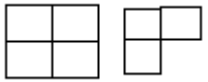
Question			Answer	Mark	Part Marks and Guidance	
1	**(a)**		40	**1**		
	(b)		10	**2**	**M1** for 30 – 20	Must see subtraction sign if answer incorrect
	(c)			**3**	**B2** for 35 OR **M2** for 200 – (40 + 75 + 20 + 30) or **M1** for 40, 75, 20, 30	3 blocks in any orientation FT *their* values
	(d)		$\frac{1}{4}$	**2**	**M1** for $\frac{200}{800}$ oe	isw incorrect cancelling
2	**(a)**	**(i)**	Any odd number	**1**		
		(ii)	51	**1**		Accept any common multiple
	(b)		2 : 5	**2**	**B1** for any correct ratio not in simplest form	Accept 1 : 2.5, 0.4 : 1 12 : 30 etc may be in working
3			20 $\frac{3}{100}$ oe 145	**1** **1** **1**	oe must be integer numerator and denominator	Condone missing % symbols
4			0.3041 0.329 0.34 0.346	**2**	**B1** for 3 in the correct order	Use cover up method

Question			Answer	Mark	Part Marks and Guidance	
5	**(a)**	**(i)**	A right angle	**1**		May be indicated in list
		(ii)	60 [Angles in a] triangle sum to 180 oe	**1** **1**		 Must refer to triangle Do not accept just a calculation
	(b)		160 and 240 do not make 360 oe or sum correctly connecting 160, 240 and 400 and reference to 360 oe or sum correctly connecting 160, 200 and 360 or angles around a point add to 360 not 400	**1**		Condone incorrect geometric reasons Must include a reference to 360 eg 160 + 240 = 400 is insufficient Angles may be marked on diagram See appendix
6			5.4	**3**	**B2** for 5.41… or **M1** for $17 \div \pi$	
7			Horizontal line with 4 marked on *y*- axis	**2**	**B1** for horizontal line or line through the point (0,4)	Mark intent, minimum length of line 2cm by eye, condone dashed line
8	**(a)**		× +	**1**		

Question			Answer	Mark	Part Marks and Guidance	
	(b)		3.16	**3**	**B2** for 3.158…or 3.159 or **B1** for 249.41 or 9.9764 If **0** scored, instead award **SC1** for *their* answer to more than 3 figures correctly rounded to 3 sf	
9	**(a)**		41	**2**	**B1** for only 2 and 43 identified	
	(b)		47 nfww	**3**	**M2** for 23.5 × 6 – (14 + 2 + 26 + 43 + 9) oe or **M1** for 23.5 × 6 may be implied by 141 or 14 + 2 + 26 + 43 + 9 may be implied by 94	23.5 × 2 and 4.7 × 10 are examples of wrong working
10			$-2j + 11k$ final answer	**2**	**B1** for $-2j$ or $11k$ in final answer or correct answer seen and spoilt	$11k + -2j$ scores **B1**

Question			Answer	Mark	Part Marks and Guidance	
11			800	**3**	**M2** for $160 \times 2 \times 2.5$ oe or **M1** for [flour=] 160×2 may be implied by 320 or [flour=] $160 \div 10 \times 2$ may be implied by 32 or [butter=] $160 \div 10 \times 25$ may be implied by 400 or $25 \div 10$ soi 2.5	eg $\frac{160}{10} \times 2 \times 25$ 320g flour [in 10 cookies] 32g flour [in 1 cookie] 400g butter [in 25 cookies]
12			2163	**3**	**M2** for $618 \div \frac{2}{7}$ oe or **M1** for $618 \div 2$ may be implied by 309	eg $618 \div 2 \times 7$ in stages
13	**(a)**		Zayn travels at a constant speed	**1**		
	(b)		50	**1**		
	(c)		25	**2**	**M1** for *their* (b) $\div 2$	
	(d)		Line or curve from (11 00, 50) to (12 45, 0) with no horizontal or vertical sections	**2**	**B1** for line or curve reaching time axis after 11 00 or for 12 45 soi	eg a line ending at time 12 45

