastiest</u> in town.

Comparative: Maria's Italian Ices are <u>more</u> delicious than Pete's.
Superlative: Maria's Italian Ices are the <u>most</u> delicious in town.

Double comparisons—formed when both an *-er* or *-est* ending and *more* or *most* are added to a modifier—and double negatives, formed when two negative words are used, may appear on the SAT as well.

Incorrect: This is the <u>most longest</u> I've ever waited for a pizza.
Correct: This is the <u>longest</u> I've ever waited for a pizza.

Incorrect: This <u>isn't hardly</u> the best pizza in town.
Correct: This <u>isn't</u> the best pizza in town.

Remember, *good* is an adjective (*good* dog) and *well* is an adverb (he is *well* trained).

▶ Part 2: Improving Sentences

The Improving Sentences multiple-choice questions test exactly what their name suggests. These items test more than your grammar skills; many times, you are asked to choose which of the five sentence choices is the smoothest and clearest. Thus, Improving Sentences questions test another level of your writing skills.

Improving Sentences questions cover a wide range of issues, including grammar and usage, sentence structure and logic, and style. This section describes the question format, provides strategies for answering these questions, and reviews the writing issues you are most likely to see in Improving Sentences.

Question Structure

In each Improving Sentences question, part or all of the sentence will be underlined. Choice **a** will repeat the original underlined text. Approximately one in five times, choice **a** is the correct answer because the original version is the best (most clear, concise, and correct) version of the sentence. Answer choices **b**–**e** will offer different versions of the underlined (portion of the) sentence. Your task is to determine which choice offers the best version of the sentence.

Some answer choices will correct or improve the original problem, if there is one. Some will continue to make the same mistake and/or introduce new ones. Only *one* choice will be both grammatically correct *and* the most clear and concise way to express the idea.

If it sounds like Improving Sentences questions are a little more complex than identifying errors, you are right. Instead of focusing on individual words or phrases to determine the error, you need to look at larger structural and stylistic issues within the sentence to determine the correct answer. Finding that answer requires two distinct steps:

1. Determining what, if anything, is wrong with the underlined portion of the sentence.
2. Determining which of the answer choices fixes that mistake *and* does not introduce a new mistake.

Improving Sentence Questions are the most numerous in this section (approximately 25 of 49). But there are several strategies you can use to narrow down your choices and select the best answer.

Sample Improving Sentences Question

Jackson Pollock, a twentieth-century American painter, is well known and renowned for creating abstract paintings by dripping paint on canvas.

a. a twentieth-century American painter, is well known and renowned for creating
b. an American painter who lived and painted in the twentieth century, is well known for the creation of
c. he is an American painter famous and renowned for creating
d. a twentieth-century American painter, is famous for creating
e. a twentieth-century American painter, is well known and prominent for creating

Choice **d** is the correct answer—it is the only one that is not repetitive or wordy. In the original item (choice **a**), *well known* and *renowned* mean the same thing; as does *famous* and *renowned* in choice **c**; and *well known* and *prominent* in choice **e**. Choice **b** is incorrect because it is wordy and awkward; clearly, if an artist painted in the twentieth century, he also lived in the twentieth century. There is no need to state both points.

Strategies for Improving Sentences

Though more challenging than Sentence Errors, Improving Sentences are still quite manageable. Here are some specific strategies you can use to tackle them with confidence.

1. **Use the 3 C's.** Your job is to find the version that most effectively expresses the meaning of the sentence. Find the answer that is **correct** (no grammar or usage errors or lapses in logic), **clear** (no ambiguity or tangled sentence structure), and **concise** (no wordiness).
2. **Pinpoint the error.** Try to determine the error as you read. What's wrong with the underlined portion? Is it faulty parallelism, or unnecessary wordiness? (The most common errors are covered in the next section.)
3. **Eliminate all choices with the original error.** If you identify an error, eliminate choice **a** (don't even bother reading it; it only repeats the original prompt). Eliminate any other choices that make that same mistake.
4. **Eliminate all choices that make other errors.** From the remaining choices, eliminate any versions that introduce a different error, even if they correct the error in the original item. This includes any versions that are grammatically correct but are unnecessarily wordy, ambiguous, or use unnecessarily complicated sentence structure.
5. **Let the choices guide you.** If you are unable to identify the error in the original (assuming there is one), use the answer choices as your guide. Scan each version to see what aspect of the original sentence is changed and how. The way the original is rewritten will often reveal the nature of the error in the original prompt.
6. **Look for the most commonly tested errors.** There are seven kinds of mistakes that appear most often in Improving Sentences on the SAT. If you are having trouble finding an error, do a quick check for the common errors described in this section.
7. **Remember the "No error" option.** Approximately one in five sentences will be correct as written.

Improper Coordination or Subordination

Within sentences, clauses (groups of words with a subject and verb) are often connected by **coordination** (when two independent ideas are of equal importance) or **subordination** (when the idea in the subordinate clause is less important than the one in the main clause and cannot form a complete sentence on its own):

Coordination: We are going to dinner and then we are going to a movie.
Subordination: After we go to dinner, we are going to a movie.
Before we go to a movie, we are going to dinner.

The Top Seven Errors in Improving Sentences

The kinds of errors in Improving Sentences cover a wide range of writing issues, including grammar and usage, sentence structure and logic, and style. Fortunately, the ETS likes to focus on only a handful of specific issues. You can expect to see these seven kinds of errors—some of them over and over—on test day:

1. improper coordination or subordination of ideas
2. fragments and run-ons
3. faulty comparisons
4. misplaced modifiers
5. wordiness
6. using passive instead of active voice
7. incorrect punctuation

Of course, **don't forget about the eight most common errors covered in the Sentence Errors section.** These mistakes may also appear in Improving Sentences questions.

One of the most common issues found in Improving Sentences addresses coordination and subordination, because it tests your ability to see logical relationships between ideas. To tackle these questions, you need to determine how the ideas in the clauses work together. Is one idea in addition to the other? In contrast? Is there a progression in time or sequence? How exactly does one idea relate to the other? For example, take a look at the following sentence:

Incorrect: The polar icecaps are melting at an alarming rate, and some people still do not believe in global warming.

There are two distinct ideas here: (1) the polar icecaps are melting at an alarming rate and (2) some people still do not believe in global warming. But the relationship between these ideas isn't correctly expressed by the coordinating conjunction *and*, which expresses the idea of addition. Instead, the conjunction (whether coordinating or subordinating) needs to express *contrast*:

Correct: The polar icecaps are melting at an alarming rate, <u>yet</u> some people still do not believe in global warming.

Correct: <u>Although</u> the polar icecaps are melting at an alarming rate, some people still do not believe in global warming.

Here's another example:

Incorrect: Esteban can do advanced math in his head, for he does not need a calculator.

What's the relationship between the two ideas? There's a cause and effect situation here. The cause: Esteban can do math in his head. The result: He doesn't need a calculator. *For* does express cause and effect, but here, the cause and effect ideas are reversed. The wrong clause is subordinated. So the conjunction needs to be changed or the sentence rearranged. Here are three corrected versions:

Correct: Because Esteban can do advanced math in his head, he doesn't need a calculator.

Correct: Esteban can do advanced math in his head, so he doesn't need a calculator.

Correct: Esteban doesn't need a calculator, for he can do advanced math in his head.

Because there are often several conjunctions that express the same idea, be careful that the version you choose fits the 3 C's. There might be two versions that express the right relationship, but only one will be correct, clear, and concise.

Fragments and Run-Ons

Two of the most common errors made in writing are **sentence fragments** and **run-ons**. Sentence fragments are incomplete thoughts, while run-ons are two or more complete thoughts running together without proper punctuation. Here are some examples:

Fragments

Incorrect: Harper Lee, who wrote *To Kill a Mockingbird*.

Incorrect: Some people still do not believe in global warming. Even though the polar icecaps are melting at an alarming rate.

If you suspect a group of words is a fragment, look for the version that expresses a complete thought. Correcting the fragment might require adding a subject or a verb, deleting a subordinating conjunction (*because, while*), deleting a relative pronoun (*who, that, which*), or connecting a dependent clause to an independent clause. The fragments above can be corrected as follows:

Correct: Harper Lee wrote *To Kill a Mockingbird*.

Correct: Some people still do not believe in global warming even though the polar icecaps are melting at an alarming rate.

Run-Ons

Incorrect: The polar icecaps are melting at an alarming rate, some people still do not believe in global warming.

Incorrect: The American Revolution was modeled after the French Revolution, it was one of the most important events in the history of Europe.

If you suspect a test item is a run-on sentence, try to determine if there are two independent ideas that can stand alone. Check the answer choices for one of the following fixes for run-on sentences:

1. Separate the clauses with a **period**. *We are here. You are not.*
2. Connect the clauses with a **comma** *and* a **coordinating conjunction** (*and*, *or*, *nor*, *for*, *but*, *so*, *yet*). Make sure the coordinating conjunction expresses the right relationship between the two ideas. *We are here, but you are not.*
3. Connect the clauses with a **semicolon** (and possibly a conjunctive adverb such as *however*, *therefore*, or *otherwise*, making sure it expresses the right relationship between the two ideas). *We are here; you are not.*
4. Make one sentence dependent upon the other by using a **subordinating conjunction** such as *although, because, since,* or *while*. Again, make sure the subordinating conjunction expresses the right relationship between the two ideas. *Although we are here, you are not.*

The best correction is best determined by context. If a relationship between the clauses needs to be

expressed, then the run-on needs a conjunction of some sort. The previous run-ons can be corrected as follows:

Correct: The polar icecaps are melting at an alarming rate, yet some people still do not believe in global warming.

Correct: The American Revolution was modeled after the French Revolution, which was one of the most important events in the history of Europe.

Faulty Comparisons

A **faulty comparison** is an error in sentence logic, one that's often tough to catch because we speak in faulty comparisons all the time. Here's an example:

Incorrect: I've seen every film by Stanley Kubrick, and they're better than any other director.

You probably understood the sentence to mean that the films by Kubrick are better than films by any other director, but that's not what the sentence *says*. If you read carefully, you will see that the author is actually comparing the *films* of Kubrick to *any other director*, not to any other director's films, which is the intended meaning.

Fortunately, faulty comparisons are easy to fix: You just have to make the comparison one of apples to apples (films to films) rather than apples to oranges (films to directors):

Correct: I've seen every film by Stanley Kubrick, and they're better than any other director's.

Correct: I've seen every film by Stanley Kubrick, and they're better than films by any other director.

Here's another example:

Incorrect: I'm more interested in the criminal justice program at Kensington College than in Taylor University.

This sentence compares the criminal justice program to *Taylor University* rather than to a *program* at Taylor. Here's the kind of fix to look for:

Correct: I'm more interested in the criminal justice program at Kensington College than in the pre-law program at Taylor University.

Correct: I'm more interested in Kensington College's criminal justice program than in Taylor University's.

Misplaced Modifiers

A **modifier** is a word, phrase, or clause that describes another part of a sentence. A **misplaced modifier** is simply a modifier that's in the wrong place, as in the following example:

Incorrect: Worn and tattered, Uncle Joe took down the flag and put up a new one.

Now, Uncle Joe may be old and tired, but he's not likely to be worn and tattered. It's the flag, of course, that is worn and tattered. However, because the modifying phrase is next to *Uncle Joe*, the sentence is confusing. The rule regarding modifiers is simple: Any modifier should be placed as closely as possible to the word or phrase it modifies. This makes correcting a misplaced modifier rather easy:

Correct: Uncle Joe took down the worn and tattered flag and put up a new one.

Here's another example, this one from the pretest:

Incorrect: Held in 1927, President Calvin Coolidge presided over the ceremony to officially commence the carving of Mount Rushmore.

Clearly, it was the *ceremony* that was held in 1927, not President Coolidge. Thus, the best choice is the sentence that places *1927* closest to *ceremony* and that conforms to the 3 C's:

Correct: President Calvin Coolidge presided over the 1927 ceremony that officially commenced the carving of Mount Rushmore.

Wordiness

Whether it's the main mistake in the original prompt or a flaw in one or more of the distracters, unnecessary wordiness is a common error in Improving Sentences. As a general rule, the more concise, the better.

Wordiness has many causes, including:

- "clutter" phrases such as *because of the fact that*
- *that, which,* and *who* phrases (turn them into adjectives: *the manual that is helpful* becomes *the helpful manual*)
- unnecessary repetition (e.g., *the meeting is at 4:00 P.M. in the afternoon*— 4:00 P.M. *is* in the afternoon)
- inexact phrases (*I am not in agreement* vs. *I disagree*; *she was very upset* vs. *she was devastated*)

Notice how choices **a, b, d,** and **e** in the following example all suffer from wordiness because they use unnecessary *which* clauses while the correct answer, choice **c**, uses concise adjectives:

First-generation Chinese American Maxine Hong Kingston blends fact and fiction, history, and speculation in <u>*The Woman Warrior*, a memoir which was both award winning and a best-seller.</u>

a. *The Woman Warrior*, a memoir which was both award winning and a best-seller.
b. *The Woman Warrior*, which was a best-seller memoir and for which she won awards.
c. her award-winning and best-selling memoir, *The Woman Warrior*.
d. her memoir, *The Woman Warrior,* which was a best-seller and which won many awards.
e. her memoir *The Woman Warrior*, which won many awards and it was also a best-seller.

Passive vs. Active Voice

Finally, you may find one or more items or answer choices that use the passive instead of active voice. In a passive construction, the subject of the sentence receives the action:

Passive: The top-secret mission <u>was compromised</u>.

In an active sentence, the subject directly performs the action:

Active: A <u>double agent compromised</u> the top-secret mission.

Notice the two sentences have different subjects: the thing (the mission) in the passive sentence, the doer (the double agent) in the active sentence. Active sentences are usually more powerful, precise, and less wordy than passive sentences and, with few exceptions, will be the most effective version of a sentence.

Punctuation

There are dozens of rules about the many different punctuation marks in the English language. Fortunately, the punctuation errors on the SAT tend to stick to only a few key categories. Here are some common comma and apostrophe errors.

Comma Errors

There are many rules about when to use and when not to use commas. Here are the four comma errors you are most likely to see on the exam:

1. **Comma between subject and verb.** When a subject is immediately followed by its verb, nothing should come between them:

   Incorrect: Mary, decided to relax with a good book.
   Correct: Mary decided to relax with a good book.

2. **No comma after introductory phrase or clause.** Introductory phrases and clauses should be followed by a comma:

   Incorrect: By lunchtime Aidan had already finished his project.
   Correct: By lunchtime, Aidan had already finished his project.

