

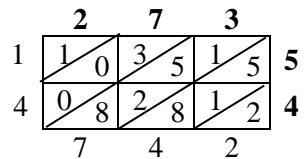
Paper: 1MA1/1F				
Question	Answer	Mark	Mark scheme	Additional guidance
1	18 000	B1	cao	
2	30	B1	cao	
3	reflex	B1	cao	
4	0.03, 0.1, 0.16, 0.2, 0.21	B1	for 0.03, 0.1, 0.16, 0.2, 0.21	accept 0.21, 0.2, 0.16, 0.1, 0.03
5	8	B1		Accept ± 8 or -8
6	1.5(0)	P1 P1 P1 A1	for $4 \times 1.30 (= 5.2(0))$ or $10 - 1.80 (= 8.2(0))$ for $10 - 1.80 - "5.20" (= 3)$ oe for $"3" \div 2$ cao SCB2 for answer (£)2.4(0)	Working could be in pence Condone answer £1.5(0)p

Paper: 1MA1/1F				
Question	Answer	Mark	Mark scheme	Additional guidance
7	Bar chart			Accept bar chart, vertical line graph, dual/multiple bar chart, composite bar chart, frequency polygon for all marks.
		M1	for a key, or suitable labels, to identify Lena and Pavel	Accept unambiguous abbreviations for labels eg L, P
		M1	for 3 or 4 correct labels for days or a linear scale present	Allow linear scale not starting at 0 Scale must be marked on grid lines.
		M1	for a (bar) chart correctly showing data for at least 1 person or 2 days	Bars / lines / points must be unambiguously correct for their scale (scale must be present). Allow for correctly showing total hours worked for all four days on chart (13, 15, 13, 12)
		C1	for a fully correct (bar) chart with labels for days of the week, vertical axis correctly scaled and labelled and key/labels for Lena and Pavel	Horizontal axis does not need an overall 'day' label Condone frequency for number of hours. For C mark scale must start at 0 and be linear for the range of values plotted. Condone bars of unequal width Condone no gaps or inconsistent gaps

Paper: 1MA1/1F				
Question	Answer	Mark	Mark scheme	Additional guidance
8 (i)	50	M1	for $360 - 220 - 90$ oe	
		A1	cao	
(ii)	Reason	C1	<p>for <u>angles</u> at a <u>point</u> add up to 360</p> <p>Acceptable examples</p> <ul style="list-style-type: none"> • A <u>full turn</u> adds up to 360 • <u>Full rotation</u> is 360 <p>Not acceptable examples</p> <ul style="list-style-type: none"> • Angles in a circle add to 360 • A whole circle adds up to 360 • It must add up to 360 degrees • $220 + 90 = 310$, $360 - 310$ • Angles at a point add up to 180 • Angles on a straight line add to 180 	<p>Underlined words need to be shown</p> <p>Note: If line <i>AO</i> or <i>OC</i> or <i>BO</i> is extended and used to find <i>x</i> in (i) then allow C1 for <u>angles</u> on a straight <u>line</u> add to 180</p>

Paper: 1MA1/1F					
Question	Answer	Mark	Mark scheme	Additional guidance	
9	(a)	16	B1	cao	<p>+10 and $\div 2$ could be seen in a flow diagram Working may be next to number machine.</p> <p>Trial can be for any value, must be correctly evaluated. Accept correct inverse function trial, correctly evaluated. If working seen on the number machine provided in the question allow for a trial other than input 13 or output 28.</p> <p>Allow $10 \times 2 = 20 - 10 = 10$ for M1C1</p>
	(b)	19	M1	starts method to find input using inverse operations eg $28 + 10 (=38)$ or sight of +10 and $\div 2$	
			A1	cao	
	(c)	Shown	M1	for carrying out at least one trial or for forming a suitable equation, eg $2x - 10 = x$ or for identifying 10	
			C1	for showing that an input of 10 gives an output of 10	
10		2 : 3	M1	for 24 : 36 oe or 3 : 2 or 1.5 : 1	Do not ISW from 2:3
			A1	2 : 3 or 1 : 1.5	
11	(a)	3	B1	cao	
	(b)	32	B1	cao	
	(c)	$30 \div (3 + 2) - 4$	B1	for brackets correctly placed	

