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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

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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) ÷ 8 = 7.5 or better oe
10	$\frac{\sqrt{4}\times 30}{9-3}$ 10 nfww	**M1** **A1**	Allow one error and 2 for $\sqrt{4}$ and 6 for 9 − 3

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11	$\frac{2}{5} \times \frac{4}{3}$ $= \frac{8}{15}$ or equivalent fraction	**M1** **A1**	$\frac{2 \times 4}{5 \times 3}$
12	14 nfww	**3**	**M2** for $(0.8 \times 6 + 2.2 \times 0.8)$ oe ÷ 0.5 oe or **M1** for $0.8 \times 6 + 2.2 \times 0.8$ oe If zero scored, **SC1** for *their* attempt at area ÷ 0.5 **and** **SC1** for any non-integer answer for *their* value ÷ 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 $\frac{OP}{11} = \tan 37°$ 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 $\left[\frac{2}{2}\times\right]6.1\times\pi+2\times6.1$ 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 $4\times2.6+3\times(-0.4)$ 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 $750\times1.024\times1.024$ oe If zero scored, **SC2** for answer of 55.31 or 55. 30[...], i.e. total interest
22 (a) (i)	21	**1**	
(ii)	48	**1**	
(b)	$5n-3$ oe final answer	**2**	**B1** for $5n+a$ **or** $bn-3$ ($b\neq0$)

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