



Quadratic Graphs



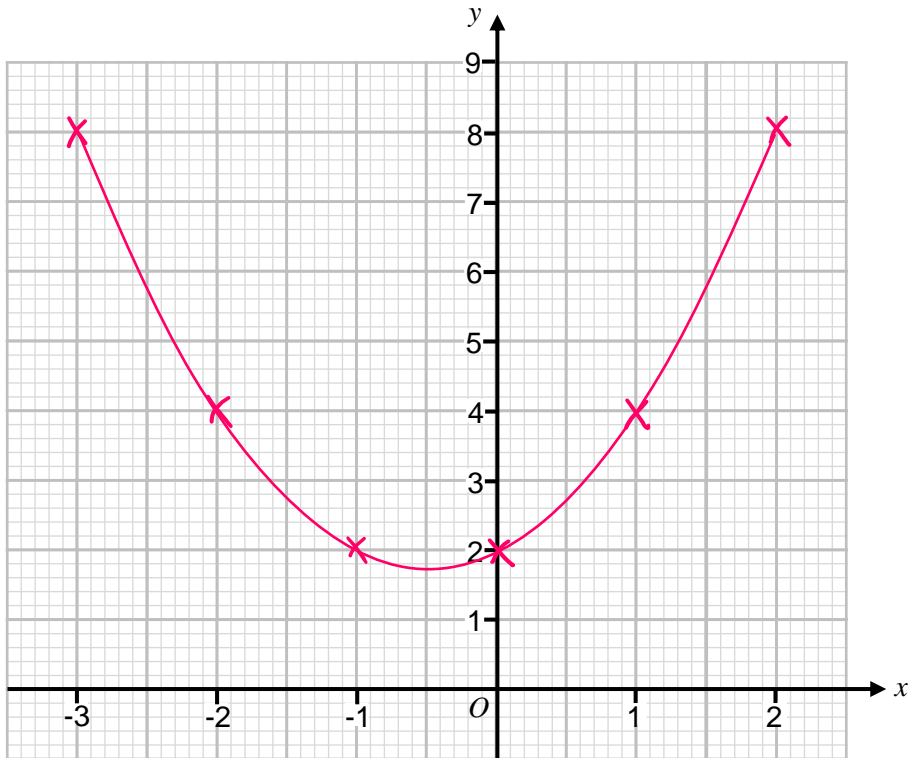
REVISE THIS TOPIC



1 (a) Complete the table of values for $y = x^2 + x + 2$ [2 marks]

x	-3	-2	-1	0	1	2
y	8	4	2	2	4	8

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



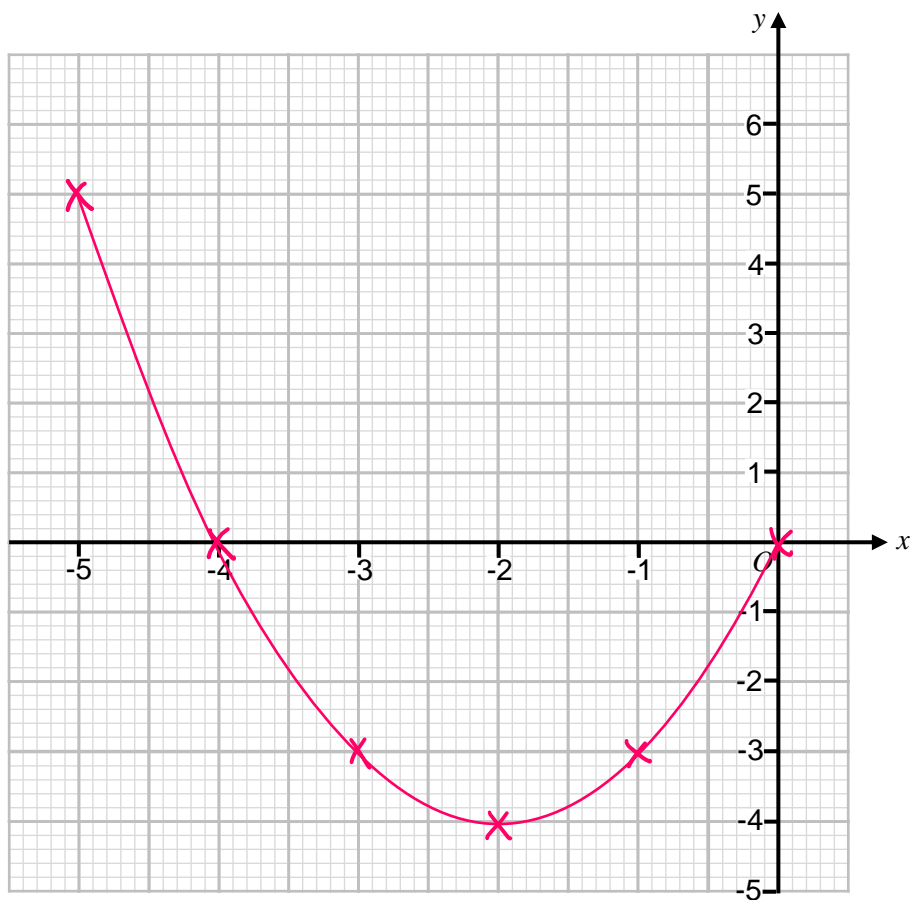
2 (a) Complete the table of values for $y = x^2 + 4x$

