UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the May/June 2011 question paper

for the guidance of teachers

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 must be read in conjunction with the question papers and the report on the examination.

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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

Qu.	Answers	Mark	Part Marks
1	847	1	
2	**(a)** 20 376 **(b)** 20 400	1 1ft	 Their **(a)** to nearest 100
3	**(a)** 3 **(b)** 3	1cao 1	
4	**(a)** Trapezium **(b)** Parallelogram	1 1	Do not allow Trapezoid
5	100	2	**M1** for $\frac{600}{5+1}$ (×1) If zero, **SC1** for answer of 500
6	124 or 123.8 or 123.83 to 123.92	2	**M1** for $\pi \times 6.28^2$
7	0.54	2	**M1** for $\frac{2.7 \times 20000}{100000}$ oe **or SC1** for figs 54 in answer
8	**(a)** 10 **(b)** 9	1 1	
9	22.5 oe	3	**B2** for $180 = 5x + 2x + x$ oe or better **B1** for $2x$ or $6x$ marked in the correct place on the diagram
10	$x = 13$ $y = -9$	3	**M1** for consistent multiplication and addition/subtraction. **A1** for $x = 13$ or **A1** for $y = -9$
11	$\frac{26}{12} - \frac{7}{12}$ or $2 - \frac{5}{12}$ oe $1\frac{7}{12}$ or $\frac{19}{12}$ oe	M2 A1	**M1** for $\frac{13}{6} - \frac{7}{12}$ or $2\frac{2}{12} - \frac{7}{12}$ or $\frac{1}{6} - \frac{7}{12}$ oe
12	**(a)** 1738.3 **(b)** 2.87×10^4 **(c)** 6.5	1 1 1	

13	3245	**3**	**M1** for 3000×1.04^2 **A1** for 3244.8 If zero, **SC2** for answer of 245 If zero, **SC1** for their answer **corrected** to nearest dollar
14	**(a)** (0)8(.)01(am) **(b)** 78.4 or 78.38 to 78.39	**1** **3**	Not 8.01 pm **M2** for 827 ÷ 10.55 **or M1** for figs 827 ÷ their time
15	**(a)** **(i)** 9 **(ii)** 15 03, 3.03pm **(b)** **(i)** 7 or –7 **(ii)** 17	**1** **1** **1** **1**	
16	**(a)** 84° **(b)** 10 **(c)** 60 **(d)** $\frac{96}{360}$ or $\frac{16}{60}$	**1** **1** **1ft** **1ft**	Check diagram ft their **(b)** × 6 where **(b)** is an **integer** ft $\frac{16}{\text{their } \mathbf{(c)}}$ oe where **(c)** is an **integer**
17	**(a)** $\begin{pmatrix}6\\2\end{pmatrix}$ **(b)** C marked at (1, 2) **(c)** $\begin{pmatrix}4\\-3\end{pmatrix}$ **(d)** $\begin{pmatrix}-12\\4\end{pmatrix}$	**1** **1** **1** **1**	
18	**(a)** 66° **(b)** 114° **(c)** 33°	**2** **1ft** **1ft**	**M1** for 90° clearly identified as *A* 180 – their **(a)** $\frac{180 - \text{their } \mathbf{(b)}}{2}$ or $\frac{\text{their } \mathbf{(a)}}{2}$
19	**(a)** **(i)** $x + 7$ **(ii)** $3x$ **(b)** **(i)** x+their **(a)(i)**+their **(a)(ii)**=32 or better **(ii)** (x =) 5 **(c)** 12	**1** **1** **1ft** **2ft** **1ft**	 ft dependent on 2 algebraic expressions in **(a)** **M1** for $5x = 32 - 7$ oe **ft** their **(b)(i)** with M1 for $ax = b$ **and A1** if answer is an integer. **ft** their **(b)(ii)** substituted into their **(a)(i)** **or** their **(b)(ii)** + 7 evaluated correctly