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Cambridge International General Certificate of Secondary Education

MARK SCHEME for the March 2015 series

0580 MATHEMATICS

0580/12

Paper 1 (Paper 12 – 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
nfwf	not from wrong working
soi	seen or implied

Qu	Answers	Mark	Part marks
1	71 072	1	
2	8	1	
3	332 or 330 to 334	1	
4	68	1	
5	191.27 cao	1	
6 (a)	$\frac{9}{11}$	1	
(b)	$\frac{73}{100}$	1	
7 (a)	0.28 oe	1	
(b)	144	1	
8 (a)	radius	1	
(b)	chord	1	
9 (a)	(8, -12)	1	
(b)	$\begin{pmatrix} 24 \\ -28 \end{pmatrix}$	1	
10	96	2	B1 for $96k$ or $2^5 \times 3$ or for listing multiples of each up to 96
11	1230 or 1231 to 1232	2	M1 for $\pi \times 7 \times 7 \times 8$ or better
12	102.6[0]	2	M1 for $760 \times 3 \times \frac{4.5}{100}$ or better
13 (a) (i)	1	1	
(ii)	m^7	1	
(b)	2	1	

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14	400 350 250	3	M1 for $\frac{1000}{8+7+5}$ implied by 50 A1 for one clearly assigned correct answer or SC2 for 3 correct answers in wrong order
15 (a)	68	1	
(b) (i)	15	2	M1 for $\frac{360}{n} = 24$ or $(n-2)180 = 156n$
(ii)	pentagon	1	
16	$\frac{25}{9}$ $\frac{a}{b} \times \frac{6}{5}$ where $a > b$ <i>Their</i> $\frac{150}{45}$ oe or <i>their</i> correct full cancelling $\frac{10}{3}$ or $3\frac{1}{3}$ nfww	B1 M1 M1FT dep A1	(Alt) $\frac{25}{9}$ $\frac{\text{their } 25 \times 2}{9 \times 2} \div \frac{5 \times 3}{6 \times 3}$ oe $\frac{\text{their } 25 \times 2}{5 \times 3}$ oe or $\frac{50}{18} \div \frac{15}{18}$ oe with 18's cancelled
17 (a)	47	1	
(b)	36	1	
(c)	14	1	
(d)	130	1	
18 (a)	$[x =] 6.5$ $[y =] 2.5$	2	B1 for $x = 6.5$ B1 for $y = 2.5$ If zero scored, SC1 for correct substitution and evaluation to find other variable or SC1 no working, 2 correct answers given.
(b)	$7p(2p + 3q)$	2	B1 for $7(2p^2 + 3pq)$ or $p(14p + 21q)$
19 (a)	$2c$ $2c + 3$	1 1FT	 FT is <i>their</i> $2c + 3$ provided linear
(b)	$5c + 3$	2FT	M1 for $c + \text{their } 2c + \text{their } (2c+3)$ provided linear

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20	(a)	3.5	1	
	(b)	straight line from (0,0) to (15, <i>their</i> 3.5)	1FT	FT from (a)
		horiz line from (<i>their</i> 15, <i>their</i> 3.5) to (<i>their</i> 33, <i>their</i> 3.5)	1FT	FT is horizontal line length 18 mins
		straight line from (<i>their</i> 33, <i>their</i> 3.5) to (<i>their</i> 33 + 12, 0)	1FT	FT is from (<i>their</i> x, <i>their</i> y) to (<i>their</i> x + 12, 0)
21	(a) (i)	reflection $x = 3$	1 1	
	(ii)	rotation [centre] (0,0) oe 180	1 1 1	
	(b)	correct enlargement (-2, 0), (-4, 0), (-2, 6), (-4, 8)	2	B1 for correct scale factor used, wrong centre