   Incorrect: After a long day at work Mary decided to relax with a good book.
   Correct: After a long day at work, Mary decided to relax with a good book.

3. **No comma between multiple modifiers.** When two or more words one of equal rank and modify the same word, they need to be separated by commas. Otherwise, it will be unclear which words are being modified:

   Incorrect: After a long tiring day, Mary decided to relax with a good book.
   Correct: After a long, tiring day, Mary decided to relax with a good book.

   Because both *long* and *tiring* modify the same word (*day*), they need to be separated by a comma. Without the comma, it seems as if *long* modifies *tiring* instead of *day*.

4. **No comma around "interrupters."** Words, phrases, and clauses that interrupt the sentence (and are *not* essential to the meaning of that sentence) should be set off by commas:

Incorrect: Mary a pediatrician really enjoys her work.
Correct: Mary, a pediatrician, really enjoys her work.

The phrase *a pediatrician* is an "interrupter" that is not essential to the meaning of the sentence. We could take it out and the sentence would still be a complete, grammatically correct idea. Thus, it needs to be set off with commas. Here's another example:

Incorrect: Eva who always loved animals enjoys being a veterinarian.
Correct: Eva, who always loved animals, enjoys being a veterinarian.

In the following example, the *who* clause IS essential to the sentence and SHOULD NOT be set off with commas:

Incorrect: Eva is the one, who wrote the prescription.
Correct: Eva is the one who wrote the prescription.

Here, the purpose of the sentence is to explain who wrote the prescription, so that clause is essential. The context of the sentence will help you determine whether information is essential to the meaning and therefore whether commas are needed.

Apostrophe Errors

Apostrophes are used to show **possession** (*Adam's*, the *general's*) and **contraction** (*don't, you've*). Most often, an apostrophe error will be a missing apostrophe or confusing possessive pronouns with contractions:

Incorrect: The regions open space continues to disappear as a result of urban sprawl.
Correct: The region's open space continues to disappear as a result of urban sprawl.

Incorrect: Were planning to attend the hearing to voice our objection to the proposal.
Correct: We're planning to attend the hearing to voice our objection to the proposal.

▶ Part 3: Improving Paragraphs

Finally, we arrive at the third multiple-choice question type, Improving Paragraphs. In this section, you will be presented with a short passage that requires revision—a rough draft of some sort about a general interest topic. Don't worry so much about *what* the passage says; your job is to choose the best ways to improve *how* it says it.

The draft will be followed by questions that cover a range of writing issues, from the sentence level (grammar and usage, sentence structure, word choice, etc.), to the paragraph level (paragraph divisions, transitions, paragraph unity), to the essay level (overall organization, development, support). The questions are designed to measure your ability to identify weaknesses and improve the writing in a text. This lesson describes the question format, the kinds of questions to expect, and strategies to help you determine the best answer for each question.

Question Structure

The Improving Paragraph section begins with a short passage (typically two to four paragraphs long). The passage may be a draft of an essay, a letter to the editor, an excerpt from a memo—some kind of general writing task. Because it is a draft, it will need improvement on many levels. There will be a series of questions following the passage that make improvements on it. These questions can be divided into three general categories: **revising individual sentences, revising sentence pairs,** and **revising the big picture.**

Revising Individual Sentences

These questions refer to a specific sentence within the passage and ask you to determine the most effective revision of that sentence. These questions are essentially the same as those in Improving Sentences, with the exception that you will often need to consider the context of the passage to determine the correct answer. For example, the alternate versions of the sentence in question may offer different transitions from the previous sentence in the passage, but only one will be correct, concise, and the most appropriate way to move from one idea to another.

Revising Sentence Pairs

These questions refer to two specific sentences within the passage and ask you to determine the most effective revision and/or combination of those sentences. These questions are also quite similar to Improving Sentences, and they often focus on establishing the right relationship (coordination/subordination) and proper boundaries between the two sentences. Here's a sample of this type of question:

Which of the following is the most effective combination of sentences 13 and 14 (reprinted below)?

(13) Insomnia does not usually begin as a physical problem. (14) It can affect one's physical health.

a. Insomnia is not usually a physical problem; therefore, it can affect one's physical health.
b. Insomnia is not usually a physical problem, yet it can affect one's physical health.
c. Insomnia not usually a physical problem can affect one's physical health.
d. Insomnia is not usually a physical problem, so it can affect one's physical health.
e. Insomnia can affect one's physical health; furthermore, it is not a physical problem.

The correct answer is **b.** The conjunction *yet* prepares the reader for a contrast: is not usually . . . (*yet*) it can.

Revising the Big Picture

"Big picture" questions ask about paragraph-level and essay-level issues such as organization and writing strategies. Thus, the format and writing issues can vary greatly. Here's a sample big picture question:

Which of the following is the most logical order of the paragraphs?
a. 1, 2, 3, 4
b. 1, 3, 2, 4
c. 2, 3, 4, 1
d. 4, 3, 2, 1
e. 1, 4, 2, 3

Caution: Question Formats Vary!

Unlike Sentence Errors and Improving Sentences, the questions and answer choices for Improving Paragraphs will vary, so please be sure to read each question carefully. All will offer five choices (**a**–**e**), and choice **a** will not always repeat the original text.

Remember, you can expect the eight or so Improving Paragraphs questions to be divided more or less equally among these three question types: revising individual sentences, revising sentence pairs, and revising the big picture.

Strategies for Improving Paragraphs

Improving Paragraphs may seem significantly harder than Sentence Errors and Improving Sentences because you are dealing with a whole essay and questions about three different levels of writing. But don't be daunted. First, your focus is still only revision—one step in the writing process. Second, there are once again a few basic kinds of questions and errors you can expect. And third, there are, as always, specific strategies you can use to help you more quickly and accurately answer these questions.

1. **Scan the questions *before* you read the passage.** The draft contains many more errors than you will be asked about. Reading the questions first can help you focus on the mistakes that you will need to revise and not be distracted by the other weaknesses and errors in the passage.
2. **Read the questions carefully.** The questions will direct you to the specific areas to revise and the specific writing issue(s) that need to be addressed. For example, if a question asks, "Which phrase, if added to the beginning of sentence 2, would most improve the essay?" you know you need to determine the relationship between sentences 1 and 2 and then determine the best transition.
3. **Remember the 3 C's**. For questions that ask you to revise sentences, use the 3 C's as your guide. Choose the version that is **correct** (no grammar, usage, or logic errors), **clear** (no ambiguity or confusing sentence structure), and **concise** (no wordiness).
4. **Study the most common question topics.** This will help you know what to expect and what to look for as you read the passages.
5. **Save the big picture questions for last.** They're usually the most time-consuming Improving Paragraph question type.
6. **Do Improving Paragraphs last.** Improving Paragraphs is the smallest question category on the exam (only about 8 questions) and these questions take the longest to complete—so save them for last. Do Identifying Errors first and then Improving Sentences to answer the most questions in the least amount of time and earn the most points toward your score.

Common Question Topics for Improving Paragraphs

Just as Improving Sentences may include the kinds of mistakes found in Sentence Errors, Improving Paragraphs may include any of the Sentence Errors and Improving Sentences issues as well as new big-picture matters. This may sound a bit overwhelming, but the sentence-level errors will often be the same sort already covered in Parts 1 and 2—and probably half, if not more, of your questions will be of this type. They may require you to consider the context of the passage, but the types of errors will be much the same as you already tackled in the other sections.

The new types of questions to expect include questions about: effective paragraphing, organization, transitions, introductions and conclusions, paragraph unity, development, and style.

Effective Paragraphing

A paragraph, by definition, is a group of sentences about one idea. Long paragraphs often contain more than one main idea and should usually be divided to improve readability and unity of ideas. A question about effective paragraphing might be worded as follows:

> The author wishes to divide paragraph 2 into two paragraphs. After which sentence should the author begin a new paragraph?

This means you have to look for a turning point in the paragraph—a place where the topic shifts to a new idea.

Effective Organization of Ideas

Paragraphs and essays can be organized in many different ways. The key is that they be organized *logically*. The most common organizational patterns include order of importance, chronology, cause and effect, and comparison and contrast.

Underlying the organizational pattern is the basic essay structure, *assertion → support*. That is, an essay has a main idea, which should be stated near the beginning of the essay, and the rest of the essay serves to develop and support that idea. The same happens on the paragraph level; each paragraph has one main idea, often expressed in a topic sentence. The rest of the paragraph supports that main idea.

A question that asks "Which would be the most effective order of paragraphs?" tells you to look carefully at the organizational pattern. Are the paragraphs out of chronological order? Does the discussion of *X* interrupt the discussion of *Y*? Does the paragraph start with specific examples, make a general statement, and then go back to providing more examples?

Remember the pretest? The paragraph in the essay about student volunteer programs was out of order. The author discussed her specific experience in paragraph 2, and *then* in paragraph 3 described the general set up of the program at her school. The more logical progression would be paragraph 3 first—the general set up—and then her specific experience.

Effective Transitions

Transitions are those words and phrases that lead from one idea to another—*meanwhile*, *however*, *after, in contrast*. A paragraph that needs a stronger transition is a likely candidate for an Improving Paragraphs question. Here's how that question might be worded:

> Which of the following sentences, if added to the end of paragraph 1, would most effectively link the paragraph to the rest of the essay?

This kind of question tells you that you need to look for the relationship between paragraphs 1 and 2. Does paragraph 2 offer another example? Describe a different point of view? Then find the sentence that best connects the two ideas.

Introductions and Conclusions

Sometimes the main weakness in a passage is a poor—or nonexistent—introduction or conclusion. An effective introduction has three characteristics: It introduces the topic, presents the main idea, and establishes the style and tone. An effective conclusion restates the main idea (though not in exactly the same words, especially in a short essay) and provides a sense of closure so that readers feel the topic has been sufficiently covered.

A question about introductions and conclusions might look like the following:

> Which of the following sentences, if added to the beginning of the essay, would most improve the introduction of the paragraph?

Unity of Ideas

As stated earlier, a paragraph is a group of sentences about the same idea. Frequently a passage will include one or more sentences that stray from the main idea of the paragraph or essay. To improve the unity of ideas, off-topic sentences should be deleted or moved to another more relevant section. Here's how such a question about unity might be phrased:

> The deletion of which sentence would most improve the second paragraph?

Development of Ideas

Some questions will ask you to consider *where* a sentence might best be added to further develop an idea, or *which* sentence from a list might best serve to further develop an idea. The key here is to look at the logical relationships between ideas and to remember the overall assertion → support structure of essays. You might find a question like the following:

> The author's argument could best be expanded by which of the following statements?

OR

> Which of the following sentences, if added to paragraph 3, would provide the best support for the main idea?

The sample question about effective conclusions, in "Introductions and Conclusions," is another example of a question about developing ideas.

Style

Finally, to return to the sentence level, you can probably expect at least one question about stylistic matters such as word choice, tone, or level of formality. Here's an example:

> The author wishes to alter the tone of sentence 12. Which of the following revisions would most suit the overall tone of the essay?

This kind of question requires two steps. First, you need to determine the overall tone of the essay. Second, you need to determine which version best matches that tone.

Here's another kind of question that looks like an Improving Sentences question but isn't about correctness, sentence logic, or wordiness—it's about effective word choice.

> Which of the following offers the most effective revision of sentence 6 (reprinted below)?
>
> *(6) For me, volunteering has been an amazing experience.*
>
> **a.** For me, volunteering has been just awesome.
> **b.** For me, it has been really great being a volunteer.
> **c.** For me, volunteering has been incredibly rewarding.
> **d.** I have really enjoyed volunteering.
> **e.** I have been amazed by my experience.

Only choice **c** improves the sentence. Why? Because *incredibly rewarding* is more specific and exact than the other versions—it offers some insight into how or why volunteering has been *an amazing experience.*

▶ 40 Practice Multiple-Choice Writing Questions

Identifying Sentence Errors

Each of the following sentences has four underlined words or phrases. Read each sentence and determine which underlined portion, if any, has an error in grammar, usage, word choice, or idiom (standard expression). If there is no error, select choice **e**. No sentence has more than one error. Use the answer sheet below to fill in your answer choices for questions 1–40.

ANSWER SHEET

1.	a	b	c	d	e	21.	a	b	c	d	e
2.	a	b	c	d	e	22.	a	b	c	d	e
3.	a	b	c	d	e	23.	a	b	c	d	e
4.	a	b	c	d	e	24.	a	b	c	d	e
5.	a	b	c	d	e	25.	a	b	c	d	e
6.	a	b	c	d	e	26.	a	b	c	d	e
7.	a	b	c	d	e	27.	a	b	c	d	e
8.	a	b	c	d	e	28.	a	b	c	d	e
9.	a	b	c	d	e	29.	a	b	c	d	e
10.	a	b	c	d	e	30.	a	b	c	d	e
11.	a	b	c	d	e	31.	a	b	c	d	e
12.	a	b	c	d	e	32.	a	b	c	d	e
13.	a	b	c	d	e	33.	a	b	c	d	e
14.	a	b	c	d	e	34.	a	b	c	d	e
15.	a	b	c	d	e	35.	a	b	c	d	e
16.	a	b	c	d	e	36.	a	b	c	d	e
17.	a	b	c	d	e	37.	a	b	c	d	e
18.	a	b	c	d	e	38.	a	b	c	d	e
19.	a	b	c	d	e	39.	a	b	c	d	e
20.	a	b	c	d	e	40.	a	b	c	d	e

1. Semiotics, the study or science of signs, was first undertaken as an academic pursuit by the ancient Greek
philosopher Augustine, whom understood the vital role of nonverbal communication in human societies.
No error

2. The most popular type of music in Indonesia is *gamelan*, a term that refer not only to the traditional
orchestral gong music, but also to the important bond the music helps create and maintain within the
community. No error

3. The new trend in alternative medicines, including herbal supplements, deep breathing, yoga, and
acupuncture, is really a return to ancient healthcare practices. No error

4. While professional football, basketball, and baseball stadiums are often filled to capacity, auto racing
has actually been the most popular spectator sport in America. No error

5. In response to the backlash on high-fat, high-cholesterol foods, many fast-food chains have expanded their
menus to include more low-fat, high-protein foods, such as grilled chicken and salads. No error

6. With the grand, festive forms and colors of its baroque architecture, St. Petersburg remains one of the most
visually stunning cities in the world. No error

7. Heisenberg's Uncertainty Principle posits that the very act of observing a phenomenon alters the
phenomenon that was being observed. No error

