

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

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge will not enter into discussions about these mark schemes.

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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

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

Page 3	Mark Scheme	Syllabus	Page
	Cambridge IGCSE – May/June 2015	0580	12

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	$15 \times \text{their (a)}$

Page 4	Mark Scheme	Syllabus	Paper
	Cambridge IGCSE – May/June 2015	0580	12

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