CAMBRIDGE INTERNATIONAL EXAMINATIONS

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
nfww	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)		$\dfrac{9}{11}$	1	
	(b)		$\dfrac{73}{100}$	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 $760 \times 3 \times \dfrac{4.5}{100}$ 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 $\dfrac{1000}{8+7+5}$ 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 $\dfrac{360}{n}=24$ or $(n-2)180=156n$
(ii)	pentagon	1	
16	$\dfrac{25}{9}$	**B1**	(Alt) $\dfrac{25}{9}$
	$\dfrac{a}{b}\times\dfrac{6}{5}$ where $a>b$	**M1**	$\dfrac{their\,25\times2}{9\times2}\div\dfrac{5\times3}{6\times3}$ oe
	Their $\dfrac{150}{45}$ oe or *their* correct full cancelling	**M1FT** **dep**	$\dfrac{their\,25\times2}{5\times3}$ oe or $\dfrac{50}{18}\div\dfrac{15}{18}$ oe with 18's cancelled
	$\dfrac{10}{3}$ or $3\dfrac{1}{3}$ nfww	**A1**	
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)**	$2c$	1	
	$2c+3$	1FT	FT is *their* $2c+3$ provided linear
(b)	$5c+3$	2FT	**M1** for $c+their\,2c+their(2c+3)$ provided linear

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20	(a)		3.5	**1**	
	(b)		straight line from (0,0) to (15,*their* 3.5)	**1FT**	**FT** from **(a)**
			horiz line from (*their* 15, *their* 3.5) to (*their* 33, *their* 3.5)	**1FT**	**FT** is horizontal line length 18 mins
			straight line from (*their* 33, *their* 3.5) to (*their* 33 + 12, 0)	**1FT**	**FT** is from (*their x*, *their y*) to (their 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