8. The number googol is mathematical represented as 10 to the 100th power (10^{100}) and written as the
number 1 followed by 100 zeros. No error

9. Tennis is a challenging sport; players have to be in top physical shape and be practicing
a **b** **c**
everyday to maintain their game. No error
d **e**

10. John Steinbeck's 1936 novel *In Dubious Battle* chronicles the struggles of migrant workers in California
a
who raise up against unjust treatment by landowners. No error
b **c** **d** **e**

11. The longest-running musical in Broadway history, *Cats* was based on a book of T.S. Eliot poems called
a **b** **c** **d**
Old Possum's Book of Practical Cats. No error
e

12. Doctors require years of schooling, and you also need to complete a residency program
a **b** **c**
before practicing medicine. No error
d **e**

13. Contrary to popular belief, more Americans die from dog bites (an average of 17 per year) then from snake
a **b** **c**
bites (less than 12 per year). No error
d **e**

14. Many find relief from his or her hard work in exercise, a much healthier outlet than
a **b** **c**
watching hours of television. No error
d **e**

15. Type 2 diabetes, the most common form of the disease, can many times be managed with diet
a **b**
and exercise alone, it can also be caused by poor eating habits and inactivity. No error
c **d** **e**

16. Researchers have identified eight elements that help humans perceive depth: space, size, color, lighting,
a **b**
textural gradients, interposition (the placement of one object in front of another), time, and perspective.
c **d**
No error
e

17. The most commonly used typeface group, the Roman family of fonts, is almost exclusively used for the
a **b** **c**
body copy of books, magazines, and newspapers because they are both familiar to readers and highly
d
legible. No error
e

18. Children are naturally drawn to the art of Keith Haring, whose vibrant, simplistic paintings and drawings
a **b** **c**
tell sophisticate stories and embody rich emotions in vivid colors and shapes. No error
d **e**

19. While German printer Johannes Gutenberg is often credited with the invention of the first printing press
a **b**
to use movable type, Chinese printers use movable block prints and type made of clay as early as 1040.
c **d**
No error
e

Improving Sentences

In each of the questions below, part or all of the sentence is underlined. The underlined text may contain an error in sentence construction, grammar, word choice, or punctuation. Choice **a** repeats the original underlined text. If there is no error in the underlined portion, choose **a**. If there is an error, select the answer choice that most effectively expresses the meaning of the sentence without any ambiguity or awkwardness.

20. According to a recent survey, 62% of Americans use some form of alternative medicine; significantly more than the previous decade.

a. medicine; significantly more than the previous decade
b. medicine, a significant increase over numbers from the previous decade
c. medicine, which is a significant increase over the previous decade
d. medicine, which, compared to the previous decade, is a significant increase in number.
e. medicine, previously in the last decade the numbers were much higher

21. Nowadays, standard identification tags can be replaced by microchips implanted under a pet's skin; these high-tech devices contain an owner's contact information, making it easier than ever to find lost animals.

a. Nowadays, standard identification tags can be replaced by microchips implanted under a pet's skin;
b. In today's day and age, standard pet identification tags can be replaced by microchips implanted under a pet's skin;
c. Nowadays, microchips implanted under the skin of a pet can replace standard pet identification tags,
d. Nowadays, microchips can be implanted under a pet's skin to replace standard identification tags;
e. Nowadays, by implanting microchips under a pet's skin, you can replace standard identification tags;

22. Internet search engines are revolutionary in their capacity to provide a free service to users, also offering targeted, low-key advertisements that assist users in their search.

a. also offering targeted, low-key advertisements that assist users in their search
b. while offering targeted, low-key advertisements that assist users in their search
c. while, offering advertisements that are low key and targeted to assist users in their search
d. while they offer targeted advertisements that are low key and assist users in finding what they're looking for
e. as well as offing targeted, low-key advertisements to help users find things

23. Cryptography, the art or science of keeping messages secret, which is increasingly important in today's age of information technology, was developed in or around 1900 B.C.

a. Cryptography, the art or science of keeping messages secret, which is increasingly important in today's age of information technology, was developed in or around 1900 B.C.
b. Developed long ago, as early as 1900 B.C., cryptography, which is the art or science of keeping messages secret, is increasingly important in this day and age of information technology.
c. While it is increasingly important in today's era of information technology, cryptography, which was developed in 1900 B.C., is the art or science of keeping messages secret.
d. The art or science of keeping messages secret, cryptography was developed as early as 1900 B.C., yet it is increasingly important in the age of information technology.
e. Developed as early as 1900 B.C., cryptography, the art or science of keeping messages secret, is increasingly important in today's age of information technology.

24. Black holes are masses of infinitely dense matter that attract and pull in other matter, although white holes are infinite sources of mass that continually pour forth matter.

a. although white holes are infinite sources of mass that continually pour forth matter
b. while white holes are infinite sources of mass that continually pour forth matter
c. likewise white holes, which are infinite sources of mass, continually pour forth matter
d. since those that continually pour forth matter and are infinite sources of mass, white holes
e. matter that is continually poured forth from an infinite source of mass is called a white hole

25. Formally known as sleep apnea, more than 12 million Americans suffer from this serious but treatable condition.

a. Formally known as sleep apnea, more than 12 million Americans suffer from this serious but treatable condition.
b. Formally being known as sleep apnea, more than 12 million Americans suffer from this serious but treatable condition.
c. More than 12 million Americans, who suffer from the serious but treatable disease known as sleep apnea.
d. Formally, it is known as sleep apnea, and more than 12 million Americans are known to suffer from it.
e. More than 12 million Americans suffer from the serious but treatable condition formally known as sleep apnea.

26. Ernest Hemingway's novel *For Whom the Bell Tolls* takes its title from John Donne's 1623 *Meditation XVII*, "No Man Is an Island."

a. Ernest Hemingway's novel *For Whom the Bell Tolls* takes its title from John Donne's 1623 *Meditation XVII*, "No Man Is an Island."
b. The novel of Ernest Hemingway titled *For Whom the Bell Tolls* takes that title from John Donne's 1623 *Meditation XVII*, called "No Man Is an Island."
c. For his novel *For Whom the Bell Tolls,* Ernest Hemingway used the title he found in John Donne's 1623 *Meditation XVII*, "No Man Is an Island."
d. In Ernest Hemingway's novel *For Whom the Bell Tolls*, its title being taken from "No Man Is an Island," of John Donne's 1623 *Meditation XVII*.
e. *For Whom the Bell Tolls* is a novel by Ernest Hemingway which takes its title from the 1623 *Meditation XVII* "No Man Is an Island" by John Donne.

27. The first interspecies transplant is believed to have been completed in the early 1800s, when scientists grafted the tail of a rat onto the comb of a rooster.

a. when scientists grafted the tail of a rat onto the comb of a rooster
b. with the grafting of the tail of a rat onto the comb of a rooster by scientists
c. when scientists, with the tail of a rat, grafted it onto the comb of a rooster
d. scientists had grafted the tail of a rat onto the comb of a rooster
e. thus, the tail of a rat had been grafted onto a rooster's comb

28. Seated high in the amphitheater, ancient Greek actors wore masks so that audience members could see their facial expressions.

a. Seated high in the amphitheater, ancient Greek actors wore masks so that audience members could see their facial expressions.
b. Being seated high in the amphitheater, ancient Greek actors wore masks so that audience members could see their facial expressions.
c. Ancient Greek actors wore masks so that audience members, seated high in the amphitheater, could see their facial expressions.
d. Ancient Greek actors wore masks so that audience members could see their facial expressions, seated high in the amphitheater.
e. Seated high in the amphitheater, the audience members could see the facial expressions of the ancient Greek actors, who wore masks.

29. "Bloody Sunday" refers to two different historical events: the 1905 massacre of hundreds of civilians engaged in a peaceful march in St. Petersburg, Russia, whereas in 1972, in Derry, Ireland, British soldiers killed 13 peaceful demonstrators.

a. whereas in 1972, in Derry, Ireland, British soldiers killed 13 peaceful demonstrators
b. and the 1972 killing by British soldiers of 13 peaceful demonstrators in Derry, Ireland
c. but in 1972, there were 13 peaceful demonstrators killed by British soldiers in Derry, Ireland
d. in contrast, the 1972 killing by British soldiers of 13 peaceful demonstrators in Derry, Ireland
e. and in 1972, there was the killing by British soldiers of 13 people who were demonstrating peacefully in Derry, Ireland

30. The numerous side effects of chemotherapy are caused by the fact that the chemicals kill healthy cells as well as cancerous cells, they are unable to distinguish between the two.

a. cells, they are unable to distinguish
b. cells because unable to distinguish
c. cells, which are unable to distinguish
d. cells because the chemicals are unable to distinguish
e. cells, which aren't distinguished

31. Human beings are taller and stronger than 200 years ago; since 1800, the average adult height has increased by 18 inches.

a. Human beings are taller and stronger than 200 years ago;
b. Human being's are taller and stronger than 200 years ago,
c. Humans, being taller and stronger than they were 200 years ago;
d. Human beings are taller and stronger than they were 200 years ago;
e. Being taller and stronger than 200 years ago,

32. *Crotalus adamanteus*, also known as the Diamondback rattlesnake, can grow up to 72 inches as an adult, contrary to popular belief, this deadly reptile does not always rattle before striking its prey.

a. can grow up to 72 inches as an adult, contrary to popular belief, this deadly reptile does not always rattle before striking its prey
b. can grow up to 72 inches as an adult; contrary to popular belief, this deadly reptile does not always rattle before striking its prey
c. can grow up to 72 inches as an adult; contrary to what is popularly believed, this deadly reptile does not always rattle before striking its prey
d. can grow up to 72 inches as an adult, and although most people believe that this snake has to rattle before it strikes its prey, this deadly reptile does not always need to do this
e. can grow up to 72 inches as an adult; contrary to popular belief, this deadly reptile does not always rattle before striking its prey

Improving Paragraphs

Questions 33–40 are based on the following passage, a first draft of an essay about student participation in creating school rules. Read the passage and answer the questions that follow. For each question, choose the answer that will most improve the passage. Some questions ask you to choose the best revision of a particular sentence or pair of sentences. Other questions ask you to consider how to best improve the overall organization of the passage. In each case, the correct answer is the one that most closely conforms to the conventions of formal writing.

(1) Schools that don't require students to wear uniforms implicitly express a belief that students should be able to express themselves through their clothing. (2) So how come so many schools have dress codes? (3) The reasons include creating an effective learning environment, ensuring the safety and well-being of students, and promoting basic decency. (4) To me, the question isn't whether schools should have dress codes, because in my opinion, there are many good reasons for that, but the question is how these dress codes should be developed.

(5) I believe students should be involved in the development of a dress code and that it should be revised or at least reapproved by students on an annual basis. (6) Students are more responsible and sensible than many adults and administrators realize, in addition they will be more likely to adhere to the dress code if they have a role in creating it. (7) Plus there is a sense of autonomy and responsibility both fostered by this direct participation in rule making. (8) As a result, there will also be less disciplinary action. (9) In fact, schools should allow students to participate in the creation of many different rules. (10) As well as in the punishment for the violation of these rules, too; even in elementary school. (11) For example, even kindergarteners could come up with a list of rules for their classroom. (12) Including no pushing or name calling, ask before you take something, put things away, and say please and thank you. (13) With gentle guidance, the teacher could help them include important safety rules or other things that they forgot. (14) Furthermore, parents could do the same at home, allowing children to participate in establishing rules and determine punishments for breaking those rules.

33. In the context of the passage, which of the following is the most effective revision of sentence 4 (reprinted below)?

(4) To me, the question isn't whether schools should have dress codes, because in my opinion, there are many good reasons for that, but the question, is how these dress codes should be developed.

a. To me, the question isn't whether schools should have dress codes. Because I believe there are many good reasons for that. The question is, how should these dress codes be developed?
b. Instead of the question being, should schools have dress codes, since there are good reasons for it; it should be, how should those codes be developed?
c. Not asking whether schools should have dress codes, because they should for good reason do so, rather, how should we develop those codes?
d. Believing there are many good reasons for dress codes, that's not the question. What is the question is, how should those codes be developed?
e. The question isn't whether schools should have dress codes, because there are good reasons for such policies. Rather, the question is how the dress codes should be developed.

33. In the context of the passage, which of the following is the most effective revision of sentence 6 (reprinted below)?

(6) Students are more responsible and sensible than many adults and administrators realize, in addition they will be more likely to adhere to the dress code if they have a role in creating it.

a. Students are more responsible and sensible than many adults and administrators realize, because of this, they will be more likely to adhere to the dress code if they have a role in creating it.
b. Students are more responsible and sensible than many adults and administrators realize, consequently, they will be more likely to adhere to the dress code if they have a role in creating it.
c. Students are more responsible and sensible than many adults and administrators realize; they will be more likely to adhere to the dress code if they have a role in creating it.
d. Students are more responsible and sensible than many adults and administrators realize; in addition, they will be more likely to adhere to the dress code if they have a role in creating it.
e. Students are more responsible and sensible than many adults and administrators realize. Obviously they will be more likely to adhere to the dress code if they have a role in creating it.

35. The revision to sentences 11 and 12 (reprinted below) that would most improve the essay is

(11) For example, even kindergarteners could come up with a list of rules for their classroom. (12) Including no pushing or name calling, ask before you take something, put things away, and say please and thank you.

a. place sentence 12 before sentence 11.
b. connect the sentences with the word *and*.
c. connect the sentences with a comma.
d. delete sentence 12.
e. eliminate unnecessary wordiness from both sentences.

36. In the context of the essay, which of the following is the most effective combination of sentences 9 and 10 (reprinted below)?

(9) In fact, schools should allow students to participate in the creation of many different rules. (10) As well as in the punishment for the violation of these rules, too; even in elementary school.

a. In fact, schools should allow students to participate in the creation of many different rules, as well as in their punishments for the violation of these rules. Even in elementary school.
b. As a matter of fact, schools should allow students to participate in creating many different rules and punishing them for breaking those rules, likewise even in elementary school.
c. Because of this fact, schools, even elementary, should allow students to participate in making and breaking rules.
d. In fact, administrators should allow students to participate in creating rules and determining punishments for breaking those rules—even at the elementary level.
e. Rules and the punishments for breaking them should be determined by participation of students in schools, even elementary ones.

