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Cambridge International General Certificate of Secondary Education

MARK SCHEME for the October/November 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
nfww not from wrong working
soi seen or implied

Question	Answer	Mark	Part marks
1	17	**1**	
2	Parallelogram	**1**	
3	$\sqrt{3}$	**1**	
4	[0.3=] $\frac{3}{10}$ and [$\frac{1}{3}$ =] $\frac{3}{9}$ or $\frac{1}{3} = 0.33[3\ldots]$	**1**	
5 (a)	1426.31 cao	**1**	
(b)	1400 cao	**1**	
6	520 final answer	**2**	**M1** for $2600 \times 5 \times \frac{4}{100}$ oe
7	694 or 694.4[4...]	**2**	**M1** for 950 ÷ 1.368
8	12	**2**	**M1** for $\frac{7.2}{x} = \frac{15}{25}$ oe or better eg $7.2 \times \frac{25}{15}$
9	$4n - 5$ oe	**2**	**M1** for $4n + k$ or for $jn - 5$ ($j \neq 0$)
10	48.7 or 48.70….	**2**	**M1** for sin[=] $\frac{14.5}{19.3}$ oe
11 (a)	6 cao	**1**	
(b)	12 final answer	**1**	
12 (a)	$\begin{pmatrix} 6 \\ -3 \end{pmatrix}$	**1**	
(b)	$\begin{pmatrix} -5 \\ 7 \end{pmatrix}$	**1**	

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Question	Answer	Mark	Part marks
13	$[y =]\frac{4R}{t}$	**2**	**M1** for a correct first step: $4R = ty$ or $\frac{R}{t} = \frac{1}{4}y$
14 (a)	62.5[%]	**1**	
(b)	130.35 cao	**1**	
15	correct triangle with correct arcs	**2**	**B1** for correct triangle without arcs or 1 correct side with arcs
16	10.96 cao	**3**	**M2** for 4×1.27 + 3.5×1.68 or **M1** for 4×1.27 **or** 3.5×1.68
17	54	**3**	**M2** for $14.4 \times \frac{15}{4}$ oe or **M1** for $14.4 \div 4$ or $\frac{4}{15}$ associated with 14.4 If zero scored **SC1** for final answer 19.6[4]
18	3.5 nfww	**3**	**M1** for Σfx soi **M1** (dep) for $\div 24$
19	6.24 or 6.244 to 6.245	**3**	**M2** for $\sqrt{8^2 - 5^2}$ or **M1** for $8^2 = 5^2 + x^2$ or better
20	$2\frac{3}{12}$ or $1\frac{15}{12}$ or $\frac{27}{12}$ or $\frac{9\times3}{4\times3}$ *their* $(\frac{27}{12} - \frac{11}{12} = \frac{16}{12})$ oe $1\frac{1}{3}$ or $\frac{4}{3}$ cao	**M1** **M1** **A1**	Accept any correct conversion with common denominator $12k$ Correct resolving of *their* subtraction with denominator $12k$ showing full working Working and then simplified answer must both be seen
21	3, 3, 6, 7, 8	**3**	**B2** for **two** of: 5 numbers with mode 3 5 numbers with median 6 5 numbers with range 5 or **B1** for **one** of them
22 (a)	44 to 48	**1**	
(b)	507 or 506.7 to 506.8	**2**	**M1** for $\pi \times 12.7^2$

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Question	Answer	Mark	Part marks
23 (a)	$-8w + 20$ final answer	**1**	
(b)	$x(6x - 1)$	**1**	
(c)	28	**2**	**M1** for $2 \times 7 \times 5 + 3 \times 7 \times (-2)$ or for 70 or −42 seen
24 (a)	111 to 115	**1**	
(b)	304 to 320	**2**	**B1** for 7.6 to 8.0
(c)	[0]56 cao	**2**	**M1** for 236−180 oe

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