Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

MATHEMATICS **0580/11**

Paper 1 Core **May/June 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	8(h) 52 (min)	**1**	
2	3.75 or 3¾	**1**	
3	[0].72 oe	**1**	
4	[0].00127	**1**	
5	60	**1**	
6	157 900 cao	**2**	**B1** for 158 000 or 157 860 or 157 862 to 157 863 If zero scored, **SC1** for *their* answer to more than 4 figs correctly rounded to 4 sf
7 (a)	Acute	**1**	
(b)	Pentagon	**1**	
8 (a)	$\begin{pmatrix} -6 \\ 4 \end{pmatrix}$	**1**	
(b)	$\begin{pmatrix} 10 \\ -40 \end{pmatrix}$	**1**	
9 (a)	3	**1**	
(b)	All three correct lines of symmetry drawn	**1**	
10	393	**2**	**B1** for 393.1 to 393.2 or **M1** for 2000 ÷ 5.087
11	144	**2**	**M1** for finding a correct product of prime factors or correctly listing a minimum of 3 multiples of 36 **and** 48 or for answer $2^4 \times 3^2$ oe or $144k$
12	11	**2**	**M1** for $-2 \times -7 - 3$ soi

Question	Answer	Mark	Part marks
13	$\frac{py}{q}$ final answer	**2**	**M1** for one correct step
14	[a =] 70 [b =] 40	**2**	**B1** for each
15	21	**2**	**M1** for $\frac{15}{6}$ oe or $\frac{6}{15}$ oe or $\frac{8.4}{6}$ or $\frac{6}{8.4}$
16	$\frac{6}{7}\times\frac{3}{5}$ or $\frac{18}{21}\div\frac{35}{21}$ oe $\frac{18}{35}$ cao	**M2** **A1**	**B1** for $\frac{5}{3}$ oe or **M1** for $\frac{6}{7}$ × *their* $\frac{3}{5}$
17 (a)	19	**1**	
(b)	−2	**1**	
(c)	81	**1**	
18 (a)	Negative	**1**	
(b)	4	**1**	
(c) (i)	Ruled line of best fit	**1**	
(ii)	250 000 to 380 000	**1**	
19 (a)	Correct ruled angle bisector with all correct arcs	**2**	**M1** for accurate angle bisector with no / wrong arcs or for all correct arcs with no / wrong line
(b)	Correct ruled perpendicular bisector with two pairs of correct arcs	**2**	**M1** for accurate bisector with no / wrong arcs or for two pairs of correct intersecting arcs with no / wrong line
20	Correctly equating one set of coefficients Correct method to eliminate one variable [x =] −3 [y =] 7	**M1** **M1** **A1** **A1**	Dependent on first **M1** scored If zero scored, **SC1** for 2 values satisfying one of the original equations **or** 2 correct answers given but no working shown

Question	Answer	Mark	Part marks
21 (a) (i)	0, 1	1	
(ii)	2	2	**M1** for a correct rise ÷ run e.g. 4 ÷ 2 or for right-angled triangle marked on graph with run = 1 and rise = 2 oe
(iii)	[y =] $2x + 1$ final answer	2FT	**FT** *their* (a)(i) for c and *their* (a)(ii) for m **B1** for $y = 2x + c$ ($c \neq 1$) or $y = mx + 1$ ($m \neq 2$ or 0)
(b)	$y = 5x + c$ oe final answer	1	where $c \neq -3$
22 (a)	672	2	**M1** for $12 \times 8 \times 7$
(b)	12.5	2	**M1** for $675 \div (6 \times 9)$
(c)	540	3	**M2** for $(5 \times 9 \times 24) \div 2$ oe or **M1** for $(5 \times 9) \div 2$ or 22.5 seen