



THIRD SPACE  
LEARNING

# Mathematics

## Paper 2

### (Calculator)

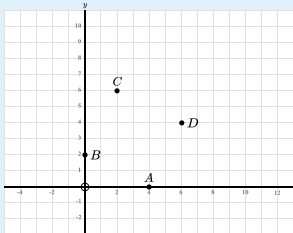
### Foundation Tier

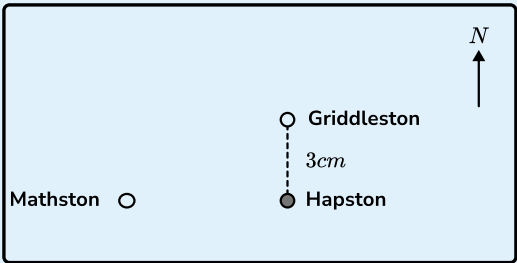
### Mark Scheme

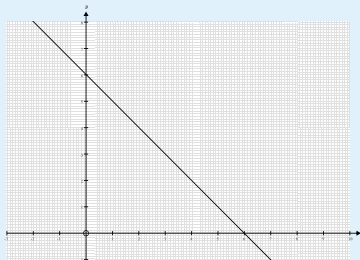
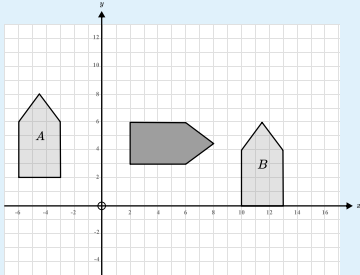
Edexcel GCSE

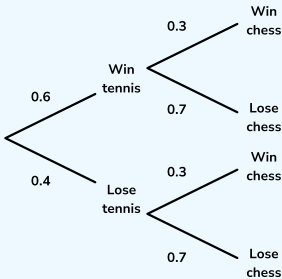
SET 1A

Question	Working	Answer	Notes												
Q1		73%	A1 cao												
Q2		16, 32, 40	A1 all 3 multiples circled												
Q3		204 ...<..... 240 177 ....>..... 170 -8 .....<..... 6	B1 < B1 > B1 <												
Q4a		Multiply by 2	B1 oe												
Q4b	24 ÷ 2 = 12 12 - 5 = 7	7	B1 cao												
Q5	180 - 2 × 28 = 124	m = 124° n = 28°	M1 Attempting 180 - 28 - 28 oe A1 m = 124° A1 n = 28°												
Q6a		tangent	B1 cao												
Q6b		sector	B1 cao												
Q7a		12	A1 cao												
Q7b		16	A1 cao												
Q7c	30 - 11	19	M1 30 - 11 A1 cao												
Q8	<table><tr><td></td><td>Tally</td><td>Frequency</td></tr><tr><td>1-3</td><td>     I</td><td>6</td></tr><tr><td>4-6</td><td>    </td><td>5</td></tr><tr><td>7-9</td><td>    </td><td>4</td></tr></table>		Tally	Frequency	1-3	I	6	4-6		5	7-9		4		M1 for one correct tally or frequency B1 cao
	Tally	Frequency													
1-3	I	6													
4-6		5													
7-9		4													

Question	Working	Answer	Notes																				
Q9a			B1 D plotted correctly																				
Q9b		(6, 4)	B1 cao																				
Q9c		BC or AD	B1 BC or AD correctly stated																				
Q10a		June	B1 cao																				
Q10b		e.g. People go camping in the summer The shop might be have had a sale	B1 Or other suitable explanation																				
Q11	$\frac{4}{5} = \frac{16}{20}$ $\frac{3}{4} = \frac{15}{20}$	Percy, Harry, Fred	M1 Attempting to write fractions with a common denominator OR attempting to write all three fractions as percentages or decimals M1 At least two correct fractions with a common denominator seen OR at least two correct percentages or decimals A1 cao with working seen																				
Q12	<table border="1"><tr><td></td><td>Blue</td><td>Brown</td><td>Green</td><td>Total</td></tr><tr><td>Male</td><td>21</td><td>33</td><td>13</td><td>67</td></tr><tr><td>Female</td><td>37</td><td>31</td><td>15</td><td>83</td></tr><tr><td>Total</td><td>58</td><td>64</td><td>28</td><td>150</td></tr></table>		Blue	Brown	Green	Total	Male	21	33	13	67	Female	37	31	15	83	Total	58	64	28	150		M1 At least two values correct A1 cao
	Blue	Brown	Green	Total																			
Male	21	33	13	67																			
Female	37	31	15	83																			
Total	58	64	28	150																			
Q13a		-5	A1 cao																				

