THIRD SPACE LEARNING

GCSE Exam Questions

Plotting Quadratic Graphs | Algebra

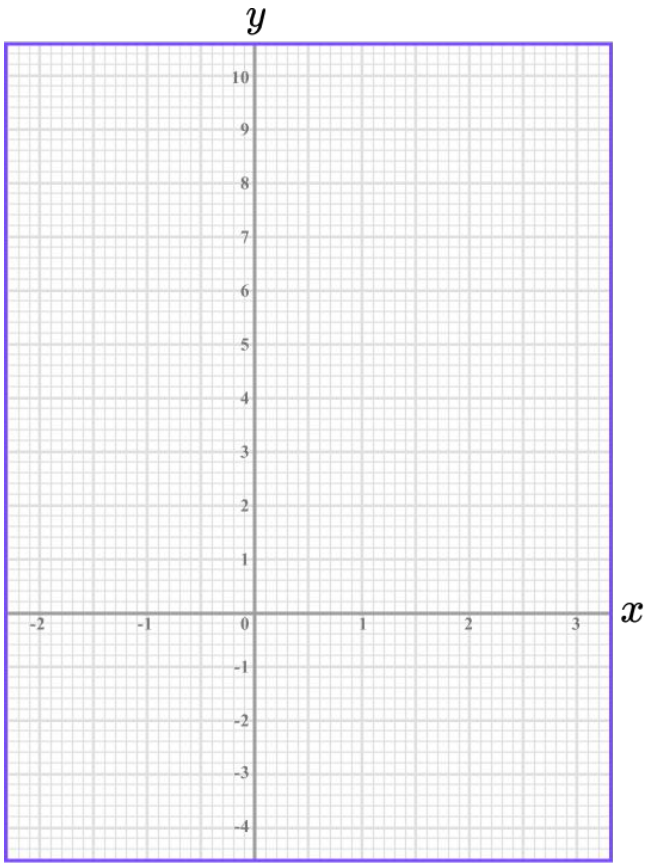
GCSE Exam Questions: Plotting Quadratic Graphs

1) **(a)** Complete the table of values for $y = x^2 - 3$.

x	-2	-1	0	1	2	3
y	1			-2		

(2)

(b) On the grid, draw the graph of $y = x^2 - 3$ for the values of x from -2 to 3.



(2)

(c) Use your graph to find the minimum value of y.

(1)

(5 marks)

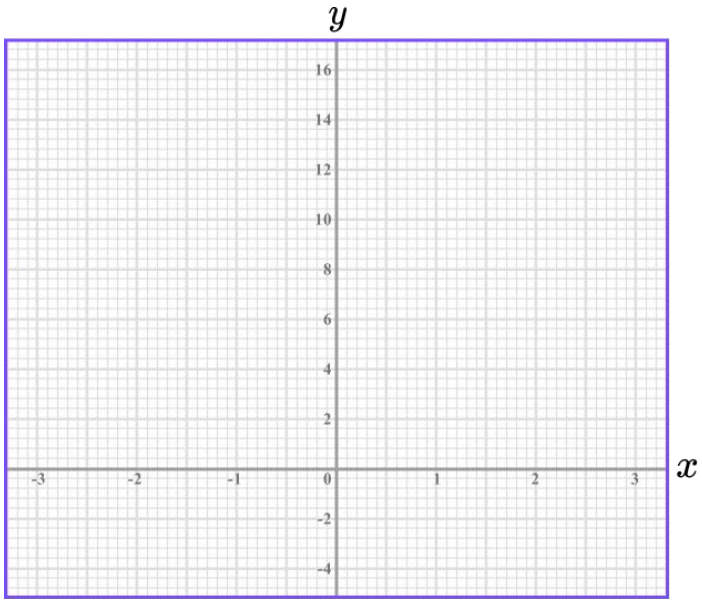
GCSE Exam Questions: Plotting Quadratic Graphs

2) **(a)** Complete the table of values for $y = x^2 + 2x - 1$.

x	-3	-2	-1	0	1	2	3
y	2			-1			14

(2)

(b) On the grid, draw the graph of $y = x^2 + 2x - 1$ for the values of x from -2 to 3.



(2)

