Cambridge International Examinations
Cambridge International General Certificate of Secondary Education (9–1)

CANDIDATE NAME

CENTRE NUMBER

CANDIDATE NUMBER

MATHEMATICS | **0626/01**

Paper 1 (Core) | **For Examination from 2017**

SPECIMEN PAPER

| | **1 hour** |

Candidates answer on the Question Paper.

Additional Materials: Geometrical instruments
Tracing paper (optional)

READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name in the spaces at the top of this page.
Write in dark blue or black pen.
You may use an HB pencil for any diagrams and graphs.
Do not use staples, paper clips, glue or correction fluid.
DO **NOT** WRITE IN ANY BARCODES.

Answer **all** questions.
Electronic calculators should be used.
If working is required for any question it must be shown below that question.
If the degree of accuracy is not specified in the question, and if the answer is not exact, give the answer to three significant figures. Give answers in degrees to one decimal place.
For π, use either your calculator value or 3.142.

At the end of the examination, fasten all your work securely together.
The number of marks is given in brackets [ ] at the end of each question or part question.
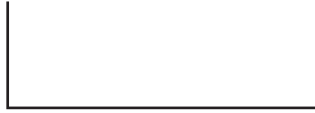The total of the marks for this paper is 60.

This document consists of **14** printed pages.

1 Work out 15% of 44 kg.

.... kg [2]

2 (a) Add **one** line to the diagram so that it has two lines of symmetry.

[1]

(b) Add **two** lines to the diagram so that it has rotational symmetry of order 2.

[1]

3 1 and 120 are factors of 120.

Write down another factor of 120.

.... [1]

4 There were 41 524 people at a football match.

(a) One quarter of the 41 524 people walked to the football match.

Find the number of people who walked to the football match.

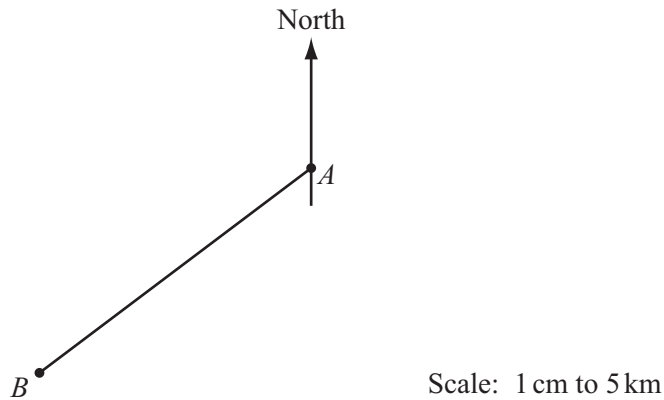.. [1]

(b) Of the 41 524 people, 28 000 were men and 6 524 were children. The rest were women.

Show that 20% of the **adults** were women.

[2]

5 The scale diagram shows the positions of town *A* and town *B*.
The scale is 1 cm represents 5 km.

North

A

B

Scale: 1 cm to 5 km

(a) Find the actual distance between town *A* and town *B*.

.... km [2]

(b) Measure the bearing of town *B* from town *A*.

.... [1]

6 Calculate $\dfrac{3.1 \times 4.2}{4.1 - 1.8}$.

Give your answer correct to 1 decimal place.

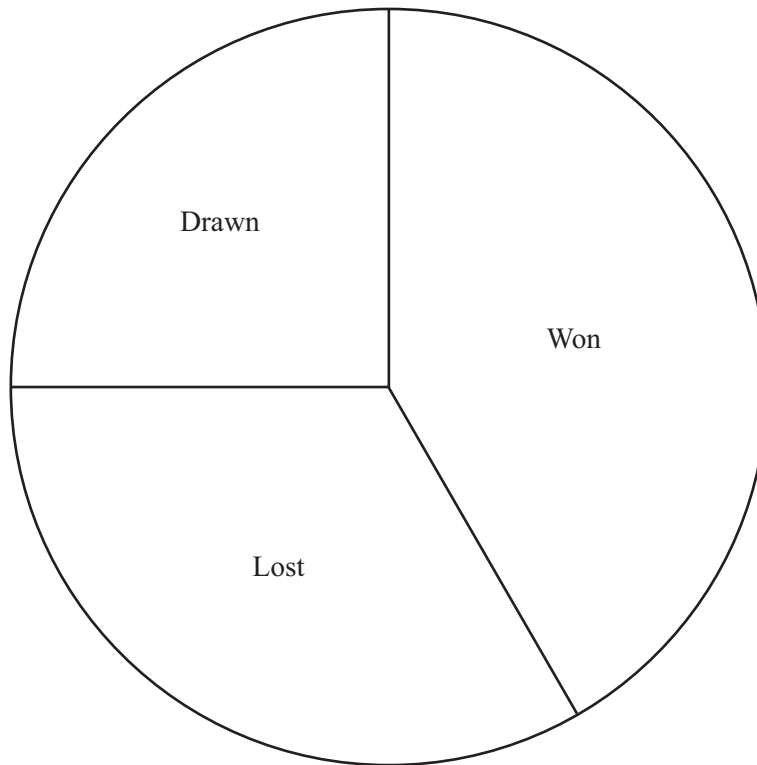.. [2]

