



Name: _____ Date: _____ Score: _____ / 66

- 1 The curve **C** has equation $y = (x - 3)^2 + 5$
Write down the coordinates of the turning point of **C**.

(1 mark)

Answer _____

- 2 The curve $y = x^2 - 6x + 8$ crosses the x -axis at $x = 2$ and at $x = 4$.
a. Write down the solutions of $x^2 - 6x + 8 = 0$
b. Write down the x -coordinate of the turning point of the curve.



(2 marks)

Answer _____

3 A quadratic graph has the equation $y = (x - 2)(x - 6)$.

- Write down the coordinates of the points where the graph crosses the x -axis.
- Work out the coordinates of the point where the graph crosses the y -axis.
- Sketch the graph, showing these points.

(4 marks)

Answer _____

4 A quadratic graph has equation $y = (x + 3)(x - 7)$.

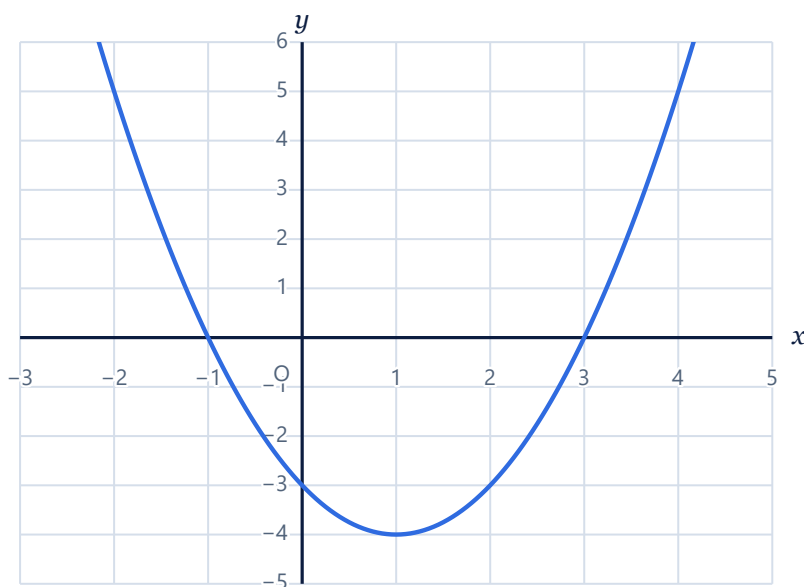
- Write down the roots of the equation.
- Write down the equation of the line of symmetry of the graph.
- Work out the coordinates of the turning point.

(3 marks)

Answer _____

5 The diagram shows the graph of $y = x^2 - 2x - 3$

- Write down the coordinates of the point where the graph crosses the y -axis.
- Write down the solutions of $x^2 - 2x - 3 = 0$
- Write down the coordinates of the turning point of the graph.



(3 marks)

Answer _____

6 The graph of $y = x^2$ is translated 3 units to the right and 2 units down to give a new graph.

- Write down the equation of the new graph in the form $y = (x - a)^2 + b$.
- Write down the coordinates of the turning point of the new graph.
- Work out where the new graph crosses the y -axis.

(3 marks)

Answer _____

7 $y = x^2 - 8x + 7$

- Write $x^2 - 8x + 7$ in the form $(x + a)^2 + b$.
- Write down the coordinates of the turning point and the equation of the line of symmetry of the graph.
- Work out the coordinates of the points where the graph crosses the x -axis.

(4 marks)

Answer _____

8 By completing the square, find the coordinates of the minimum point of the curve

$$y = x^2 + 10x - 2$$

(3 marks)

Answer _____

9 $y = -x^2 + 6x - 5$

- Write y in the form $y = -(x - p)^2 + q$.
- Write down the coordinates of the turning point and say whether it is a maximum or a minimum.
- Sketch the graph, showing where it crosses the axes.

(4 marks)

Answer _____

10

a. Complete the table of values for $y = 6 - x^2$

x	-3	-2	-1	0	1	2	3
y	-3		5		5		-3

b. Write down the coordinates of the maximum point of the graph of $y = 6 - x^2$ c. Use the table to write down the two consecutive whole numbers that the positive solution of $6 - x^2 = 0$ lies between.

(4 marks)

Answer _____

11

The graph of $y = x^2 + bx + c$ passes through the points (0, 8) and (6, 8).

a. Write down the equation of the line of symmetry of the graph.

b. Find the values of b and c .

c. Work out the coordinates of the turning point.

(5 marks)

Answer _____

12

a. Complete the table of values for $y = x^2 + 2x - 8$

x	-4	-3	-2	-1	0	1	2
y	0	-5		-9		-5	

b. Use the table to write down the solutions of $x^2 + 2x - 8 = 0$ c. Write down the equation of the line of symmetry of the graph of $y = x^2 + 2x - 8$

(4 marks)

