



THIRD SPACE  
LEARNING

# Mathematics

## Paper 1

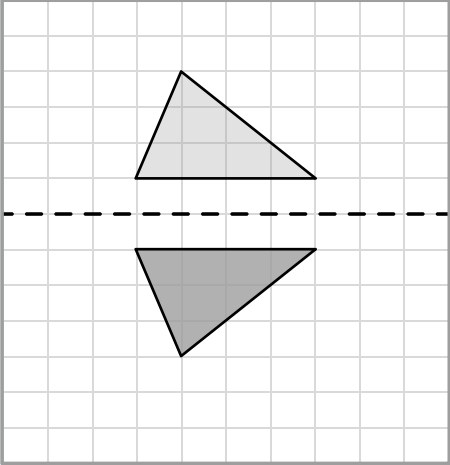
### (Non-Calculator)

### Foundation Tier

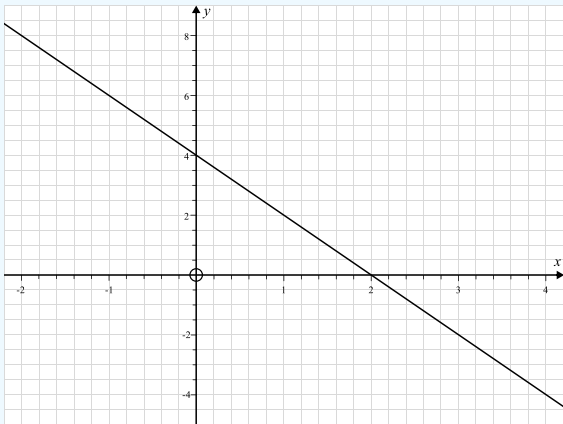
### Mark Scheme

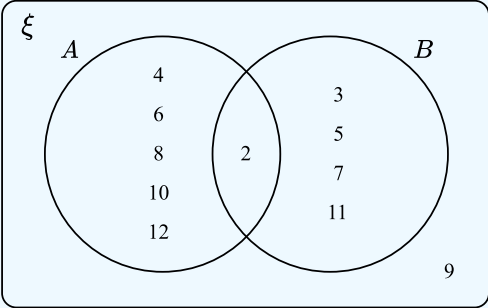
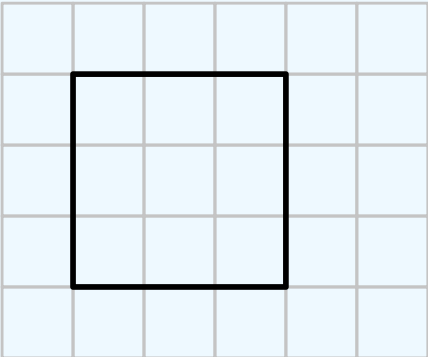
AQA GCSE

