Question			Answer	Marks	Part marks and guidance	
For *x* accept 1*x* throughout						
1	(a)		six correct lines of symmetry only	3	**B1** for each correct letter	Mark intention not cutting parallel edges or jaws of C Lines solid, dashed, freehand may be short T - 1 line, C - 1 line, X - 4 lines
1	(b)		4	1		Accept "four" Ignore other comments that don't invalidate such as "clockwise"
2	(a)		seven hundred[s]	1		Not 7 hundred[s]
2	(b)		8 000 000	1		Not 8 million
3	(a)		Prime numbers only clearly indicated	1		Accept any clear indication. e.g. Ringed, ticked, others deleted
3	(b)	(i)	35 - 32	1		Mark dotted answer line if different to tiles
3	(b)	(ii)	32	1		
4	(a)	(i)	$\frac{1}{5}$ or 0.2 or 20%	1		Accept an equivalent fraction or "one fifth" but not ratio e.g. 1 : 5 or 1 in 5 or words e.g. unlikely Ignore attempts to cancel or change form once correct answer seen

Question			Answer	Marks	Part marks and guidance	
4	(a)	(ii)	$\frac{4}{5}$ or 0.8 or 80%	1FT	**FT** 1 – *their*(a)(i)	Accept equivalent fraction or "four fifths" but not ratio e.g. 4 : 5 or 4 in 5 or words e.g. likely Ignore attempts to cancel or change form once correct answer seen
4	(b)		An example using the spinner that has a probability of 0 e.g. [landing/spinning/getting a] 6	1		Condone: "Getting a number that is not on the spinner" oe Do not accept descriptions of events other than numbers e.g. it never stops spinning "There's no 0 on the spinner" scores 0 "Getting a 0" scores 1 Condone "dice" for "spinner"
5			> =	2	**B1** for each	
6			40	2	**M1** for (599 – 119) ÷ 12 oe	For M1 accept 480 for 599 – 119 or $12x + 119 = 599$ A common MR is 199 for 119. **M1** still available for (599 – 199) ÷ 12
7	(a)		5 : 1	2	**M1** for 40 : 8 oe seen or 1 cm : 2 mm seen	For M1 condone common units included in "correct" ratio e.g. 5 mm : 1 mm or 40 mm : 8 mm or 4 cm : 0.8 cm
7	(b)		1.25 or $1\frac{1}{4}$ or $\frac{5}{4}$ oe	1		Accept any equivalent fraction Condone answer 1 : 1.25 oe
8	(a)	(i)	$7a$ final answer	1		Accept $7 \times a$ and $a7$ and $a \times 7$

Question			Answer	Marks	Part marks and guidance	
8	(a)	(ii)	$-x + 4 - 3y$ final answer	2	**B1** for $-x$ seen or [+]$4 - 3y$ seen in final answer	Accept answer in any order
8	(b)		1	1		
9			$15 \div (7 - 2) = 3$ $(5 \times 2 + 3) \times 2 = 26$	2	**B1** for each	Ignore extra brackets that do not invalidate the answer(s) e.g $(15 \div (7 - 2)) = 3$
10	(a)		$5(x - 4)$	1		Condone missing final bracket
	(b)		$7x(2 + x)$	2	**B1** for $7(2x + x^2)$ or $x(14 + 7x)$	Condone missing final bracket
11	(a)		0.2 , 0.42 , 0.14 , 0.08	2	**B1** for 3 correct values or [total =] 50 seen	Condone missing/added non-essential zeros throughout e.g. .20 for 0.2 50 may be seen in part (b) even as denominator or implied by $\frac{4}{25}$
	(b)		0.16 oe	2	**M1** for 0.06 + 0.10 oe or $\frac{3+5}{10+21+7+4+3+5}$ oe	No FT Accept equivalent fraction e.g. $\frac{8}{50}$ or 16% for 2 marks Ignore attempts to cancel or change form once correct answer seen
12	(a)		384	3	**M2** for [0].8 × 480 oe or **M1** for [0].2 × 480 oe implied by 96	480 – ([0].2 × 480) If non-calculator method, it must be a full method e.g. 10% = 48 or [10% =] 480 ÷ 10 = *a* 20% = 96 [20% =] *a* × 2 = *b* 480 – 96 = …. 480 – *b* = …