7
$$\frac{3}{5} < p < \frac{2}{3}$$

Which of the following could be a value of p?

$$\frac{16}{27} \qquad 0.67 \qquad 60\% \qquad (0.8)^2 \qquad \sqrt{\frac{4}{9}}$$

.... [2]

8 The pie chart below shows the results of 24 games of hockey played by a school team in one year.

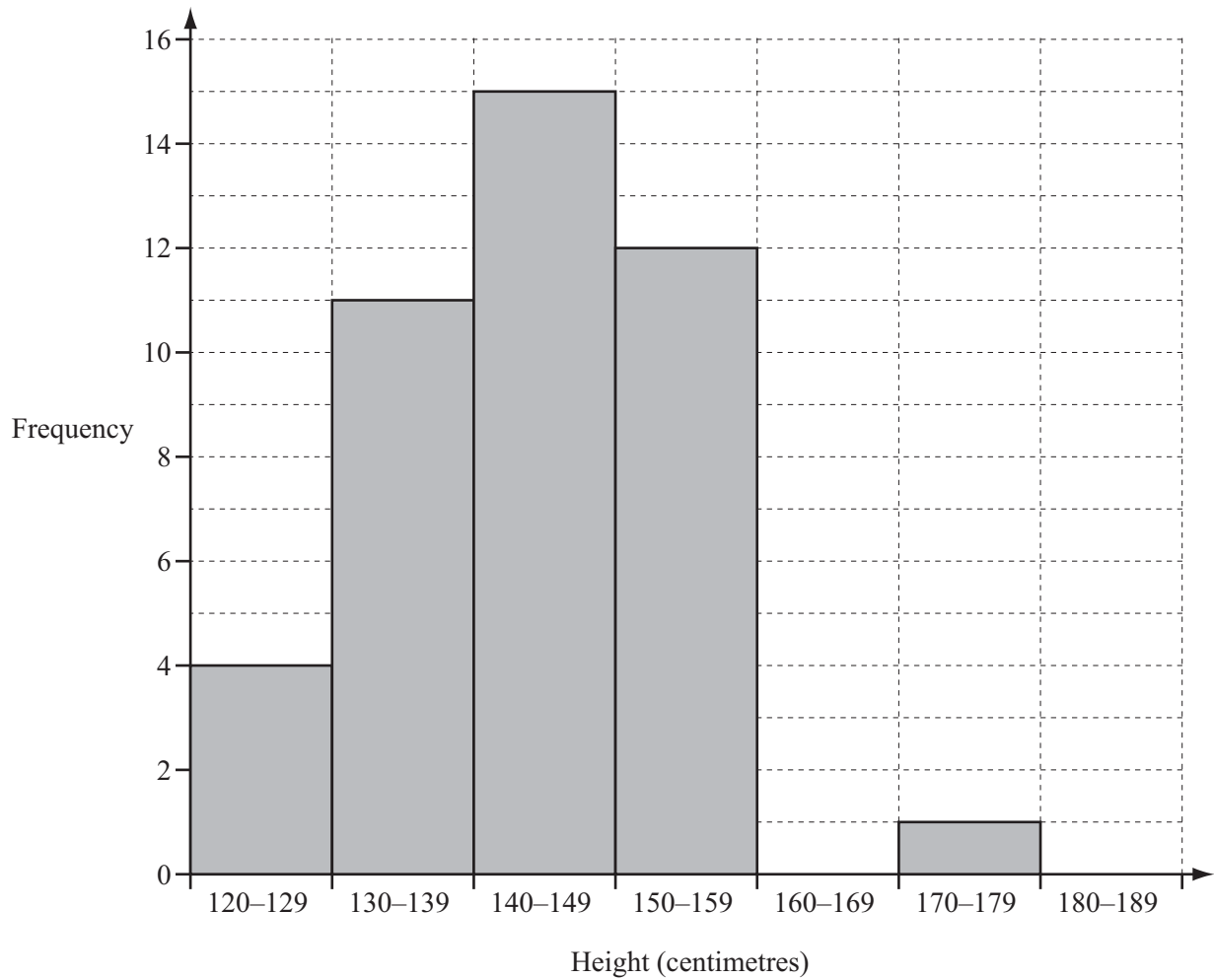**(a)** Show that the school team won 10 games during the year.

