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MATHEMATICS

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Paper 1 (Core)

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MARK SCHEME

Maximum Mark: 56

Published

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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
nfw	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 $\frac{6}{40} [\times 800]$ or $\frac{800}{40} [\times 6]$ 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 <i>their</i> 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	