



THIRD SPACE
LEARNING

Mathematics

Paper 3

(Calculator)

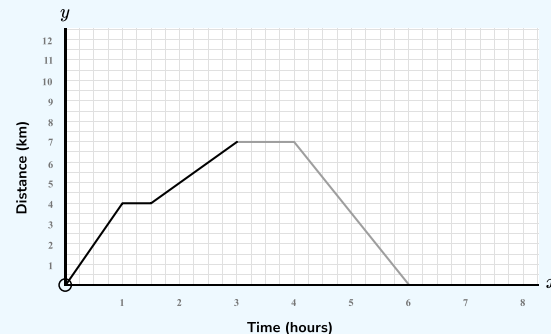
Foundation Tier

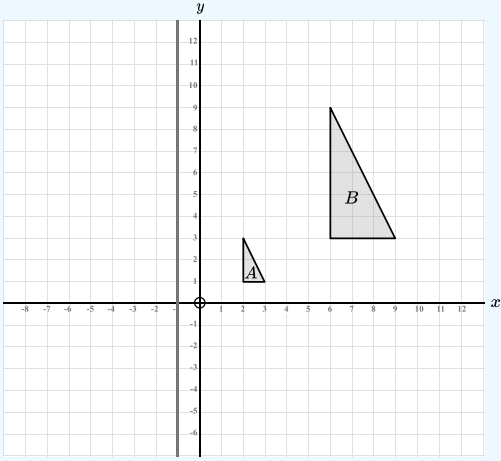
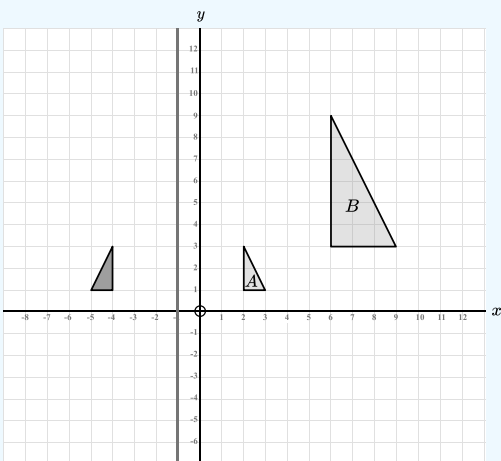
Mark Scheme

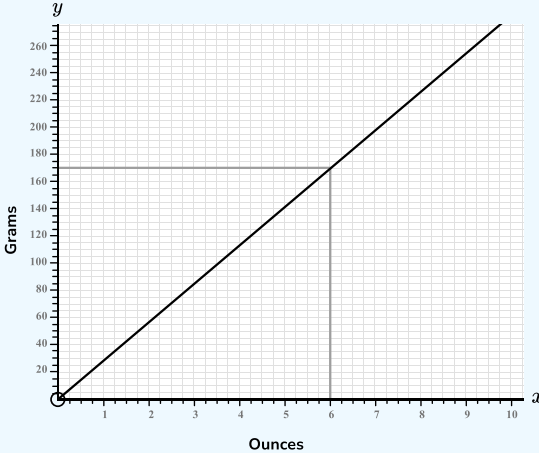
Edexcel GCSE

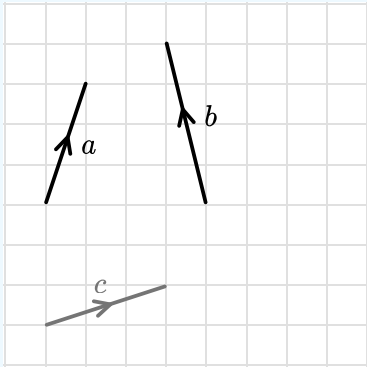
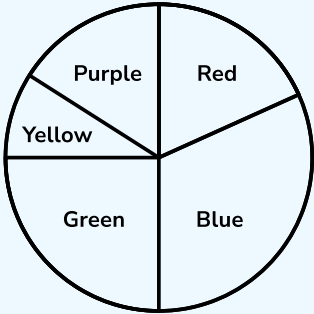
SET 1B

