



Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

MATHEMATICS (US)

0444/13

Paper 1 (Core)

October/November 2016

MARK SCHEME

Maximum Mark: 56

Published

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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 |
| nfw | not from wrong working |
| soi | seen or implied |

| Question | Answer | Mark | Part marks |
|---------------|---|------------|---|
| 1 | 5034 | 1 | |
| 2 | -3 | 1 | |
| 3 | 36 | 1 | |
| 4 | n^7 final answer | 1 | |
| 5 (a) | 2.47×10^6 | 1 | |
| (b) | 7.9×10^{-3} | 1 | |
| 6 | $0.4^2 \quad 0.22 \quad \left(\frac{1}{2}\right)^2 \quad \sqrt{0.09}$ | 2 | M1 for decimal conversion of 0.25, 0.3 and 0.16 |
| 7 (a) | Station wagon | 1 | |
| (b) | 35 | 1FT | |
| 8 | $\frac{23}{30}$ cao | 2 | M1 for $\frac{18k}{30k}$ and $\frac{5k}{30k}$ |
| 9 (a) | 18.3 | 1 | |
| (b) | 128 | 1 | |
| 10 | 48 | 2 | M1 for $\frac{x}{16} = \frac{30}{10}$ or $\frac{x}{30} = \frac{16}{10}$ oe or 3 or $\frac{1}{3}$ |
| 11 (a) | 172 | 1 | |
| (b) | 166 | 2 | B1 for an ordered list of at least 5 numbers or B1 164 and 168 identified |
| 12 (a) | 0.6 | 1 | |
| (b) | $\frac{12}{25}$ | 2 | B1 for $\frac{48}{100}$ or equivalent fraction |

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| Question | Answers | Mark | Part Marks |
|-------------------|--|-------------|---|
| 13 (a) | 960 | 1 | |
| (b) | 200 | 2 | M1 for $6400 \div 32$ |
| 14 (a) (i) | $\frac{5}{12}$ | 1 | |
| (ii) | 0 | 1 | |
| (b) | [0].65 | 1 | |
| 15 | 36 | 3 | M2 for $5 \times 3 + 7.5 + 9.5 + 4$ oe or M1 for two of 5, 7.5, 9.5 and 4 |
| 16 (a) | $\begin{pmatrix} 2 \\ 1 \end{pmatrix}$ | 1 | |
| (b) | 8, 7 | 1 | |
| 17 (a) | 60 | 2 | M1 for $2 \times 3 \times 10$ |
| (b) | not reasonable oe his answer is too big oe | 1 | |
| 18 (a) | 30 | 1 | |
| (b) | 47.5 | 3 | M2 for $(5 \times 5) + \left(\frac{4.5 \times 5}{2}\right)[\times 2]$ oe soi or M1 for $\frac{4.5 \times 5}{2}[\times 2]$ oe seen or $4.5 \times 5 + 25$ |
| 19 (a) | 142 | 1 | |
| (b) | 9 | 2 | M1 for $360 \div 40$ |
| 20 (a) | Three correct, ruled lines | 2 | B1 for two correct lines |
| (b) (i) | Drawing a rectangle or rhombus | 1 | |
| (ii) | FT their quadrilateral in (b)(i) | 1FT | |
| 21 (a) (i) | 21 | 1 | |
| | subtract 7 | 1 | |
| (ii) | 162 | 1 | |
| | multiply by 3 | 1 | |
| (b) | $5n - 2$ | 2 | M1 for $kn - 2$ or $5n + k$ |

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| Question | Answers | Mark | Part Marks |
|-----------------|---|---|---|
| 22 | Correct method to eliminate one variable $x = 5$ and $y = -2$ | M1 A1 A1 | M1 for correctly equating one set of coefficients If zero scored, SC1 for 2 values satisfying one of the original equations or SC1 if no working shown, but 2 correct answers given |