CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the May/June 2013 series

0580 MATHEMATICS

0580/11 Paper 1 (Core), maximum raw mark 56

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

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

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Cambridge is publishing the mark schemes for the May/June 2013 series for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level components and some Ordinary Level components.

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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 Answers
1	$\frac{9}{20}$ cao	**1**	
2	11 or −11	**1**	
3 (a)	1.32656 …..	**1**	
(b)	1.327	**1ft**	
4	72	**2**	**M1** for 84 ÷ 7
5 (a)	$\begin{pmatrix}2\\3\end{pmatrix}$	**1**	
(b)	$\begin{pmatrix}8\\-12\end{pmatrix}$	**1**	
6	105	**2**	**M1** for 180 – 55 – 50 or **B1** for 55 or 75 seen in the correct angle inside the triangle
7	correct working; e.g. $\frac{3}{2}\times\frac{16}{3}=8$	**2**	**M1** for $\frac{3k}{2k}$ and **A1** for $\frac{3k}{2k}\times\frac{16n}{3n}=8$
8	11.35, 11.45	**1, 1**	**SC1** for both answers correct but reversed
9	[b =] 5(a + 9) oe final answer	**2**	**M1** for one correct step
10	7n − 3 oe	**2**	**B1** for 7n
11 (a)	− 6	**1**	
(b)	13	**2**	**B1** for $\frac{12}{16}$ or $\frac{14}{16}$ or $\frac{13}{16}$ seen
12 (a)	[0].55 oe	**1**	
(b)	18	**2**	**M1** for 40 × [0].45 oe

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13	**(a)**	cuboid	**1**	condone [rectangular] prism
	(b)	pentagon	**1**	
	(c)	obtuse	**1**	
14	**(a)**	7	**1**	
	(b)	1270 or 1274 or 1274.2 to 1274.4	**2**	**M1** for $\pi \times 5.2^2 \times 15$
15		454.27 cao final answer	**3**	**M1** for $420 \times \left(1 + \frac{4}{100}\right)^2$ oe and **A1** for 454 or 454.2 to 454.3 or **SC2** for answer 34.27 or **SC1** for answer 34.2 to 34.3
16		175 cao final answer	**3**	**B2** for 175.4… or **M1** for 200 ÷ 1.14
17	**(a)**	correct ruled line two pairs of correct arcs	**1** **1**	
	(b)	correct ruled line two pairs of correct arcs	**1** **1**	
18	**(a)**	5^{-2} **and** 0.2^2	**2**	**M1** for any two correct decimal values seen with the correct expression e.g. 0.04, 0.4, 0.25, 0.16, 0.04
	(b) (i)	a^9	**1**	
	(ii)	$4b^{12}$	**2**	**B1** for $4b^k$ **or B1** for kb^{12} where k is an integer ($k \neq 0$)
19	**(a)**	$5x + 15$ final answer	**1**	
	(b)	$3x(4y - x)$ final answer	**2**	**B1** for $3(4xy - x^2)$ **or** $x(12y - 3x)$
	(c)	15	**2**	**M1** for a correct first step
20	**(a)**	4 cao	**1**	
	(b)	$\frac{21}{27}$ oe isw	**2**	**M1** for 3 + 6 + 5 + 7 + 4 or 21 seen
	(c)	3.33(3…)	**3**	**M1** for $3 \times 1 + 6 \times 2 + 5 \times 3 + 7 \times 4 + 4 \times 5 + 2 \times 6$, allow one incorrect product **or** 90 seen and **M1** dep for 'their 90' ÷ 27

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