37. Which of the following is the most logical order of sentences within paragraph 2?

a. 5, 6, 7, 8
b. 5, 7, 6, 8
c. 5, 6, 8, 7
d. 6, 7, 8, 5
e. 8, 7, 6, 5

38. The best paragraph revision to this essay would be which of the following?

a. Combine paragraphs 1 and 2.
b. Start a third paragraph with sentence 6.
c. Start a third paragraph with sentence 9.
d. Start a third paragraph with sentence 13.
e. No change to existing paragraph structure is necessary.

39. Which of the following revisions to sentence 14 would most improve the essay?

a. Delete it.
b. Move it to the end of the first paragraph.
c. Move it to the beginning of the second paragraph.
d. Change *Furthermore* to *In contrast.*
e. Combine sentences 13 and 14.

40. The revision that would make the essay most persuasive would be to

a. provide several specific examples to support claims in the argument.
b. discuss opposing views.
c. describe the author's personal experience with authority.
d. restate the thesis at the end of the passage.
e. make the overall tone and style more formal.

▶ Answers

1. c. The pronoun *whom* is followed by a verb, indicating that it is acting as a subject. *Whom* should therefore be in the subjective case, *who*. All other underlined portions are correct.

2. a. The verb *refer* does not agree with its subject, *term*, which is singular. The verb should therefore also be singular: *refers.* All other underlined portions are correct.

3. e. There are no errors in this sentence.

4. d. The verb *has . . . been* is in the wrong tense. The simple present tense *is* is required here.

5. a. This is an error in prepositional idiom. The correct phrase is *backlash against*.

6. e. There are no errors in this sentence.

7. d. The tenses shift from the present (*posits, alters*) to the past (*was*). To be consistent and logical, all verbs should be in the present (*is* being observed).

8. a. *Mathematical* is an adjective, but it is modifying a verb; thus, it should be in the adjective form, *mathematically*.

9. c. This sentence lacks parallel structure. *Be practicing* is not in the same grammatical form as the infinitive *to be*. To be correct, *be practicing* needs to be changed to *practice* (with an understood *to*).

10. b. This sentence confuses *raise* with the correct word, *rise*. To *raise* is to lift something up or elevate; it is a transitive verb that takes an object. To *rise* is to move up; it is an intransitive verb and the word needed in this sentence.

11. e. There are no errors in this sentence.

12. b. This sentence contains an improper shift in pronoun person. The correct pronoun is *they*, not *you*.

13. c. This is an error in word choice. *Then* should be the comparative *than*.

14. b. The singular *his or her* does not agree with its plural indefinite pronoun antecedent, *Many*. To correct this error, *his or her* should be replaced with *their*.

15. c. This sentence is a run-on with a comma splice. The best way to correct this error is by replacing the comma with a semicolon.

16. e. There are no errors in this sentence.

17. d. There are actually two errors here: pronoun-antecedent agreement and subject-verb agreement. The prepositional phrase *for the body copy of books, magazines, and newspapers* may mislead you to think that books, magazines, and newspapers are the subject. However, the subject is *family*, which is singular. Thus, the pronoun should be *it* and the verb *is*: *. . . the Roman family of fonts is almost exclusively used for the body copy of books, magazines, and newspapers because it is both familiar to readers and highly legible.*

18. d. The modifier *sophisticate* is in the wrong form. It should be the adjective *sophisticated*.

19. c. The context should make it clear that the verb *use* should be in the past tense: *. . . Chinese printers used moveable block prints and type made of clay as early as 1040.*

20. b. Choice **a** incorrectly uses the semicolon and does not clearly indicate *what* is significantly more—the percentage of Americans using alternative medicines or the frequency with which they use alternative medicines. Choice **b** corrects the semicolon error and correctly identifies exactly what the increase is: an increase in *numbers*. Choice **c** merely states that the increase is over the decade, which is incorrect. Choice **d** is wordy. Choice **e** is a run-on sentence, is wordy, and has awkward sentence structure.

21. d. Choice **d** is the most concise version of this sentence. Choice **a** uses the passive voice (*can be replaced by microchips*). Choice **b** is wordy and still retains the passive voice. Choice **c** is wordy and awkward and a run-on sentence; by adding *you*, **e** creates an improper shift in pronoun person.

22. b. This is the most concise version and the one that best expresses the relationship between the clauses. The use of *also* in choice **a** expresses addition when the relationship is really one of simultaneity. Choice **c** has a superfluous comma after *while* and uses a wordy *that* clause. Choice **d** is wordy. Choice **e** makes the same error as **a** and uses the vague phrase *find things*.

23. e. Choices **a**, **b**, and **c** are wordy. The *yet* in choice **d** does not express the right relationship between the clauses.

24. b. The main issue here is proper subordination/coordination. *Although* in choice **a** does not express the right kind of contrast; black holes do one thing *while* white holes do another—they exist simultaneously. Choice **c** makes the same mistake with *likewise*, which expresses similarity. Choice **d** uses the wrong subordinator and is wordy. Choice **e** omits the subordinating or coordinating word and is a run-on sentence.

25. e. The original item has a misplaced modifier. The sentence reads as if more than 12 million Americans are formally known as sleep apnea. Choice **b** uses the ungrammatical phrase *being known as*. Choice **c** is a fragment. Choice **d** has a vague pronoun reference; it is not clear to what exactly *it* refers.

26. a. This is the most clear and concise version. Choices **b**, **c**, and **e** are wordy. Choice **d** is a fragment and uses the preposition *of* where *from* is required.

27. a. This is the most clear and concise version. Choice **b** is wordy, using the passive construction *by scientists*. Choice **c** uses the wordy and awkward (even illogical) construction *with the tail of a rat, grafted it*. Choice **d** is a run-on and uses the wrong tense (it should be the simple past tense *grafted*, not *had grafted*). Choice **e** is a run-on and uses the wrong conjunctive adverb: *Thus* does not express the relationship between the clauses. It also makes tense mistake in **d** and uses a passive construction.

28. c. Choices **a**, **b**, and **d** have misplaced modifiers. Choice **b** also uses the ungrammatical phrase *being seated*. Choice **e** is grammatically correct but wordier than **c**, which is more direct and logical in its structure.

29. b. Coordination/subordination, parallel structure, and wordiness are the main issues here. Choice **a** uses the illogical subordinating conjunction *whereas* and lacks parallel structure—the elements of the second Bloody Sunday (date, event, place) are not in the same order or form as the first. Choice **c** uses an incorrect conjunction, is wordy because it uses the passive voice, and is not parallel. Choice **d** incorrectly uses *in contrast* instead of a word that expresses addition and uses the passive voice. Choice **e** expresses a logical relationship between the clause but is wordy and uses the passive voice.

30. d. The main error here is the unclear pronoun reference in *they*, which can refer to either the chemicals or the cancerous cells. Only choice **d** clarifies this by stating *because the chemicals are unable to distinguish*. Choice **a** is a run-on sentence. Choice **b** is missing a noun or pronoun after *because*. Choices **c** and **e** are illogical.

31. d. Only choice **d** corrects the faulty comparison: Human beings are taller and stronger *than they were* 200 years ago, not taller and stronger *than* 200 years ago. Choice **b** has an apostrophe error in *being's*. Choices **c** and **e** are fragments.

32. b. The original item (choice **a**) is a run-on sentence. Choice **b** correctly replaces the comma with a semicolon. Choice **c** also replaces the comma with a semicolon but awkwardly uses the passive voice (*what is popularly believed*). Choice **d** is wordy, and **e** correctly uses a semicolon but mistakenly omits the comma after the introductory phrase *contrary to popular belief*.

33. e. The original is very wordy and is best divided into at least two sentences. Choice **a** divides the sentence into three, but the second is a fragment, and it is overall still wordy. Choice **b** is more concise but misuses the semicolon. Choice **c** is full of awkward and ungrammatical constructions and is a run-on. Choice **d** has similar problems and has unnecessary repetition.

34. d. The original sentence is a run-on. Choice **a** retains the run-on and uses *because of this*, a transition that does not express the right relationship between the two clauses. It is not *because* students are more responsible and sensible that they will more likely adhere to the dress code. The relationship between the two clauses is one of addition; the author is providing another example to support his or her point. Choice **b** commits the same errors as choice **a**. Choice **c** corrects the run-on but doesn't provide a transition, making it difficult to determine what the relationship is between the two clauses. Choice **e** corrects the run-on by separating the clauses into two sentences, but starts the second sentence with *Obviously*, which is not the best word choice.

35. c. Sentence 12 provides specific examples of the rules that kindergarteners could come up with, and it could logically be attached to sentence 11. As it is, sentence 12 is a fragment. Switching the sentence order (choice **a**) would be illogical, as would connecting them with *and* (choice **b**). Deleting sentence 12 (choice **d**) would weaken the paragraph by removing specific examples. Neither sentence is wordy, so choice **e** is incorrect.

36. d. This version corrects several problems with sentences 9 and 10. First, it changes *schools* to *administrators*, who are the ones who would allow student participation. Second, it has effective parallel structure with *creating rules* and *determining punishments*. It uses the dash to effectively emphasize *even at the elementary level*, a phrase set off incorrectly by a semicolon in the original version (thus creating a fragment). Choice **a** essentially repeats the errors in the original. Choice **b** incorrectly adds *likewise* to the sentence and illogically states that schools should allow students to participate in punishing themselves (rather than in determining punishments). Choice **c** seems concise and uses parallel structure, but it uses a wordy phrase *because of this fact*. Choice **e** uses the passive voice.

37. c. Sentence 8 logically follows 6. Because students have a role in creating the dress code, they will be more likely to adhere to it—as a result, there will be less disciplinary action. Sentence 7 then adds another benefit of student participation.

38. c. Sentence 9 shifts from the focus on student participation in creating the dress code to student participation in rule-making in general. Because paragraph 2 discusses to different ideas, it should be divided, and this is the most effective place to do so.

39. a. Sentence 14 does what a conclusion should not do: It introduces a new topic instead of creating a sense of closure. The best revision would therefore be to delete it.

40. a. One of the weaknesses of the essay is that it does not provide any specific examples to support its claims. Providing evidence is usually the most effective way to persuade readers to accept a point of view. Choices **b**, **c**, and **d** would be helpful but have less impact than providing examples. Choice **e** would probably make little difference as the passage is not overly informal.

▶ Part 4: The Essay

Since you will only have 25 minutes to plan, write, and revise your essay on the SAT, it is important to prepare in advance by learning what type of prompt to expect, how your writing will be scored, and how to manage your time while following the five-step writing process.

Understanding the Prompts: Responding to Quotes

One essay question type involves responding to a statement or quotation, as seen below:

> *Creativity is allowing oneself to make mistakes. Art is knowing which ones to keep.*
>
> —Scott Adams

> **Assignment:** What is your opinion on the relationship between mistakes and creativity? In an essay, support your opinion using an example or examples from literature, the arts, history, current events, politics, science and technology, or personal experience or observation.

When faced with a quotation, you should determine its main point before proceeding. What is the opinion or statement that the quotation is making? You may want to quickly jot down your interpretation of the quote on your scrap paper. This will help you later as you brainstorm your response to the quote.

For example, in response to the above quotation, you may jot down "Mistakes happen—byproduct of creativity. Making them work for you—that's art." Then, you will read the assignment for more details about how to move forward. Here, the task is to discuss the relationship between mistakes and creativity.

If you do not take the time to consider the quote, you risk misunderstanding the assignment, and this will seriously detract from your score, since understanding the assignment is a key component of your score.

Another type of prompt asks you to choose between two opposing ideas expressed in quotations, as seen below:

> *Even if smog were a risk to human life, we must remember that life in nature, without technology, is wholesale death.*
>
> —Ayn Rand

> *If it keeps up, man will atrophy all his limbs but the push-button finger.*
>
> —Frank Lloyd Wright

> **Assignment:** Consider the two contrasting statements above. Choose the quotation that most closely reflects your viewpoint. Write an essay explaining your choice. To support your view, use an example or examples from history, politics, science and technology, literature, the arts, current events, or your own personal experience and observation.

Again, because this prompt involves responding to quotations, a critical first step is to be certain of what each speaker is trying to say. Once that is determined, you will choose the side you agree with more strongly. You will then write an essay in which you support your opinion. A student may interpret the first quotation as "Technology is critical to life" and the second as "Technology is harmful and undesirable." Proving the validity of one of these two opinions will be your task in the essay.

Understanding the Prompts: Completing a Statement or Idea

The other type of prompt you may confront will ask you to complete a sentence or idea, such as the one that follows:

> *Many things happen in the course of a person's life that change his or her future dramatically. One such event I have witnessed was . . .*
>
> **Assignment:** Complete the sentence above with an appropriate phrase. Then write an essay supporting your completed statement.

This type of prompt requires that you think of examples and situations that illustrate the statement. In an essay in response to this prompt, the readers will be looking for a clear, strongly supported account of an event that led to significant change. This prompt very easily lends itself to the use of personal experience. Or, you could answer using a historical event with which you are very familiar. No matter how you address the prompt, the point is not just to make claims or assertions, but also to back them up with evidence, as you will practice later in this section.

Test Success

Regardless of which type of prompt you face on test day, your basic plan to succeed is the same. You have to come up with a strong opinion or stance in regard to the prompt. If you are unsure in your stance, your writing will be weak and your score will suffer. However, your opinion is not enough. Like a lawyer before a jury, you must convince your reader with evidence that your opinion is valid. This evidence consists of concrete examples, illustrations, and details. In this section, you will practice writing essays that offer concrete support for your opinions.

The essay does not require specific knowledge of literature, history, or current events. The topics are broad enough so that you can use personal experience to support your opinion. However, while you can always rely on personal experience, and certainly many high-scoring essays do so, it is a good idea to brush up on some general areas you are familiar with before the test day. For example, you may have studied topics like discrimination and the civil rights movement that can be applied to many possible questions, so you might want to review these topics.

It is important to remember that while the prompts are general, your essay needs to be specific. If you only address the prompt in general terms, without providing specific examples to support your position, you will not receive a high score.

Scoring

As the expert graders score your paper, they will be grading it holistically. This means that rather than using a point system that awards you a certain number of points for each component, they will be looking at your response as a whole and awarding it a score. However, as they determine that overall score, the graders will be focusing on four areas: meaning (content), development (support), organization (flow of ideas), and language use or mechanics (grammar).