Paper: 1MA1/1F				
Question	Answer	Mark	Mark scheme	Additional guidance
12	6	P1 P1 P1 A1	for process to find perimeter of triangle eg $14 + 30 + 36 (= 80)$ for “80” $\div 4 (= 20)$ for a complete process eg (“20” $- 4 - 4$) $\div 2$ or “20” $\div 2 - 4$ cao	$36 \div 4 + 14 \div 4 + 30 \div 4 (= 20)$ scores P1P1
13 (a)	1	B1	Allow 100%	Allow $\frac{k}{k}$
(b)	$\frac{2}{3}$	P1 A1	for start of process to write down proportion of each coin, writes down a correct ratio, eg $1p : 2p = 2 : 1$ oe or a process to work out number of 1p coins and 2p coins, eg $40 \div 2 (= 20)$ and $(40 \div 2) \div 2 (= 10)$ or assigns numbers in correct proportion, eg 6 1p coins and 3 2p coins or finding the probability of a 2p coin $(= \frac{1}{3})$ for $\frac{2}{3}$ oe	Do not accept 100, do not accept certain. Accept any equivalent fraction, decimal form, 0.66(6...) or 0.67 or percentage form, 66(.6...) % or 67%

Paper: 1MA1/1F																
Question	Answer	Mark	Mark scheme	Additional guidance												
14	14742	M1	for complete correct method with relative place value correct eg two lines of 1st method, internal numbers of grids, or complete structure shown of partitioning methods	<p>13650 <u>1092</u> 14742</p>  <table border="1" data-bbox="1523 614 1904 726"> <tr> <td></td> <td>200</td> <td>70</td> <td>3</td> </tr> <tr> <td>50</td> <td>10000</td> <td>3500</td> <td>150</td> </tr> <tr> <td>4</td> <td>800</td> <td>280</td> <td>12</td> </tr> </table> <p>10000 + 3500 + 150 + 800 + 280 + 12 = 14742</p>		200	70	3	50	10000	3500	150	4	800	280	12
	200	70	3													
50	10000	3500	150													
4	800	280	12													
		M1	(dep on M1) for addition of all the appropriate elements of the calculation													
		A1	cao													

Paper: 1MA1/1F				
Question	Answer	Mark	Mark scheme	Additional guidance
15 (a)	64	B1	cao	
(b)	36	M1	for identifying 81 and 45 as the key numbers, eg 81 – 45 or 45 – 81 or 45 to 81	It is insufficient to identify these on the diagram (eg as 1, 5)
		A1	cao	Answer of –36 gets M1A0
(c)	comparison	C1	for a correct comparison of medians that could fit their incorrect median in (a) Acceptable examples The adults were faster because they have the smaller median The adults were [11] minutes faster (on average) The adults were faster The adults took less time The children were slower The children took more time Children took [11] minutes more (on average) Children had a larger median than the adults. Not acceptable examples The children were faster The adults median was 64, the children’s median was 75 11 minutes difference The children had more time to run than the adults	Statement must be entirely true and not contradictory Figures not required in comparison, but if seen must be correct. Where [11] is the difference between 75 and their (a). If median in (a) is greater than 75 then converse statements would be correct ft.