[2 marks]

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

2 (b) On the grid, draw the graph of $y = x^2 + 4x$ for values of x from -5 to 0

[2 marks]





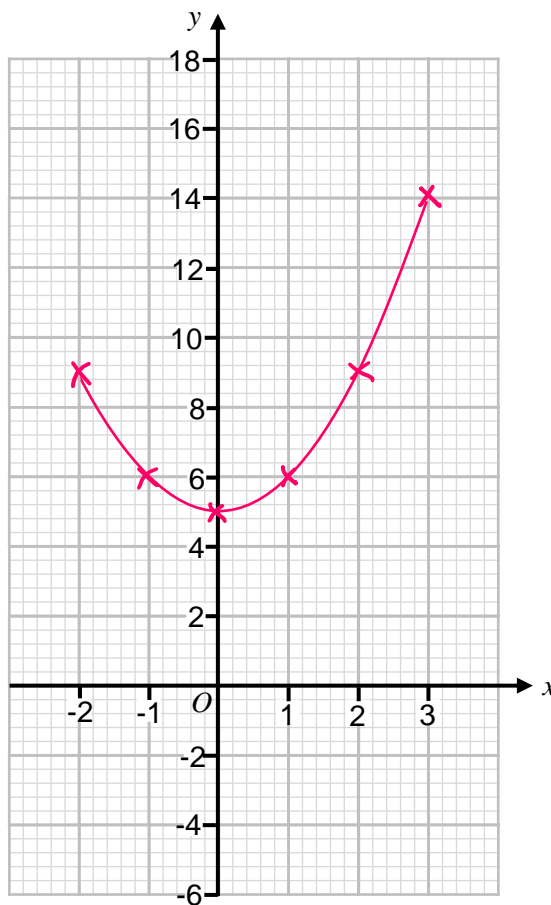
3 (a) Complete the table of values for $y = x^2 + 5$

[2 marks]