Question			Answer	Marks	Part marks and guidance	
	(b)		7.5	**3**	**M2** for 10.5 ÷ 1.4 oe or **B1** for 1.4 oe seen or 140% associated with 10.5	For **B1** allow fraction but not just 140%
13			6	**3**	**M2** for $\frac{1}{4} \times 60 \times \frac{2}{5}$ oe or **M1** for $\frac{1}{4} \times 60$ soi 15 or $\frac{1}{4} \times \frac{2}{5}$ soi $\frac{2}{20}$ or $\frac{1}{10}$ or 0.1 If 0 scored, **SC1** for 15 or 24 seen	e.g. 0.25 × 60 × 0.4 or 60 ÷ 4 ÷ 2.5 May use percentage method NB $\frac{1}{4}$ **of** 60 = 16 is incorrect and scores M0 as no operation is shown
14	**(a)**		$v - u = at$ seen as single statement	**1**		Accept e.g. $-v + u = -at$ but not e.g. $\frac{v-u}{t} = at \div t$
	(b)		1.5 oe	**2**	**M1** for correct substitution $\frac{9-3}{4}$ oe	e.g. $1\frac{1}{2}$ or $\frac{6}{4}$ or $\frac{3}{2}$ For **M1** accept a two-step evaluation with an arithmetic slip eg 9 – 3 = 5 followed by 5 ÷ 4 Do not accept $\frac{3-9}{4}$ for M1
15	**(a)**	**(i)**	[Two equal] radii oe	**1**		Must refer to radius
	(a)	**(ii)**	Isosceles	**1**		Condone poor spelling

Question			Answer	Marks	Part marks and guidance	
	b		2880	3	**M2** for $\left(\frac{360}{20}-2\right)\times 180$ oe or $\frac{360}{20}\times(80+80)$ oe **M1** for $\frac{360}{20}$ soi 18 or 80 or 160	For **M2** accept 16×180 or 18×160 or $\left(180-\frac{360}{18}\right)\times 18$ oe or $(180-20)\times\frac{360}{20}$ 80 or 160 not from 20 + 20 + 20 + ... 80 or 160 may be seen in correct place on diagram
16	(a)		Correct comment implying addition or 5 parts and $\frac{2}{5}$	2	**B1** for each	Mark the best bit if no contradiction See appendix Accept denominator should be 5 Condone add them to get $\frac{2}{5}$ Accept he hasn't added them with 2 + 3 = 5 seen Expect no reference to numerator but, if referenced, must be 2.
16	(b)		250	3	**M2** for $\frac{100}{2}\times(2+3)$ or 100 + 150 or **M1** for $\frac{100}{2}$ soi 50 or [Emma] 150	Accept 5 for 2 + 3 50 may be multiplier in ratio method: e.g. 2 : 3 ×50 100 : 150 ×50
17	(a)		28	2	**M1** for (11 + 3) [× 2] oe soi 14	

Question			Answer	Marks	Part marks and guidance	
17	(b)		[No] and 10 + 10 = 20 or 20 ÷ 2 = 10 and recognition that height is 0 or not included oe	2	**B1** for each	See appendix Accept 10 × 2 = 20 (unless clearly implying area) Accept e.g."adding lengths makes 20" for 10 + 10 = 20 B0 B1 and B1 B0 are possible
18			2.2[0] with correct working	6	**B5** for answer 2 or 2.203 to 2.204 with correct working OR **M2** for [simple] [£] [540 +] $\frac{540 \times 2 \times 5}{100}$ oe soi 594 or **M1** for $\frac{540 \times 2}{100}$ oe soi 10.8[0] and **M2** for [compound] [£] 540×1.02^5 oe soi 596.2[0] or **M1** for 540×1.02^k oe (*k* positive integer) If **0** or **1** awarded, instead award **SC3** for answer 2.2[0] or -2.2[0] OR **SC2** for an answer that rounds to 2.2[0] or to -2.2[0]	Correct working requires evidence of at least **M1** and **M1** With correct working, accept -2.2[0] for **6 marks** and -2.203 to -2.204 for **B5** May be implied by 54 nfww See appendix for non-calculator methods with values not 54, 594 or 10.8 May be $540 \times 1.02^5 - 540$ soi 56.2... Implied by 561.8…or 573.05...or 584.5... etc with no working or insufficient working

19	**(a)**	**(i)**	Points plotted at (3000, 460) and (1300, 320)	**1**		Half square tolerance Use overlay as guide
		(ii)	Positive	**1**		Ignore reference to strength
	(b)	**(i)**	Point at (1500, 730) circled	**1**		
		(ii)	The jigsaw took a long time for a small/similar number of pieces oe	**1**		See appendix Must include reference to both the time taken and the number of pieces
	(c)	**(i)**	Ruled line of best fit drawn	**1**		Condone good freehand Line must reach between (500, 120) and (500, 220) AND (4500, 540) and (4500, 660)
		(ii)	*Their* straight line used to give number of pieces for 500 minutes	**1 FT**	Strict **FT** from their intended straight line of best fit	Tolerance ± 50 pieces (½ small square = 50 pieces) If intersection between vertical gridlines allow reading at either gridline e.g. 3340 may be 3300 or 3400 Mark to candidate's benefit
	(d)		[8000 pieces is] beyond the given data oe or the trend/pattern may not continue oe	**1**		See appendix Do not accept "It only goes up to 5000" or "It goes off the scale" or any suggestion that the graph is not big/accurate enough Interpret "it" as reference to scale/diagram unless otherwise qualified