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Question	Answer	Mark	Mark scheme	Additional guidance																																												
16	Pack of 8 (supported)	P1	<p>for a process (for at least 2 packs) of division of price by quantity eg at least 2 of $180 \div 4 (= 45)$ or $320 \div 8 (= 40)$ or $600 \div 12 (= 50)$</p> <p>OR any other process that could lead to a comparison of 2 packs eg $180 \times 2 (= 360)$ or $320 \div 8 (= 40)$ and $40 \times 12 (= 480)$</p>	<p>Calculations could be in pounds or in pence</p> <table border="1"> <thead> <tr> <th></th> <th>4 pack</th> <th>8 pack</th> <th>12 pack</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0.45</td> <td>0.40</td> <td>0.50</td> </tr> <tr> <td>2</td> <td>0.90</td> <td>0.80</td> <td>1.00</td> </tr> <tr> <td>4</td> <td>1.80</td> <td>1.60</td> <td>2.00</td> </tr> <tr> <td>8</td> <td>3.60</td> <td>3.20</td> <td>4.00</td> </tr> <tr> <td>12</td> <td>5.40</td> <td>4.80</td> <td>6.00</td> </tr> <tr> <td>16</td> <td>7.20</td> <td>6.40</td> <td>8.00</td> </tr> <tr> <td>24</td> <td>10.80</td> <td>9.60</td> <td>12.00</td> </tr> </tbody> </table> <p>Condone incorrect units.</p> <p>Pairwise comparison are possible, but check to see that this allows for a decision to be made. Check process.</p> <p>Assuming correct figures found:</p> <table border="1"> <thead> <tr> <th colspan="2">Comparisons</th> <th>Conclusion possible</th> </tr> </thead> <tbody> <tr> <td>4 vs 8</td> <td>8 vs 12</td> <td>Yes</td> </tr> <tr> <td>4 vs 8</td> <td>4 vs 12</td> <td>Yes</td> </tr> <tr> <td>4 vs 12</td> <td>8 vs 12</td> <td>No</td> </tr> </tbody> </table>		4 pack	8 pack	12 pack	1	0.45	0.40	0.50	2	0.90	0.80	1.00	4	1.80	1.60	2.00	8	3.60	3.20	4.00	12	5.40	4.80	6.00	16	7.20	6.40	8.00	24	10.80	9.60	12.00	Comparisons		Conclusion possible	4 vs 8	8 vs 12	Yes	4 vs 8	4 vs 12	Yes	4 vs 12	8 vs 12	No
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		P1	<p>for a complete process to give values that can be used for comparison of all 3 packs eg $180 \div 4 (= 45)$ and $320 \div 8 (= 40)$ and $600 \div 12 (= 50)$</p> <p>OR $3.20 \div 8 (= 0.40)$ and $0.40 \times 4 (= 1.60)$ and $0.40 \times 12 (= 4.80)$</p> <p>OR $1.80 \times 6 (= 10.80)$ and $3.20 \times 3 (= 9.60)$ and $6.00 \times 2 (= 12.00)$</p>																																													
		A1	<p>for 'pack of 8' and correct values that can be used to compare all 3 packs</p>																																													
			<p>Correct answer with no supportive working scores 0 marks.</p> <p>Do not allow A mark where inconsistent units would prevent comparison e.g. 0.40p and 45p</p>																																													

Paper: 1MA1/1F				
Question	Answer	Mark	Mark scheme	Additional guidance
21 (a)	$2\frac{2}{15}$	M1	for a method to subtract using a common denominator with at least one fraction correct (suitable common denominator for original fractions with at least one correct numerator) eg $\frac{57}{15} - \frac{25}{15}$ or (3) $\frac{12}{15} - (1)\frac{10}{15}$	Use of decimals gets no credit unless it leads to a correct fraction ISW incorrect conversion from improper fraction to mixed number or incorrect simplification of improper fraction.
		A1	for $2\frac{2}{15}$ oe eg $\frac{32}{15}$	
(b)	Mistake identified	C1	for explaining that Kevin did not convert to the correct mixed number Acceptable examples In his answer $\frac{9}{24}$ should have been $\frac{11}{24}$ The 9 should be 11 He has not got the numerator right in his final answer He simplified into the mixed number incorrectly He has not put the remainder as the numerator $1\frac{9}{24}$ would give you $\frac{33}{24}$ rather than $\frac{35}{24}$ $\frac{35}{24} = 1\frac{11}{24}$ Not acceptable examples He should have used a common denominator He has not simplified his answer He should have done keep, flip, change He converted the fraction wrongly The answer should be $1\frac{10}{24}$	Figures may be seen in the question space.