x	-2	-1	0	1	2	3
y	9	6	5	6	9	14

3 (b) On the grid, draw the graph of $y = x^2 + 5$ for values of x from -2 to 3

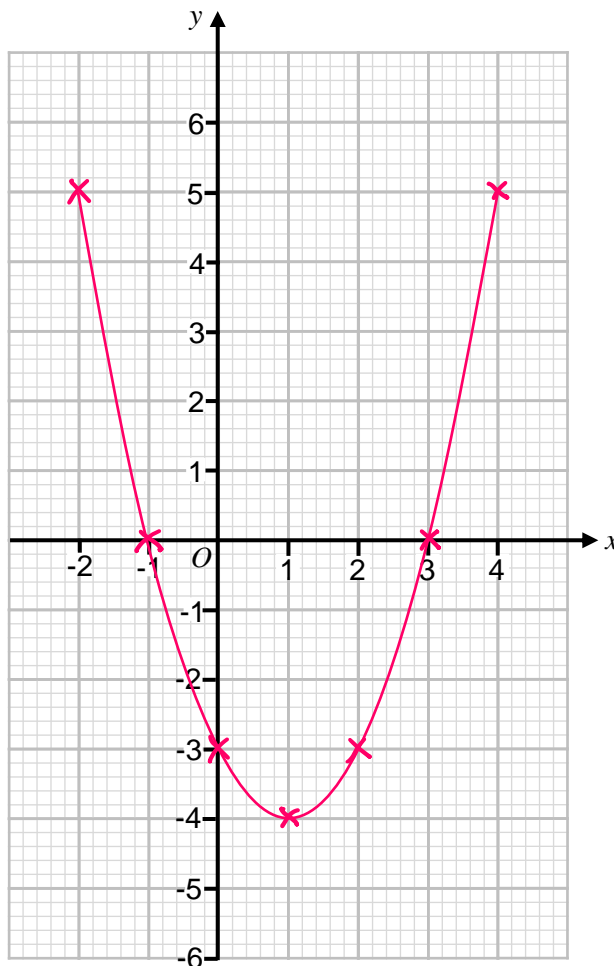
[2 marks]



- 4 (a) Complete the table of values for $y = x^2 - 2x - 3$ [2 marks]

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

- 4 (b) On the grid, draw the graph of $y = x^2 - 2x - 3$ for values of x from -2 to 4 [2 marks]

