CAMBRIDGE INTERNATIONAL EXAMINATIONS

Cambridge International General Certificate of Secondary Education

MARK SCHEME for the October/November 2015 series

0580 MATHEMATICS

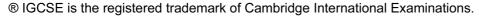
0580/11 Paper 1, maximum raw mark 56

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.

Cambridge is publishing the mark schemes for the October/November 2015 series for most Cambridge IGCSE[®], Cambridge International A and AS Level components and some Cambridge O Level components.





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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	0.524 < 5.0204 < 5.024 < 5.204	1	
2	[+]17	1	
3	r^4	1	
4 (a)	70	1	
(b)	[0].375 cao final answer	1	
5 (a)	18.88 cao final answer	1	
(b)	1.3	1	
6	$\begin{pmatrix} 13 \\ 9 \end{pmatrix}$	2	B1 for $\begin{pmatrix} 12 \\ -6 \end{pmatrix}$ seen or B1 for $\begin{pmatrix} 13 \\ k \end{pmatrix}$ or $\begin{pmatrix} j \\ -9 \end{pmatrix}$ as answer
7	Triangle (3, -2), (4, -2), (4, -1)	2	B1 for movement 2 right or 3 down
8	628	2	M1 for $\frac{785}{1+4} [\times 4]$
9	7 nfww	2	M1 for 7.5×8 or for $(7+8+8+y+6+9+10+5) \div 8 = 7.5$ or better oe
10	$\frac{\sqrt{4}\times30}{9-3}$	M1	Allow one error and 2 for $\sqrt{4}$ and 6 for $9-3$
	10 nfww	A1	

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11		$\frac{2}{5} \times \frac{4}{3}$	M1	$\frac{2\times 4}{5\times 3}$
		$=\frac{8}{15}$ or equivalent fraction	A1	
12		14 nfww	3	M2 for $(0.8 \times 6 + 2.2 \times 0.8)$ oe $\div 0.5$ oe or M1 for $0.8 \times 6 + 2.2 \times 0.8$ oe If zero scored, SC1 for <i>their</i> attempt at area $\div 0.5$ and SC1 for any non-integer answer for <i>their</i> value $\div 0.5$ rounded up
13	(a)	84	1	
	(b)	28	1	
	(c)	Alternate	1	
14		156	3	M2 for $180 - \frac{360}{15}$ or $\frac{180 \times (15 - 2)}{15}$ or $\frac{90 \times (2 \times 15 - 4)}{15}$ or M1 for $\frac{360}{15}$ or $180 \times (15 - 2)$ oe
15	(a)	[0].21 oe	2	M1 for 1 – ([0].15 + [0].22 + [0].18 + [0].24) or 100 – (15 + 22 + 18 + 24)
	(b)	[0].37 oe	1	
16	(a)	90	1	
	(b)	8.29 or 8.289 to 8.29	2	M1 for $\frac{OP}{11} = \tan 37^{\circ}$ oe
17	(a)	Negative	1	
	(b)	Single ruled line of best fit	1	
	(c)	4000 to 5100	1	FT a single ruled line of negative gradient

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18			31.4 or 31.36 to 31.37	3	M2 for $\left[\frac{2}{2} \times \right] 6.1 \times \pi + 2 \times 6.1$ oe or B2 for 19.16 to 19.17 or 19.2 or M1 for $6.1 \times \pi$ or for $12.2 \times \pi$
19	(a)		9.2	2	M1 for $4 \times 2.6 + 3 \times (-0.4)$ or better
	(b)		3.4	2	M1 for one correct step in a 2-step method
20	(a)		27	1	
	(b)	(i)	2	1	
		(ii)	Ruled line from 14 55 to 15 40	2	B1 for $\frac{3}{4}$ or 0.75 or 45 [min] or 15 40 or 3:40
21	(a)		348.6[0] cao final answer	1	
	(b)		805.31	3	M2 for 750×1.024^3 oe or M1 for $750 \times 1.024 \times 1.024$ oe If zero scored,
					SC2 for answer of 55.31 or 55. 30[], i.e. total interest
1					
22	(a)	(i)	21	1	
22	(a)	(i) (ii)	21 48	1	