Although a specific point value is not assigned for each component, these are the areas that will be assessed and considered when the grader arrives at a score. Scores range from a low of 1 (showing writing incompetence) to a maximum of 6 (demonstrating clear and consistent competence). The graders will focus on the strength of your argument. Are you convincing? Do your ideas make sense? Do you have insightful, supported comments on the topic? Do your ideas flow logically? In addition to looking for this content, the graders will be paying attention to your writing style. Is it grammatically fluent? Are you observing the standard rules of grammar, punctuation, and spelling? Is your vocabulary sufficient to adequately put forth your ideas? Is your essay interesting?

A modified copy of the rubric follows:

6	■ Demonstrates outstanding writing skills ■ Includes a clear and insightful point of view and reflects excellent critical thinking, using strong examples and other evidence to support the point of view ■ Contains a strong organization and focus, a clear sense of unity, and a skillful flow of ideas ■ Demonstrates a strong command of language, with varied and appropriate word choice, and meaningful variation in sentence structure ■ Contains few, if any, errors in grammar, usage, and mechanics
5	■ Demonstrates effective writing skills ■ Includes a clear point of view and reflects strong critical thinking, using effective examples and other evidence to support the point of view ■ Contains strong organization and focus, a sense of unity, and a flow of ideas ■ Demonstrates a good command of language, with appropriate word choices and variation in sentence structure ■ Contains few errors in grammar, usage, and mechanics
4	■ Demonstrates competent writing skills, but the quality of the writing may be inconsistent ■ Includes a point of view and reflects competent critical thinking, using sufficient examples to support the point of view ■ Contains a general organizational plan and focus, with some unity and flow of ideas ■ Demonstrates a sufficient but inconsistent command of language, with mostly appropriate word choice and some variation in sentence structure ■ Contains some errors in grammar, usage, and mechanics
3	■ Demonstrates inadequate but not incompetent writing skills ■ Includes a point of view that reflects some critical thinking, but the point of view may be inconsistent or incomplete, and support may be lacking ■ Contains a limited organizational strategy and focus, with a weak or inconsistent sense of unity and flow of ideas ■ Demonstrates a developing but weak command of language, with weak or inappropriate vocabulary, little or no variation in sentence structure, and may contain errors in sentence construction ■ Contains many errors in grammar, usage, and mechanics
2	■ Demonstrates limited writing skills and may contain serious flaws ■ Includes a limited or vague point of view and reflects poor critical thinking, using inadequate or irrelevant examples or other support ■ Displays a weak sense of organization and/or focus, and may lack unity and/or flow of ideas ■ Demonstrates an inadequate command of language, with limited or incorrect vocabulary, and incorrect or flawed sentence structure ■ Contains serious errors in grammar, usage, and mechanics that may make the writing difficult to understand

1	■ Demonstrates incompetence in writing and contains serious flaws ■ Does not contain a point of view, or provides little or no support for the point of view ■ Lacks organization and/or focus, unity, and a flow of ideas ■ Contains serious errors in vocabulary and sentence structure ■ Contains serious errors in grammar, usage, and/or mechanics that make the writing difficult to understand
0	■ An essay that does not address the prompt or is blank receives a zero.

(Adapted from The College Board)

Managing Your Time

The time limit on the essay portion of the test is 25 minutes. Because this is a very limited amount of time in which to compose an essay, it is crucial that you do not spend too long on any one step of the essay writing process. It is important to note that the test administrators realize this is not enough time to do major revisions or extensive editing. In fact, the College Board's website says that the graders will view this work as a "rough draft." Of course, this doesn't mean that you shouldn't make any attempt at revision or editing, but you should be aware that the examiners are conscious of the time constraint and do not expect perfection.

Although you certainly need to keep the time limit in mind, it would be a mistake not to spend adequate time on one step in particular: prewriting. It is essential that you take some time at the beginning of the SAT Writing section, between 4–6 minutes, to think about what you are going to write, brainstorm your ideas, and plan a rough organizational strategy. Here is a rough idea of how long to spend on each step of the writing process:

Prewriting (brainstorming and planning)	4–6 minutes
Drafting and Revising	14–16 minutes
Proofreading (Editing)	3–5 minutes
Total:	25 minutes

Of course, the actual time you spend on each step will vary, but try to keep these rough estimates in mind. For example, if you are still brainstorming, and you glance at your watch and realize 13 minutes have passed, move on quickly to the next step in the writing process!

Step One: Brainstorming

After your initial interpretation of the prompt (i.e., interpreting the quote(s), agreeing with one of two quotations, or completing a statement), you need to begin generating ideas for writing.

The writing process begins with prewriting, the steps you take before you write. Many students make the mistake of writing "off the tops of their heads," especially in a pressured environment like an SAT essay, and their essays suffer because of this. When you just write as the thoughts flow into your head, and then submit this as a final copy, your ideas may be undeveloped and unsupported. You may move on from one idea to another without giving any support or evidence. You may stray off the topic without realizing it. Your reader may become confused trying to follow your reasoning.

The solution to this is to spend time prewriting. There are two steps involved in prewriting: brainstorming and planning. Brainstorming is how you spark your ideas on the topic and record those ideas on paper. There are several ways to brainstorm, and you are free to use any method you are comfortable with. **Listing** and **clustering** are two examples of ways to get your ideas down on paper.

Don't Panic

You have been writing throughout your school experience. Although you are faced with a particular type of writing task and a significant time constraint, remember that you will be using many of the skills you have developed over the years. This section will help you master the writing process in order to respond to any prompt you are given.

Listing

Perhaps the easiest form of brainstorming is **listing.** This means that you just jot down ideas in response to the question as they come to you. You can do this on the scratch paper in the test booklet. At the brainstorming step, do not worry about spelling or even complete sentences. In fact, you should keep your ideas short, limiting them to words or phrases. You may even want to abbreviate certain words to save time.

To spark more ideas, you can use **questioning,** another brainstorming technique. Ask yourself probing questions with regard to the topic, like **who**, **what**, **where**, **when**, **why**, and **how**. These questions are commonly called "**the 5 W's and H**." This may help you address areas of the question in greater detail and pull out additional ideas. You may generate more ideas than you will use, but you can sift through them later to pull out the relevant points.

Example: Listing with Questioning
Franklin D. Roosevelt said, "There is nothing to fear but fear itself." Respond to this statement with examples from history, literature, or personal experience.

agree—b/c fear is relative to the person
fears not the same for everyone—varies, so it can't be the thing itself
(begin asking who? what? where? when? why? how?)
me—
drowning—terrified
thrown in pool as child—traumatized
first day of sleep-away camp—ruined whole thing
head knows it's ok now but can't stop it
irrational—bathtub fear for a while
can go in pool but only where I can stand up
Mom—fear of fire
her neighbor's house as a kid
lost her best friend
obsessed with smoke detectors, fire escapes in every room
also afraid of spiders and snakes
loses sleep every time she reads about a fire in paper
someone close to her died

fear we have is what debilitates us, not the thing we are afraid of
most things never happen
can stop us from living life

Focusing

As you look at your brainstorm, you may see that you have veered slightly off the topic as you wrote down your initial thoughts. Also, in a 25-minute essay, you have to choose what you will write about carefully, since you do not have enough time to develop an excessive number of different ideas.

At this stage, you need to focus your brainstorm. You will have to explain and support all your points using evidence. Try to look for the main points you are trying to make, and group them accordingly. Later, you will want to develop each point into a paragraph with details and examples as support, so try to limit

your points to three major categories with examples to support each. This focusing will help you prepare for the next task, writing a thesis statement. Organize your list by grouping similar ideas or topics together, maybe adding a few details, and eliminating things that really don't fit with the other things you've written.

Here is a sample of a focused list, based on the brainstorming example given on the previous page:

> **Franklin D. Roosevelt said, "There is nothing to fear but fear itself." Respond to this statement with examples from history, literature, or personal experience.**

Me—
- drowning—terrified
- thrown in pool as child—traumatized
- first day of sleep-away camp—ruined it
- head knows it's ok now but can't stop it
- irrational—bathtub fear for a while
- can go in pool but only where I can stand up

Mom—fear of fire
- her neighbor's house as a kid
- lost her best friend
- obsessed with smoke detectors, fire escapes in every room
- loses sleep every time she reads about a fire in paper

fear we have is what debilitates us, not the thing we are afraid of
most things never happen
can stop us from living life

The writer should eliminate her mother's fear of spiders and snakes, since they are not supported by the rest of the ideas. The focus seems to be on her mother's fear of fire. Also, the fact that she lost her best friend tells us she lost someone close to her, so that is redundant and should be left out.

Clustering

Another brainstorming technique is **clustering**. This combines the practice of jotting down ideas as they come to you with organizing them visually at the same time. Because you organize your ideas as you write, you may find this technique especially helpful in a situation like the SAT where time is very limited.

Start the cluster by writing the topic down in the center of the scrap paper. Then, write ideas down around this topic as they come to you. Quickly put these ideas in circles and attach the circles to the topic by drawing lines. Then, look at the ideas you have just written, and try to expound on these ideas. Again, the **questioning** technique (using the 5 W's and H) may be helpful here. When you are finished, you will see that there are some ideas that you have a lot to say about, and others that are dead ends. When you focus your cluster, you will probably choose the two or three ideas with the most circles around them for your essay.

Here is an example based on the essay question from the pretest:

> *An influential person is one who leaves a footprint in the sand of our soul. To me, the most influential person I can think of is . . .*
>
> **Assignment:** Complete the sentence above with an appropriate response. Then write an essay supporting your completed statement.

Planning: Creating an Outline

Once you focus your brainstorm, you have the raw material for your essay. Now you need to put it in order. This is called the planning stage, and at the end of this stage, you will have a rough outline from which to write your essay. This is invaluable: If you skip this stage, you may wander off your topic when your write your essay.

Because you only have 25 minutes, you will not be able to take the time you may normally take to develop

a detailed outline. Look at the ideas you have. You may choose to order them **chronologically** or in **order of importance**.

Chronological Order

If you are using personal experience or history to address the question, chronological order would be the best way to structure your points. For example, if you are writing about the impact of certain events in your life, you would probably want to order the events as they occurred from the earliest point to the most recent. Similarly, historical support is often introduced beginning with the oldest event first and progressing to the most recent.

Order of Importance

Another way to order your ideas is by importance. There are two ways to use this strategy, and either one is acceptable.

You can order using the most important or significant idea first. For example, if you are discussing a person who was very influential in your life, you may want to put their greatest area of influence first. Then you would progress to the second greatest area of influence next, and end with the least important. Conversely, you can use the "save the best for last" strategy, in which you would save the greatest or strongest example for last. This is like building up to a grand finale.

Sequencing

Once you make a decision as to which strategy you will use, you can use a simple outline or just number your points and bullet your examples. You can then check them off as you incorporate them into your essay.

Here is an example of how a student constructed a simple outline based on her brainstorm.

> *An influential person is one who leaves a footprint in the sand of our soul. To me, the most influential person I can think of is . . .*

Grandma

I. Influenced kids and grandkids
   A. Always involved in their lives
   B. Matriarch
      1. Advice on dating, money, problems, etc.
   C. Came to family's aid
      1. Cousin Joe (health problems)

II. Hard worker—inspired to reach our goals
   A. Worked fulltime—kid's college
   B. Rock, steady, unchanging
      1. Everything else crazy—count on her (parents' divorce)

III. Independent—own voice
   A. Stood up for her beliefs
      1. Didn't care what others said

The student could also have focused the brainstorm by using numbers next to the original list to save time: assigning each main idea a number, and then writing that number next to each appropriate example. Another way to group these ideas would be to draw circles or otherwise cluster them together on the page.

Step Two: The Thesis Statement

After your brainstorming and planning are complete, you need to come up with your main position. If you have sufficiently brainstormed your topic and have carefully focused your ideas, you are ready to formulate your thesis statement, one of the most vital components of your essay.

A **thesis statement** is a sentence that expresses the main idea of your essay. It clearly states the topic, or what the essay will address. It also contains an attitude or opinion about the topic, and tells the reader your central position in a nutshell. This is called the controlling, or **main**, idea. In a sense, the thesis statement controls the essay because it will determine what you do and do not include in the rest of the piece. It will help you stay on track. It is important to have a clear, concise, well-constructed thesis statement that prepares

the reader for what will follow in the rest of the essay. The thesis statement is usually placed in the middle or end of the introduction.

Direct and Indirect Thesis Statements

A **direct** thesis statement not only provides the reader with your opinion, but also makes an explicit statement of the major points you will use as evidence to back up your assertion. It lists the evidence clearly and in order, in effect giving the reader a road map to follow.

Example:

> Mistakes are valuable because *they reveal our weaknesses, they provide motivation for learning, and they keep us humble.*

In the direct thesis statement above, the italicized phrases clearly prepare the reader for what will follow in the rest of the essay.

On the other hand, an **indirect** thesis statement does not point out to the reader what the body paragraphs will be about.

Example:

> Mistakes are valuable because they teach many things.

While this indirect thesis statement lets us know the topic and attitude, it does not tell us how the writer will develop the essay.

Where possible, try to use direct thesis statements. They will make your writing seem more organized and easier to follow. It is clear when you use a direct thesis statement that you know exactly where your essay is headed, and you have a plan for getting there.

Grammar Note

Remember, two of the components of the SAT writing rubric are **meaning** and **development**. Your thesis statement will have a strong impact on these areas of your essay. A clear, strong thesis shows that you understand the assignment and have formulated a relevant response to it (meaning). A good thesis also sets the stage for a well-developed essay using specific and interesting examples.

It is important that your thesis statement be grammatically correct. You must be sure to observe the rules of parallel form, which means that the three points you are going to make must be in the same form (the same *part of speech*).

> **Incorrect:** I fondly remember the vacation house at the lake as a place where we enjoyed eating, playing, and to connect with distant relatives.

This thesis statement is grammatically flawed because it uses *-ing* forms in the first two aspects, but then switches to an infinitive verb form (*to connect*) for the last. This is easily fixed, as seen below:

> **Correct:** I fondly remember the vacation house at the lake as a place where we enjoyed eating, playing, and connecting with distant relatives.

Later in this chapter, you will get more practice revising and editing. At this point, make sure that when you write your thesis statement, you are careful to observe the rules of parallel form.

Developing Your Thesis

Where should you get your thesis statement from? Let's look back at where you are in the writing process.

I. Prewriting
   A. Brainstorming
   B. Planning
   C. Formulating a thesis statement

In your brainstorm, you generated ideas and thoughts on the topic. You came up with a position or opinion in response to the prompt, and now have enough examples to support your claim. In the planning stage, you eliminated ideas that were off-topic, tried to focus your thoughts, and decided on the order in which you will present your support. Now, it is time to write a clear statement that will inform the reader of your topic, position, and support in a nutshell.