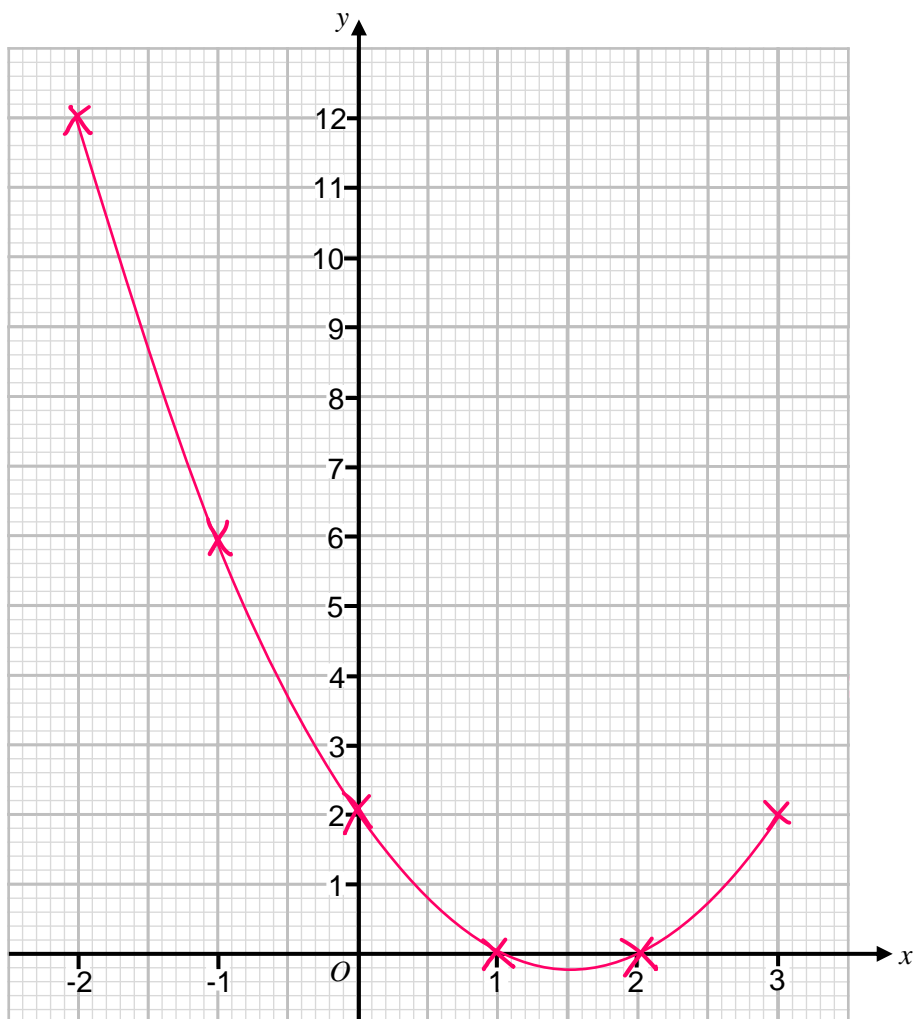


5 (a) Complete the table of values for $y = x^2 - 3x + 2$

[2 marks]

x	-2	-1	0	1	2	3
y	12	6	2	0	0	2

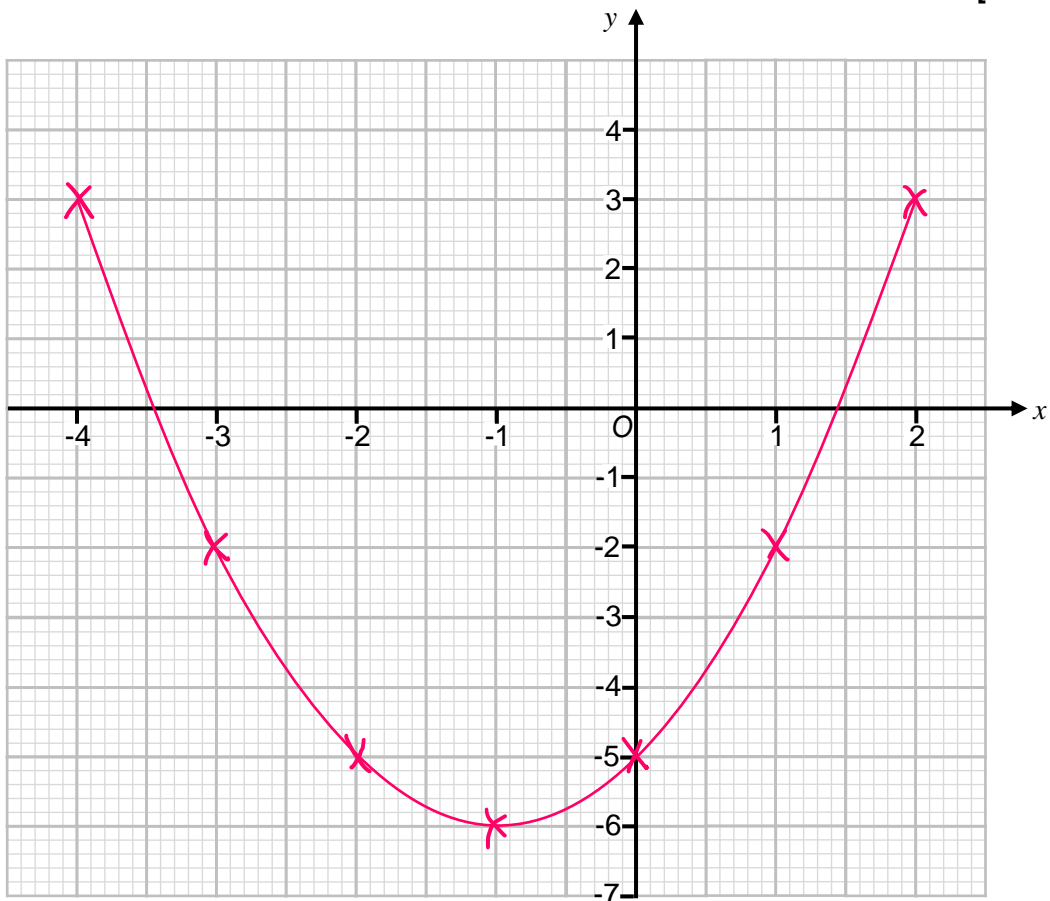
5 (b) On the grid, draw the graph of $y = x^2 - 3x + 2$ for values of x from -2 to 3 [2 marks]



