



Mathematics

Paper 2

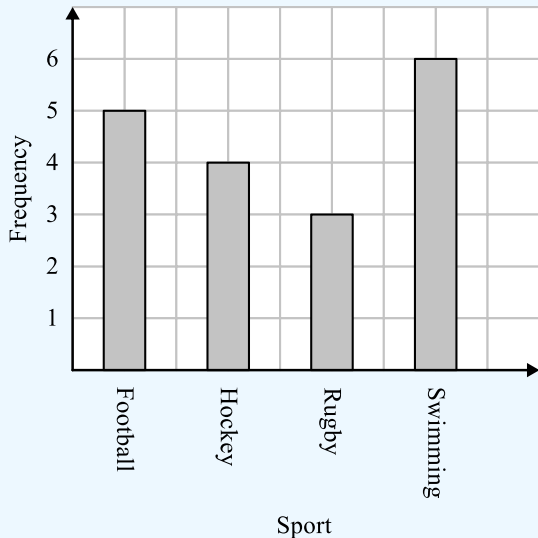
(Calculator)

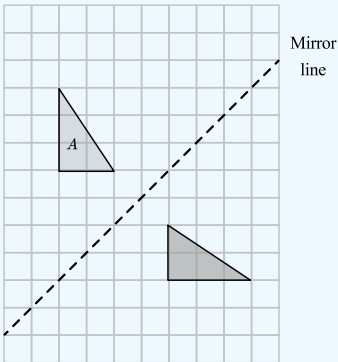
Foundation Tier

Mark Scheme

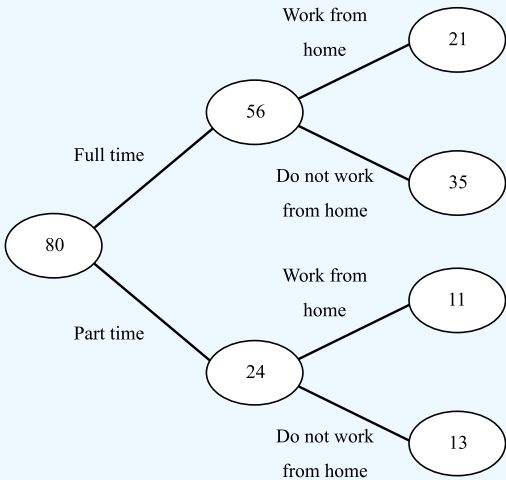
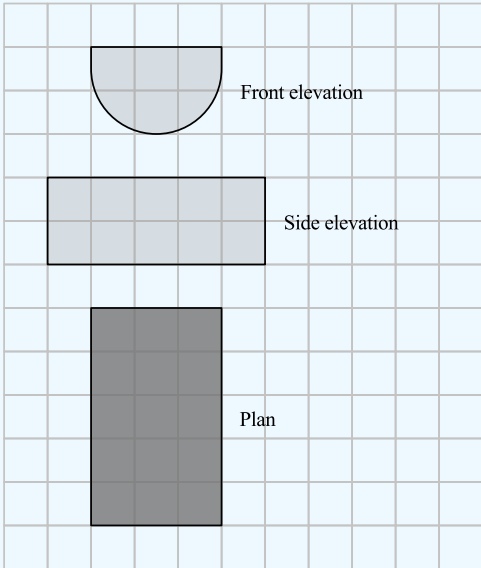
AQA GCSE

