

MARK SCHEME for the October/November 2015 series

0580 MATHEMATICS

0580/12

Paper 1 (Core), maximum raw mark 56

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

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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 $\frac{1}{3} = 0.33[3\dots]$	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 $950 \div 1.368$
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	

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 $4 \times 1.27 + 3.5 \times 1.68$ 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 nfw	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 $\frac{9 \times 3}{4 \times 3}$ <i>their</i> $(\frac{27}{12} - \frac{11}{12} = \frac{16}{12})$ oe $1\frac{1}{3}$ or $\frac{4}{3}$ cao	M1 M1 A1	Accept any correct conversion with common denominator $12k$ Correct resolving of <i>their</i> 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