



THIRD SPACE  
LEARNING

# Mathematics

## Paper 2













### (Calculator)

### Foundation Tier

### Mark Scheme

AQA GCSE

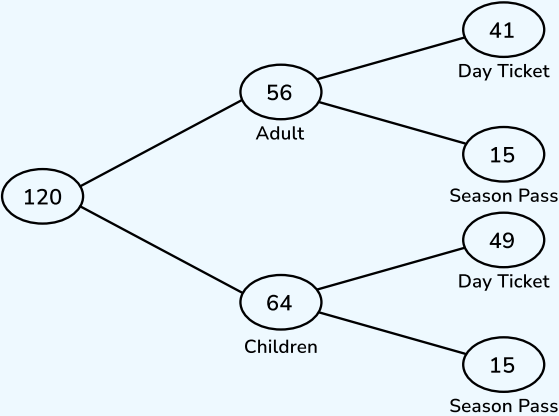
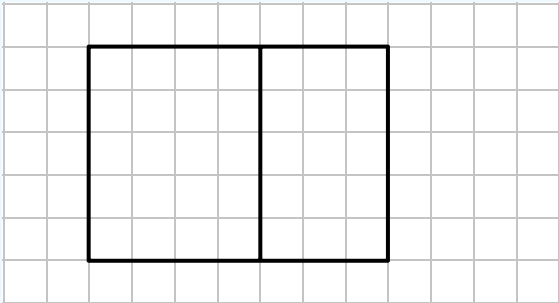
SET 2

Question	Working	Answer	Notes								
Q1		$\frac{4}{5}$	B1 cao								
Q2		11	B1 cao								
Q3	$20 - 10 = 10$ $\frac{1}{2} \times 10 = 5$ $10 - 3 = 7$ $2 \times 10 - 20 = 0$	$2x - 20$	B1 cao								
Q4		2	B1 cao								
Q5	$2 \times \pounds4.99 + \pounds2.50 + \pounds1.95 + 2 \times \pounds2.10$ $= \pounds18.63$ $\pounds20 - 18.63 = \pounds1.37$	$\pounds1.37$	M1 Attempt at $2 \times \pounds4.99 + \pounds2.50 + \pounds1.95 + 2 \times \pounds2.10$ ( $= \pounds18.63$ ) M1 $\pounds20 - \pounds18.63$ A1 cao								
Q6		$\frac{n}{2}$ or $n \div 2$	B1 cao								
Q7a	<table><tr><td>Monday</td><td></td></tr><tr><td>Tuesday</td><td></td></tr><tr><td>Wednesday</td><td></td></tr><tr><td>Thursday</td><td></td></tr></table>	Monday		Tuesday		Wednesday		Thursday			B1 cao
Monday											
Tuesday											
Wednesday											
Thursday											

Question	Working	Answer	Notes
<b>Q7b</b>	Tuesday: $3 \times 8 + 6 = 30$	30 students had school dinners. 30 is more than half of 56.	M1 30 students had school dinners B1 Correct statement
<b>Q8</b>		7 and 56 14 and 49 21 and 42 28 and 35	M1 Two multiples of 7 or two numbers with a sum of 63 A1 One correct solution from those listed
<b>Q9a</b>	$4 + 11 + 7 + 9 + 4 + 1 + 2 + 6 = 44$ $44 \div 8 = 5.5$	5.5	M1 Attempt to add all numbers and divide by 8 (maximum one number omitted) A1 cao
<b>Q9b</b>	4 numbers less than 6	$\frac{4}{8}$	M1 4 numbers less than 6 identified A1 $\frac{4}{8}$ oe
<b>Q10a</b>	$5 \times 6 = 30$ $30 + 10 = 40$	40	A1 cao
<b>Q10b</b>	Example solutions: Input $\longrightarrow$ $\boxed{\times 6}$ $\longrightarrow$ $\boxed{-2}$ $\longrightarrow$ Output Input $\longrightarrow$ $\boxed{\times 5}$ $\longrightarrow$ $\boxed{+1}$ $\longrightarrow$ Output Input $\longrightarrow$ $\boxed{\times 4}$ $\longrightarrow$ $\boxed{+4}$ $\longrightarrow$ Output Input $\longrightarrow$ $\boxed{\times 3}$ $\longrightarrow$ $\boxed{+7}$ $\longrightarrow$ Output		A1 1 correct number machine A1 2 correct number machines

