Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

MATHEMATICS **0580/13**

Paper 1 (Core) **October/November 2016**

MARK SCHEME

Maximum Mark: 56

Published

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Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

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This syllabus is approved for use in England, Wales and Northern Ireland as a Cambridge International Level 1/Level 2 Certificate.

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	5 034	**1**	
2	–3	**1**	
3	36	**1**	
4	n^7 final answer	**1**	
5	947.5, 948.5	**2**	**B1** for either or both correct but reversed
6 (a)	2.47×10^6	**1**	
(b)	7.9×10^{-3}	**1**	
7	0.4^2 0.6^3 0.22 $\sqrt{0.09}$	**2**	**M1** for decimal conversion 0.216 and 0.3 and 0.16
8	Thursday	**2**	**M1** for 5.4 found or at least two of: 3.8, 3.6 and 4 found
9 (a)	*A*	**1**	
(b)	A ruled line joining (65, 23) to (80, 28)	**1**	
10	$\frac{18}{30}$ and $\frac{5}{30}$ oe must be shown	**M1**	$\frac{18k}{30k}$ and $\frac{5k}{30k}$
	$\frac{23}{30}$ cao	**A1**	
11	40	**2**	**M1** for $\frac{x}{16}=\frac{30}{12}$ or $\frac{x}{30}=\frac{16}{12}$ oe or 2.5 or 0.4 or 1.33[3…] or $\frac{16}{12}$
12 (a)	18.3	**1**	
(b)	128	**1**	

Question	Answer	Mark	Part marks
13 (a)	172	1	
(b)	166	2	**M1** for an ordered list of at least 5 numbers or **B1** for 164 and 168 identified
14 (a)	0.6	1	
(b)	$\frac{12}{25}$	2	**B1** for $\frac{48}{100}$ or equivalent fraction
15 (a)	2644.32	1	
(b)	133.42	2	**M1** for 4200 ÷ 31.48
16 (a) (i)	$\frac{5}{12}$ oe	1	
(ii)	0	1	
(b)	[0].65 oe	1	
17	36	3	**M2** for 5 × 3 + 7.5 + 9.5 + 4 oe or **M1** for two of 5, 7.5, 9.5 and 4
18 (a)	$\begin{pmatrix}2\\1\end{pmatrix}$	1	
(b)	$\begin{pmatrix}2\\4\end{pmatrix}$	1	
(c)	(6, 10)	1	
19 (a)	30	1	
(b)	47.5	2	**M1** for 4.5 × 5 oe
20 (a)	68	1	
(b)	9	2	**M1** for 360 ÷ 40 oe or $\frac{180(n-2)}{n} = 140$ oe

Question	Answer	Mark	Part marks
21 (a)	Three correct, ruled lines	**2**	**B1** for two correct lines
(b) (i)	Drawing a rectangle or rhombus	**1**	
(ii)	FT their quadrilateral in **(b)(i)**	**1**	
22 (a)	40.2 or 40.21 to 40.22	**2**	**M1** for $2 \times \pi \times 6.4$ oe
(b)	1540 or 1544 or 1544.1 to 1544.4	**2**	**M1** for $\pi \times 6.4^2 \times 12$
23	[x =] 5 [y =] –2	**4**	**M1** for correctly equating one set of coefficients **M1** for correct method to eliminate one variable **A1** for $x = 5$ **A1** for $y = -2$ If zero scored, **SC1** for 2 values satisfying one of the original equations. or **SC1** if no working shown, but 2 correct answers given