Paper: 1MA1/1F				
Question	Answer	Mark	Mark scheme	Additional guidance
22 (a)	Yes (supported)	P1	for a process to find the area of one shape, eg $10 \times 8 (= 80)$ or $10 \times 5 (= 50)$ or $8 \times 6 (= 48)$ or $(10 - 6) \times 5 (= 20)$ or $(10 - 6) \times (8 - 5) (= 12)$ or $6 \times (8 - 5) (= 18)$ or $5 \times 6 (= 30)$	Do not award this mark if they go on to multiply by a third length [area] is what they believe to be the area
		P1	for a complete process to find the total area, eg “80” – “12” (= 68) or “50” + “18” (= 68) or “48” + “20” (= 68)	
		P1	for a complete process to find the area covered by 3 tins eg $3 \times 2.5 \times 10 (= 75)$ or for a complete process to find the number of litres needed eg “68” $\div 10 (= 6.8)$ or [area] $\div 10$ or for a complete process to find the number of tins needed eg “68” $\div 10 \div 2.5 (= 2.72)$ or [area] $\div 10 \div 2.5$	
		A1	for ‘Yes’ supported by correct figures eg $68 \text{ (m}^2\text{)}$ and $75 \text{ (m}^2\text{)}$ or 6.8 (litres) and 7.5 (litres) or $68 \text{ (m}^2\text{)}$ and $2.72 \text{ (tins needed)}$	
(b)	No effect (supported)	C1	ft from (a) for “has no effect” with reason Acceptable examples No effect, she will need less paint It won’t change, she will still have enough No, she will have more paint left over No, as this will cover 82.5m^2 Not acceptable examples Petra will need less paint She will have more paint left over She won’t have enough paint She will need more paint	Ignore incorrect amount of paint left over if correct figures seen. Must have a decision in (a). Must include a decision eg yes / no / no effect. If figures included in the statement they must be correct for their [area] in (a).

Paper: 1MA1/1F				
Question	Answer	Mark	Mark scheme	Additional guidance
23 (a)	10, 11, 13, 14, 16, 17	B1	cao	
(b)	$\frac{5}{9}$	M1	for identification of 10, 12, 14, 15, 18 or for $\frac{a}{9}$ where $1 \leq a \leq 8$, a an integer, or $\frac{5}{b}$ where $b > 5$, b an integer or for incorrect form, eg 5 : 9	
		A1	oe	Accept any equivalent fraction, decimal form, 0.55(5...) or 0.56 or percentage form, 55(.5...) % or 56%

Paper: 1MA1/1F				
Question	Answer	Mark	Mark scheme	Additional guidance
24 (a)	Estimated value	P1	for using a value rounded to 1sf in a calculation eg $500 \div 10$ or 500×0.8 or 510×0.8 or 513×0.8 or 500×0.81	Their rounded value must be used in a calculation Rounding may occur after a correct process, eg $513 \div 10 = 51.3 \approx 50$ and 50×0.81 $513 \div 10 = 51.3 \approx 51$ and 51×0.8 scores P1P1 Accept 0.81 rounded to 0.80 for this mark Condone 0.81 rounded to 1 for this mark.
		P1	for a full process to find the total amount eg $500 \div 10 \times 0.8 (= 40)$ or $510 \div 10 \times 0.8 (= 40.8)$ or $500 \div 10 \times 0.81 (= 40.5)$ or $[\text{distance}] \div 10 \times [\text{amount}]$ oe	Where [distance] is their rounded 513 or 513 and [amount] is their rounded 0.81 or 0.81 Accept $513 \div 10 \times 0.81$ for this mark.
		A1	for a correct answer following through their correct rounded value(s)	Do not award this mark if 0.81 is rounded to 1
(b)	underestimate with reason	C1	ft from (a) eg underestimate as numbers rounded down	Must relate to estimation and not rounding of their final answer and they must have a final answer to part (a)