- 6 (a) Complete the table of values for $y = x^2 + 2x - 5$ [2 marks]

x	-4	-3	-2	-1	0	1	2
y	3	-2	-5	-6	-5	-2	3

- 6 (b) On the grid, draw the graph of $y = x^2 + 2x - 5$ for values of x from -4 to 2 [2 marks]



- 6 (c) Use your graph to estimate the roots of the equation $x^2 + 2x - 5 = 0$ [2 marks]

Answer -3.4 and 1.4
(or -3.5 is ok!) (or 1.5)

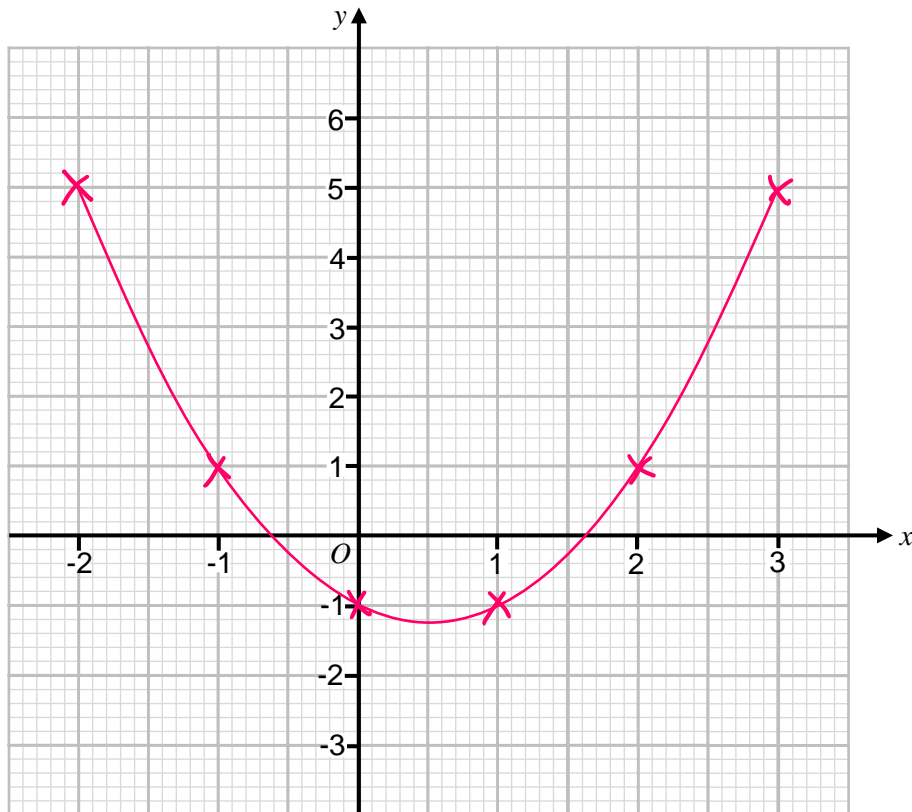




7 (a) Complete the table of values for $y = x^2 - x - 1$ [2 marks]

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

7 (b) On the grid, draw the graph of $y = x^2 - x - 1$ for values of x from -2 to 3 [2 marks]



