



THIRD SPACE
LEARNING

Mathematics

Paper 1

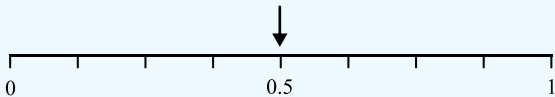

(Calculator)













Foundation Tier

Mark Scheme

OCR GCSE

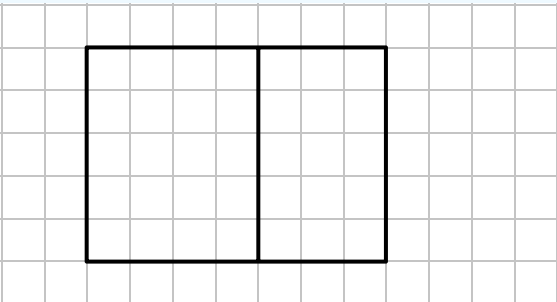
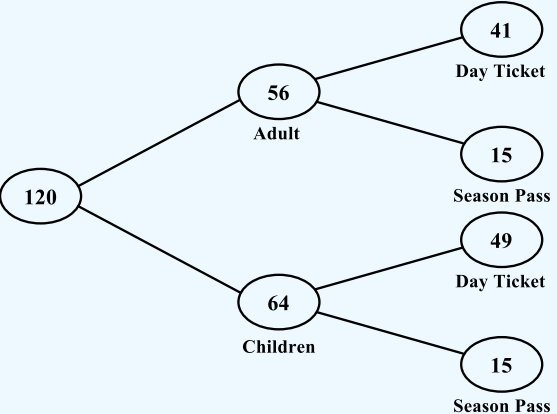
SET 2

Question	Working	Answer	Notes
Q1a		Parallelogram	B1 cao
Q1b		2	B1 cao
Q2a		Any even number	B1 cao
Q2b		Any one of 1, 3, 7, 21	B1 Any correct factor
Q2c		Any one of 11, 13, 17, 19	B1 Any correct prime number between 10 and 20
Q3a		$\frac{3}{4}$	A1 oe
Q3b		0.12	A1 cao
Q4a			B1 cao
Q4b			B1 cao
Q5a		<	B1 cao
Q5b		<	B1 cao
Q5c		=	B1 cao
Q6a		$\frac{n}{2}$ or $n \div 2$	B1 cao

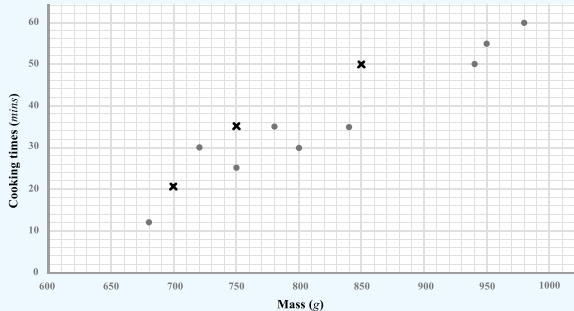
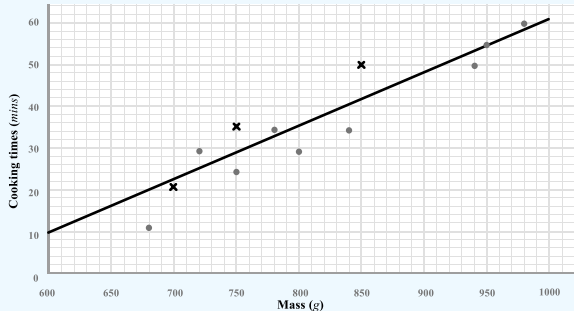
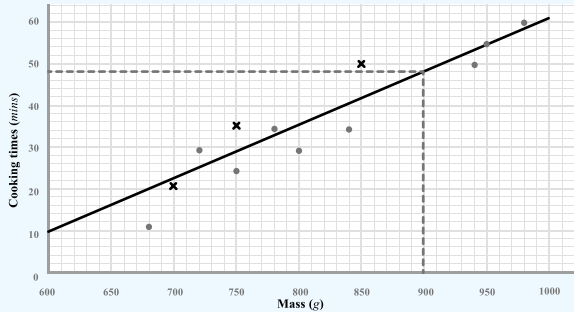
Question	Working	Answer	Notes								
Q6b	$5 + 3 = 8$ $32 \div 8 = 4$ $5 \times 4 = 20$	20	M1 Add 5 and 3 and divide 32 by their answer A1 20								
Q7a	<table><tr><td>Monday</td><td></td></tr><tr><td>Tuesday</td><td></td></tr><tr><td>Wednesday</td><td></td></tr><tr><td>Thursday</td><td></td></tr></table>	Monday		Tuesday		Wednesday		Thursday			B1 cao
Monday											
Tuesday											
Wednesday											
Thursday											
Q7b	Tuesday: $3 \times 8 + 6 = 30$	30 students had school dinners. Yes, 30 is more than half of 56.	M1 30 students had school dinners B1 Correct statement								
Q8	$2 \times \text{£}4.99 + \text{£}2.50 + \text{£}1.95 + 2 \times \text{£}2.10$ $= \text{£}18.63$ $\text{£}20 - 18.63 = \text{£}1.37$	£1.37	M1 Attempt at $2 \times \text{£}4.99 + \text{£}2.50 + \text{£}1.95 + 2 \times \text{£}2.10$ A1 £18.63 A1 $\text{£}20 - \text{£}18.83 = \text{£}1.37$								
Q9	$250 \div 12 = 20.83$	21	M1 $250 \div 12 = 20.83$ A1 cao								
Q10a	$5 \times 6 = 30$ $30 + 10 = 40$	40	A1 cao								