SET 4

Question	Working	Answer	Notes										
Q1		1787	A1 cao										
Q2		450 cm	A1 cao										
Q3		Acute	A1 cao										
Q4		$\frac{x}{2}$	A1 cao										
Q5		$\frac{15}{8}$	A1 cao										
Q6a		10 cm	A1 Cao										
Q6b		130°	A1 Cao										
Q7a		$\frac{10}{18}$	A1 oe										
Q7b	<div><p>Favourite sport</p><table><tr><th>Sport</th><th>Frequency</th></tr><tr><td>Football</td><td>5</td></tr><tr><td>Hockey</td><td>4</td></tr><tr><td>Rugby</td><td>3</td></tr><tr><td>Swimming</td><td>6</td></tr></table></div>	Sport	Frequency	Football	5	Hockey	4	Rugby	3	Swimming	6		<p>Linear scale starting at 0 and increasing in 1s or 2s on the vertical axis</p> <p>Vertical axis labelled frequency oe</p> <p>Bars or horizontal axis labelled with four types of sport</p> <p>Four bars with equal widths, equal gaps or no gaps between the four bars</p> <p>All four heights correct</p> <p>B3 for all criteria met</p> <p>B2 for 4 or 5 criteria met</p> <p>B1 for 3 criteria met</p>
Sport	Frequency												
Football	5												
Hockey	4												
Rugby	3												
Swimming	6												

Question	Working	Answer	Notes
Q8	Arrives at beach at 10.35am Pays for 2 hours parking She must leave by 12.35pm	12.35pm	M1 10.35 seen M1 2 hours parking seen A1 (allow omittance of pm)
Q9		$\frac{1}{3} = 0.3333333\dots$ Or $0.3 = \frac{3}{10}$ which is not the same as $\frac{1}{3}$	B1 Correct explanation
Q10a		17	A1 cao
Q10b	Largest number: 22 Smallest number: 9 $22 - 9 = 13$	13	M1 22 or 9 seen A1 cao
Q10c	14 bookings in January $14 + 12 + 9 + 17 + 22 + 11 = 85$	$\frac{14}{85}$	M1 Attempt to find the total number of bookings A1 cao
Q11	E35#, E53#, E3#5, E5#3, E#35, E#53	E35#, E53#, E3#5, E5#3, E#35, E#53	M1 4 distinct possibilities listed A1 6 distinct possibilities with no repeats
Q12		See diagram	M1 At least 2 vertices correct A1 Correct reflection

Question	Working	Answer	Notes
Q13	$3.5 \times 12 = 42$	42 hours	M1 3.5×12 seen A1 cao
Q14	$384 \div 2.4 = 160$ $160 \times 4 = 640m$	640m	M1 $384 \div 2.4$ M1 160×4 A1 cao
Q15	4 pack: 12 pairs of socks for £9 120 pairs of socks for £90 10 pack: 20 pairs of socks for £17 120 pairs of socks for £102	Offer A	M1 12 pairs of socks for £9 and 20 pairs of socks for £17 M1 Compares using a suitable method A1 Offer A, following correct working
Q16	Adam A Ben $2A$ Laura $2A + 3$ $T = A + 2A + 2A + 3$ $T = 5A + 3$	$T = 5A + 3$	M1 $2A$ or $2A + 3$ seen M1 Attempt to add their 3 terms A1 Cao
Q17	$x = \sqrt{81} = 9$ $\sqrt{9} = 3$	3	A1 Cao

Question	Working	Answer	Notes
Q18a		See diagram	M1 80, 56 and 24 correctly placed M1 $\frac{3}{8}$ of 56 = 21 M1 40% of 80 = 32 M1 At least 5 values correct A1 All correct
Q18b		$\frac{11}{24}$	B1 Numerator or denominator correct B1 Fully correct
Q19		See diagram	B1 One correct side length B1 3×5 rectangle

