Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

MATHEMATICS **0580/12**

Paper 1 (Core) **May/June 2017**

MARK SCHEME

Maximum Mark: 56

Published

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
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	Part Marks
1	[0].072	**1**	
2	[0].15 oe	**1**	
3	[0].394 or [0].3944 to [0].3945	**1**	
4	41.9 or 41.87…	**1**	
5	[0].62	**1**	
6	$7(2x – 3y)$ final answer	**1**	
7(a)	Friday	**1**	
7(b)	7	**1**	
8	0.3 $\frac{7}{22}$ 33% $\frac{1}{3}$	**2**	**B1** for 0.32 or 0.31[8…], 0.33 and 0.333 or percentages
9	Two correct lines only	**2**	**B1** for one correct line only
10(a)	3	**1**	
10(b)	$\frac{37}{100}$	**1**	
11	41	**2**	**M1** for $5(7) – 3(– 2)$
12	110	**1**	
	70	**1**	
13	$\frac{1}{6}$ oe	**2**	**M1** for $2 – 1 = 5x + x$ oe
14(a)	6.05×10^{-2}	**1**	
14(b)	5.1×10^{3}	**1**	

Question	Answer	Marks	Part Marks
15	2.65	**1**	
	2.75	**1**	If zero scored, **SC1** for correct answers but reversed
16	34.8 or 34.84 to 34.85	**2**	**M1** for sin [=] $\frac{4}{7}$
17	3 cao	**2**	**M1** for rise ÷ run
18	5.5	**2**	**M1** for $\frac{5}{15}[\times 16.5]$ or $[16.5\div]\ \frac{15}{5}$ or better
19(a)	5674.2[0]	**1**	
19(b)	2500	**2**	**M1** for $2895 \div 1.158$ or $2895 \times \frac{1}{1.185}$
20(a)	48	**1**	
20(b)	42	**2FT**	**FT** '90 − *their* **(a)**' provided *their* **(a)** < 90 **B1** for angle *BCA* = 90 or marked as a right angle
21(a)	$\frac{5}{6}-\frac{3}{6}$ oe	**M1**	oe for $\frac{5k}{6k}-\frac{3k}{6k}$
	$\frac{1}{3}$ cao final answer	**A1**	
21(b)	$\frac{25}{6} \times \frac{9}{5} = \frac{225}{30}$ oe	**B2**	**B1** for $\frac{25}{6}$ or $\frac{9}{5}$
22(a)(i)	pyramid	**1**	
22(a)(ii)	triangular prism	**1**	
22(b)	990	**3**	**M2** for $\frac{1}{2}(8+14) \times 5 \times 18$ oe or **M1** for $\frac{1}{2}(8+14) \times 5$

Question	Answer	Marks	Part Marks
23	79.76 or 79.77	**5**	**Total amounts method** **M2** for $16400\left(1+\frac{4}{100}\right)^3$ oe or **M1** for $16400\left(1+\frac{4}{100}\right)^2$ oe and **M2** for $\frac{16400\times4\times3}{100}+16400$ or **M1** for $\frac{16400\times4\times3}{100}$ **Interests method** **B3** for 2047 to 2048 or **M3** for 656 + 682[.24] + 709[.5296] or for $16400\left(1+\frac{4}{100}\right)^3-16400$ and **M1** for $\frac{16400\times4\times3}{100}$
24(a)	113 or 113 to 113.12	**2**	**M1** for $\pi\times6^2$
24(b)	792 or 791 or 791.4 to 791.8	**4**	**M2** for $2\times\pi\times6\times15$ and **M1FT** for $2\times$ *their* **(a)** or $2\times\pi\times6^2$