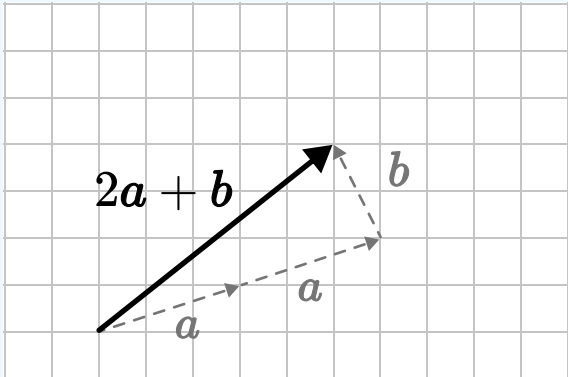
Question	Working	Answer	Notes
Q10b	<p>Example solutions:</p> <p>Input \longrightarrow $\times 6$ \longrightarrow -2 \longrightarrow Output</p> <p>Input \longrightarrow $\times 5$ \longrightarrow $+1$ \longrightarrow Output</p> <p>Input \longrightarrow $\times 4$ \longrightarrow $+4$ \longrightarrow Output</p> <p>Input \longrightarrow $\times 3$ \longrightarrow $+7$ \longrightarrow Output</p>		<p>A1 1 correct number machine</p> <p>A1 2 correct number machines</p>
Q11a	$4 + 11 + 7 + 9 + 4 + 1 + 2 + 6 = 44$ $44 \div 8 = 5.5$	5.5	<p>M1 Attempt to add all numbers and divide by 8 (maximum one number omitted)</p> <p>A1 cao</p>
Q11b	<p>1 2 4 4 6 7 9 11</p> <p>Median: $\frac{4+6}{2} = 5$</p>	5	<p>M1 Numbers in order and attempt to find middle value</p> <p>A1 cao</p>
Q11c	$6 \times 9 = 54$ $54 - 44 = 10$	10	<p>M1 New total 54</p> <p>A1 cao</p>
Q12a	$20 - 11 = 9$	$x = 9$	A1 cao
Q12b	$6 + 5 = 11$ $11 \times 3 = 33$	$x = 33$	<p>M1 $6 + 5 = 11$</p> <p>A1 cao</p>
Q13a	<p>09 15 to 16 45 is 7.5 hours</p> <p>$7.5 \times \text{£}11.20 = \text{£}84$</p>	£84	<p>M1 7.5 hours seen</p> <p>A1 cao</p>

Question	Working	Answer	Notes
Q13b	$16\ 45 + 12\ \text{minutes} = 16\ 57$ 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
Q14	$\frac{10}{12} = \frac{50}{60}$ $\frac{15}{20} = \frac{45}{60}$ $\frac{11}{15} = \frac{44}{60}$	No, 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
Q15	Angle BAD = 70° Angle ADB = $180 - 2 \times 70 = 140^\circ$ Angle DCA = $180 - 70 = 110^\circ$ Angle CAD = $180 - 110 - 40 = 30^\circ$	30°	M1 Angle BCA = 70° or angle BAD = 70° seen M1 Angle BAC = 40° or angle BDA = 40° seen A1 cao
Q16	1. She should have converted $0.1m$ to $10cm$ 2. She has written cm^2 instead of cm^3		B1 One correct statement B1 Two correct statements
Q17	$h + 7 = 6p$ $\frac{h + 7}{6} = p$	$p = \frac{h + 7}{6}$	M1 Correct first step A1 cao