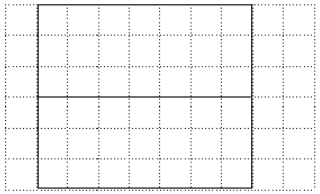
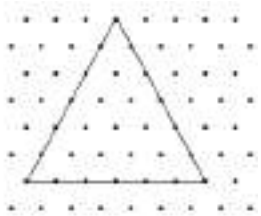
14			22 with correct working	**5**	<u>Finding adult cost (*a*) directly:</u> **M3** for 5a + 2a – 12 = 142 or **M2** for 5*a* + 2(*a* – 6) or **M1** for *a* – 6 **M1** for 7*a* = 154 OR **M2** for 142 + 12 or **M1** for 6 × 2 used, may be implied by use of 12 **M1** for *their*(142 + 12) ÷ 7 <u>Simultaneous Equations</u> **M1** for 5a + 2c = 142 **M1** for a – c = 6 **M1** for correct method to equate coefficients of one variable, allow one arithmetic error **M1** for correct method to eliminate one variable, allow one arithmetic error	Correct answer from trials scores **5** "Correct working" requires evidence of at least **3** method marks <u>Finding child cost (*c*) first:</u> **M3** for 5c + 2c + 30 = 142 or **M2** for 5(*c* + 6) + 2*c* or **M1** for *c* + 6 **M1** for 7*c* = 112 or *c* = 16 OR **M2** for 142 – 30 or **M1** for 6 × 5 used, may be implied by use 30 **M1** for *their* (142 - 30) ÷7 **M1** for *their*(142 -30) ÷7 + 6 <u>Trials:</u> **M3** for correctly evaluated trial using [*a* =] 22 and [*c* =] 16 or **M2** for two correctly evaluated trials where *c* = *a* – 6 or **M1** for one correctly evaluated trial where *c* = *a* – 6

Question			Answer	Mark	Part Marks and Guidance	
					If **0** or **1** scored, instead award **SC2** for 22 with no working or insufficient working If **0** scored instead award **SC1** for 16 with no working or insufficient working	

Question			Answer	Mark	Part Marks and Guidance	
15			88.16 with correct working	**6**		"Correct working" requires evidence of at least **3** method marks
					M1 for (6 + 5) × 5.8[0] oe	May be implied by 63.8[0] or 34.8[0] and 29 for Thursday
					M2 for 4 × 5.8[0] × $1\frac{1}{4}$ oe	May be implied by 29 for Saturday
					or **M1** for 4 × $1\frac{1}{4}$ oe or 5.8[0] × $1\frac{1}{4}$ oe AND	May be implied by 7.25
					M2 for 0.95 × (*their* 63.8 + *their* 29) oe or **M1** for 0.05 × (*their* 63.8 + *their* 29) oe	*Their* 29 may be 7.25
					If **0**, **1** or **2** scored, instead award **SC3** for 88.16 with no working or insufficient working	
					If **0** or **1** scored, instead award **SC2** for 92.8[0] with no working or insufficient working	
					If **0** scored, instead award **SC1** for 34.8 or 29 with no working or insufficient working	

Question			Answer	Mark	Part Marks and Guidance	
16			No, and [£]103.8[0] or No and 59.5 or 59.53 to 59.54 with correct working	**4**	**M1** for 44.98 ÷ 26 may be implied by 1.73 or 60 ÷ 26 may be implied by 2.3… **M1** for 103 ÷ *their* 1.73 or 60 × *their* 1.73 or 44.98 ×*their* 2.3… **A1** for 59.5 or 59.53 to 59.54 or 103.8[0] or 103 .45 to 103.9[0]	*their* 1.73 must come from a division of 44.98 Allow explanations with rounding of 59.53 to 59.54
17	**(a)**		$3x(2x + 3)$ final answer	**2**	**B1** for $x(6x + 9)$ or $3(2x^2 + 3x)$ or correct answer seen and spoilt	Condone missing final bracket and e.g. $2 \times x$
	(b)		(x + 5)(x + 3) final answer	**2**	**B1** for $(x + a)$ and $(x + b)$ where $ab = 15$ or $a + b = 8$	Condone missing final bracket