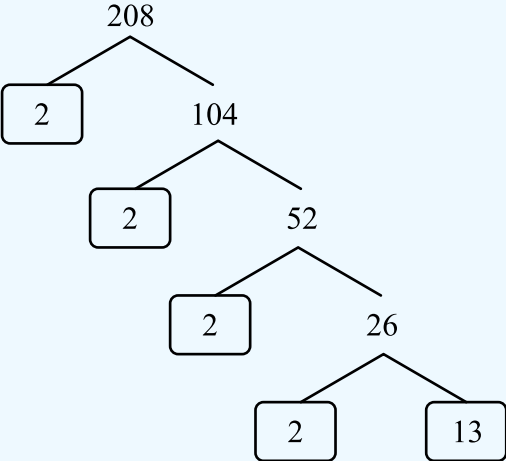
SET 3

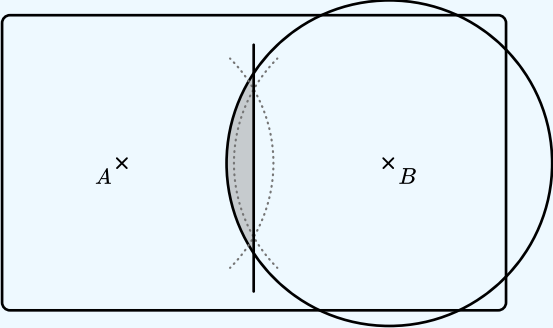
Question	Working	Answer	Notes
Q1		0.7	A1 cao
Q2		3400	A1 cao
Q3		5b	A1 cao
Q4		−19	A1 cao
Q5		450	A1 cao
Q6	 <p>Mirror line</p>	(4, 2)	A1 cao
Q7a	$240 \div 2 = 120$ , £120 spent on clothes $240 - 120 - 30 = 90$ left $\frac{90}{240}$	$\frac{90}{240}$	M1 $\frac{1}{2}$ of 240 = 120 M1 <i>ft</i> subtracts their ‘120’ and 30 from 240 A1 $\frac{90}{240}$ oe
Q7b	6:4 = 3:2	3:2	M1 3 + 1 = 4 or 4 seen A1 Correct, simplified ratio

Question	Working	Answer	Notes
<b>Q8</b>	$5 + 8 + 6 = 19$ $28 - 19 = 9$ student brought a banana	4 more students brought a banana than an apple	M1 At least two of 5, 8 and 6 correct M1 $28 - 19 (= 9)$ bananas A1 correctly finds 4 more brought a banana than an apple
<b>Q9</b>	$60 \times 40 = 2400$	2400	M1 60 and 40 seen A1 cao
<b>Q10</b>	$85 + 65 = 150$ $180 - 150 = 30$ $180 - 30 = 150$	$150^\circ$	M1 Subtract 85 and 65 from 180 to get $30^\circ$ A1 cao
<b>Q11a</b>	$-6 + 21 = 15$	$15^\circ\text{C}$	M1 $-6 + 21$ seen or implied A1 cao
<b>Q11b</b>		January because $-10$ is between $-13$ and $-6$	B1 January B1 correct reason
<b>Q12a</b>	$\frac{6}{8} - \frac{5}{8} = \frac{1}{8}$	$\frac{1}{8}$	M1 $\frac{3}{4}$ converted to $\frac{6}{8}$ or other equivalent fractions with the same denominators A1 $\frac{1}{8}$ oe
<b>Q12b</b>	$\frac{2 \times 3}{7 \times 10} = \frac{6}{70} = \frac{3}{35}$	$\frac{3}{35}$	M1 $\frac{2 \times 3}{7 \times 10}$ seen or implied A1 cao
<b>Q13a</b>	$1 - 0.3 = 0.7$	0.7	A1 cao

Question	Working	Answer	Notes																
Q13b	$200 \times 0.3 = 60$	60	M1 $200 \times 0.3$ seen A1 cao																
Q14	$18 \div 3 = 6$ , adult ticket = £6 $2 \times 6 = 12$ $28.50 - 12 = 16.50$ $16.50 \div 5 = 3.30$ $4 \times 6 + 2 \times 3.30 = 24 + 6.60 = \text{£}30.60$	£30.60	M1 Adult ticket = £6 M1 Child ticket = £3.30 M1 <i>ft</i> substitutes their values into $4a + 2c$ A1 cao																
Q15		The first term should be $6p$ The last term should be $-8$	B1 First correct statement B1 Second correct statement																
Q16	<table border="1"><tr><td><math>x</math></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><math>y</math></td><td>8</td><td>6</td><td>4</td><td>2</td><td>0</td><td>-2</td><td>-4</td></tr></table> 	$x$	-2	-1	0	1	2	3	4	$y$	8	6	4	2	0	-2	-4		M1 At least 3 values of $y$ correctly calculated M1 At least 3 coordinates correctly plotted A1 Fully correct graph, points joined with a straight line
$x$	-2	-1	0	1	2	3	4												
$y$	8	6	4	2	0	-2	-4												
Q17		773.5	A1 cao																