Answer _____

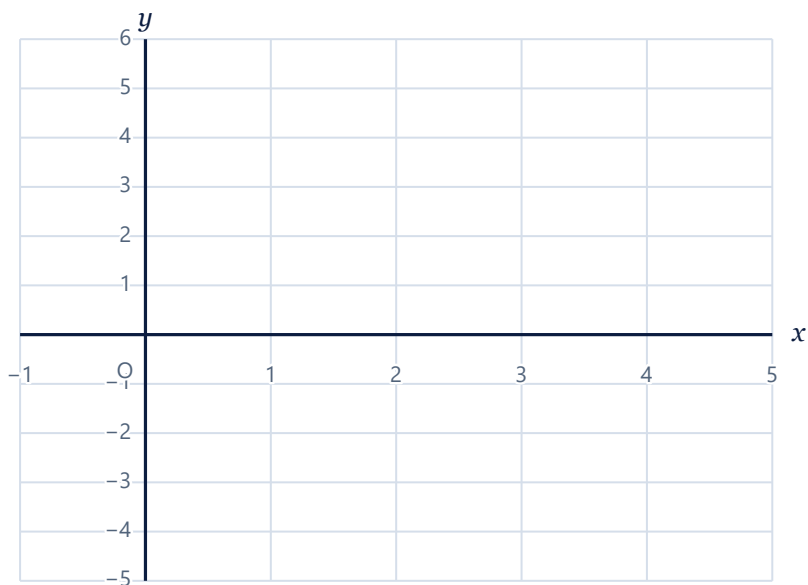
13

a. Complete the table of values for $y = x^2 - 4x$

x	-1	0	1	2	3	4	5
y	5	0			-3		5

b. On the grid, draw the graph of $y = x^2 - 4x$ for values of x from -1 to 5

c. Write down the coordinates of the turning point of the graph.



(5 marks)

Answer _____

14

a. Complete the table of values for $y = x^2 - 8x + 11$

x	0	1	2	3	4	5	6	7	8
y	11	4		-4		-4		4	11

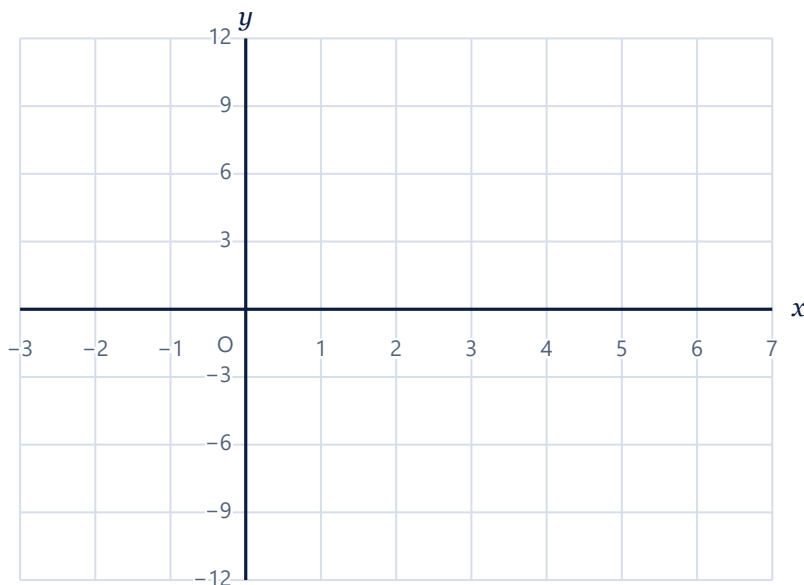
b. Write down the coordinates of the turning point of the graph of $y = x^2 - 8x + 11$

c. Write down the equation of the line of symmetry of the graph.

(5 marks)

Answer _____

15

The curve **C** has equation $y = x^2 - 4x - 5$ a. Write $x^2 - 4x - 5$ in the form $(x - a)^2 + b$ b. Sketch **C**, showing clearly the coordinates of the turning point and the coordinates of the points where **C** crosses the axes.

(5 marks)

Answer _____

16

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

x	-2	-1	0	1	2
y	5			-1	

b. Write down the coordinates of the turning point of the graph of $y = 2x^2 - 3$ c. Use the table to write down the two consecutive whole numbers that the positive solution of $2x^2 - 3 = 0$ lies between.

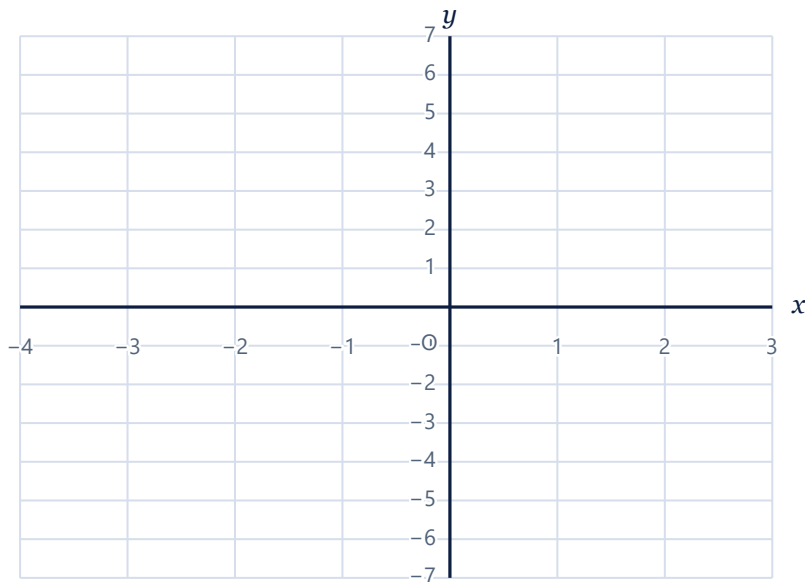
(5 marks)

Answer _____

17

a. Complete the table of values for $y = x^2 + x - 6$

x	-4	-3	-2	-1	0	1	2	3
y	6	0		-6		-4		6

b. On the grid, draw the graph of $y = x^2 + x - 6$ for values of x from -4 to 3c. Write down the solutions of $x^2 + x - 6 = 0$ d. Use your graph to estimate the solutions of $x^2 + x - 6 = -5$ 

(6 marks)

Answer _____

End of questions | Total 66 marks