Question			Answer	Mark	Part Marks and Guidance	
18	**(a)**		435	**3**	**B2** for [*k* =] 29 or for an answer that satisfies both conditions e.g. 3 × 5 × 31 = 465 or **M1** for 400 ÷ (3 × 5) maybe implied by 26.66… or 26.7 or for 3 × 5 × (*their* prime number) correctly evaluated or for 3 × 5 × 27 = 405	e.g. 29 used in final trial or even as *their* answer using any prime number that is greater than 29 e.g. **M1** for 3 × 5 × 23 = 345 in working or 3 × 5 × 31 = 465 with 31 as the answer treat factor trees or factor tables as multiplication
	(b)		any correct reason e.g. *a* and/or *b* are factors	**1**		see appendix
19	**(a)**		(1.46, 715) accurately plotted	**1**		Tolerance: no daylight between *their* point and correct point
	(b)		Negative	**1**		Ignore embellishments
	(c)		(1.47, 620) ringed	**1**		Allow any indication
	(d)	**(i)**	Accurate line of best fit	**1**		See overlay, between (1.44, 720) and (1.44, 740) and between (1.60, 650) and (1.60, 670) and must reach vertical lines at each end, ignore beyond overlay

Question			Answer	Mark	Part Marks and Guidance	
		(ii)	**FT** *their* line	**1FT**	**FT** *their* line with negative gradient only	tolerance: our reading ± 3
	(e)		Two different products correctly calculated, one product in the range 1.40 ≤ price ≤ 1.52 and one product in the range 1.52 < price ≤ 1.65	**3**	**B2** for one product correctly calculated or **B1** for one product calculated with the incorrect result	see appendix for the products, the points used must be either the given points or on *their* lobf not the outlier, if there are more than two products then select the best two
20	**(a)**		7 by 6 rectangle (not dashed) with correct dividing line 	**3**	**B2** for a 7 by 6 rectangular outline or for any rectangular outline correctly splitting the shorter side in half by one line or **B1** for any rectangular outline	Outline is not a square, accept horizontally or vertically, accept freehand and for accuracy mark intention, condone dashed centre line If the diagram uses the grid edges and the line is not drawn **SC2** for an otherwise correct answer or **SC1** for a 7 by 6 rectangular outline
	(b)		Equilateral triangle with side 6 cm and no extra lines 	**2**	**B1** for equilateral triangle but the incorrect size or a correct equilateral triangle with one extra line	Accept good freehand and for accuracy mark intention

Question			Answer	Mark	Part Marks and Guidance	
21			7963.2[0]	**4**	**B3** for 17036.8[0] or 3000, 2640 and 2323.2[0] or **M2** for 25 000 × 0.88^3 or 25000 × 0.12 and *their* 22000 × 0.12 and *their* 19360 × 0.12 or **M1** for 1 – 0.12 implied by 0.88 or 25000 × 0.12 *and their* 22000 × 0.12 may be implied 3000 and 2640 or by 22000 and 19360	
22			2.75 and 2.85	**2**	**B1** for each If **0** scored **SC1** for both correct but reversed	
23			17.5	**2**	**M1** for 140 ÷ 8	
24			Accurate ruled angle bisector of D reaching AB with two pairs of correct arcs Correct area shaded	**2** **1**	**B1** for accurate ruled angle bisector Dep on at least **B1**	Tolerance on angle ± 2° Allow correct alternative method using 2 arcs and cross drawn

Question			Answer	Mark	Part Marks and Guidance	
25			24	**4**	**M2** for $\frac{45}{12} \times 8$ or $\frac{8}{12} \times 45$ oe or 30 or **M1** for $\frac{45}{12}$ or $\frac{12}{45}$ or $\frac{12}{8}$ or $\frac{8}{12}$ oe and **M1** for 99 – 45 – *their* RQ or 24 correctly placed on diagram	Equivalent factors include 3.75, $3\frac{3}{4}$, $\frac{4}{15}$, 0.266… , 0.267, 1.5, $1\frac{1}{2}$, $\frac{2}{3}$, 0.666…, 0.667 Alt.: **M2** for $99 \div \frac{45}{12}$ (3.75) oe or 26.4 or **M1** for $\frac{45}{12}$ or $\frac{12}{45}$ oe and **M1** for $(26.4 - 8 - 12) \times \frac{45}{12}$ (3.75) oe