Question	Working	Answer	Notes
Q18	$7x - 2 = 3x + 14$ $4x = 16$ $x = 4$	$x = 4$	M1 Correct first step (e.g. +2 or $-3x$ ) M1 $4x = 16$ seen oe A1 cao
Q19			B1 At least 6 elements correctly placed B1 2 and 9 correctly placed B1 All elements correctly placed
Q20			B1 Length or width of 3 B1 cao
Q21	$300 \div 3 = 100$ $100 \times 50p = \text{£}50$ $50 - 40 = 10$ , profit = $\text{£}10$ $\frac{10}{40} \times 100 = 25\%$	25%	M1 $300 \div 3 = 100$ M1 $100 \times 50p = \text{£}50$ M1 $50 - 40 = 10$ , profit = $\text{£}10$ A1 cao

Question	Working	Answer	Notes
Q22		$2^4 \times 13$	M1 Attempt at prime factor tree or other valid method A1 $2^4 \times 13$ oe
Q23a	$11.5 \times 4 \times 4 = 184$	184	M1 $\times 4$ seen M1 $11.5 \times 4 \times 4$ oe A1 cao
Q23b		This is an arithmetic progression	A1 cao
Q23c	$-3 + 2 = -1, 2 + -1 = 1$ No $-5 + 3 = -2, 3 + -2 = 1, -2 + 1 = -1$ Yes $-4 + 1 = -3$ No $-2 + -2 = -4, -2 + -4 = -6$ No	B	B1 cao

Question	Working	Answer	Notes
Q24			B1 Perpendicular bisector of $AB$ constructed (construction lines must be seen) B1 Circle or part circle, radius $4\text{cm}$ around $B$ B1 Correct area shaded
Q25	$3.65 \times 10^5 = 365000$ $36.5 \times 10^{-2} = 0.365$	$0.0365$ $36.5 \times 10^{-2}$ $365$ $3.65 \times 10^5$	M1 365000 or 0.365 seen A1 cao
Q26	Total height of boys: $6 \times 130 = 780$ Total height of girls: $4 \times 120 = 480$ Total height of 10 players: $780 + 480 = 1260$ Mean height of 10 players: $\frac{1260}{10} = 126$	Yes	M1 $6 \times 130 = 780$ or $4 \times 120 = 480$ M1 $780 + 480 (= 1260)$ A1 $1260 \div 10 (= 126)$ A1 Concludes 'Yes' with supporting working

Question	Working	Answer	Notes
<b>Q27</b>	<p>Angle <math>BHG = 90^\circ</math></p> <p>Interior angle of a hexagon:  <math>\frac{4 \times 180}{6} = 120^\circ</math></p> <p>Angle <math>ABH = 120 - 90 = 30</math></p> <p><math>90 = 3 \times 30</math> so angle <math>BHG = 3 \times</math> angle <math>ABH</math></p>		<p>B1 Angle <math>BHG = 90^\circ</math></p> <p>M1 Attempt at a correct method to find interior angle of a hexagon</p> <p>M1 <i>ft</i> Angle <math>ABH =</math> their '120' <math>- 90</math></p> <p>B1 Concluding statement</p>
<b>Q28</b>	<p>A: <math>\frac{1}{2} \times \pi \times 2^2 \times 9 = 18\pi</math></p> <p>B: <math>\frac{4}{3} \times \pi \times 3^3 = 36\pi</math></p>	2 times bigger	<p>M1 <math>\frac{1}{2} \times \pi \times 2^2 \times 9 (= 18\pi)</math> oe</p> <p>M1 <math>\frac{4}{3} \times \pi \times 3^3 (= 36\pi)</math> oe</p> <p>A1 <math>36\pi \div 18\pi (= 2)</math></p> <p>A1 cao</p>
<b>Q29</b>		$\frac{1}{2}$	A1 cao
<b>Q30a</b>	$\frac{5^7}{5^4} = 5^3 = 125$	125	<p>M1 <math>5^3</math></p> <p>A1 cao</p>
<b>Q30b</b>	$a = 4(m^2)^3$	$a = 4m^6$	<p>M1 <math>a = 4(m^2)^3</math></p> <p>A1 cao</p>



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