

CAMBRIDGE INTERNATIONAL EXAMINATIONS

Cambridge International General Certificate of Secondary Education

MARK SCHEME for the May/June 2015 series

0580 MATHEMATICS

0580/13

Paper 1 (Core), maximum raw mark 56

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Abbreviations

| | |
|------|----------------------------|
| 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 | 700 | 1 | |
| 2 | 56 | 1 | |
| 3 | $\frac{22}{25}$ cao | 2 | M1 for $\frac{88}{100}$ oe seen |
| 4 | 168 | 2 | M1 for $240 \div (7 + 3)$ or better |
| 5 | $3x(3x - 2)$ final answer | 2 | B1 for $x(9x - 6)$ or $3(3x^2 - 2x)$ |
| 6 | 1350 1450 | 1, 1 | If zero, award SC1 for correct but reversed |
| 7 | 66.4[2.....] | 2 | M1 for $\cos [\dots =] \frac{2}{5}$ oe |
| 8 (a) | [+] 2 | 1 | |
| (b) | -6 | 1 | |
| 9 (a) | 7.16[1...] | 1 | |
| (b) | 3.5 oe | 1 | |
| 10 (a) | 2.7×10^5 | 1 | |
| (b) | 4.57×10^8 | 2 | M1 for $(6.4 \times 10^7 + 8.5 \times 10^8) \div 2$ or better If 0 scored SC1 for figs 457 or 9.14×10^8 |
| 11 | 44 www | 3 | M1 for angle [$EBC =$] $360 - (82 + 102 + 64)$ oe or better M1FT for angle $ABE = 180 - \text{'their } EBC\text{'}$ |
| 12 (a) | correct horizontal and vertical lines only | 2 | B1 for one line only correct and no extras |
| (b) | 2 | 1 | |
| 13 | 1.60 cao | 3 | B2 for 1.597... or 1.6 or M1 for $2 \div 1.252$ |

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| 14 | $\frac{15}{8}$ <i>their</i> $\frac{15}{8} \times \frac{9}{5}$ oe $\frac{27}{8}$ or $3\frac{3}{8}$ cao | B1 M1 A1 | or $\frac{135}{72}$ or $\frac{135}{72} \div \frac{40}{72}$ or equivalent division with fractions with common denominators |
| 15 | 2.8 oe | 3 | M2 for $12 + 2 = 8x - 3x$ or better or M1 for $3x + 12$ or $8x - 2$ |
| 16 | 20.6 or 20.58 to 20.59 | 3 | M2 for $\frac{85 - 67.5}{85} \times 100$ or $\left(1 - \frac{67.5}{85}\right) \times 100$ or M1 for $\frac{85 - 67.5}{85}$ or $\frac{67.5}{85} \times 100$ If zero scored SC1 for $\frac{67.5 - 85}{85} \times 100$ |
| 17 (a) | 1, 5 | 1 | |
| (b) | $\begin{pmatrix} 5 \\ -2 \end{pmatrix}$ | 1 | |
| (c) | $\begin{pmatrix} 6 \\ -1 \end{pmatrix}$ | 1 | |
| (d) | $\begin{pmatrix} -18 \\ 42 \end{pmatrix}$ | 1 | |
| 18 (a) | [0].85 final answer | 2 | B1 for 0.853[5...] or 13.7 and 16.05 seen |
| (b) | 0.507 0.5077 $\frac{5}{9}$ 57% | 2 | M1 for 3 in the correct order or B1 for [0].57 and [0].55... or 0.56 |
| 19 (a) | 67 | 1 | |
| (b) | 2×3^3 oe | 2 | B1 for a correct factor tree or 2,3,3,3 identified |
| (c) | 18 cao | 2 | B1 for final answer of 2, 3, 6 or 9 |

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|-----------|---------------|---|------------|---|
| 20 | (a) | 2040 or 2036 or 2035.7 to 2036.1 | 2 | M1 for $\pi \times 6^2 \times 18$ If zero, SC1 for answer of 8140 (after use of diameter) |
| | (b)(i) | 1104 | 3 | M2 for $2 \times (20 \times 14 + 20 \times 8 + 8 \times 14)$ oe or M1 for $20 \times 14 + 20 \times 8 + 8 \times 14$ |
| | (ii) | <i>their</i> (b)(i) $\times 100$ | 1FT | |