It is important to remember that you want to convince your reader that your opinion is justified. Imagine that you are a lawyer. At the beginning of a trial, you present your opening argument to the jury. You state the case and briefly tell the jury what they can expect to hear during the trial. This opening statement is similar to your carefully worded thesis statement.

Here are two examples of thesis statements a student could have written in response to the following prompt:

> *There are three kinds of death in this world. There's heart death, there's brain death, and there's being off the network.* —Guy Almes
>
> *I'd wipe the machines off the face of the earth again, and end the industrial epoch absolutely, like a black mistake.* —D.H. Lawrence
>
> **Assignment:** Consider the two contrasting statements above. Choose the quotation that most closely reflects your viewpoint. Write an essay that explains your choice. To support your view, use an example or examples from history, politics, science and technology, literature, the arts, current events, or your own personal experience and observation.

Thesis Statement 1:

> Technology has become so ingrained in our society that without it, we would suffer greatly in the areas of finance, communication, and education.

Thesis Statement 2:

> The widespread use of technology today has a detrimental effect on our personal relationships, our job satisfaction, and our health.

The first thesis statement clearly takes a stand in favor of technology. The reader is tipped off to the writer's favorable attitude toward technology by his use of the word *suffer* to describe life without technology. This direct thesis statement clearly states the three areas that the essay will focus on, and is written correctly using parallel form.

The second thesis takes the opposite side, laying out a clear statement that technology is detrimental to people in three key areas of life.

Step Three: The Hook and Introduction

At this point in a real SAT testing situation, about six minutes or so have passed since the testing period began. You have carefully considered the prompt, brainstormed your ideas using a method you feel comfortable with, and arranged a rough outline. On your scratch paper, you now have a brainstorm, rough outline, and a thesis statement jotted down. Now you are ready to write your essay. You start at the beginning—with an introduction.

Writing Hooks

Imagine you are one of the expert graders reading hundreds or thousands of SAT essays. It is late and you are getting tired. Which of the following first sentences would make you sit up and take notice?

1. Can you imagine a dark day on which your cell phone, computer, PDA, beeper, and voicemail don't work?
2. Technology is expanding every day.

It is likely that the first sentence would inspire the reader to want to read the rest of the essay. It's like that all-important first impression that you make in the first 30 seconds when you walk into a room. This first sentence is called the "hook." It is like the hook that a fisherman uses to catch the fish. You want to hook your reader and make him or her want to proceed with the rest of your essay.

There are several ways to entice your reader and write a good hook. One technique is used in the first hook above: **questioning**. You can pose a relevant question to your reader and hook him or her. The more specific and dramatic the question is, the better.

Just be sure that the question will naturally lead into your topic.

Example:

> *Have you ever looked back on your life and realized it is in two parts: "before" and "after"?* There are many events that are critical junctures in our lives. We can point back to that event and realize there is a clear demarcation at that time, and we are changed forever by it. One such event that I have personally experienced was the untimely death of my father.

The hook (in italics above) should intrigue your readers. Since it is a question directly addressed to them, it gets them involved immediately with your essay and should inspire them to want to continue to read.

Questioning, while a useful technique, is not the only way to formulate a hook. You can also open with a **dramatic quotation or statistic**. However, if you are responding to a quotation question on the SAT, do not simply open up your essay by repeating the same quotation.

Perhaps there is a related saying or statistic that you know:

> *It is startling that over 50% of marriages today end in divorce.*

You many also want to present a **scenario**. This allows you to paint a vivid scene for your reader with words. You will then flow into the introduction.

> *It's dark, it's late, and the phone rings. My mother picks it up and screams, dropping it to the floor. As I run to the kitchen to see what the problem is, I can read the news on her face: My father is dead.*

It is important to note that while hooks of this type are effective, you only have 25 minutes to write an essay, so you need to keep it brief. This is not the time to engage in extended creative writing; you must answer the question provided!

A Bad Day of Fishing

As you attempt to hook your reader, avoid these common mistakes:

1. **Titles as Hooks**
   Sometimes students get confused between titles and hooks, and they wind up using an incomplete sentence as their hook. Don't do this.

   Example: The dreadful day my father died.

2. **Announcements as Hooks**
   It is important that you don't "jump outside" the essay and announce it.

   Example: This essay will be about the summer I lived in France.

3. Thesis Statements as Hooks

While it may be tempting to jump right to your thesis statement, to ensure good organization, it is important to try to provide a bit of background before jumping right to your main argument.

Example: I learned how important it is to learn about the world around you by exposing yourself to different cultures.

On to the Intro

The introduction is where you hook the reader and introduce the topic and your stance on it. You do not usually want to jump right in with your examples, since these will be the content of the body paragraphs that follow the introduction. You want to quickly warm the reader up to the topic by providing background information and getting more specific as you approach the thesis, which is usually found in the middle or end of the introduction.

It is important that by the end of the introduction, especially after the thesis statement, the reader clearly knows your position.

In the introduction below, the hook is italicized and the thesis statement is underlined:

It's dark, it's late, and the phone rings. My mother picks it up and screams, dropping it to the floor. As I run to the kitchen to see what the problem is, I can read the news on her face: My father is dead. Although it was 11 years ago, I remember it as if it were yesterday. This was one of those moments when life changed forever for me. Nothing would be the same after this phone call, not for the rest of my life. These are the types of events we can point to and say "before" and "after" about, and we are changed in the "after." <u>Since my father's death, I have changed in the areas of personal responsibility, family loyalty, and goals</u>.

This is a strong introduction, with a compelling hook and a clear thesis that tells the reader exactly what the essay will discuss.

Step Four: Drafting

You have actually already begun the drafting portion of the writing process, when you wrote your introduction. At this stage, you will be taking the ideas and rough outline (writing plan) from your brainstorm and developing them into the body of your essay. Again, it cannot be emphasized enough that the scorers are not just looking for your ideas; they are also looking to see if you have supported and explained them. Do not just make a claim and expect your reader to accept it. After you make a claim, prove it by giving a specific example from your own experience, literature, history, science, and so on to back it up. You need to be as specific as possible.

Refer back often to your outline, and cross off each example as you include it in your draft. This will keep you on track.

As you write, keep in mind that the graders will be looking very carefully at your ideas and support, but your grammar and sentence structure also count as well. Because of the severe time constraint on the SAT, you will not have time for extensive revisions. The graders understand this, and they realize your writing is more similar to a first draft than a finished product.

However, there are a few grammar points you should keep in mind. Try not to use too many short, choppy sentences. Make an attempt to vary your sentence structure so that your reading is interesting and flows easily. Pay attention to the rules of standard grammar, and don't let spelling errors plague your work. While a few minor errors will not keep you from getting a high score, too many will detract from the overall quality of your paper and lower your score.

Read the following draft, and think about its strengths and weaknesses. Focus on looking for concrete support for the ideas in the draft.

SAT Writing Prompt

To me, the mark of a modern hero is _____.

Sample Response:

What elevates a person to hero status in your eyes? Today's society seems to value baseball players, movie stars, and rappers. People flock to the

Superbowl with religious fervor or base their whole lives around when the Yankees are in town. When was the last time a sports star risked his life for someone else? Most of the time, the human instinct is to survive at all costs. Because they put their lives on the line every day, firefighters and police officers are the true modern heroes.

Firefighters and police officers can actually be looked at as "superhuman." When we are faced with danger, our body's "fight or flight" response usually kicks in. If we determine that we can't successfully ward off danger, we flee, usually without even letting enough time pass to think about it. A firefighter, however, does the opposite. When everyone, even the animals, is rushing to escape a burning building, he valiantly goes in. He successfully ignores his own human "fight or flight" reaction in order to try to save other people's lives. This is nothing short of superhuman and makes him heroic.

Police officers also put down their own self-preservation on a daily basis. It takes a great deal of courage to walk up to a dark car, alone, on a lonely stretch of road. Who knows what kind of weapons the people might spring on him? Or what about when a police officer is called to a scene where a crazed gunman is holding hostages? He can't just run away like his brain is probably telling him to. He consciously has to ignore that natural response and act heroically.

Of course, these professionals are not the only heroes in our society. Regular people often jump in to save someone in trouble.

In this sample draft, what is the main idea the writer is trying to convey? The writer is saying that the true mark of a hero is the willingness to face danger and even sacrifice one's life for another person. She provides support for this idea in the second paragraph, which refers to firefighters entering burning buildings and overcoming their "fight or flight" instinct, and in the third paragraph, where she discusses the unknown risks a police officer faces.

However, there are several ways in which the draft could be improved. The fourth paragraph mentions everyday people who also qualify as heroes, but doesn't provide any support for this idea. Also, there is no conclusion. The writer could improve her essay by adding supporting details to the fourth paragraph and developing a conclusion.

Unity

The graders will be looking at your essay carefully to see if it flows. Are the points and examples relevant, or do they drift off into other areas now and again?

Unity means sticking to your topic and not veering off into other areas.

Coherence

Another important quality you want your SAT essay to demonstrate is **coherence**. This means that your essay makes sense. One idea logically flows into another. If the reader has to struggle to figure out what you are trying to say, or how your support relates to your point, you will not get a high score. It is critical that, even though you are under a time constraint, you take a minute or two to reread your essay and clear up any confusing points. You want your position to be clear, and your support to make sense.

Transitions

One way to improve coherence is through the use of **transitions**. Transitions are words that guide the reader from one idea to the next, and help each idea logically flow into the next.

Here is a list of common transitions grouped by the ideas they signal:

SEQUENCE	CONTRAST	COMPARISON	CONSEQUENCE	SUPPORT
first	on the other hand	similarly	thus	for example
next	alternatively	in the same way	therefore	for instance
finally	in contrast	like	as a result	
in addition	unlike		consequently	

In the following paragraph, the transition words are in bold.

> There are many ways to get good grades in college. **First**, it is imperative that you attend your classes. It is extremely hard to get good grades on exams without doing so. You need to be present for the lectures, so you can take notes and participate in the discussions. **Next**, you should review your notes after each class. Don't wait until the week of the test to find out that you are struggling with some of the major concepts. If you review regularly, you will be able to remediate your weaknesses early enough to do well. **In addition**, keep up with the reading that the professor assigns after each class. It is very stressful to fall behind the rest of the class, and it will be increasingly hard to catch up as the semester progresses. **Finally**, go to your professor early and often if you have questions about the material. He or she should be able to guide you and clear up any confusion you may have.

The Conclusion

After you incorporate all your ideas and examples and have defended your position using concrete support in the body of the essay, you need to wrap it up. If we return to the courtroom analogy from earlier in this section, at this point, the writer is the lawyer presenting a closing argument. A strong conclusion reminds the reader of the writer's main point and sums up the main evidence in a powerful way. This is your last chance to impress upon the reader how strongly you believe your stance is correct.

Often, it is helpful to go back to your thesis statement. You should reiterate your thesis without saying it in exactly the same way. You should also briefly remind the reader of the two or three examples you have included to support your point, without going into detail, since you have already provided details in the body of your essay.

Watch Out

In your effort to write a strong conclusion, be sure not to begin an entirely new topic. This will create a new problem and detract from your essay and your score.

Here is a sample conclusion that could be added to the draft on pages 241–242 to strengthen the essay:

> They may not all be famous or wealthy, but firefighters and police officers are heroes in my book. They successfully overcome the basic human instinct of self-preservation at all costs in order to save other people's lives. This takes an enormous amount of courage and self-control. To me, this is the true mark of a modern hero.

Step Five: Revising and Editing

While revision is usually a major part of the writing process, on the SAT, you probably won't have much time to change what you've written. As recommended earlier, you should take about three minutes at the end

of the session to reread your essay and make any last-minute changes. In these testing conditions, you will combine the steps of revising (changing for clarity and expanding upon ideas) with editing (proofreading and changing mechanics, spelling, etc.)

Follow the steps below for quick revision and editing before your time is up.

1. Do you have an interesting hook and a clear thesis statement?
2. Do you have one main idea per paragraph?
3. Do you have enough examples to back up your claim? Do you relate the examples back to your point?
4. Do your paragraphs make sense? Does one idea logically flow to the next?
5. Do you have a strong conclusion that wraps up what you've said in your essay?
6. Look at your word choices. Is there a better word that would more clearly convey your meaning? Can you use a more descriptive, perhaps less common word?
7. Is the grammar correct? See the previous lesson for specific grammar points you may want to be on the lookout for. Pay close attention to punctuation, too.
8. Is the spelling correct?
9. Is it legible? Don't expect graders to struggle to read your work.

If you find your essay lacking in any of these areas, do what you can to amend it quickly.

Word Choice

One thing the SAT essay scorers will be looking at is your word choice. A high-scoring paper, according to the rubric on pages 233–234, shows an excellent command of written language, in part demonstrated by its word choice. Because of this, you need to try to use the most precise words you can as you draft and revise your essay. You should be conscious of your word choices both as you write and as you revise your essay.

A rich vocabulary is acquired over a long period of time, through reading challenging material and exposing yourself to a variety of texts. Because of this, keep up your reading in the months before the SAT. If you encounter new words, notice their context and look up their definitions in the dictionary, if necessary. Then try to use the word in writing to help commit it to memory.

One thing to avoid on test day is overuse of very obscure or uncommon vocabulary. In other words, you can't go in with a memorized list of "big words" and make them fit into your essay. Your vocabulary should flow freely. Substitute vague words with more precise ones, but don't make your writing sound artificial or self-conscious by overusing difficult or obscure words.

One way to improve the quality of your essay is to search your memory for synonyms as you write. For example, you can convey your idea with words like *bad*, but ask yourself if *detrimental*, *harmful*, or *injurious* would be more interesting. You should always keep the time constraint in mind, but do your best to choose the best word as you write and revise. Also, try to avoid repeating words over and over again. Use a synonym after you use a word once or twice.

Common Grammar Pitfalls

Another thing the scorers will consider is your use of grammar. In order to achieve a high score, your paper should be free from grammatical errors. However, since the scorers realize you only have 25 minutes to write the essay, a paper can have a few minor grammatical errors and still achieve a good score.

As part of your preparation for the essay portion of the SAT, you should review the grammar rules outlined in the multiple-choice writing section of this book. In a testing situation like the SAT, there are sev-

eral common grammar mistakes that students often make. When writing and revising, pay particular attention to the following:

- agreement
- run-ons and fragments
- usage mistakes (confusing two similar words, like *their* and *they're*)

Out of Time?

