

CAMBRIDGE INTERNATIONAL EXAMINATIONS

Cambridge International General Certificate of Secondary Education

MARK SCHEME for the October/November 2015 series

0580 MATHEMATICS

0580/13

Paper 1 (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 | 6054 | 1 | |
| 2 | 6.7 | 1 | |
| 3 | 3 | 1 | |
| 4 | 170 cao | 1 | |
| 5 | [0].101 or [0].1005 to [0].1006 | 1 | |
| 6 | 6 | 1 | |
| 7 (a) | 12, 15 | 1 | |
| (b) | 11, 13 | 1 | |
| 8 (a) | 5 | 1 | |
| (b) | Subtract 4 oe | 1 | |
| 9 | 5 – u final answer | 2 | B1 for 5 + ku or j – u, k ≠ 0 as final answer |
| 10 (a) | 2 | 1 | |
| (b) | –9 | 1 | |
| 11 | 23.6 or 23.57 to 23.58 | 2 | M1 for sin [=] $\frac{2}{5}$ oe |
| 12 | 2 ³ × 3 ² or 2 × 2 × 2 × 3 × 3 | 2 | B1 for 2, 2, 2, 3, 3 |
| 13 | 31.6 [2....] | 2 | M1 for $\sqrt{18^2 + 26^2}$ |
| 14 | Correct triangle with correct arcs | 2 | B1 for correct triangle without arcs or 1 correct side with arcs |
| 15 | 562.5 cm ³ | 2 1 | M1 for 5 × 12.5 × 9 |
| 16 | Any two of $\frac{8}{12}$, $\frac{2}{12}$ or $\frac{3}{12}$ oe $\frac{8}{12} + \frac{2}{12} - \frac{3}{12}$ oe $\frac{7}{12}$ | M1 M1 A1 | M1 for any 2 correct over a common denominator, eg $\frac{4}{6}$ and $\frac{1}{6}$ or SC2 for final answer $\frac{13}{12}$ or $1\frac{1}{12}$ with full working |
| 17 (a) | 3x + 21 final answer | 1 | |
| (b) | 2x (1 – 2x) final answer | 2 | B1 for 2(x – 2x ²) or x(2 – 4x) as final answer |

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| Question | Answer | Mark | Part marks |
|-------------------|--|-------------|---|
| 18 (a) | 230 | 1 | |
| (b) | C marked in correct position | 2 | B1 for correct distance 8 cm or correct bearing 155° |
| 19 (a) | [0].00017 | 1 | |
| (b) | 1.026×10^{-3} | 2 | B1 for 10.26×10^{-4} oe |
| 20 (a) | 96 | 2 | M1 for $360 - (66 + 98 + 112)$ |
| (b) | 4140 | 2 | M1 for $(25 - 2) \times 180$ or $25 \times \left(180 - \frac{360}{25}\right)$ |
| 21 (a) | 12 nfw | 2 | M1 for $\frac{x}{7.5} = \frac{10}{6.25}$ oe |
| (b) | 3.75 cao | 2 | M1 for $\frac{y}{6} = \frac{6.25}{10}$ oe |
| 22 | Correctly equating one set of coefficients | M1 | eg $10x + 4y = 16$ and $10x - 15y = 130$ or $15x + 6y = 24$ and $4x - 6y = 52$ |
| | Correct method to eliminate one variable | M1 | eg $19y = k$ or $hx = 114$ or $19x = m$ or $ny = 76$ |
| | [x =] 4 | A1 | |
| | [y =] -6 | A1 | |
| | | | If zero scored SC1 for 2 values satisfying one of the original equations. SC1 if no working shown, but 2 correct answers given |
| 23 (a) (i) | 60 | 1 | |
| (ii) | $\frac{90}{360}$ oe | 1 | |
| (iii) | 46 | 2 | M1 for $\frac{138}{360} \times 120$ |
| (b) | 2.4 nfw | 3 | M1 for $(0 \times 3) + (1 \times 3) + (2 \times 8) + (3 \times 5) + (4 \times 4) + (5 \times 2)$ implied by 60 M1dep for <i>their</i> $60 \div 25$ |