

MATHEMATICS

0580/11 October/November 2017

Paper 1 (Core) MARK SCHEME Maximum Mark: 56

Published

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Abbreviations

caocorrect answer onlydepdependentFTfollow through after erroriswignore subsequent workingoeor equivalentSCSpecial Casenfwwnot from wrong working

soi seen or implied

Question	Answer	Marks	Partial marks
1	101	1	
2	9944	1	
3	2	1	
4	88	2	M1 for $\frac{68+81+74+89+x}{5} = 80$ oe
			or B1 for 400
5(a)	18.8 cao	1	
5(b)	19 cao	1	
6	1.5 oe	2	B1 for 2.25 oe
7	3x (4x + 5y - 3) final answer	2	B1 for $3(4x^2 + 5xy - 3x)$ or $x(12x + 15y - 9)$ allow in working or correct answer spoiled
			If zero scored, SC1 for $3x(4x + 5y - 3)$ with only 2 correct elements in the brackets, allow in working
8	14.25 14.35	2	B1 for each correct or both correct but reversed
9	63.6 or 63.61 to 63.63	2	M1 for $\pi \times 4.5^2$
10(a)	(-2, 3)	1	
10(b)	Correct rhombus with 4th point at (2,2)	1	
11(a)	$\frac{5}{9}$ cao	1	
11(b)	[0].09 then 9 [%]	2	B1 for each

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Question	Answer		Marks	Partial marks
12	$\frac{5}{3}$	$\frac{2}{3} + \frac{4}{15}$	B1	Allow $\frac{5k}{3k}$
	$\frac{25}{15}$ [and $\frac{11}{15}$]	$\frac{10}{15}$ [and $\frac{4}{15}$]	M1	Correct method to find common denominator e.g. $\frac{75}{45}$ and $\frac{33}{45}$
				Follow through <i>their</i> $\frac{5}{3}$ for the M1 mark
	$\frac{14}{15}$ cao	$\frac{14}{15}$ cao	A1	
13(a)	343		1	
13(b)	-11		1	
13(c)	343		1	
14(a)	$\begin{pmatrix} 2\\7 \end{pmatrix}$		1	
14(b)	$\begin{pmatrix} 2\\5 \end{pmatrix}$		1	
14(c)	$ \begin{pmatrix} 8 \\ 20 \end{pmatrix} $		1	
15	54		3	M2 for $\frac{180 \times (5-2)}{5}$ or $180 - \frac{360}{5}$
				or M1 for $180 \times (5-2)$ or $\frac{360}{5}$
16	16.1 or 16.12 to 16.13		3	M2 for $\sqrt{(18^2 - 8^2)}$ or better
				or M1 for $18^2 = []^2 + 8^2$ or better
17(a)	m^{10} final answer		1	
17(b)	$20x^5y^2$ final answer		2	B1 for 2 out of 3 elements correct in final answer or correct answer spoiled

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Question	Answer	Marks	Partial marks
18	Correct method to eliminate one variable	M1	
	[<i>x</i> =] -2	A1	
	[<i>y</i> =] 3	A1	If zero scored, SC1 for both correct but no or wrong working or SC1 for 2 values satisfying one of the original equations
19(a)(i)	99° 63°	3	B1 for each
	36°		or M1 for $162 \div 18$ or $360 \div 40$ or better
			If zero scored, SC1 for 3 angles that add to 198
19(a)(ii)	Correct labelled pie chart	1FT	FT <i>their</i> table if <i>their</i> angles add to 198
19(b)	$\frac{252}{360}$ or better fraction isw	1	
20(a)	71.48	2	M1 for 12.8 × 10.4 or 9.2 × 6.7
			or for an area of a suitable rectangle from shaded area
20(b)	132	3	M2 for $2 \times (8 \times 2 + 2 \times 5 + 8 \times 5)$ oe
			or M1 for at least two of 8×2 , 8×5 and 2×5
21(a)(i)	Correct ruled bisector with two pairs of correct arcs	2	B1 for correct ruled bisector missing/wrong arcs or 2 pairs of correct arcs
21(a)(ii)	Correct ruled perpendicular bisector with two pairs of correct arcs	2	B1 for correct ruled bisector missing/wrong arcs or 2 pairs of correct arcs
21(b)	Correct region shaded	1	Dep. on at least B1 in (a)(i) and B1 in (a)(ii)