At the very least, even if you are running very short on time after your writing, read through your essay at least once and make any last-minute spelling and punctuation corrections. When you're writing under a time constraint, you may forget a letter or period that will only take a second to correct.

▶ Practice Essay Prompts

Now, you can practice writing essays using the skills you have learned in this chapter. Set a timer for 25 minutes for each prompt, and use the rubric (on pages 233–234) and sample essays that follow to evaluate your work. Good luck!

1. *"Shallow men believe in luck."*

—Ralph Waldo Emerson

Assignment: Agree or disagree with this quotation.

2. *Everyone faces a difficult choice—a potential risk, or an ethical dilemma—at some point in his or her life, and these choices often have a profound impact on our lives. One such choice I have faced is . . .*

Assignment: Complete the sentence above with an appropriate phrase. Then write an essay supporting your completed statement.

▶ Sample Practice Essays

Use the rubric on pages 233–234 to evaluate your work, and compare your answers to the sample responses that follow.

Sample 6-point Response

"If I didn't have bad luck, I'd have no luck at all." Some people seem to attribute everything to luck, whether it is good news or bad. If things don't go their way, they say it is not their fault, just bad luck. Conversely, if someone else receives something desirable, it is just their good fortune. I agree with the quotation because an exaggerated reliance on luck can lead to a lack of personal responsibility and often reveals a failure to recognize other people's hard work.

Many times, people depend on luck to get them out of an unpleasant situation rather than relying on their own hard work. My father's friend Manny is a good example of this. Manny has never been a hard worker. He comes in late, tries to sneak out early, and never does anything to try to advance himself in his job. He holds the same menial position that he had when he started 12 years ago, doing the same mediocre work. On payday, however, Manny is the first one to run to the bank, cash his paycheck, and make a beeline for the local lottery ticket machine. It is the high point of his week, and until the numbers are called, he speculates to anyone who will listen about how he will spend his millions. Instead of pinning his dreams on something related to his own hard work, Manny lives in a fantasy world where luck will provide the lifestyle he dreams of. Of course, in the meantime, Manny remains miserable and discontented.

Unfortunately, looking at life in terms of luck also results in robbing people of the recognition of their own hard work. Again, Manny illustrates this principle. My father and Manny started at the company at the same time. My father, however, worked hard and studied for additional training which advanced him in his career. He has had several promotions over the years, and is now making about triple what he was at the beginning. Manny refuses to acknowledge this, though, and always complains that my father is "just plain lucky" whenever he gets a promotion. Instead of recognizing and perhaps being inspired by my father's industriousness, Manny attributes it to luck and thus it has no effect on him whatsoever, except to make him jealous.

People who believe in luck give away their control over their own destiny. Instead of doing something to improve their own situations, they wallow in their own misery and refuse to be active participants in their own lives. A belief in luck also makes them blind to the accomplishments of others. As a result, living your life with luck as a guiding principle is a destructive, counterproductive way to live.

Scoring Explanation

This essay receives the highest possible score because it presents an insightful interpretation of the question and a well-formulated response. The writer begins with an interesting hook and proceeds to a clear thesis statement at the end of the introduction. In terms of development, the paper is well developed with concrete examples (Manny and the writer's father), which are adequately explained and relevant in their support of the thesis. The paper is unified and coherent, with a clear pattern of organization. There are no problems with grammar or mechanics, and the writer demonstrates a strong command of the language. Overall, the strengths in the areas of meaning, development, organization, and language use make this an example of strong writing competence.

Sample 5-point Response

"All it takes is a dollar and a dream." This slogan, made popular by the NY Lottery, is attractive to those who want to take the easy way out. If we consider what makes a person deep, well-respected, and marked by integrity, relying on luck is not something that enters into the picture. In fact, as the quotation states, shallow men believe in luck. This is because shallow people look for an easy way out and do not take personal responsibility for their own lives.

People who do not want to work hard are enticed by luck. For example, my sister's friend wanted to be class president. Instead of campaigning and doing time-consuming tasks like putting up posters, she made sure she wore her "lucky" sweater and her "lucky" bracelet on the day of the election. She crossed her fingers as the votes were cast. When she lost to a classmate who spent hours trying to publicize his name and his position on the issues, she whined that he was just lucky, and that it wasn't in her horoscope to win that day. If she had worked harder on the campaign, she wouldn't have had to rely on luck and maybe she would have won the election.

"People make their own luck." This quotation tells us another truth about luck: it is often not luck but the fruit of working hard that makes a person succeed. Many people watch the show "American Idol." They talk about how fortunate the winners are, to be discovered and made famous seemingly overnight. However, what we don't see on American Idol are the years of voice lessons, lonely hours of practice, and times missed out with family and friends due to musical endeavors. Again, the final victory is really more attributable to hard work than luck.

If we are constantly looking outside ourselves for good fortune to miraculously "find" us, we may be shirking our own personal responsibility to make things happen in our lives. We need to stop relying on lottery tickets to make our dreams come true, and start taking the action that will make them a reality.

Scoring Explanation

This paper shows a clear understanding of the assignment. The writer uses specific and appropriate examples. Although the second and third paragraphs share the same basic idea, the different examples chosen to illustrate them compensate for this. The paper is generally well organized, but lacks the level of sophistication of the level-6 paper. The writer reveals a good command of written English and, at times, uses interesting and varied language.

Sample 4-point Response

It is true, shallow men believe in luck. It is shallow to think that good things happen by accident, and not as a result of hard work or divine intervention. Some people want to blame God for the bad things, but then chalk it up to luck when something good happens to them. I don't believe there is any such thing as luck or coincidence, and I think to do so is wrong. Its actually horrible.

When my parents inherited a great deal of money from an elderly neighbor, people constantly said they were "lucky." Were they lucky when they shoveled her driveway in all the blizzards, cooked her dinner five nights a week, and sat with her for days after her husband died? It wasn't luck that was the reason for the inheritance. It was left to them as a reward for the good deeds and sacrifices they had done for that old lady. They deserved it. And they got it. When babies die, or there's an earthquake that kills thousands of people, people shake their fist at fate and ask how could this happen? But when good things happen, like a kidnapped child is reunited with her mother, or two long-lost sibling find each other, people say "Wow, what a coincidence! So lucky!" I don't think this is right, because it doesn't work both ways. This is wrong and really terrible.

Luck is really what you put into it, or also it is the hand of fate moving in a life. It is shallow and wrong to give luck the credit for the good things in life. You could get yourself into trouble that way.

Scoring Explanation

This paper shows a basic understanding of the assignment. The writer does develop her thesis with specific examples, but she tends to go off track a bit when she makes a judgment call on whether believing in luck is right or wrong. The strength of her conviction is not supported clearly enough by the examples she has chosen. Also, she tends to repeat herself with emotional statements (*They deserved it. And they got it.* and *. . . to do so is wrong. Its actually horrible.*), which detracts from the strength of her argument. The paper is generally organized, but there are inconsistencies, such as the failure to begin a new body paragraph beginning *When babies die . . .* There is a basic command of writing with some minor errors (*two long-lost sibling*, *Its*). The vocabulary is basic, without particularly varied word choices, and the sentence structure is also basic.

Sample 3-point Response

If you want to be a deep person, a person of integrity and hard work, you will not look to luck. Look inside yourself and within your own spirit for the advancing and the positives in your life. My sister and Abraham Lincoln show this very well.

My sister is on trying out for the Olympic figure skating team. Some of my friends say, "Oh, your so lucky. Your sister is gonna be famous." But what they don't see is my sister at the ice rink 7 days a week at 5:00 in the AM, skating before school. They don't see my mother working two jobs to pay for her ice time and her lessons. They don't see me doing without summer vacation (to a nice place) so our family can travel to see her distant competitions. It's not luck, it's sacrifice. So that makes me mad. People can be so annoying.

Abraham Lincoln came from a poor family. He was ugly, tall, and self-taught. Yet he was one of our most important presidents (slavery). Why?

Scoring Explanation

This student has a basic understanding of the task, but falters on the development and organization. In the first body paragraph, the writer picks an adequate example to develop his thesis. However, the second paragraph fails to support the thesis. It appears that the student ran out of time, since there is an abrupt ending and no conclusion. This paper illustrates why it is so important to keep track of the time you are allotted and make sure you complete your essay. There are noticeable errors in grammar that seriously detract from the flow of ideas.

Sample 2-point Response

It is not true that shallow men believe in luck. There is nothing wrong with believing in luck, some people believe in fate or religion and nobody holds it against them, so it is acceptable in this free country to believe in luck. One time I found $100 bill on the way to school. It was the same day I had to hand in money for the junior prom tickets, you can't tell me that it wasn't lucky! That was a great day, I was able to buy the tickets and have a great time at the prom. That prom was a night I will always remember. I had a cool tux. All my friends called me Lucky Luciano for the rest of the week. There's nothing wrong with believeing in luck, since this is a free country and we have freedom of speech, everyone is entitle to they're own opinion, that's how I feel about this issue. Nobody will ever, never change my mind about this.

Scoring Explanation

This paper reveals that the student actually had little understanding of the assignment. Instead of taking a position and using evidence to convince the reader, the writer mentions a rather weak example and then veers off the topic into the right to believe in luck since we live in a free country. This is not an argument that logically proceeds from the quotation. There is little development and organization. There are many errors in grammar and spelling that hinder comprehension.

Sample 1-point Response

Why should people be called shallow who believe in luck? Is it because they only look to the stars and the horoscopes for they're fortunes? Or is it because we are jealous of people when their lucky? This is an interesting question, one that maybe there is no answer. A shallow person is a person who is not deep. A deep person is a person who is profound, who thinks about things. A lucky person is one who has things handed to them, who always get things going they're way. So what do these things have in common? Why should we judge someone because they believe in luck? Many cannot live his life only based on one thing: luck, faith, work, life. Why is he deemed shallow because of this? Who are we to judge our fellow human beings? But it is an interesting question, no doubt. All I can say is, when you think on it, "Good luck!"

Scoring Explanation

This paper shows little or no understanding of the assignment. Instead of taking a stand or position in response to the quotation, the writer merely tosses around the question, never really arriving at a position. There is no real development, just a confusing rambling about the definitions of *shallow, deep,* and *lucky.* There is no organizational plan, and the essay is basically incoherent. The many grammatical and spelling errors further detract from an already confusing response. This paper shows no competence in writing.

Sample 6-point Response

As the bus bumped along through the muggy heat of July, I found it hard to be proud. Although I had just played great soccer in the Eastern Regional Tournament and was on my way to Regional Camp to compete with sixty other girls for positions on the East Coast Select Team, I wasn't sure if I should be there at all. My parents had just called to tell me that that my grandmother was in the hospital in serious condition. When I had to decide whether or not to stay and compete or leave camp to be with my grandmother in the hospital, I was forced into a dilemma that made me think about my family responsibilities, my personal goals, and the meaning of success.

Facing this choice made me evaluate my role in my family for the first time in my life. Although my grandmother was sick, my parents encouraged me to keep playing in the competition. By the third day, I wasn't playing well and my chances for advancement were slim. I knew there was only one person who could improve my mood: my mother. But when I called her for support, she told me that my grandmother's situation was worse. I was used to playing the role of the child, but now I had to comfort my mother, and put my own problems aside, even as I dealt with my own sadness about my grandmother. I realized that I had a responsibility to be there for my family no matter what was going on in my personal life.

In addition to family responsibility, I also had a chance to think about my personal goals. When I went to visit my grandmother at the hospital, she looked as if she was just barely alive, willing herself to take one more breath. I talked to her about camp, about my fears that I wouldn't make the team, and although she didn't reply, I knew she heard me. She always loved that I play soccer, always telling me how lucky I was to be on a team of girls, and basking in my tales of games won and lost. Up until that point, I had been obsessed with being one of the best, but talking to my grandmother made me realize that I was lucky just to have the chance to play a game I loved. At camp, thinking about her condition had made me play worse, but by the time I kissed her goodbye, I had forgotten all about my poor performance. I was determined to play as well as I could—for her sake and for myself.

When I returned to camp for the last game, I had a new sense of what success meant to me. I knew my grandmother wanted me to finish what I started. I also felt that I had an obligation to myself to follow through; I had worked so hard and so long

to get to this point that I would be letting myself down if I didn't grasp my last opportunity to be selected. I played as hard as I could, but in the end, I was not chosen for the team. Although this was the first time someone had told me I wasn't good enough at soccer, I felt that I had succeeded in fulfilling my promises: to my grandmother and myself.

Although ethical dilemmas can be difficult, I believe they make you stronger in the end. During this sad and confusing time in my life, I took on new adult responsibilities, thought about what was important to me, and discovered the true meaning of success.

Scoring Explanation

This essay demonstrates an excellent understanding of the assignment, with strong examples of how the writer's ethical dilemma changed her. The essay clearly describes the choice the writer faced and provides clear support for her claims about how this choice changed her life in three ways. The writer's command of language is strong, making the essay extremely readable, with a good hook and introduction and smooth transitions. There are no errors in grammar or style. This essay fully meets the requirements of a level-6 essay.

Sample 5-point Response

To cheat or not to cheat: that was the question. Many high school students have faced the dilemma of whether or not to cheat on a test, but for me, the choice was even more difficult because I knew my twin brother was going to cheat on our biology midterm. In the end, my decision to be honest and to let my brother make his own choices taught me three things: independence, determination, and the consequences of lying.

My brother Mike and I have always done everything together; we have played the same sports, made the same friends, and taken the same honors classes at school. We are also identical twins, and so people are always confusing us, even our teachers. This fall, we were both struggling with biology, which was the hardest class we had ever taken. One of our friends met a student who had taken the class the year before, and he had a copy of the test. Mike and some of our friends decided to memorize the answers to the test, and offered to give them to me also. I was really nervous that we would get caught, and even though my brother was pressuring me, I decided not to look at them. He thought I was crazy for not looking at the answers, but I felt proud. This was the first time I had done something different from my brother. I realized we didn't need to do everything together, and that I needed to learn to make my own decisions. Even though we had talked about going to the same college, I started to think that maybe it would be good for us to go to different schools.

Another lesson I learned from studying was determination. Mike watched TV at night all week before the test, confident that he would get a good score. I, on the other hand, spent my time studying, and by the end of the week I had actually learned a few things about biology. Even though it was difficult, I became interested in what I was studying, and now I think I might be a scientist.