Question	Working	Answer	Notes
Q13b		$\frac{4}{7}$	A1 cao
Q13c	$\frac{2}{5} \times \frac{3}{4} = \frac{6}{20}$	$\frac{6}{20}$ or $\frac{3}{10}$	M1 $\frac{2}{5} \times \frac{3}{4}$ seen A1 $\frac{6}{20}$ oe
Q14a	$150 \times 1.19 = \text{€}178.5$	€178.5	M1 $150 \times 1.19$ A1 cao condone €178.5
Q14b	$2 \times 10 + 2 \times 1.95 + 4.25 + 4.20 = \text{€}32.35$ $20 + 15 = \text{€}35$	Yes	M1 Correctly adding the value of the order A1 Yes with appropriate working seen
Q15	$201 - 180 = 21$ $\frac{21}{180} \times 100 = 11.6666\dots$	11.7%	M1 £21 seen A1 $\frac{21}{180} \times 100 = 11.6666\dots$ A1 Answer correctly rounded
Q16a	20:5000000	1:250000	M1 20:5000000 seen A1 cao
Q16b	$3.5 \times 5 = 17.5$	17.5km	M1 $3.5 \times 5 = 17.5$ A1 cao
Q16c	$15 \div 5 = 3$		B1 Hapston plotted due south of Griddleston B1 Hapston correctly plotted, 3cm below Griddleston

Question	Working	Answer	Notes														
Q16c	$2.5+1+1.75=5.25$ hours $5\times 60=300$ $0.25\times 60=15$	315	M1 Correctly adding the number of hours A1 cao														
Q17a	<table><tr><td><math>x</math></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>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td></tr></table>	$x$	-1	0	1	2	3	4	$y$	7	6	5	4	3	2		M1 At least 2 values correct A1 cao
$x$	-1	0	1	2	3	4											
$y$	7	6	5	4	3	2											
Q17b			M1 4 points plotted correctly - follow through from (a) A1 Correct line														
Q18a		Pentagon	B1 cao														
Q18b			M1 Any rotation of $90^\circ$ clockwise A1 cao														
Q18c	Mark has counted the number of squares between the two shapes	No, correct answer is $\begin{pmatrix} 16 \\ -2 \end{pmatrix}$	A1 No A1 A correct explanation														
Q19a	$3q + 15 - 2q + 8$	$q + 23$	M1 $3q$ , $15$ , $2q$ and $8$ seen A1 cao														

Question	Working	Answer	Notes
<b>Q19b</b>		$x(x+6)$	A1 cao
<b>Q19c</b>	$x^2 - 5x + 3x - 15$	$x^2 - 2x - 15$	M1 At least two correct of $x^2$ , $-5x$ , $3x$ , $-15$ A1 cao
<b>Q20a</b>			M1 0.4 seen for lose tennis A1 cao
<b>Q20b</b>	$P(W \text{ and } L) = 0.6 \times 0.7 = 0.42$ $P(L \text{ and } W) = 0.4 \times 0.3 = 0.12$ $0.42 + 0.12 = 0.54$	0.54	M1 Attempt to calculate two separate probabilities A1 cao
<b>Q21a</b>	Area of whole garden: $14 \times 9 = 126\text{m}^2$ Area of patio: $4 \times 6 = 24\text{m}^2$ Area of summer house: $4 \times 2.5 = 10\text{m}^2$ $126 - 24 - 10 = 92\text{m}^2$	$92\text{m}^2$	M1 Two of the three areas correct M1 Subtracting their areas for patio and summerhouse from the total area A1 cao
<b>Q21b</b>	$92 \times 100 \times 100 = 920000\text{cm}^2$	$920000\text{cm}^2$	M1 Attempting to multiply by 100 twice A1 cao

Question	Working	Answer	Notes
<b>Q22</b>	$2a + 3b = 16$ , $9a - 3b = 6$ $11a = 22 \Rightarrow a = 2$ $2 \times 2 + 3b = 16$ $3b = 12 \Rightarrow b = 4$	$a = 2$ $b = 4$	M1 Attempting to convert both equations so that the coefficients of a or b are the same M1 Eliminating either a or b A1 cao
<b>Q23</b>	10% of 12000 = 1200 12000 - 1200 = £10800 10% of 10800 = 1080 10800 - 1080 = £9720	£9720	M1 Value after one year £10800 or 120000.92 seen A1 cao
<b>Q24a</b>	$7^0 = 1$	1	B1 cao
<b>Q24b</b>	$\frac{12a^7b^3}{3a^2b^4} = 4a^5b^{-1}$	$4a^5b^{-1}$	M1 $12a^7b^3$ seen A1 cao
<b>Q25</b>		$345 \leq \text{mass} < 355$	A1 345 A1 355

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