Cambridge Assessment International Education

Cambridge Lower Secondary Checkpoint

MATHEMATICS **1112/02**

Paper 2 **April 2020**

MARK SCHEME

Maximum Mark: 50

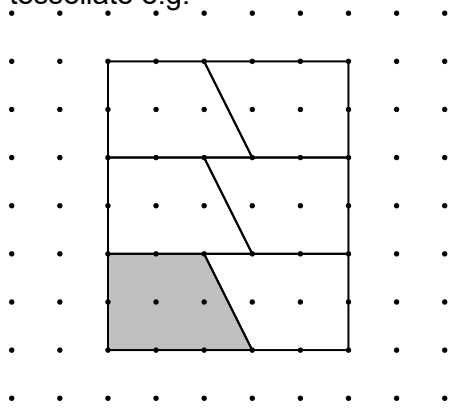
Published

This mark scheme is published as an aid to teachers and learners, to indicate the requirements of the examination. However, we have not been able to adjust it to reflect the full range of answers that would have been seen as a part of the normal moderation and marking process, and it does not necessarily contain all the possible alternatives that might have arisen. Cambridge will not enter into discussions about the mark scheme.

Question	Answer	Mark	Further Information
1	8.6	**1**	Accept – 8.6 or ±8.6
2	$4f$ **and** $y + 7$ **or** $7 + y$	**2**	Accept $4 \times f$ and $f \times 4$
	$4f$ **or** $y + 7$ **or** $7 + y$	**B1**	
3	2 : 5 cao	**1**	
4	(t =) $10r$	**1**	Accept $10 \times r$ and r x 10
5	3.22	**2**	Condone 3.2 Only allow 3 if correct method or more accurate answer seen in working.
	$1 \times 9 + 2 \times 14 + 3 \times 2 + 4 \times 12 + 5 \times 8 + 6 \times 5$	**M1**	soi by 161
6	420 **and** cm^3	**2**	Allow 0.00042 m^3
	420 **or** cm^3	**B1**	
7	5	**1**	
8	(V =) 36	**1**	

Question	Answer	Mark	Further Information
9	Correct working, e.g.: • 75 miles is 120-121 km • 115 km is 71-72 miles • a conversion factor **and** comparison to $\frac{5}{8}$ or $\frac{8}{5}$	**1**	e.g. $\frac{115}{75}$ = 1.533 which is less than 1.6(09) $\frac{75}{115}$ = 0.652 which is greater than 0.625 (or 0.621)
10	$4ab - 6a^2$	**2**	
	One correct term in the expansion i.e. $4ab$ or $-6a^2$	**B1**	
11	30 **and** 400	**2**	
	One correct answer	**B1**	
12	8 (kg)	**2**	
	a correct complete method e.g.: • 256 ÷ 48 × 1.5 • 256 ÷ 32	**M1**	

Question	Answer	Mark	Further Information
13	0.045 **and** 17 000	**2**	
	One correct answer	**B1**	
14	25.1(…) (cm)	**2**	Accept 25 cm for 2 marks if accompanied by working.
	$8 \times \pi$ oe	**M1**	
15	(x =) –2	**1**	Do not accept 9^{-2}
16	D C A E B	**2**	
	3 correct	**B1**	
17	$b(5b - 3)$	**1**	
18	3	**1**	

Question	Answer	Mark	Further Information
19(a)	$D = 12T$ oe	**1**	$D = 12 \times T$ $\frac{D}{12} = T$, $\frac{D}{T} = 12$ Condone $\frac{36}{3}$ in place of 12
19(b)	5.5	**1FT**	FT is from *their* linear formula connecting T and D
19(c)	Straight line between (0, 0) and (10, 120) $\pm$ half a square	**1**	Follow through *their* (a) or (b) as long as the line is through the origin. e.g. a straight line from (0, 0) to (10 $\times$ *their* 12) e.g. a straight line from (0, 0) to (*their* 5.5, 66) and extending this line across full range $0 \leq T \leq 10$
20	At least 5 more of the quadrilaterals drawn so that they tessellate e.g. 	**1**	They must fit together with no gaps that could not be filled with the same quadrilateral.

Question	Answer	Mark	Further Information
21	**X** beside (–2, –7)	**1**	No mark if there is a cross in more than one box. Allow any unambiguous indication.
22	Use of the range to make a correct explanation, e.g. The range for Mondays (or 14) is smaller than the range for Thursdays (or 20)	**1**	Condone mention of the mean if the values of the ranges are compared. Do not accept • the range is better on Monday • an explanation that simply repeats the values of the range without a comparison.
23	4.29 cao	**1**	
24	2.65 (tonnes)	**1**	
25	$5n - 2$	**2**	Do not accept $n = 5n - 2$ Allow equivalents e.g. $3 + (n - 1)5$
	$5n + c$ where c is a constant	**B1**	c may be 0
26	189.43 (NZ dollars)	**2**	Allow 189 or 189.4 or 189.43…
	1000 ÷ 7.76 **or** 1.47 ÷ 7.76	**M1**	M1 implied by 129 or 128.865 (correctly rounded or truncated to 4sf or better) or 0.189(4…)

Question	Answer	Mark	Further Information
27	150(°)	**2**	
	$4 \times 180 \div 6$ **or** $180 - \frac{360}{6}$ **or** $90 + \frac{360}{6}$	**M1**	Implied by 120 seen (allow 60 and 60 on diagram).

Question	Answer	Mark	Further Information
28	67.3 (%) or 67.2...(%)	**3**	
	$\frac{(38\times49)+(12\times40)-(50\times28)}{(50\times28)}$ oe **or** $\frac{(38\times49)+(12\times40)}{(50\times28)}$ oe	**M2**	$\frac{1862+480-1400}{1400}$ $(\frac{38}{50}\times\frac{49-28}{28})+(\frac{12}{50}\times\frac{40-28}{28})$ Implied by 0.672... $\frac{1862+480}{1400}$ $(\frac{38}{50}\times\frac{49}{28})+(\frac{12}{50}\times\frac{40}{28})$ Implied by 1.672...
	$\frac{49-28}{28}$ oe **or** $\frac{40-28}{28}$ oe **or** (38 × 49) + (12 × 40) oe	**M1**	Implied by 0.75 Implied by 0.428... Implied by 2342 Only award M1 if M2 not given.

Question	Answer	Mark	Further Information
29(a)	(x =) 0.2 oe	**2**	
	A correct method, e.g. • $2x + 2x + x = 1$ oe • $1 \div 5$	**M1**	
29(b)	0.6 oe	**1**	e.g. $\frac{3}{5}$, $\frac{6}{10}$ Condone $3x$ Follow through as 3 times *their* answer to (a), provided this gives a value between 0 and 1.
30	(y =) $\frac{x}{3}$ oe	**1**	
31	($p - 8$, q)	**2**	
	$p - 8$ **or** q	**B1**	