[2]

(b) Find how many games were lost and how many games were drawn.

Lost ....

Drawn .... [3]

9 The heights of 43 children are measured to the nearest centimetre.
The bar chart below shows this information.

A child is chosen at random.
Write down, as a fraction, the probability that the height of the child will be
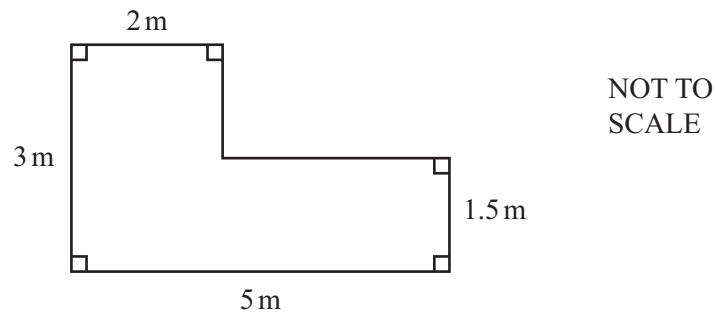
(a) in the group 140–149 cm,

.... [1]

(b) less than 160 cm,

.... [1]

(c) in the group 160–169 cm.

.... [1]

10 The diagram shows the floor plan of Jade's bedroom.

2 m

3 m

5 m

1.5 m

NOT TO
SCALE

Jade considers 3 types of carpet for her bedroom.
The table shows the cost per square metre for each type of carpet.

| Type of carpet	Cost per square metre
Plain	£20
Deluxe	£25
Thick pile	£30

VAT is added to the cost of the carpet at a rate of 20%.

Show that the total cost of buying the thick pile carpet for Jade's bedroom is £378.

[4]

11 A triangular field has sides of length 550 m, 300 m and 400 m.

    (a) Construct the triangle, **using a ruler and compasses only**.
         Use a scale of 1 cm to represent 50 m.
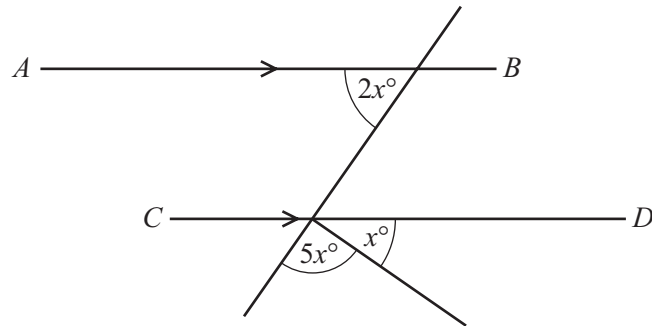   The side of length 550 m has been drawn for you.

<div style="text-align:center">550 m</div>
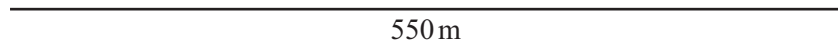
<div style="text-align:right">[3]</div>

    (b) By making a suitable measurement on your diagram, calculate the area of the field.
         Give your answer in square metres.

<div style="text-align:right">... m^2 [3]</div>

12 Find the highest common factor (HCF) of 120 and 900.

<div style="text-align:right">... [2]</div>

13

NOT TO
SCALE

AB is parallel to *CD*.

Calculate the value of *x*.

$x =$ .... [3]

14 A doctor measures the height and weight of each person in a group.
This information is plotted on a scatter graph.

Write down the type of correlation you would expect for this information.

.... [1]

15 Write down the equation of the line, parallel to $y = 3x + 5$, which passes through the point $(0, -2)$.

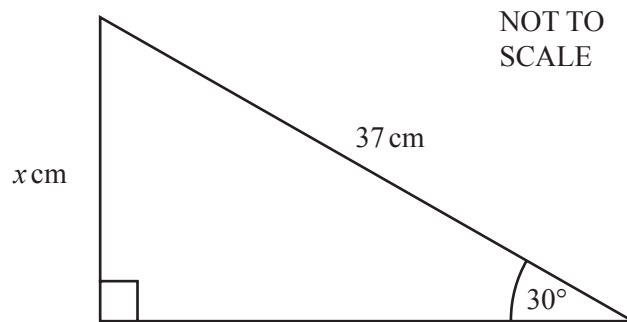$y =$ .... [3]

16 Parul completes a 10 km run in 55 minutes 30 seconds.

Calculate Parul's average speed in km/h.

.... km/h [3]

17

Find the value of x.

$x =$ .... [2]

18 Factorise completely

(a) $x^2 - 64$,

.... [1]

(b) $x^2 + 11x + 30$.

