CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the October/November 2012 series

0580 MATHEMATICS

0580/13 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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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	74	**1**	
2 (a)	2	**1**	
(b)	Correct line drawn	**1**	
3	57	**2**	**M1** 64 or 7
4 (a)	$7t$ final answer	**1**	
(b)	r^{13} final answer	**1**	
5	96	**2**	**M1** for $\frac{600 \times 2 \times 8}{100}$ oe If zero **SC1** 696
6	$\frac{1}{100}+\frac{4}{25}$ or $0.1^2 + 0.4^2$ oe	**M1**	
	$\frac{1}{100}+\frac{16}{100}=$ 0.17 or 0.01 + 0.16= 0.17	**M1**	Independent
7	$5p + 11r$ final answer	**2**	**B1** $5p$ or $11r$ seen
8	180	**2**	**M1** for $\frac{300\times12}{20}$ oe
9	$3y - y^4$ final answer	**2**	**B1** for $3y$ or $-y^4$ as part of two term expression
10	88.2(0)	**2**	**M1** for 84 × 1.05 oe
11	249.5 [$\leqslant j <$] 250.5 cao	**2**	**B1** for either, or both correct but reversed
12 (a)	$\frac{5^2+20}{\sqrt{100}}$	**1**	
(b)	4.5 cao	**1**	

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13		$4y\,(x + 3z)$ final answer	**2**	**B1** $4(xy + 3yz)$ or $y\,(4x + 12z)$ or $2y\,(2x + 6z)$
14		Accurate perpendicular bisector of RT with arcs.	**2**	**B1** for 2 pairs of correct arcs **B1** for correct line
15		8.471 cao	**2**	**B1** for 8.47 or 8.4705 to 8.4706 or $\frac{144}{17}$ or $8\frac{8}{17}$
16		108	**3**	**M2** for $180 - (360 \div 5)$ or $\frac{180(5-2)}{5}$ **M1** for $360 \div 5$ or 180×3
17		$\frac{215}{40} - \frac{88}{40}$ $\frac{127}{40}$ or $3\frac{7}{40}$	**M2** **A1**	$3\left(\frac{15}{40} - \frac{8}{40}\right)$ OR **M1** for $\frac{15}{40}$ or $\frac{8}{40}$ or $\frac{215}{40}$ or $\frac{88}{40}$
18	**(a)**	9	**1**	
	(b)	Ruled line of best fit drawn	**1**	
	(c)	positive	**1**	
19	**(a)**	(5, 1) marked	**1**	
	(b)	(–1 , 0)	**1**	**M1** correct rise over run
	(c)	2	**2**	
20	**(a)**	0.71 oe	**1**	
	(b)	**(i)** $\frac{3}{20}$ oe or 0.15 or 15%	**1**	
		(ii) $\frac{15}{20}$ oe or 0.75 or 75%	**1**	
		(iii) 0	**1**	
21	**(a)**	**(i)** triangle with arcs	**2**	**M1** 1 side correct
		(ii) Midpoint marked 5.8 – 6.2 cm	**1ft**	
	(b)	**(i)** Correct sketch	**1**	
		(ii) Rhombus or square cao	**1**	

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22	**(a)**	**(i)** 7.3 – 7.7 cm	**1**	
		(ii) Tangent	**1**	
		(iii) *D* marked on circumference	**1**	
	(b)	11.3 to 11.3112	**2**	**M1** $3.6 \times \pi$

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