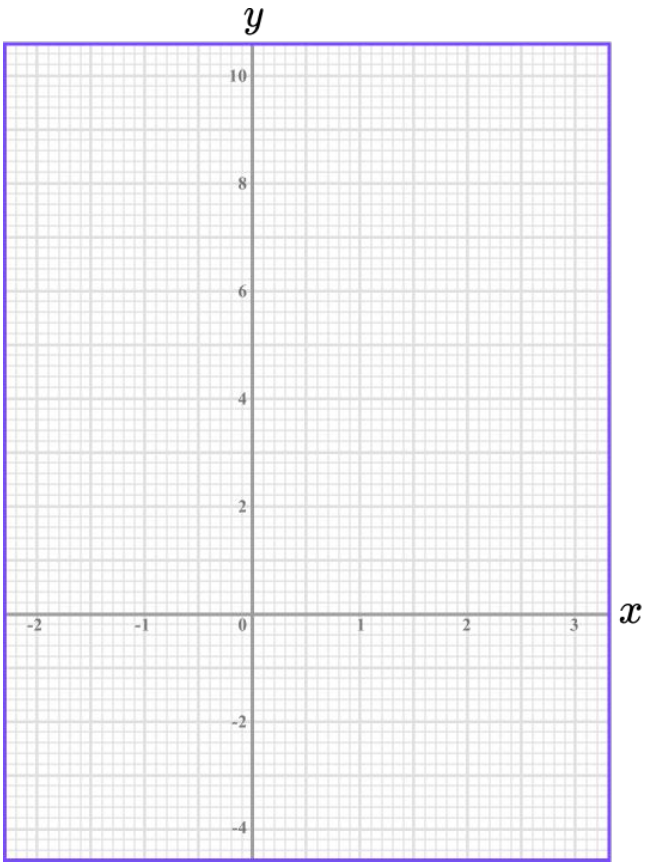
(c) Use your graph to identify the roots of the equation $x^2 + 2x - 1 = 0$

(2)

(6 marks)

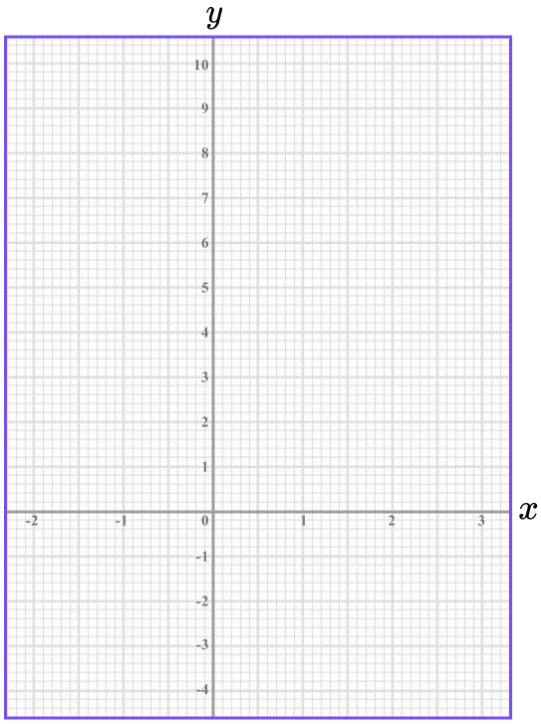
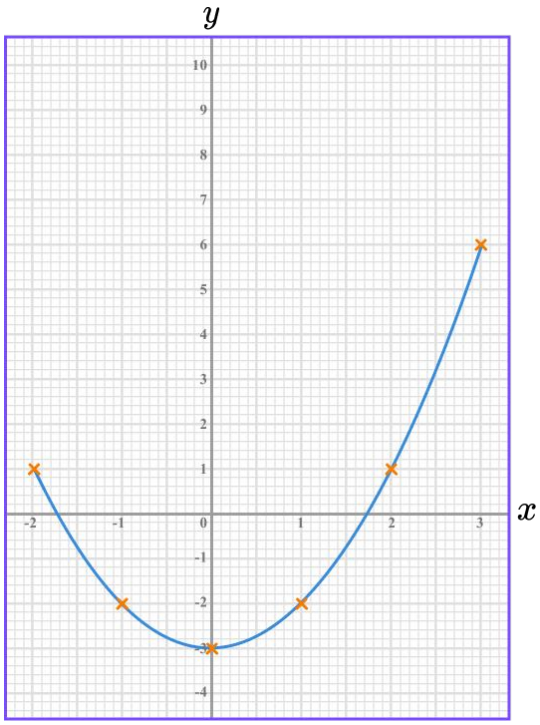
GCSE Exam Questions: Plotting Quadratic Graphs

3) **(a)** On the grid, draw the graph of $y = x^2 - 3x - 1$.