.... [2]

19
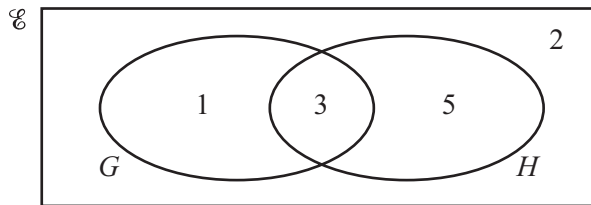
11 students are asked if they like German (*G*) and if they like history (*H*).
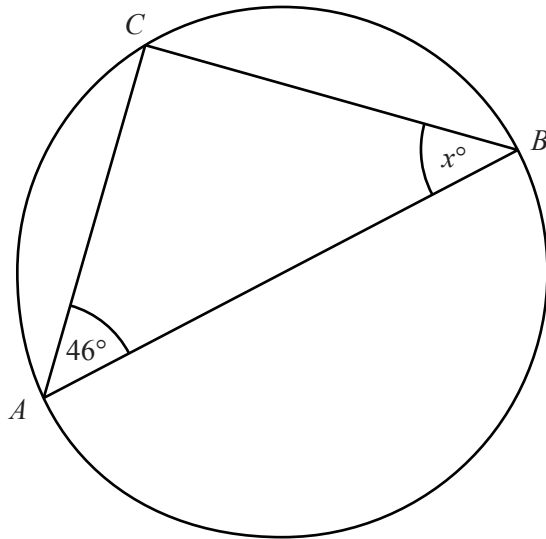The Venn diagram shows the results.

A student is chosen at random.

What is the probability that the student likes German **and** history?

.... [1]

20 Find the lowest common multiple (LCM) of 30 and 36.

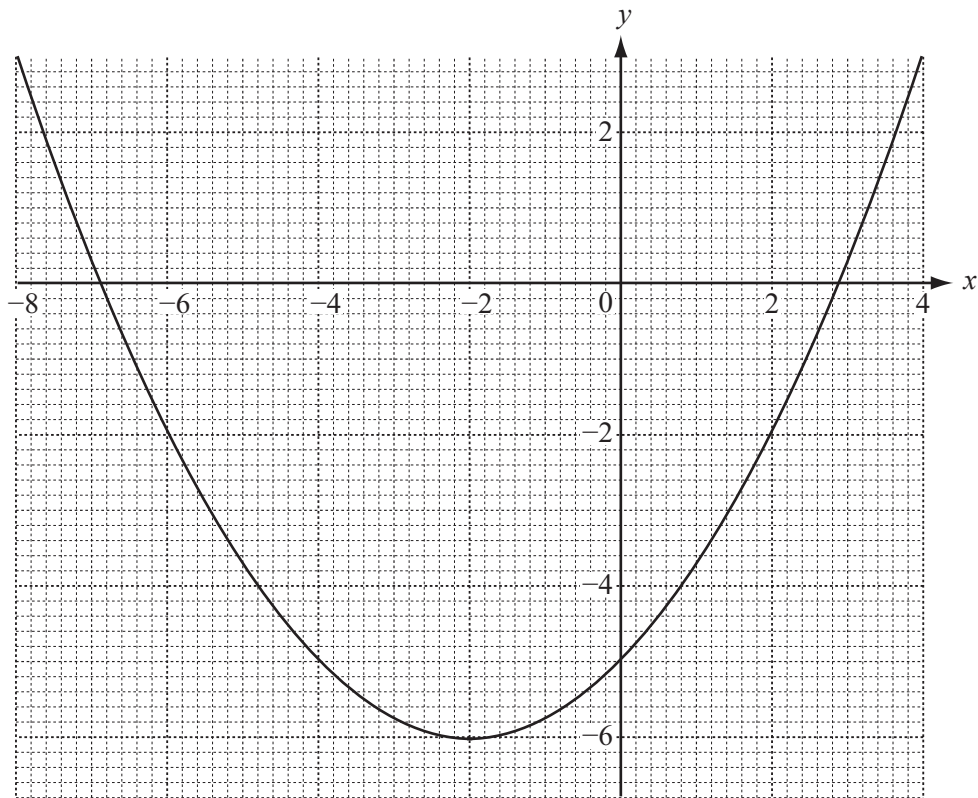.. [2]

21

NOT TO
SCALE

A, *B* and *C* are points on the circumference of a circle with diameter *AB*.

Find the value of *x*, giving a reason for your answer.

$x =$ .... because ....

.... [2]

22 The graph of $y = 0.25x^2 + x - 5$ for $-8 \leqslant x \leqslant 4$ is shown below.

Use the graph to find the roots of $0.25x^2 + x - 5 = 0$, correct to 1 decimal place.

.... [2]

Question 23 is printed on the next page.

23 Solve the simultaneous equations.
You must show your working.

$$2x - y = 9$$
$$7x + 2y = 26$$

$x =$ ....

$y =$ .... [3]