Question	Working	Answer	Notes
<b>Q11a</b>	09 15 to 16 45 is 7.5 hours $7.5 \times \text{£}11.20 = \text{£}84$	£84	M1 7.5 hours seen A1 cao
<b>Q11b</b>	16 45 + 12 minutes = 16 57 The earliest bus he could catch is 17 03 which would get him to Kingfisher Close at 17 17 $17 17 + 4 \text{ minutes} = 17 21$	17 21	M1 17 03 bus identified M1 He gets off bus at 17 17 A1 17 21 oe
<b>Q12a</b>	$20 - 11 = 9$	$x = 9$	A1 cao
<b>Q12b</b>	$6 + 5 = 11$ $11 \times 3 = 33$	$y = 33$	M1 $6 + 5 = 11$ A1 cao
<b>Q13</b>	$\frac{10}{12} = \frac{50}{60}$ $\frac{15}{20} = \frac{45}{60}$ $\frac{11}{15} = \frac{44}{60}$	No she is not correct. Jack's score was the best	M1 Attempt to put fractions over common denominator with at least one correct M1 Three correct fractions with common denominator A1 Correct statement

Question	Working	Answer	Notes
<b>Q14</b>	<p>Angle ACB = <math>70^\circ</math></p> <p>Angle ACD = <math>180 - 70 = 110^\circ</math></p> <p>Angle ADB = <math>180 - 70 - 70 = 40^\circ</math></p> <p>Angle CAD = <math>180 - 110 - 40 = 30^\circ</math></p> <p>Or</p> <p>Angle ACB = <math>70^\circ</math></p> <p>Angle BAC = <math>180 - 70 - 70 = 40^\circ</math></p> <p>Angle BAD = <math>70^\circ</math></p> <p>Angle CAD = <math>70 - 40 = 30^\circ</math></p>	$30^\circ$	<p>M1 Angle ACB = <math>70^\circ</math></p> <p>M1 Angle ADB = <math>40^\circ</math> or angle BAC = <math>40^\circ</math></p> <p>A1 cao</p>
<b>Q15</b>	<p><math>\frac{\sqrt{28.5} + 5.7}{0.56} = 19.711\dots</math></p> <p><math>3.1^2 + \frac{11}{2.4} = 14.193\dots</math></p>	$A > B$	<p>M1 <math>\frac{\sqrt{28.5} + 5.7}{0.56} = 19.711\dots</math></p> <p>M1 <math>3.1^2 + \frac{11}{2.4} = 14.193\dots</math></p> <p>A1 &gt; cao</p>
<b>Q16</b>	<p><math>27 \times \frac{8}{5} = 43.2km</math></p> <p><math>39 \times \frac{5}{8} = 24.375miles</math></p>	Emma lives closer to the meeting point than Lorraine	<p>M1 27 miles = 43.2km or</p> <p>39km = 24.375 miles seen</p> <p>A1 Correct statement ticked</p>
<b>Q17</b>	<p>1. She should have converted 0.1m to 10cm</p> <p>2. She has written <math>cm^2</math> instead of <math>cm^3</math></p>		<p>B1 One correct statement</p> <p>B1 Two correct statements</p>
<b>Q18</b>	<p><math>h + 7 = 6p</math></p> <p><math>\frac{h + 7}{6} = p</math></p>	$p = \frac{h + 7}{6}$	<p>M1 Correct first step</p> <p>A1 cao</p>