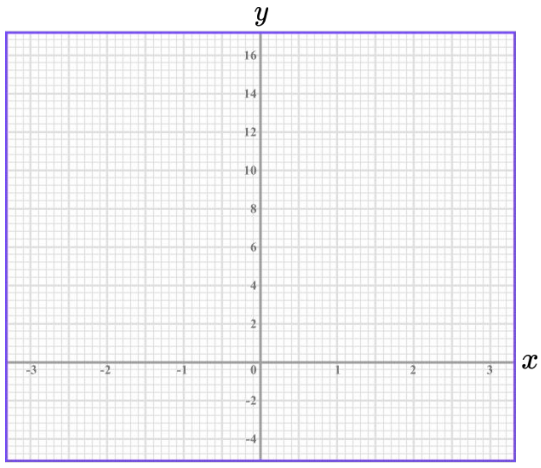
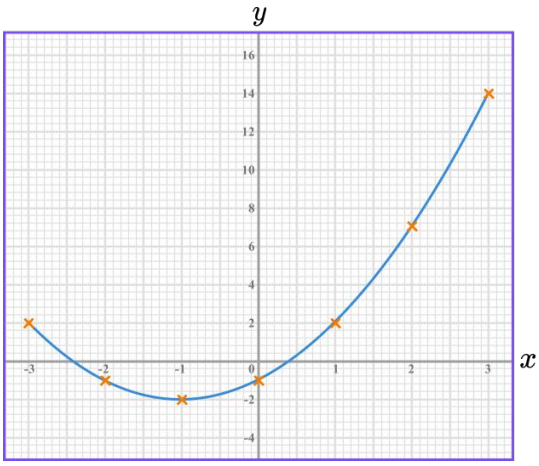
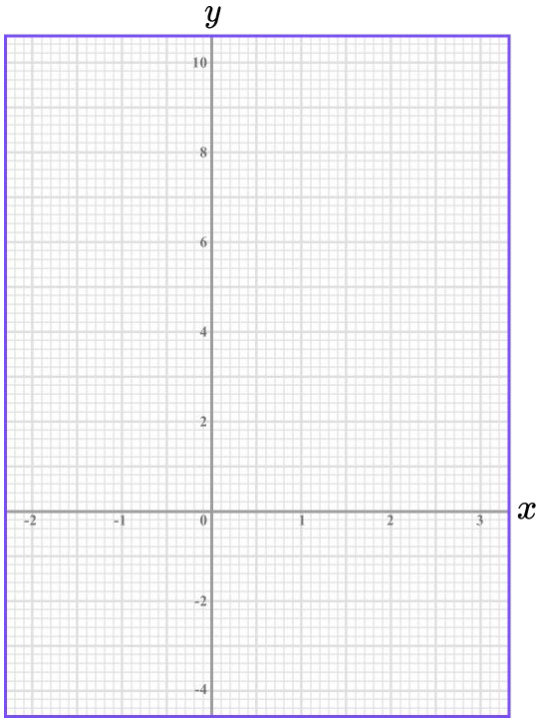
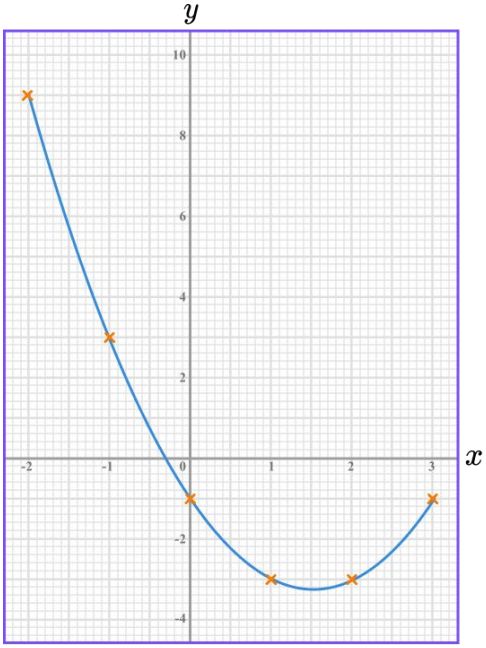


(3 marks)

GCSE Exam Questions: Plotting Quadratic Graphs Answers

<table>
<tr><th></th><th>Question</th><th>Answer</th><th>Marks</th></tr>
<tr><td>1) (a)</td><td>Complete the table of values for $y = x2 - 3$.
<table><tr><td>x</td><td>-2</td><td>-1</td><td>0</td><td>1</td><td>2</td><td>3</td></tr><tr><td>y</td><td>1</td><td></td><td></td><td>-2</td><td></td><td></td></tr></table></td><td>(a) 2 correct values
All correct values
<table><tr><td>x</td><td>-2</td><td>-1</td><td>0</td><td>1</td><td>2</td><td>3</td></tr><tr><td>y</td><td>1</td><td>-2</td><td>-3</td><td>-2</td><td>1</td><td>6</td></tr></table></td><td>(1)
(1)</td></tr>
<tr><td>(b)</td><td>On the grid, draw the graph of $y = x^2 - 3$ for the values of x from -2 to 3.
  </td><td>(b) At least 5 points plotted correctly
Fully correct graph
  </td><td>(1)
(1)</td></tr>
<tr><td>(c)</td><td>Use your graph to find the minimum value of y.</td><td>(c) - 3</td><td>(1)</td></tr>
</table>

GCSE Exam Questions: Plotting Quadratic Graphs Answers

	Question	Answer	Marks
2) (a)	Complete the table of values for $y = x^2 + 2x - 1$. x: -3, -2, -1, 0, 1, 2, 3 y: 2, , , -1, , , 14	**(a)** 2 correct values All correct values x: -3, -2, -1, 0, 1, 2, 3 y: 2, -1, -2, -1, 2, 7, 14	**(1)** **(1)**
(b)	On the grid, draw the graph of $y = x^2 + 2x - 1$ for the values of x from -2 to 3. 	**(b)** At least 5 points plotted correctly Fully correct graph 	**(1)** **(1)**
(c)	Use your graph to identify the roots of the equation $x^2 + 2x - 1 = 0$	**(c)** $-2.4 (\pm 0.1)$ $0.4 (\pm 0.1)$	**(1)** **(1)**
3)	On the grid, draw the graph of $y = x^2 - 3x - 1$. 	At least 2 points found At least 5 points plotted correctly Fully correct graph 	**(1)** **(1)** **(1)**

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