Question	Working	Answer	Notes
Q20	<div> <div>True</div> <div>False</div> </div> <p>The largest possible value of $2x$ is 8 <input checked="" type="checkbox"/> <input type="checkbox"/></p> <p>The largest possible value of $x + y$ is 13 <input type="checkbox"/> <input checked="" type="checkbox"/></p> <p>The largest possible value of $y - x$ is 3 <input type="checkbox"/> <input checked="" type="checkbox"/></p>		<p>A1 One correct</p> <p>A1 Two correct</p> <p>A1 All correct</p>
Q21a	$7 - 3 = 4$	p^4	A1 Cao
Q21b	$3 \times 5 = 15$	q^{15}	A1 Cao
Q21c	$2 \times 3 = 6$ so it should be $6x^7$		B1 Correct explanation
Q22	<p>5 litres of blue paint = £17.50</p> <p>1 litre of blue paint = $£17.50 \div 5 = £3.50$</p> <p>$£3.50 \div 5 \times 6 = £4.20$</p> <p>1 litre of yellow paint = £4.20</p> <p>$£4.20 \times 8 = £33.60$</p>	£33.60	<p>M1 1 litre of blue paint = £3.50</p> <p>M1 1 litre of yellow paint = £4.20</p> <p>M1 $£4.20 \times 8$</p> <p>A1 cao</p>
Q23	<p>$6x + 12 = 10x - 6$</p> <p>$18 = 4x$</p> <p>$x = 4.5$</p>	$x = 4.5$	<p>M1 Expands brackets. Condone 1 error</p> <p>M1 Isolates term in x</p> <p>A1 cao</p>
Q24	<p>Factors of 48:</p> <p>1, 2, 3, 4, 6, 8, 12, 16, 24, 48</p> <p>Factors of 72:</p> <p>1, 2, 3, 4, 6, 8, 9, 12, 18, 24, 36, 72</p>	24	<p>M1 Lists the factors of 48 and 72 or draws prime factor trees</p> <p>A1 cao</p>

Question	Working	Answer	Notes
Q25	$\sin(42) = \frac{7.2}{x}$ $x = \frac{7.2}{\sin(42)} = 10.76023116$	10.8	M1 $\sin(42) = \frac{7.2}{x}$ oe A1 cao
Q26a	$\frac{1}{0.4} = 2.5$	2.5	A1 cao
Q26b		$225 \leq x < 235$	B1 Lower bound correct B1 Upper bound correct
Q27	$3t + 4c = 10.80$ $2t + 5c = 11.40$ $6t + 8c = 21.60$ $6t + 15c = 34.20$ $7c = 12.60$ $c = \text{£}1.80$ $3t + 4 \times 1.80 = 10.80$ $3t = 3.60$ $t = \text{£}1.20$ $4t + c = 4 \times 1.20 + 1.80$ $= \text{£}6.60$	£6.60	M1 Forms 2 equations M1 Multiplies equations to give equal coefficients of 't' or 'c' M1 Subtracts equations and solves for 't' or 'c' M1 Substitutes 'their' value and solves for the other variable A1 $4 \times 1.20 + 1.80 = \text{£}6.60$

Question	Working	Answer	Notes
Q28a	$2 \times 0 - 4 = -4$	$(0, -4)$	A1 Cao
Q28b		The lines have the same gradient	A1 Cao
Q29	Planet B $9.05 \times 10^{11} = \frac{4}{3} \pi r^3$ $r = \sqrt[3]{\frac{9.05 \times 10^{11}}{4 \times 10^3}} = 6000.489175$ $\frac{6000.489175}{4 \times 10^3} = 1.500122294$	1.5 times bigger	M1 $9.05 \times 10^{11} = \frac{4}{3} \pi r^3$ A1 Radius $B = 6000$ M1 Divides by 4000 to find scale factor A1 cao
Q30	$2 \begin{pmatrix} 2 \\ 5 \end{pmatrix} + \begin{pmatrix} -2 \\ -1 \end{pmatrix} = \begin{pmatrix} 2 \\ 9 \end{pmatrix}$	$\begin{pmatrix} 2 \\ 9 \end{pmatrix}$	M1 Vector a correctly doubled Or 2 or 9 correct A1 Fully correct
Q31	$60\% \text{ of } 80\% = 48\%$	48%	M1 60% of 80% seen or indicated A1 cao

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