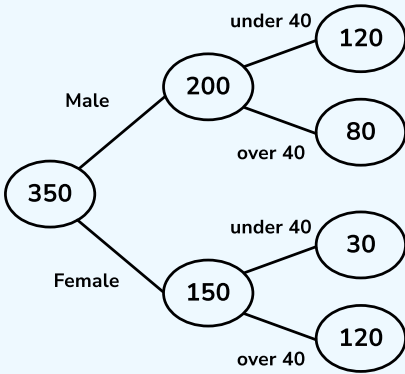
Question	Working	Answer	Notes
Q1	$12 \div 4 = 3$	3	A1 cao
Q2		18	B1 cao
Q3	$3.9 \times 1000 = 3900$	3900g	A1 cao
Q4		0.103, 0.11, 0.111, 0.13, 1.03	B1 cao
Q5		20 / twenty / 2 tens	B1 a correct answer
Q6a		7.785640646	M1 $\frac{19.46410162}{2.5}$ seen or awrt 7.7 A1 7.785640646
Q6b		7.79	B1 cao
Q7a		13, 21	A1 13 A1 21
Q7b		No and 21, 34, 55, ...	M1 Sequence continued up to at least 55 C1 Clear conclusion based on correct working
Q8	$15 \div 6 = 2.5$ $100 \times 2.5 = 250\text{g}$ $2 \times 2.5 = 5$ $250 \times 2.5 = 625\text{ml}$	250g flour 5 eggs 625ml milk	M1 Identifying that she needs 2.5 lots of the recipe M1 Correctly finding the amount of one ingredient A1 All three ingredients correct
Q9	$\frac{2}{3} = 0.66\dots$ $\frac{7}{9} = 0.77\dots$ $\frac{5}{9} = 0.55\dots$ $\frac{5}{11} = 0.4545\dots$	$\frac{5}{9}$	M1 At least two fractions correctly written as decimals A1 $\frac{5}{9}$ $\frac{5}{9}$ scores both marks even if working not seen

Question	Working	Answer	Notes																														
Q10a		5km	B1 cao																														
Q10b	$Time = \frac{Distance}{Speed} = \frac{7}{3.5} = 2 \text{ hours}$ <div></div>		B1 horizontal line from (3 , 7) to (4 , 7) M1 7 ÷ 3.5 or 2 hours seen A1 Correct final line from (4 , 7) to (6 , 0)																														
Q10c	$5.4 \div 8 = 0.675$ $0.675 \times 5 = 3.375$	3.375 mph	M1 Attempt to divide by 8 and multiply by 5 or attempt at equivalent correct method A1 3.375																														
Q11	<table><thead><tr><th>Date</th><th>Description</th><th>Paid in</th><th>Paid out</th><th>Balance</th></tr></thead><tbody><tr><td>31/08/22</td><td>Wages</td><td>£1540.20</td><td></td><td>£1552.68</td></tr><tr><td>01/09/22</td><td>Rent</td><td></td><td>£700</td><td>£852.68</td></tr><tr><td>03/09/22</td><td>Bill</td><td></td><td>£63.51</td><td>£789.31</td></tr><tr><td>04/09/22</td><td>Money transfer</td><td>£50</td><td></td><td>£839.31</td></tr><tr><td>04/09/22</td><td>Card payment</td><td></td><td>£82.99</td><td>£756.32</td></tr></tbody></table>	Date	Description	Paid in	Paid out	Balance	31/08/22	Wages	£1540.20		£1552.68	01/09/22	Rent		£700	£852.68	03/09/22	Bill		£63.51	£789.31	04/09/22	Money transfer	£50		£839.31	04/09/22	Card payment		£82.99	£756.32		A1 £852.68 A1 £50 A1 £82.99
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Q12		She has assumed that the two angles are equal. She may not be correct.	C1 A statement that the assumption is the two angles are equal C1 Indicating she may not be correct/she is not correct																														

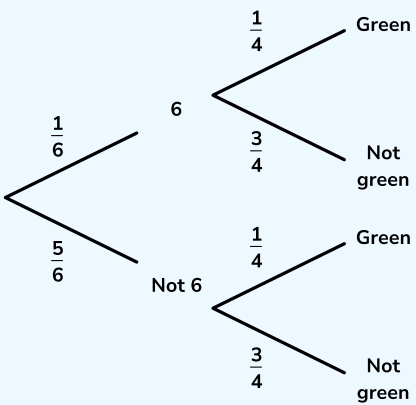
Question	Working	Answer	Notes
Q13a			B1 Correct line drawn
Q13b			M1 A reflection of the shape A in a vertical line of reflection A1 Fully correct reflection
Q13c		Enlargement Scale factor 3 Centre (0, 0)	B1 Any two conditions seen B1 All three conditions correct

Question	Working	Answer	Notes
Q14a		170g	<p>M1 Evidence of use of graph</p> <p>A1 170g</p> <p>170g scores both marks</p>
Q14b	<p>7 pounds 8 ounces: $7 \times 16 + 8 = 120$ ounces</p> <p>$20 \times 170 = 3400\text{g}$</p>	3400g	<p>P1 Converting pounds and ounces to ounces or using their conversion from part a or another conversion found from the graph to convert 120 ounces to grams</p> <p>A1 3400g</p>
Q15	$18 \times 8 \times 6 = 864$	864cm^3	<p>M1 $18 \times 8 \times 6$</p> <p>A1 864</p> <p>B1 Correct units cm^3</p>

