

## **Cambridge Assessment International Education**

Cambridge International General Certificate of Secondary Education

MATHEMATICS
Paper 1 (Core)
October/November 2017
MARK SCHEME
Maximum Mark: 56

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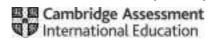
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## **Abbreviations**

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 <sup>9</sup>	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	$\frac{8}{10}$ oe 80	2	<b>B1</b> for two correct
8	$\begin{pmatrix} 11 \\ -7 \end{pmatrix}$	2	<b>B1</b> 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	<b>M1</b> 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	<b>M1</b> for $\frac{6}{40}$ [×800] or $\frac{800}{40}$ [×6] oe
12	1263.21	2	<b>M1</b> for $1200 \times \left(\frac{100 + 2.6}{100}\right)^2$ oe

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Question	Answer	Marks	Partial marks
13(a)	Moscow	1	
13(b)	8	1	
13(c)	<b>-7</b>	1	
14(a)	Frequencies 4, 5, 6, 3, 2 cao	2	<b>B1</b> 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
	$\frac{88}{28} \text{ or } \frac{35}{28}$ $2\frac{4}{28} \text{ or } \frac{7}{28}$	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	<b>M2</b> for $[BC = ]$ $\frac{8.6}{\sin 52}$ or <b>M1</b> for $\sin 52 = \frac{8.6}{BC}$ oe
18(a)	18 000	1	
18(b)	$2.15 \times 10^6$	2	<b>B1</b> for answer figs 215 or correct answer not in standard form
19(a)	Ruled line through (0, 0) and (100, 60)	2	<b>B1</b> 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	<b>B1</b> for $3n + k$

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Question	Answer	Marks	Partial marks
21(a)	168	2	<b>B1</b> for 8.4 seen
21(b)	[0]74	1	
21(c)	Correct angle bisector with correct arcs meeting $AB$	2	<b>B1</b> 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 <sup>2</sup>	1	