



THIRD SPACE
LEARNING

Mathematics

Paper 3

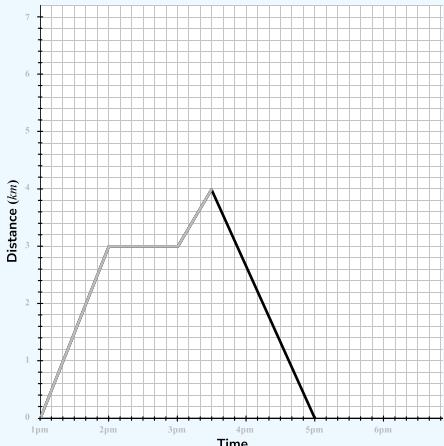
(Calculator)

Foundation Tier

Mark Scheme

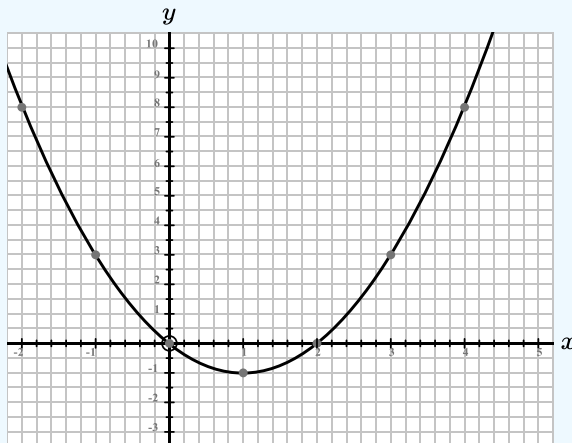
AQA GCSE

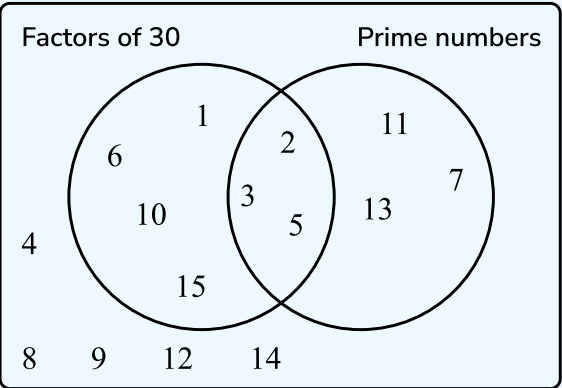
SET 2

Question	Working	Answer	Notes
Q1		50	B1 cao
Q2		$x - 4$	B1 cao
Q3		0.35km	B1 cao
Q4		0.103, 0.31, 1.033, 1.11, 1.3	B1 cao
Q5		A and D	B1 cao
Q6a		5:7	B1 cao
Q6b	3 more shaded = 8 shaded $\frac{8}{12} = \frac{2}{3}$	$\frac{2}{3}$	M1 $\frac{8}{12}$ seen A1 correct fully simplified fraction
Q7		25, 36	A1 25 A1 36
Q8a		1 hour	B1 cao
Q8b			M1 Line drawn all the way down to x axis A1 Correct line to 5pm

Question	Working	Answer	Notes
Q9a	$1 - 0.2 = 0.8$	0.8	A1 cao
Q9b		0.2×0.2	B1 cao
Q10a	$0.15 \times 420 = \text{£}63$ $\text{£}420 - 63 = \text{£}357$		M1 $\text{£}63$ or 85% seen or implied A1 $\text{£}420 - \text{£}63$ seen
Q10b	$300 \div 24 = \text{£}12.50$	$\text{£}12.50$	M1 $300 \div 24$ A1 cao
Q11	1. The points have been plotted at the lower bounds of the class intervals rather than the midpoints 2. The first and last points have been joined		B1 For each correct statement
Q12		F - R F - H F - B R - H R - B H - B	M1 At least 4 correct combinations A1 Exactly six distinct combinations

Question	Working	Answer	Notes
Q13	$42 \div 7 = 6$ $6 \times 2 = 12$ small blocks $6 \times 5 = 30$ large blocks $12 \times 350 = 4200g = 4.2kg$ $30 \times 600 = 18000g = 18kg$ $4.2 + 18 = 22.2kg$ They do not have enough	No	M1 $42 \div 7 = 6$ A1 12 small blocks and 30 large blocks M1 <i>ft</i> their ' $12' \times 350$ and their ' $30' \times 600$ A1 22.2kg with a correct statement
Q14		$2x$ is always even	B1 cao
Q15a		-6	A1 cao
Q15b		4	A1 cao
Q16a		063°	M1 North line drawn from the lighthouse and line from lighthouse to ship drawn A1 Answer in range $061^\circ - 065^\circ$
Q16b	$4.5 \times 20 = 90km$	$90km$	M1 Line measured with measurement in range $4.4 - 4.6cm$ seen A1 cao
Q17a		$2^2 \times 3 \times 7$	M1 At least three correct prime factors identified A1 $2^2 \times 3 \times 7$ or $2 \times 2 \times 3 \times 7$
Q17b	$30 = 2 \times 3 \times 5$ LCM: $2^2 \times 3 \times 5 \times 7 = 420$	420	M1 30 written as product of primes or multiples of 30 and 84 listed A1 cao