Question	Working	Answer	Notes
Q16a			<p>M1 A line that goes right 3 and up 1 drawn anywhere on the grid</p> <p>A1 Correct arrow indicating direction</p>
Q16b	$2\begin{pmatrix} 1 \\ 3 \end{pmatrix} + \begin{pmatrix} -1 \\ 4 \end{pmatrix} = \begin{pmatrix} 2 \\ 6 \end{pmatrix} + \begin{pmatrix} -1 \\ 4 \end{pmatrix} = \begin{pmatrix} 1 \\ 10 \end{pmatrix}$	$\begin{pmatrix} 1 \\ 10 \end{pmatrix}$	<p>M1 Correct vectors for a and b seen</p> <p>M1 Correctly multiplying the vector a by 2</p> <p>A1 $\begin{pmatrix} 1 \\ 10 \end{pmatrix}$</p>
Q17	$\frac{32}{160} \times 360 = 72^\circ$ $\frac{48}{160} \times 360 = 108^\circ$ $\frac{40}{160} \times 360 = 90^\circ$ $\frac{12}{160} \times 360 = 27^\circ$ $\frac{28}{160} \times 360 = 63^\circ$ 		<p>M1 At least two of the angles correct - angles can be seen written or drawn on the pie chart</p> <p>M1 All five angles correct</p> <p>M1 All angles drawn on the pie chart correctly</p> <p>A1 Fully correct pie chart including labels</p>

Question	Working	Answer	Notes
Q18	 <p>Total under 40 : $120 + 30 = 150$ Total over 40 : $80 + 120 = 200$</p>	$150 : 200$ $3 : 4$	M1 200 and 150 correctly placed M1 120 and 80 or 30 and 120 correctly placed M1 Frequency tree fully correct A1 150:200 oe
Q19a	$180 - 90 - 64 = 26^\circ$	26°	A1 26°
Q19b	$10.5 \div 7 = 1.5$ $12 \times 1.5 = 18$	18	M1 $10.5 \div 7 = 1.5$ A1 $12 \times 1.5 = 18$
Q20	$10 \times 5.5 = 55$ $55 - 6 + 0 = 49$ $49 \div 10 = 4.9$	4.9 years	P1 Calculating the total time for the 10 teachers to be 55 years P1 Subtracting 6 and adding 0 and dividing by 10 A1 4.9
Q21a		6.21×10^5	B1 6.2110^x where x is a positive integer B1 6.2110^5
Q21b		0.00173	B1 cao

Question	Working	Answer	Notes
Q21c	$820000 + 39000 = 859000$	8.59×10^5	<p>M1 Attempt to convert both numbers to ordinary numbers and add them or to change one number so that the powers of 10 are equal E.g. $(8.2 \times 10^5) + (0.39 \times 10^5)$</p> <p>A1 8.59×10^5 must be in standard form</p>
Q22	$T = \frac{40M - N^2}{3}$ $3T = 40M - N^2$ $3T + N^2 = 40M$ $\frac{3T + N^2}{40} = M$	$M = \frac{3T + N^2}{40}$	<p>M1 Reaching $3T + N^2 = 40M$</p> <p>A1 $M = \frac{3T + N^2}{40}$</p>
Q23	<p>Large: $\pi \times 3^2 \times 11 = 311.0\text{cm}^3$</p> <p>Small: $\pi \times 2^2 \times 8 = 100.5\text{cm}^3$</p> <p>$2 \times 100.5 = 201\text{cm}^3$</p>	1 large	<p>P1 Finding the volume of the large can</p> <p>P1 Finding the volume of the small can and doubling</p> <p>C1 Correct conclusion based on correct working</p>

Question	Working	Answer	Notes
Q24a			A1 $\frac{5}{6}$ or $\frac{3}{4}$ correctly placed A1 Fully correct
Q24b		$\frac{1}{6}$	A1 cao
Q24c	$P(\text{win } £5) = \frac{1}{6} \times \frac{1}{4} = \frac{1}{24}$	1:23	P1 Finding the probability of winning £5 P1 Working out the 23 people don't win: 23 or $\frac{23}{24}$ seen A1 1:23
Q25a	$4800 \times 1000 = 4800000\text{cm}^3$	4800000cm^3	M1 4800×1000 A1 4800000cm^3
Q25b	$4800000 \times 100^3 = 4.8$	4.8m^3	M1 $1\text{m} = 100\text{cm}$ seen or implied or attempting to divide by 100 three times or to divide by 100^3 A1 4.8m^3
Q25c	$4.8 \times £1.58 = £7.58$	£7.58	A1 cao

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