UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the May/June 2012 question paper

for the guidance of teachers

0581 MATHEMATICS

0581/13 Paper 1 (Core), maximum raw mark 56

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Abbreviations

cao correct answer only
cso correct solution only
dep dependent
ft follow through after error
isw ignore subsequent working
oe or equivalent
SC Special Case
www without wrong working
soi seen or implied

Qu.		Answers	Mark	Part Marks
1		40	**1**	
2		52 000	**1**	
3		11 109	**1**	
4	**(a)**	53	**1**	
	(b)	64	**1**	
5	**(a)**	<	**1**	
	(b)	=	**1**	
6		120	**2**	**M1** for $\frac{750\times2\times8}{100}$ oe seen or **SC1** 870 as final answer
7		95	**2**	**B1** for 85 seen or **M1** $x = 180$ – 'their angle ADC', if it is clearly seen
8	**(a)**	$\begin{pmatrix}-1\\5\end{pmatrix}$	**1**	
	(b)	$\begin{pmatrix}15\\-20\end{pmatrix}$	**1**	
9	**(a)**	1	**1**	
	(b)	b^{-2}	**1**	accept $\frac{1}{b^2}$
10		7 cao	**3**	**B1** for 39.5(0) or 31.5(0) or 42 **M1** for (their 39.5 – 8) ÷ 4.5 or (their 42 – 10.5) ÷ 4.5
11	**(a)**	isosceles	**1**	
	(b)	64	**1**	
	(c)	alternate (angle)	**1**	accept z angle

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12		$[x =]$ 5, $[y =]$ –2	**3**	**M1** for consistent multiply and add/subtract as appropriate. Allow computational errors. Other methods allowed. **A1** for correct x or y.
13	**(a)**	6.4×10^{-4}	**1**	
	(b)	1.4×10^{3}	**2**	**M1** for 1400 or answer rounding to 1401 or 1.4×10^{k}
14	**(a)**	3	**1**	
	(b)	3.5	**2**	**M1** for at least 7 numbers in order and an attempt to find the middle number
	(c)	7	**1**	
15	**(a)**	$\frac{11}{12} - \frac{4}{12}$ oe $\frac{7}{12}$ **cao ww 0**	**2**	**M1** correct use of a common denominator **A1**
	(b)	$\frac{1}{4} \times \frac{13}{11}$ oe $\frac{13}{44}$ **cao ww 0**	**2**	**M1** inversion and operation change **A1**
16	**(a)**	7.2 oe	**2**	**M1** for $5x - 15 = 21$ or $x - 3 = \frac{21}{5}$
	(b)	$[x =] \frac{y+2}{3}$	**2**	**M1** for $3x = y + 2$ or $-3x = -2 - y$
17	**(a)**	112	**2**	**M1** Attempt to add 6 given and *their* 2 sides
	(b)	564	**2**	**M1** for $18 \times 34 - 12 \times 4$: $(612 - 48)$ or $(18 \times 12) + (14 \times 12) + (10 \times 18)$ or $(4 \times 12) + (10 \times 4) + (34 \times 14)$
18	**(a)**	71	**2**	**M1** for $7 \times 8 - 3 \times -5$ or **B1** 56 and –15
	(b)	$3v\,(u + 3w)$ final answer	**2**	**B1** for $3(uv + 3vw)$ or $v\,(3u + 9w)$ As final answer
19	**(a)**	332	**2**	**M1** for $BCA = 28$. Or 360 – 28 or 152 marked correctly at C or 180 + 152
	(b)	78.4	**2**	**M1** for $AB^2 = 74^2 + 26^2$ or better
20	**(a)**	[0].15 oe	**1**	
	(b)	**(i)** 0.12, 0.28, 0.44 oe	**2**	**M1** for division of 15, 35 or 55 by *their* 125 Or **B1** for 1 correct
		(ii) 128	**2**	**M1** for $800 \times$ [0].16

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