Paper: 1MA1/1F				
Question	Answer	Mark	Mark scheme	Additional guidance
25 (a)	$y = \frac{3}{2}x + 3$	M1	<p>for a correct method to find the gradient of the line, eg $\frac{6-3}{2-0} (= \frac{3}{2})$</p> <p>or identifies 3 as the intercept in words or in a partial equation</p> <p>or for $y = [\frac{3}{2}]x + c$</p> <p>or for $y - b = [\frac{3}{2}](x - a)$ where (a, b) is a correct coordinate</p>	<p>Just circling 3 is insufficient</p> <p>$[\frac{3}{2}]$ must be identifiable as their gradient c must be seen either as a letter or a number</p>
		M1	<p>for $y = \frac{3}{2}x (+ c)$ oe or for $y = \text{“}\frac{3}{2}\text{”}x + 3, m \neq 0$ or (L \Rightarrow) $\frac{3}{2}x + 3$</p> <p>or $y - y_1 = \frac{3}{2}(x - x_1)$ or $y - b = \text{“}\frac{3}{2}\text{”}(x - a)$ where (a, b) is a correct coordinate</p>	<p>Award of this mark implies the first M1</p>
		A1	oe	<p>Any correct equation gets 3 marks</p>
(b)	Equation	B1	for $y = 5x + c, c \neq 0$ oe	<p>May be in any equivalent form</p>

Paper: 1MA1/1F					
Question	Answer	Mark	Mark scheme	Additional guidance	
26	7.5	P1	for process to find the number of empty jars eg $3 \div 8 \times 400$ oe (= 150)		
		P1	for start of process to deal with ratios eg 3 : 4 and 4 : 8 or 3 : 4 : 8 oe		
		P1	for process to find the number of empty small jars eg $\frac{3}{3+4+8} \times "150"$ oe (= 30) or 30 : 40 : 80		
		P1	for process to find percentage, eg $\frac{"30"}{400} \times 100$ oe or $\frac{"7.5"}{100}$		
		A1	for 7.5 or $7\frac{1}{2}$ oe		
		OR			
		P1	for start of process to deal with ratios eg 3 : 4 and 4 : 8 or 3 : 4 : 8 oe		
		P1	for process to find the proportion of the empty jars that are small eg $\frac{3}{3+4+8} (= \frac{1}{5})$		
		P1	for process to find the proportion of Kasim's jars that are empty small jars eg $\frac{3}{8} \times \frac{1}{5} (= \frac{3}{40})$		
		P1	for process to find percentage, eg $\frac{3}{40} \times 100$ oe or $\frac{"7.5"}{100}$		
A1	for 7.5 or $7\frac{1}{2}$ oe				

Paper: 1MA1/1F				
Question	Answer	Mark	Mark scheme	Additional guidance
27	400	M1	for $280 \div 0.7$ oe	
		A1	cao	
28	$x \leq -4$	M1	for a correct first step working with an equation or inequality eg $x + 11 - 11 \leq 5 - \frac{1}{2}x - 11$ or $x + 11 + \frac{1}{2}x \leq 5 - \frac{1}{2}x + \frac{1}{2}x$ or $2 \times x + 2 \times 11 \leq 2 \times 5 - 2 \times \frac{1}{2}x$	Can work with an equation or incorrect inequality symbol for both M marks Allow for subtracting 5 from both sides or subtracting x from both sides. For M marks step must be carried out not just intention shown. For example, if you see $\begin{array}{rcl} x + 11 & \leq & 5 - \frac{1}{2}x \\ -11 & & -11 \end{array}$ Award M1 for: $x \leq k - \frac{1}{2}x$ with $k \neq 5, k \neq 16$ or indicating $+\frac{1}{2}x$ reaching $kx + 11 \leq 5$ with $k \neq \frac{1}{2}, k \neq 1$ or indicating multiplying by 2 obtaining an equation or inequality with three of four terms correct and no term unchanged. Award 2 marks for answer of $x? - 4$ where ? is an = or any incorrect inequality symbol, or for answer shown as just -4
		M1	for a full method to solve the inequality or for a critical value of -4	
		A1	for $x \leq -4$ oe as final answer	