Cambridge Assessment International Education
Cambridge International General Certificate of Secondary Education

MATHEMATICS **0580/11**

Paper 1 (Core) **October/November 2017**

MARK SCHEME

Maximum Mark: 56

Published

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Abbreviations

cao correct answer only
dep dependent
FT follow through after error
isw ignore subsequent working
oe or equivalent
SC Special Case
nfww not 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

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 *their* $\frac{5}{3}$ 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 $18^2 = [\ldots]^2 + 8^2$ 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

Question	Answer	Marks	Partial marks
18	Correct method to eliminate one variable	**M1**	
	[x =] –2	**A1**	
	[y =] 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° 36°	**3**	**B1** for each or **M1** for 162 ÷ 18 or 360 ÷ 40 or better If zero scored, **SC1** for 3 angles that add to 198
19(a)(ii)	Correct labelled pie chart	**1FT**	**FT** *their* table if *their* 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 × (8 × 2 + 2 × 5 + 8 × 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)**