Finally, this experience taught me that there are consequences to being dishonest. Mike and our friends memorized the answers to the test, but they knew they couldn't get perfect scores, or the teacher would get suspicious. However, they didn't realize that if they all got the same questions wrong, it would also look like they had been cheating! Mike got an A on the test, and I got a B+, but after the teacher looked again at the results, he realized that my brother and friends had been cheating on the test. Mike was suspended from school, and had to take a harder version of the midterm. In this case, cheating definitely didn't pay off, but even if they hadn't been caught, they would have struggled in the second half of the semester, since they hadn't bothered to learn anything in the first half.

This experience taught me a great deal about the value of honesty, and also about being my own person and working hard. Even though it was a difficult decision to go against what my brother and my best friends were doing, it paid off for me in the end.

Scoring Explanation

This essay shows a clear understanding of the assignment. It includes a strong introduction and thesis, and uses good examples. The essay is well organized and interesting, and the writing is strong. The writer would have earned a higher score if he had developed his second body paragraph, about determination, more completely. Overall, the essay shows a good command of writing.

Sample 4-point Response

Sometimes the choices we make effect us very strongly. I have seen this in the life of my grandfather. He took a big risk in coming to America and leaving his family behind in Korea. The risk my grandfather took taught me several important lessons.

First, I learned how important it is to believe in yourself. My grandfather lived on his parents' farm in Korea, and they're life there was good. But he thought he could do more with his life, and decided to go to college. However, his parents didn't have enough money to send him, and so he decided to go to America to see if he could earn enough money to get an education. He didn't speak English, and didn't know anyone in the U.S. However, he had self-confidence, and felt that he could succeed if he tried hard.

Next, I learned from my grandfather that it is important never to give up. When he arrived in San Francisco, he couldn't find a job right away. He spent almost all of the money he brought with him, and he thought he might have to go back to Korea. But he was determined not to give up, so he talked to all the other Korean people he met until he found a man who would hire him in his shop. He told the man he would work for nothing if the man would teach him how to repair shoes, and the man and his wife let him live there. If he hadn't tried so hard, he might not have gotten this job. He eventually saved his money and graduated from college when he was over 30 years old.

Last, my grandfather is a very brave person. He was very lonely when he came here, and it was hard for him to learn English and get used to America. He never went back to see his parents before they died. He taught me how important it is to be brave.

I think my grandfather is a good example of how taking a risk can change their life. Because of him, I feel it is important to take risks, even if there is a chance it might not work out. He taught me to be confident, determined, and brave.

Scoring Explanation

This essay demonstrates a basic understanding of the assignment. The writer uses examples from his grandfather's life to provide an adequate response to the question, but the essay lacks development. The essay is generally organized and the ideas are easy to follow. However, the last example—the writer's grandfather's bravery—is not developed adequately. The sentence structure is basic and the writing suffers from repetition (repeating the word *important*, for example). There are also some errors in spelling and grammar.

Sample 3-point Response

I faced a big dilemma when I had to decide if I should tell my parents that my sister started smoking. My sister is two years older than me and she started smoking when she was in 11th grade. I didn't know what to do and it's really hard.

I knew smoking was bad for my sister and I was afraid she would get hooked like my uncle was. I saw her smoking outside the school after school with her friends. She told my mom she smelled like smoke because they all sat in the smoking section

at the diner, like all the other kids at school do. I knew if I told my parents, they would be mad, and they would make her quit. That would be better for her health.

Another part of me thought it was none of my business, and I shouldn't tell. Its my sister's own decision to smoke, and if she wants to ruin her life, thats her problem. Besides, we have a close relationship, and if I told on her, she wouldn't trust me anymore. I thought it would be really hard if my sister stopped telling me things.

In the end, my dilemma was solved because my aunt drove by the school one day and saw my sister smoking. She told my parents, and my sister was grounded for a month. So she stopped smoking, and she never knew that I saw her by the school, which was good for me since I didn't have to tell on her.

In life it is difficult when you face hard choices, especially when it comes to your family. Sometimes you have to make a choice, but other times life makes the choice for you.

Scoring Explanation

The writer of this essay demonstrates a basic understanding of the question, but does not develop her argument fully. The writing is simplistic and lacks organization. The writer describes the problem she faced when she saw her sister smoking, and describes two potential outcomes, but then goes on to say that she never actually had to make the decision whether to tell her parents. The introduction and conclusion are weak, and the essay contains errors in spelling, punctuation, and grammar. Overall, this essay shows marginal writing ability.

Sample 2-point Response

Life is really hard sometimes. It seems like every day I need to make a big decision about what I am going to do with my life, and its the same with my friends. They say high school is the best time in your life, but I disagree. High school is full of risks and dilemmas.

For example, what if you don't take honors classes. What if you want to just take regular math and english and all that. That decision can really change your life, especially if you want to go to colege. My parents are mad at me because they say I had to try harder in school.

There are also soshal problems. You might not think it is a big dilemma about who you go out with, who you hang out with, etc, but it is. Those choices have a affect on how people see you, and can maybe change your life. For example my cousin had these really bad friends, they influence her badly, and now she dropped out of high school. For myself, I have good friends and I think I am lucky. But what if I made the wrong choice, that would be really bad.

Teachers have choices too. My old history teacher Ms. Green decided to go and get her phd but now my dad says she can't get a good job, she might as well have stayed teaching high school.

High school is a very tricky time for everyone, students and teachers. Maybe if everyone had to get jobs in high school they would be more responsible and wouldn't have to make so many decisions.

Scoring Explanation

This student demonstrates a very limited understanding of the assignment. Instead of focusing on one dilemma he faced and providing examples of how it affected his life, he offers several disconnected statements about the difficulties of high school. The third body paragraph, about teachers, does not fit in with the rest of the essay, and the conclusion introduces a new idea about students getting jobs in high school. There is little evidence of an organization plan. In addition, there are numerous spelling, grammar, and usage errors that make the writing difficult to follow.

Sample 1-point Response

A dilemma is when someone don't know what to do. Sometimes there are risks too and this can make the dilemma harder. My dad never knows what to do, he take forever to decide something and in the meantime nothing happens. My mom says hes nervous to make the wrong choice but I think that is stupid. You ask him a question it takes like an hour for him to anser. His head in the clouds. I want to take more risks than my dad. For example, I tryed out for cross contry even though I didn't know if I was fast. It was a big dilema for me.

Scoring Explanation

This writer shows no understanding of the question. Although she refers to the issue mentioned in the prompt, her essay is off-topic and hard to follow. Instead of talking about her own dilemmas, she rambles about her father and then switches to an example about trying out for the cross-country team. There is no organizational plan or development, and she provides no support for her examples. The numerous mechanical errors make the essay very difficult to read. This essay shows incompetence in writing.

APPENDIX

A Math Glossary

Base—a number used as a repeated factor in an exponential expression. In 8^5, 8 is the base number.

Base 10—see *Decimal*.

Binary system—one of the simplest numbering systems. The base of the binary system is 2, which means that only the digits 0 and 1 can appear in a binary representation of any number.

Circumference—the distance around the outside of a circle.

Composite number—any integer that can be divided evenly by a number other than itself and 1. All numbers are either prime or composite.

Counting numbers—include all whole numbers, with the exception of 0.

Decimal—a number in the base 10 number system. Each place value in a decimal number is worth ten times the place value of the digit to its right.

Denominator—the bottom number in a fraction. The denominator of $\frac{1}{2}$ is 2.

Diameter—a chord that passes through the center of the circle and has endpoints on the circle.

Difference—the result of subtracting one number from another.

Divisible by—capable of being evenly divided by a given number, without a remainder.

Dividend—the number in a division problem that is being divided. In $32 \div 4 = 8$, 32 is the dividend.

Even number—a counting number that is divisible by 2.

Expanded notation—a method of writing numbers as the sum of their units (hundreds, tens, ones, etc.). The expanded notation for 378 is 300 + 70 + 8.

Exponent—a number that indicates an operation of repeated multiplication. For instance, 3^4 indicates that the number 3 should be multiplied by itself 4 times.

Factor—one of two or more numbers or variables that are being multiplied together.

Fractal—a geometric figure that is self-similar; that is, any smaller piece of the figure will have roughly the same shape as the whole.

Improper fraction—a fraction whose numerator is the same size as or larger than its denominator. Improper fractions are equal to or greater than 1.

Integer—all of the *whole numbers* and negatives too. Examples are −3, −2, −1, 0, 1, 2, and 3. Note that integers do not include fractions or decimals.

Multiple of—a multiple of a number has that number as one of its factors; 35 is a multiple of 7; it is also a multiple of 5.

Negative number—a real number whose value is less than zero.

Numerator—the top number in a fraction. The numerator of $\frac{1}{4}$ is 1.

Odd number—a counting number that is not divisible by 2.

Percent—a ratio or fraction whose denominator is assumed to be 100, expressed using the % sign; 98% is equal to $\frac{98}{100}$.

Perimeter—the distance around the outside of a polygon.

Polygon—a closed two-dimensional shape made up of several line segments that are joined together.

Positive number—a *real number* whose value is greater than zero.

Prime number—a *real number* that is divisible by only two positive factors: 1 and itself.

Product—the result when two numbers are multiplied together.

Proper fraction—a fraction whose denominator is larger than its numerator. Proper fractions are equal to less than 1.

Proportion—a relationship between two equivalent sets of fractions in the form $\frac{a}{b} = \frac{c}{d}$.

Quotient—the result when one number is divided into another.

Radical—the symbol used to signify a root operation.

Radius—any line segment from the center of the circle to a point on the circle. The radius of a circle is equal to half its diameter.

Ratio—the relationship between two things, expressed as a proportion.

Real numbers—include fractions and decimals in addition to *integers*.

Reciprocal—one of two numbers which, when multiplied together, give a product of 1. For instance, since $\frac{3}{2} \times \frac{2}{3}$ is equal to 1, $\frac{3}{2}$ is the reciprocal of $\frac{2}{3}$.

Remainder—the amount left over after a division problem using whole numbers. Divisible numbers always have a remainder of zero.

Root (square root)—one of two (or more) equal factors of a number. The square root of 36 is 6, because $6 \times 6 = 36$. The cube root of 27 is 3 because $3 \times 3 \times 3 = 27$.

Simplify terms—to combine like terms and reduce an equation to its most basic form.

Variable—a letter, often *x*, used to represent an unknown number value in a problem.

Whole numbers—0, 1, 2, 3, and so on. They do not include negatives, fractions, or decimals.

APPENDIX

B Additional Resources

Mathematics

Downing, Douglas. *Algebra the Easy Way* (Hauppauge, NY: Barron's Educational Series, 2003).
Kaplan New SAT Math Workbook (New York: Kaplan, 2004).
Math Builder: An Excellent Review for Standardized Tests (Piscataway, NJ: 2004).
No Fear Algebra (New York: Spark Notes, 2004).
Oernese, Richard and David Smith. *SAT Math Essentials* (New York: LearningExpress, 2006).
Peterson's Math Exercises for the SAT (Lawrenceville, NY: Peterson's, 2001).
Prindle, Anthony. *Barron's Math the Easy Way* (Hauppauge, NY: Barron's Educational Series, 2003).

Reading Comprehension and Writing

Hacker, Diana. *A Writer's Reference, 5th ed.* (New York: Bedford Books, 2003).
Jones, Darolyn. *Painless Reading Comprehension* (Hauppauge, NY: Barron's Educational Series, 2004).
McCutcheon, Randall et al. *Increase Your Score in 3 Minutes a Day: SAT Critical Reading* (New York: McGraw Hill, 2004).
Morgan, Margaret. *Peterson's New SAT Writing Workbook* (Lawrenceville, NJ: Peterson's, 2004).
Pivarnik-Nova, Denise. *400 Essential SAT Words* (New York: McGraw-Hill, 2004).
Reinhart, Susan M. *Testing Your Grammar* (Ann Harbor, MI: University of Michigan Press, 2002).

Ph.D Rozakis, Laurie E. *The Complete Idiot's Guide to Grammar and Style, 2nd ed.* (New York: Alpha Books, 2003).
SAT 2400!: A Sneak Preview of the New SAT English Test (New York: McGraw Hill, 2004).
Starkey, Lauren. *SAT Writing Essentials* (New York: LearningExpress, 2006).
Strumpf, Michael. *The Grammar Bible* (New York: Henry Holt, 2004).
Writing Power, 3rd ed. (New York: Kaplan, 2003).

▶ Study Guides

Abaluck, Jason et al. *Up Your Score: The Underground Guide to the SAT, 2005–2006 Edition* (New York: Workman Publishing, 2004).
Fischgrund, Tom. *SAT Perfect Score* (New York: HarperCollins, 2003).
Ph.D Rozakis, Laurie. *Test Taking Strategies & Study Skills for the Utterly Confused* (New York: McGraw Hill, 2002).
Ph.D Rozakis, Laurie. *Super Study Skills: The Ultimate Guide to Tests and Studying* (New York: Scholastic, 2002).
Rubenstein, Jeff. *Crash Course for the New SAT, 3rd ed.* (Hauppauge, NY: Princeton Review, 2005).

▶ Other SAT Guides

11 Practice Tests for the New SAT and PSAT: With Free Access to Online Score Reports and More SAT Help (New York: Princeton Review, July 2004).
Bobrow, Jerry. *The New SAT, 3rd ed.* (New York: Cliff Notes, 2004).
Cracking the NEW SAT with Sample Tests on CD-ROM, 2005 Edition (New York: Princeton Review, 2004).
Fiske, Edward. *Fiske New SAT Insider's Guide* (Naperville, IL: Sourcebook, 2004).
How to Prepare for the New SAT, 22nd ed. (New York: Barron's Educational Series, 2004).
Kaplan New SAT 2005 with CD-ROM (New York: Kaplan, 2004).
The Official SAT Study Guide for the New SAT (New York: College Board, 2004).
Robinson, Adam. *The Rocket-Review Revolution: The Ultimate Guide to the New SAT 2005–2006 Edition* (New York: New American Library, 2005).

▶ Websites

www.LearningExpressFreeOffer.com—FREE practice exercises that mirror official SAT questions with immediate scoring, detailed answer explanations, and a customized diagnostic report.
www.testprep.com—provides practice tests for the SAT and PSAT.
www.powerprep.com—provides strategies, tutoring, software, diagnostic, and online practice tests for the SAT.
www.collegeboard.com—provides online test registration and test preparation for the SAT.
www.review.com—provides tutoring and test preparation for the SAT and PSAT.
www.kaplan.com—provides tutoring, test preparation, and general information for the SAT.
www.act-sat-prep.com—provides online test registration, practice exams, and strategies for taking the SAT.
www.rocketreview.com—provides online interactive SAT preparation.

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