20			195	**4**	**B3** for answer that rounds to 195 OR **M3** for $\frac{[\pi\times]130}{[\pi\times]46}\times 69$ oe or **M2** for $\frac{[\pi\times]130}{[\pi\times]46}$ or $[\pi\times]130\times 69$ or **M1** for $\pi\times 130$ soi 408.4... or $\pi\times 46$ soi 144.5...	May be in stages or in metres Implied by 2.82[6...] or 8970 or 28180. … If multiple calculations refer to general guidance
21	**(a)**		Repeating pattern	**1**		Accept any correct pattern that repeats annually Accept reference to seasons for Qs e.g. Lower in q2 than q1 or Highest in q3 or Lowest in q4 etc or Sales in q1 or 2 or 4 rise each year Do not accept "Low sales in 2023" etc
	(b)		2023 and [Q3 is] lower than in the other years oe	**1**		Accept summer or "it" etc for Q3 Condone [Year] 3 for [Year] 2023 <u>Examples</u> It didn't increase as much as other years They had the least amount of sales. Sales rose but not as much as other years It is lower The sales are lower/est [in 2023] The graph shows less sales of products (BOD)

	(c)		The trend/pattern will continue oe	**1**		Do not accept references to the weather Do not accept "Sales stay the same" Accept e.g. Sales will increase The pattern stays the same
22	**(a)**		1	**1**		Accept (0, 1) and $y = 1$ and +1
	(b)		$2 \times 40 + 1$ soi 81 or $(80 - 1) \div 2$ soi 39.5 oe Above	**M1** **A1**		e.g. by (40, 81)
	(c)		$y = 2x + k$, $k \neq 1$	**1**		
23	**a**		Any value of r in $6.15 \leq r < 6.2$	**1**		
	b		Any value of h in $6.25 \leq h < 6.3$	**1**		
	c		Any pair of values where $r > h$ and $6.2 < r < 6.25$ and $6.2 \leq h < 6.25$	**1**		

24 (2)			33[.3…]% oe nfww	**4**	**M3** for $\frac{4}{12}$ [× 100] OR **M1** for 12 correct combinations shown and no repeats or for 4 × 3 or 12 [combinations] **M1** for BG (£7), VS (£7), VG (£6), TG (£7) only or 4 [combinations less than £8] **M1** for $\frac{\textit{their}\ \text{number of combinations}}{\textit{their}\ \text{number of meals}}[\times 100]$	Accept combinations of meals in any order or total costs shown. Combinations: BS, BC, BG, LS, LC, LG, VS, VC, VG, TS, TC, TG 12 used as denominator scores M1 Corresponding costs: 8, 9, 7, 9, 10, 8, 7, 8, 6, 8, 9, 7 4 used as numerator scores M1
25 (5)	**(a)**		5.95	**2**	**M1** for 500 × 1.19 × 10^{-2} oe	
	(b)		190.7 to 190.8 or 191 nfww	**4**	**M1** for $1.19 \times 10^{-2} \times 1000$ soi 11.9 [g] **M1** for 0.21 × 0.297 oe soi 0.06237 or 0.0624 **M1** for $\frac{\text{figs } 119}{\text{figs } 21 \times \text{figs } 297}$ or $\frac{\text{figs } 119}{\text{figs } 6237}$ or $\frac{\text{figs } 119}{\text{figs } 624}$	First two **M1** marks may be seen as part of an embedded calculation e.g. [0.06237 =] 21 × 29.7 ÷ 100 ÷ 100

<table>
<tr>
<td>26
(6)</td>
<td></td>
<td></td>
<td>$a = 3$, $b = -13$, $c = -5$ with correct working</td>
<td>5</td>
<td>M1 for $(3x + 2)(x + c)$ soi

B1 for $a = 3$

B1 for $c = -5$

AND

M1 for $3c + 2$ or $3 \times$ their $c + 2$
either alone or as coefficients of x in a full or partial expansion

B1 for $b = -13$</td>
<td>Correct working requires evidence of at least one M1

Condone $3x + 2 \times x + c$ as soi

Grid method for expanding
e.g.
<table>
<tr><td>×</td><td>x</td><td>c</td></tr>
<tr><td>$3x$</td><td>$3x^2$</td><td>$3cx$</td></tr>
<tr><td>2</td><td>$2x$</td><td>$2c$</td></tr>
</table>
M1 for grid frame only if products seen
M1 for shaded cells correct

Accept $x(3c + 2)$ and $3cx + 2x$ ignore coefficient of x^2 and constant

Condone embedded answers for b or c provided they are not then contradicted on answer line
eg. B1 for $(x - 5)$ and
B1 for $-13x$ seen</td>
</tr>
</table>