Question	Working	Answer	Notes																
Q18a		$6(2x + 3y)$	M1 $6(ax + by)$ A1 cao																
Q18b	$12x + 6 = 54$ $12x = 48$ $x = 4$	$x = 4$	M1 Correct first step (expand brackets or divide by 3) leading to $x =$ A1 cao																
Q19a	1 hour 30 minutes = 1.5 hours $\frac{22.8}{1.5} = 15.2km/h$	$15.2km/h$	M1 1.5 hours seen M1 Attempt to divide a distance by a time A1 cao																
Q19b		A	B1 cao																
Q20a	<table><tr><td>x</td><td>-2</td><td>-1</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td></tr><tr><td>y</td><td>8</td><td>3</td><td>0</td><td>-1</td><td>0</td><td>3</td><td>8</td></tr></table>	x	-2	-1	0	1	2	3	4	y	8	3	0	-1	0	3	8	8, 0, 3	M1 One correct value A1 All three values correct
x	-2	-1	0	1	2	3	4												
y	8	3	0	-1	0	3	8												
Q20b			M1 <i>ft</i> At least 4 of their points plotted correctly A1 All points plotted correctly and joined with a smooth curve																

Question	Working	Answer	Notes
Q21			M1 2, 3, 5 correctly placed M1 At least 6 other values correctly placed M1 Circles fully correct A1 Fully correct Venn diagram
Q22a		p^7	A1 cao
Q22b		$4q^5$	M1 $4q^x$ or xq^5 A1 cao
Q23	$\pi \times 7^2 = 153.938\dots$ $\frac{3}{4} \times 153.938\dots = 115.45353\dots$	115.5cm^2	M1 $\pi \times 7^2 = 153.938\dots$ M1 Correct method to find $\frac{3}{4}$ of their area A1 cao
Q24		$8.65 \leq n < 8.75$	A1 8.65 A1 8.75
Q25a	$0 \times 8 + 1 \times 13 + 2 \times 7 + 3 \times 3 + 4 \times 1 = 40$ $40 \div 32 = 1.25$	1.25	M1 Multiplying number of siblings by frequencies M1 <i>ft</i> Their sum divided by 32 A1 cao
Q25b		– It is between 0 and 4 – The most common number of siblings was 1 so you would expect it to be around 1	B1 A correct explanation

Question	Working	Answer	Notes
Q26	<p>Angle sum is $(n - 2) \times 180 = 4 \times 180 = 720^\circ$</p> <p>6 angles so interior angle is $720 \div 6 = 120^\circ$</p> <p>Isosceles triangle so angles ABF and AFB equal</p> <p>$180 - 120 = 60$</p> <p>$60 \div 2 = 30^\circ$</p>	30°	<p>M1 A correct method to find interior or exterior angle of hexagon</p> <p>M1 Interior angle of hexagon 120° or exterior angle 60°</p> <p>M1 $\frac{180 - 120}{2}$ oe with either ‘angles in a triangle add up to 180°’ or ‘isosceles triangle’</p> <p>A1 Correct answer following correct reasoning</p>
Q27		The pressure is multiplied by 4	B1 cao
Q28		$a = 4b$	B1 cao
Q29a	<p>Surface area:</p> <p>$2 \times 9 \times 16 = 288$</p> <p>$2 \times 9 \times x = 18x$</p> <p>$2 \times 16 \times x = 32x$</p> <p>$18x + 32x + 288 = 50x + 288$</p>		<p>M1 Attempt to find area of each face</p> <p>M1 Adds all 6 areas</p> <p>M1 Reaches $50x + 288$ following correct method</p> <p>A1 Sets $50x + 288 < 900$</p>
Q29b	<p>$50x < 612$</p> <p>$x < 12.24$</p>	$x < 12.24$	<p>M1 Subtracting 288</p> <p>A1 cao</p>
Q29c		12	B1 cao
Q30	<p>$2y = 1.2 \times 10^4$</p> <p>$4 \times 10^5 + 1.2 \times 10^4$</p> <p>$400000 + 12000 = 412000$</p>	4.12×10^5	<p>M1 Evidence of correct substitution into $x + 2y$</p> <p>A1 cao</p>

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