Cambridge IGCSE

Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

MATHEMATICS	**0580/12**
Paper 1 Core	**May/June 2016**
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	Mark	Part marks
1		$0.008 < 0.2 < 0.304 < 0.57$	1	
2		5.89 or 5.885 to 5.886	1	
3		3.590 cao	1	
4		Parallelogram	1	
5		284.2[0] cao	1	
6		36	1	
7	**(a)**	$5f$ final answer	1	
	(b)	g^8 final answer	1	
8		24	2	**M1** for $6 \div 45$ or $180 \div 45$
9		$7n - 3$ oe	2	**M1** for $7n + a$ or $bn - 3$ ($b \neq 0$)
10		15	2	**M1** for $20 \div 12$ or $12 \div 9$ or $9 \div 12$ or $12 \div 20$
11	**(a)**	2.6×10^6	1	
	(b)	[0].0058	1	
12		$\dfrac{1}{4}$	1	
		[0].3	1	
		0.08	1	
13	**(a)**	Arrow 2 cm from 0	1	
	(b) (i)	$\dfrac{8}{20}$ oe	1	
	(ii)	$\dfrac{12}{20}$ oe	1FT	**FT** $1 - $ *their* (b)(i) provided *their* (b)(i) < 1

Question	Answer	Mark	Part marks
14 (a)	44	1	
(b)	180 to 184	2	**M1** for £50 = $90 to $92 oe soi
15 (a) (i)	$\begin{pmatrix} 12 \\ -6 \end{pmatrix}$	1	
(ii)	$\begin{pmatrix} 7 \\ -2 \end{pmatrix}$	1	
(b)	A in correct position	1	
16 (a)	$(0, -3)$	1	
(b)	4	1	
(c)	$y = 4x$ [+0]	1FT	**FT** $y = their$ (b)x for numerical gradient only
17	45	3	**M2** for $360 \div (180 - 172)$ or **M1** for $180 - 172$ or $\dfrac{180(n-2)}{n} = 172$ oe
18	$\dfrac{21}{8} \times \dfrac{3}{7}$ oe $1\dfrac{1}{8}$ cao final answer	M1 A2	Must be shown **A1** for $\dfrac{9}{8}$ oe e.g. $\dfrac{63}{56}$
19	Correctly eliminating one variable $x = 4$ $y = 0.5$ oe	M1 A1 A1	If zero scored **SC1** for 2 values satisfying one of the original equations or if no working shown, but 2 correct answers given
20 (a)	Bisector of angle B accurate with two pairs of correct arcs	2	**B1** for accurate line with no/wrong arcs or for correct arcs with no/wrong line
(b)	Ruled line parallel to AC at a distance of 3 cm to AC only inside the triangle	1	
21 (a)	Wed[nesday]	1	
(b)	4	1	
(c)	9	1	
(d)	-1 nfww	1	

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22	(a)	51	2	**M1** for $\frac{1}{2}\times(10+7)\times6$ oe
	(b)	612	1FT	**FT** 12 × *their* (a)
		cm^3	1	
23	(a)	16 10 or 4 10 pm	1	
	(b)	12	2	**M1** for 8 ÷ 40 or better
	(c)	Line from (16 10, 8) to (16 55, 8)	1	
		Line from (16 55, 8) to (17 25, 0)	1FT	**FT** line from *their* (16 55, 8) to ((*their* 16 55 + 30 mins), 0)

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