

CAMBRIDGE INTERNATIONAL EXAMINATIONS**Cambridge International General Certificate of Secondary Education****MARK SCHEME for the May/June 2015 series****0580 MATHEMATICS****0580/12**

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
nfw	not from wrong working
soi	seen or implied

Qu	Answer	Mark	Part marks
1*	9 [h] 30 [min] cao	1	
2*	5.34×10^7	1	
3	−3	1	
4	5	1	
5	Negative	1	
6 (a)	[0].64	1	
(b)	$\frac{16}{25}$ cao	1	
7	2x Final answer	2	B1 for $2x + j$ or kx [+0] as final answer or either $5x - 15$ or $-3x + 15$ in working
8	$\sqrt{0.011}$ 0.11 3^{-2} $\frac{2}{17}$	2	M1 for correct change to decimals (or %) or B1 for 3 in correct order.
9*	0.2 oe	2	M1 for $1 - (0.15 + 0.3 + 0.35)$
10	$xy(3x - 5z)$ final answer	2	B1 for $x(3xy - 5yz)$ or $y(3x^2 - 5xz)$
11*	Parallel	1	
	Same length	1	
12*	$\frac{8}{3}$ $\frac{4}{5} \times \text{their } \frac{3}{8}$ oe $\frac{3}{10}$ cao	B1 M1 A1	or $\frac{40}{15}$ accept $\frac{3}{8}$ or $\frac{15}{40}$ or $\frac{12}{15} \div \text{their } \frac{40}{15}$ or equivalent division with fractions with common denominators

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Qu	Answer	Mark	Part marks
13* (a)	11	1	
(b)	8	2FT	FT $30 - 2 \times \text{their (a)}$ or M1 for $4 \times 7 = 2(x - 1) + FG$ oe or $4(x - 4) = 2(x - 1) + FG$ oe or $2 \times 7 + 2(x - 4) = 2(x - 1) + FG$ oe Allow x to be <i>their (a)</i> in each case
14	548 or 547.8 or 547.75 to 547.76	3	M2 for $480 \left(1 + \frac{4.5}{100}\right)^3$ oe or M1 for correct method for amount for 2 years. SC2 for [interest = \$]68 or 67.8 or 67.75 to 67.76
15 (a)	$\frac{73}{200}$ oe	1	
(b)	1971	2FT	M1 for <i>their (a)</i> $\times 5400$ ($0 < \text{their (a)} < 1$) or $5400 \div 200 \times 73$
16 (a)	$\begin{pmatrix} 3 \\ 7 \end{pmatrix}$	1	
(b) (i)	C marked at $(-4, 0)$	1	
(ii)	$(-4, 0)$	1FT	Co-ordinates of <i>their</i> point C
17 (a)	$[x =] 37$	1	
(b)	$[y =] 53$	1FT	Follow through $90 - \text{their (a)}$
(c)	$[z =] 74$	2FT	M1 for eg $180 - 2 \times \text{their angle } BDC$ or $180 - 2 \times \text{their (b)}$ or $2 \times \text{their (a)}$
18 (a)	45, 38	1, 1FT	Follow through <i>their</i> $45 - 7$
(b)	$80 - 7n$ oe	2	B1 for $-7n$
19* (a)	78	3	M2 for $5 \times 12 + \frac{1}{2} \times 12 \times (8 - 5)$ or $\frac{1}{2} \times 6 \times (5 + 8) \times 2$ oe or M1 for 5×12 , $\frac{1}{2} \times 12 \times (8 - 5)$, $\frac{1}{2} \times 6 \times (5 + 8)$ or $12 \times 8 - (\dots)$
(b)	1170	1FT	$15 \times \text{their (a)}$

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Qu	Answer	Mark	Part marks
20 (a)	3×180	1	
(b)	51, 153 204	4	M1 for $540 - (79 + 53) [= 408]$ M1 dependent for <i>their</i> $408 \div (1 + 3 + 4)$ A1 for 1 correct angle If zero, SC2 for 67.5, 202.5 and 270 or SC1 for 67.5
21 (a)	Jan	1	
(b)	9	1	
(c)	9.5	2	M1 for correctly ordering at least 7 months from one end or identifying the middle two, 8 and 11
(d)	8.8	3	M1 for attempt to add the temperatures $\div 12$ A1 for 8.83[3.....] After M1 A0, award SC1 for their mean correct to 2 sf