UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the October/November 2011 question paper for the guidance of teachers

0580 MATHEMATICS

0580/13 Paper 1 (Core), maximum raw mark 56

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UNIVERSITY of CAMBRIDGE
International Examinations

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	25	**1**	
2	**(a)** 105 002 **(b)** 110 000	**1** **1ft**	
3	$8x + 5y$ cao	**2**	**B1** $8x$ or $5y$ in final answer
4	**(a)** $7 \times (6 - 3) + 5$ **(b)** $8 - 6 \times (4 - 1)$	**1** **1**	
5	$\frac{11}{21}$, 52.4%, 0.525, $\frac{111}{211}$	**2**	**M1** for conversion to decimals or %, allow 1 error 0.5238…, 0.524, 0.525, 0.526 or **B1** for 3 in correct order **SC1** correct but reverse order
6	8	**2**	**M1** for 240 or 0.3 seen or figs 24 ÷ figs 3
7	112	**2**	**M1** for $240 \div (7 + 8) \times 7$
8	**(a)** 211 cao **(b)** 216 cao	**1** **1**	
9	($)138	**2**	**M1** for 120×1.15 oe **SC1** answer 18
10	(x =) –3 (y =) 5	**2**	**M1** for correctly eliminating one variable
11	(x =) 3.5	**2**	**M1** for $2x - 3 = 2 \times 2$ or better $\frac{2x}{2} = 2 + \frac{3}{2}$
12	**(a)** 1.28×10^5 **(b)** 128 500	**1** **1**	
13	882	**2**	**M1** $800 \times 1.05 \times 1.05$
14	$5h(g^2 + 2j)$	**2**	**B1** for $5(g^2h + 2hj)$ or for $h(5g^2 + 10j)$
15	298.79 cao	**2**	**M1** for $500 \div 1.6734$
16	$20x^9$ cao	**2**	**B1** for kx^9 or $20x^k$
17	130	**2**	**M1** for $26 \times 500\,000$ or 1 cm represents 5 km oe

18	$\frac{1}{9}, \frac{1}{4}$ $\left(\frac{1}{9}+\frac{1}{4}=\right)\ \frac{4}{36}+\frac{9}{36}=\frac{13}{36}$	**M1** **E1**	Both fractions seen Both fractions over a common denominator and added to give $\frac{13}{36}$
19	**(a)** 5 or –5 **(b)** –0.714 (–0.7143 to –0.7142) or $-\frac{5}{7}$	**1** **2**	 **M1** for –2 + 2 + 1 – 3 – 1 – 2 and ÷ 7
20	44.4 (44.36 to 44.38)	**3** **www**	**M2** for $8 \times 8 - \pi \times 2.5^2$ or **M1** for $\pi \times 2.5^2$
21	**(a)** **(i)** 70 **(ii)** 64 **(b)** Kite	**1** **1** **1**	
22	**(a)** 0.0299 or 0.02992… **(b)** 6.4×10^{13}	**1** **2**	 **B1** for 64×10^{12} or 64 000 000 000 000
23	**(a)** **(i)** *B* at (5, –2) **(ii)** $\begin{pmatrix} 10 \\ -4 \end{pmatrix}$ **(b)** (–1, –4)	**1** **1ft** **2ft**	 **B1**, **B1** follow through their *B* plotted
24	**(a)** (*DB* =) 9.75 or 9.746 to 9.747 **(b)** (Angle *CAD* =) 32.6 or 32.57 to 32.58	**3** **2**	**M2** for $\sqrt{(12^2 - 7^2)}$ or **M1** for $12^2 = 7^2 + x^2$ or better **M1** for $\sin \frac{7}{13}$