Cambridge Assessment International Education
Cambridge International General Certificate of Secondary Education

MATHEMATICS **0580/13**

Paper 1 (Core) **October/November 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	Partial marks
1	2h 32 min	**1**	
2	84	**1**	
3	Kite	**1**	
4	y^9	**1**	
5(a)	0.16	**1**	
5(b)	0.06 0.078 0.42 0.5	**1**	
6(a)	Yellow	**1**	
6(b)	$\frac{3}{16}$ or 0.1875 or 18.75%	**1**	
7	0.25 $\frac{8}{10}$ oe 80	**2**	**B1** for two correct
8	$\begin{pmatrix}11\\-7\end{pmatrix}$	**2**	**B1** for $\begin{pmatrix}11\\k\end{pmatrix}$ or $\begin{pmatrix}k\\-7\end{pmatrix}$ or $\begin{pmatrix}15\\-5\end{pmatrix}$ seen
9	[x =] 5	**2**	**M1** for $5x - 2x = 19 - 4$ or better
10	$\frac{60\times 2}{2+4}$	**M1**	Allow 1 error
	20	**A1**	Dep on no errors in rounding
11	120	**2**	**M1** for $\frac{6}{40}$ [× 800] or $\frac{800}{40}$[×6] oe
12	1263.21	**2**	**M1** for $1200 \times \left(\frac{100+2.6}{100}\right)^2$ oe

Question	Answer	Marks	Partial marks
13(a)	Moscow	**1**	
13(b)	8	**1**	
13(c)	–7	**1**	
14(a)	Frequencies 4, 5, 6, 3, 2 cao	**2**	**B1** for 3 or 4 correct in frequency column or for fully correct tally if no frequencies
14(b)	100 to 109	**1**	**FT** *their* frequency table
15	150	**3**	**M2** for $(12 - 2) \times 180 \div 12$ or $180 - 360 \div 12$ or **M1** for $(12 - 2) \times 180$ or $360 \div 12$ soi 30
16	$\frac{22}{7}$ or $\frac{5}{4}$ $2\frac{1}{7} - \frac{1}{4}$	**B1**	Allow $\frac{22k}{7k}$ or $\frac{5k}{4k}$ Correct step for dealing with mixed numbers
	$\frac{88}{28}$ or $\frac{35}{28}$ $2\frac{4}{28}$ or $\frac{7}{28}$	**M1**	Correct method to find common denominator e.g. $3\frac{4}{28}$ or $1\frac{7}{28}$
	$1\frac{25}{28}$ $1\frac{25}{28}$	**A1**	
17	10.9 or 10.91 …	**3**	**M2** for $[BC =] \frac{8.6}{\sin 52}$ or **M1** for $\sin 52 = \frac{8.6}{BC}$ oe
18(a)	18 000	**1**	
18(b)	2.15×10^6	**2**	**B1** for answer figs 215 or correct answer not in standard form
19(a)	Ruled line through (0, 0) and (100, 60)	**2**	**B1** for (100, 60) plotted
19(b)(i)	82 to 86	**1**	
19(b)(ii)	31 to 35	**1**	
20(a)(i)	34	**1**	
20(a)(ii)	Add 6 oe	**1**	
20(b)	$3n + 8$ oe	**2**	**B1** for $3n + k$

Question	Answer	Marks	Partial marks
21(a)	168	**2**	**B1** for 8.4 seen
21(b)	[0]74	**1**	
21(c)	Correct angle bisector with correct arcs meeting AB	**2**	**B1** for correct bisector with wrong / no arcs
22	139 or 139.2 to 139.3	**4**	**M3** for $10^2 + \frac{1}{2} \times \pi \times 5^2$ or **M2** for $\frac{1}{2} \times \pi \times 5^2$ or **M1** for radius = 5 or [area of square]10^2
	cm^2	**1**	