Question	Working	Answer	Notes
Q19a			M1 56 adults and 64 children M1 15 and 41 in correct place M1 $\frac{3}{4}$ of 120 = 90 so 90 day tickets seen or implied A1 All values correct
Q19b		$\frac{15}{64}$	A1 correct numerator <i>ft</i> from their part a A1 cao
Q20a			M1 Correct shape A1 Fully correct rectangle with measurements 5cm by 7cm split into two as shown
Q20b		12	B1 cao

## Question

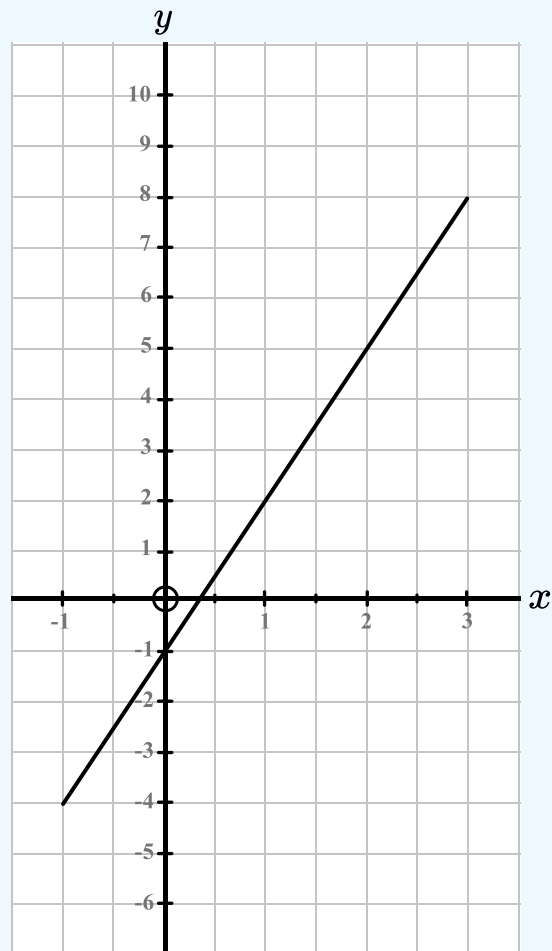
## Working

## Answer

## Notes

Q21

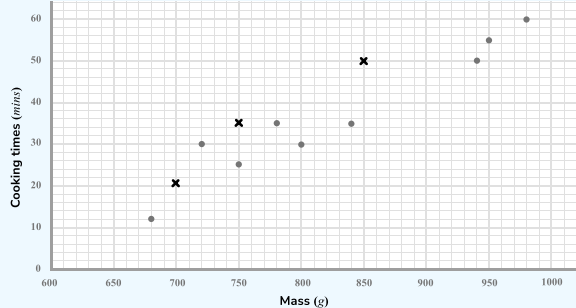
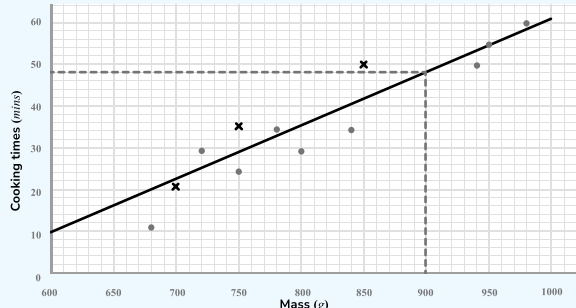
$x$	-1	0	1	2	3
$y$	-4	-1	2	5	8



