

Cambridge International Examinations

Cambridge International General Certificate of Secondary Education

CAMBRIDGE INTERNATIONAL MATHEMATICS

0607/23

Paper 2 (Extended) May/June 2016

MARK SCHEME
Maximum Mark: 40

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Abbreviations

awrt answers which round to cao correct answer only

dep dependent

FT follow through after error isw ignore subsequent working

oe or equivalent SC Special Case

nfww not from wrong working

soi seen or implied

| Question | Answer | Mark | Part Marks |
|------------|---|------|--|
| 1 | [0]8 33 | 3 | M2 for $\frac{40}{50} \times 60$ oe or M1 for $\frac{40}{50}$ soi |
| 2 | 60 | 2 | M1 for $\frac{36}{3}$ |
| 3 | 11.5 | 2 | M1 for re-ordering list of at least 6 |
| 4 (a) | 1800 | 2 | M1 for $180 - \frac{360}{12}$ or for $(12 - 2) \times 180$ soi |
| (b) | 24 | 2 | B1 for $\frac{360}{180-165}$ |
| 5 | 3 | 3 | M2 for $\frac{9.7 - 2 \times 2.6}{1.5}$ or M1 for $9.70 - 2 \times 2.6$ |
| 6 (a) | 51 | 1 | |
| (b) | -96 | 1 | |
| (c) | 0.5 oe | 1 | |
| 7 (a) | 7.54×10^{-4} | 2 | M1 for $0.00075 + 0.000004$ or 750×10^{-6} or 0.04×10^{-4} or figs 754 |
| (b) | 3×10 ⁻⁹ | 2 | B1 for 30×10^{-10} or answer 0.0000000003 |
| 8 | $x^5 - 7x^2$ final answer | 2 | B1 for each |
| 9 | $0.069 \ 0.6^2 \ 65\% \ \frac{2}{3} \ \sqrt{0.7}$ | 2 | B1 for one in wrong place |
| 10 | 1 | 2 | B1 for $6x - 8$ or $-6x + 9$ |
| | | | If 0 scored SC1 for $kx+1$ |

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| Qu | estion | Answer | Mark | Part Marks |
|----|--------|---|----------|---|
| 11 | (a) | 3 | 2 | B1 for $4\sqrt{36}$ oe or $7\sqrt{9}$ oe soi |
| | (b) | $3 + \sqrt{2}$ final answer | 2 | M1 for $\times \frac{3+\sqrt{2}}{3+\sqrt{2}}$ |
| 12 | | Correctly equating one set of coefficients | M1 | Equation $x = \text{ or } y = \text{ from one equation}$ |
| | | Correct method to eliminate one variable $x = -1$ | M1 B1 | Correct substitution into other equation |
| | | y = -1 | B1 | If 0 scored SC1 for correct substitution into one of original equations and evaluation to find other variable |
| 13 | (a) | Correct graph | 2 | B1 for $y = x^3$ shape B1 for cubic graph through $(0, 2)$, with 2 marked or $(0, 2)$ on answer line |
| | (b) | Correct graph | 3 | B1 for cos graph, max at $(0, k)$ approx B1 for graph through $(0, 2)$, with 2 marked or $(0, 2)$ on answer line B1 for range as 2 to -2 approx |