

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 $\frac{300 \times 12}{20}$ 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 [$\leq j <$] 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 (b) Ruled line of best fit drawn (c) positive	1 1 1	
19	(a) (5, 1) marked (b) (-1, 0) (c) 2	1 1 2	M1 correct rise over run
20	(a) 0.71 oe (b) (i) $\frac{3}{20}$ oe or 0.15 or 15% (ii) $\frac{15}{20}$ oe or 0.75 or 75% (iii) 0	1 1 1 1	
21	(a) (i) triangle with arcs (ii) Midpoint marked 5.8 – 6.2 cm (b) (i) Correct sketch (ii) Rhombus or square cao	2 1ft 1 1	M1 1 side correct

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