Question	Working	Answer	Notes
Q18a			M1 Rectangle with length 7cm or width 5cm A1 Fully correct rectangle with measurements 5cm by 7cm split as seen in the diagram
Q18b		12	B1 cao
Q19	$0.1 + 0.5 = 0.6$ $1 - 0.6 = 0.4$ $0.4 \div 2 = 0.2$	0.2, 0.2	M1 $1 - (0.1 + 0.5)$ oe A1 cao
Q20	Area of trapezium: $\frac{1}{2} \times (6 + 9) \times 4 = 30\text{cm}^2$ 40% of 30 = 12 Area of rectangle = $30 + 12 = 42\text{cm}^2$ $42 \div 4 = 10.5\text{cm}$	10.5cm	A1 Area of trapezium = 30cm^2 M1 <i>ft</i> 40% of their area correct M1 Area of rectangle = 42cm^2 A1 cao
Q21a			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

Question	Working	Answer	Notes												
Q21b		$\frac{15}{64}$	A1 correct numerator <i>ft</i> from their part a A1 cao												
Q22a	<table><tr><td><i>x</i></td><td>-1</td><td>0</td><td>1</td><td>2</td><td>3</td></tr><tr><td><i>y</i></td><td>-4</td><td>-1</td><td>2</td><td>5</td><td>8</td></tr></table>	<i>x</i>	-1	0	1	2	3	<i>y</i>	-4	-1	2	5	8	-4, 5	A1 cao
<i>x</i>	-1	0	1	2	3										
<i>y</i>	-4	-1	2	5	8										
Q22b			M1 At least 3 points plotted correctly A1 Fully correct line												

Question	Working	Answer	Notes
Q22c	$3 \times 50 - 1 = 149$ When $x = 50$, $y = 149$	No	M1 $3 \times 50 - 1 = 149$ A1 No with correct, relevant working/statement
Q23a			M1 One point plotted correctly A1 All three points correct
Q23b			B1 Positive (correlation)
Q23ci			B1 Line of best fit drawn
Q23cii		48 minutes	A1 Answer in range 46 – 50 minutes from their line of best fit

Question	Working	Answer	Notes
Q23d	7 cakes take longer than 30 minutes	$\frac{7}{12}$	M1 7 cakes identified A1 cao
Q24	$500 \div 5 = 100g$ to make 4 doughnuts $100 \times 3 = 300g$ to make 12 doughnuts $30 \times 4 = 1200g$ to make 4 boxes of doughnuts $1200g < 1.5kg$ 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
Q25			M1 Vector <i>a</i> or <i>b</i> drawn on grid M1 Vector <i>2a</i> seen or implied A1 Correct vector <i>2a + b</i> 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

Question	Working	Answer	Notes
Q26	$2a + 3c = 35$ $3a + 4c = 49.50$ $6a + 9c = 105$ $6a + 8c = 99$ $c = £6$ $2a + 18 = 35$ $2a = 17$ $a = £8.50$ Or $8a + 12c = 140$ $9a + 12c = 148.50$ $a = £8.50$ $17 + 3c = 35$ $3c = 18$ $c = £6$	Adult: £8.50 Child: £6	M1 At least one correct equation correct M1 Attempting to make the coefficients of a or the coefficients of c equal M1 Subtracting one equation from the other A1 Correct value for a or c A1 Correct values for both a and c

Question	Working	Answer	Notes						
Q27	$6000 \times 1.04^5 = \pounds 7299.92$ $\pounds 7299.92 - 6000 = \pounds 1299.92$	$\pounds 1299.92$	M1 Finding 4% of 6000 and adding to 6000 (by any method) to give $\pounds 6240$ or 1.04 seen M1 Correct method for finding total amount in account after 5 years (e.g. 6000×1.04^5) M1 Subtracting $\pounds 6000$ from their answer A1 cao						
Q28	$AC^2 = 13^2 - 5^2 = 144$ $AC = 12cm$ $\tan(x) = \frac{12}{10}$ $x = \tan^{-1}\left(\frac{12}{10}\right)$ $x = 50.19442891$	50.2°	M1 $13^2 - 5^2$ seen or implied A1 $AC = 12cm$ M1 <i>ft</i> $\tan(x) = \frac{their\ AC}{10}$ oe A1 cao						
Q29	<table><tr><td>$y = \frac{1}{2}x + 3$</td><td>B</td></tr><tr><td>$y = x^3$</td><td>D</td></tr><tr><td>$y = \frac{1}{x}$</td><td>C</td></tr></table>	$y = \frac{1}{2}x + 3$	B	$y = x^3$	D	$y = \frac{1}{x}$	C		
$y = \frac{1}{2}x + 3$	B								
$y = x^3$	D								
$y = \frac{1}{x}$	C								

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