M1 Table of values or pairs of values with at least 3 correct

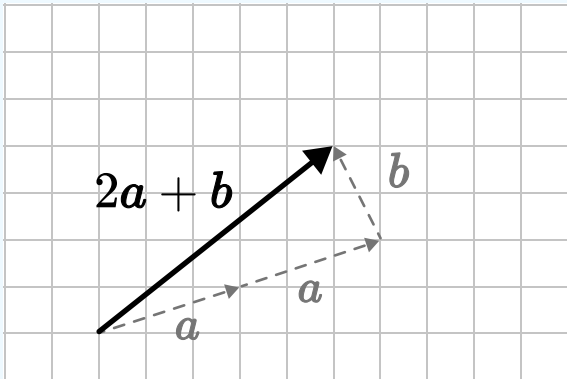
M1 At least 3 points plotted correctly

A1 Fully correct line

Question	Working	Answer	Notes
Q22a			<p>M1 One point plotted correctly</p> <p>A1 All three points correct</p>
Q22b			B1 Positive correlation
Q22c		48 minutes	<p>M1 Line of best fit drawn</p> <p>A1 Answer in range 46 - 50 minutes</p>
Q23	<p>Area of trapezium: <math>\frac{1}{2} \times (6 + 9) \times 4 = 30\text{cm}^2</math></p> <p>40% of 30 = 12</p> <p>Area of rectangle = <math>30 + 12 = 42\text{cm}^2</math></p> <p><math>42 \div 4 = 10.5\text{cm}</math></p>	10.5cm	<p>A1 Area of trapezium = <math>30\text{cm}^2</math></p> <p>M1 <i>ft</i> 40% of their area correct</p> <p>M1 Area of rectangle = <math>42\text{cm}^2</math></p> <p>A1 cao</p>



Question	Working	Answer	Notes
<b>Q24</b>	$500 \div 5 = 100\text{g}$ to make 4 doughnuts $100 \times 3 = 300\text{g}$ to make 12 doughnuts $30 \times 4 = 1200\text{g}$ to make 4 boxes of doughnuts $1200\text{g} < 1.5\text{kg}$ so she has enough.	Yes	M1 Attempt to use proportion to find the amount for flour for 12 or 48 doughnuts M1 300g for 12 doughnuts M1 1200g or 1.2kg seen A1 Correct statement following correct working
<b>Q25</b>	$9a + 6b = 60$ $8a - 6b = 25$ $17a = 85$ $a = 5$ $3 \times 5 + 2b = 20$ $15 + 2b = 20$ $2b = 5$ $b = 2.5$	$a = 5$ $b = 2.5$	M1 Convert both equations to make coefficients of $a$ or $b$ equal and attempt to add or subtract equations (correct operation based on the equations) A1 $a = 5$ or $b = 2.5$ A1 Both values correct
<b>Q26</b>	$AC^2 = 13^2 - 5^2 = 144$ $AC = 12\text{cm}$ $\tan(x) = \frac{12}{10}$ $x = \tan^{-1}\left(\frac{12}{10}\right)$ $x = 50.19442891$	$50.2^\circ$	M1 $13^2 - 5^2$ seen or implied A1 $AC = 12\text{cm}$ M1 $\tan(x) = \frac{\text{their } AC}{10}$ oe A1 cao

Question	Working	Answer	Notes						
Q27	<table><tr><td><math>y = \frac{1}{2}x + 3</math></td><td>B</td></tr><tr><td><math>y = x^3</math></td><td>D</td></tr><tr><td><math>y = \frac{1}{x}</math></td><td>C</td></tr></table>	$y = \frac{1}{2}x + 3$	B	$y = x^3$	D	$y = \frac{1}{x}$	C		B1 for each correct answer
$y = \frac{1}{2}x + 3$	B								
$y = x^3$	D								
$y = \frac{1}{x}$	C								
Q28			M1 Vector <b><i>a</i></b> or <b><i>b</i></b> drawn on grid M1 Vector <b><i>2a</i></b> seen or implied A1 Correct vector <b><i>2a + b</i></b> Or M1 $2\begin{pmatrix} 3 \\ 1 \end{pmatrix} + \begin{pmatrix} -1 \\ 2 \end{pmatrix}$ M1 $\begin{pmatrix} 5 \\ 4 \end{pmatrix}$ A1 Correct vector drawn						

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