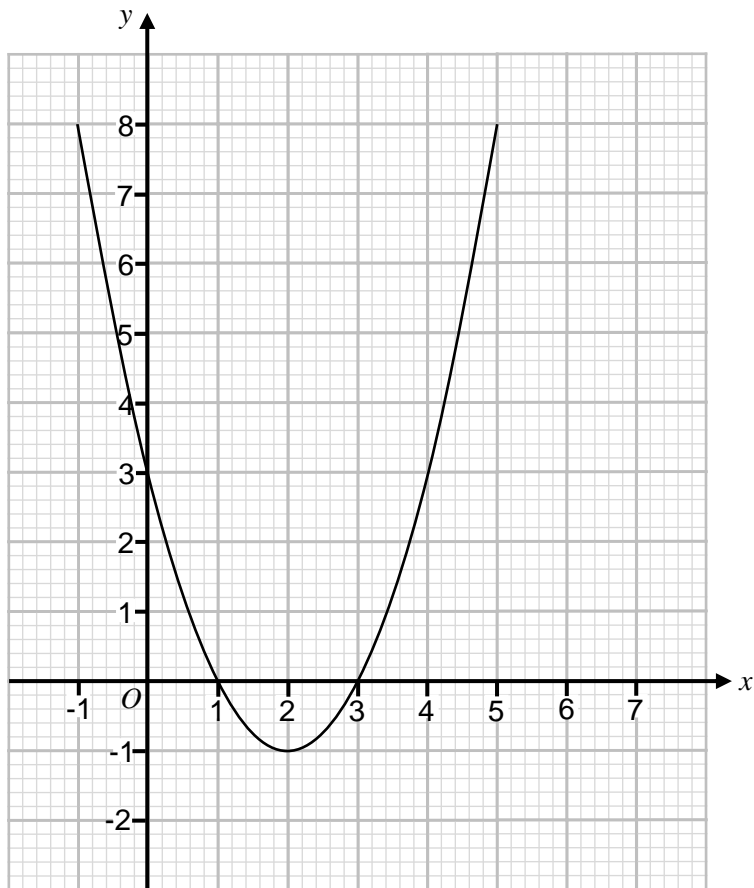
7 (c) Use your graph to estimate the roots of the equation $x^2 - x - 1 = 0$ [2 marks]

Answer -0.6 and 1.6



Turn over ▶

8 Here is the graph of $y = x^2 - 4x + 3$ for x values from -1 to 5



8 (a) Write down the roots of $x^2 - 4x + 3 = 0$ [2 marks]

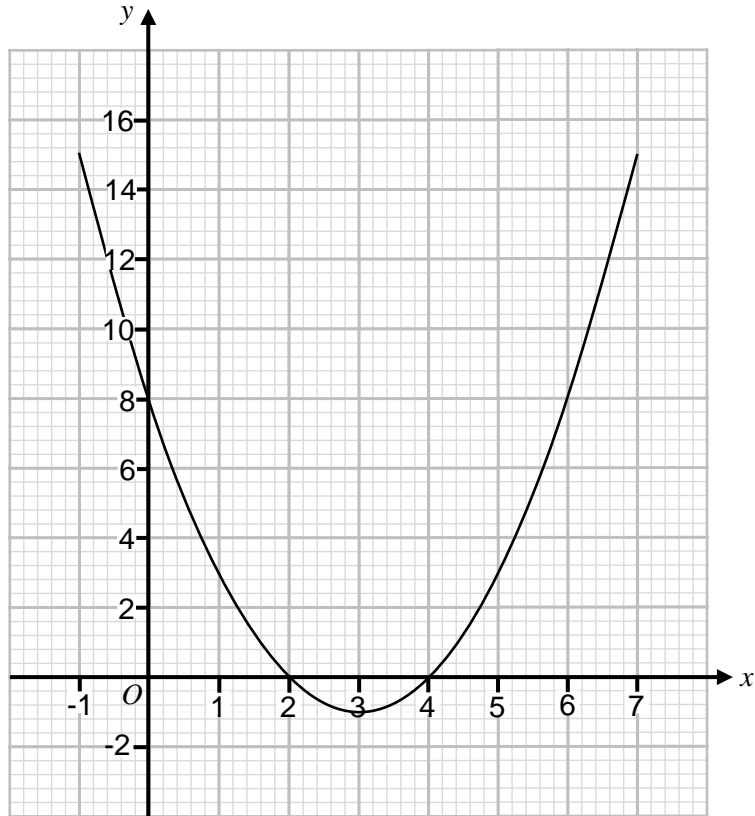
Answer 1 and 3

8 (b) Write down the coordinates of the turning point of the graph $y = x^2 - 4x + 3$ [1 mark]

Answer (2 , -1)



9 Here is the graph of $y = x^2 - 6x + 8$ for x values from -1 to 7



9 (a) Write down the roots of $x^2 - 6x + 8 = 0$ [2 marks]

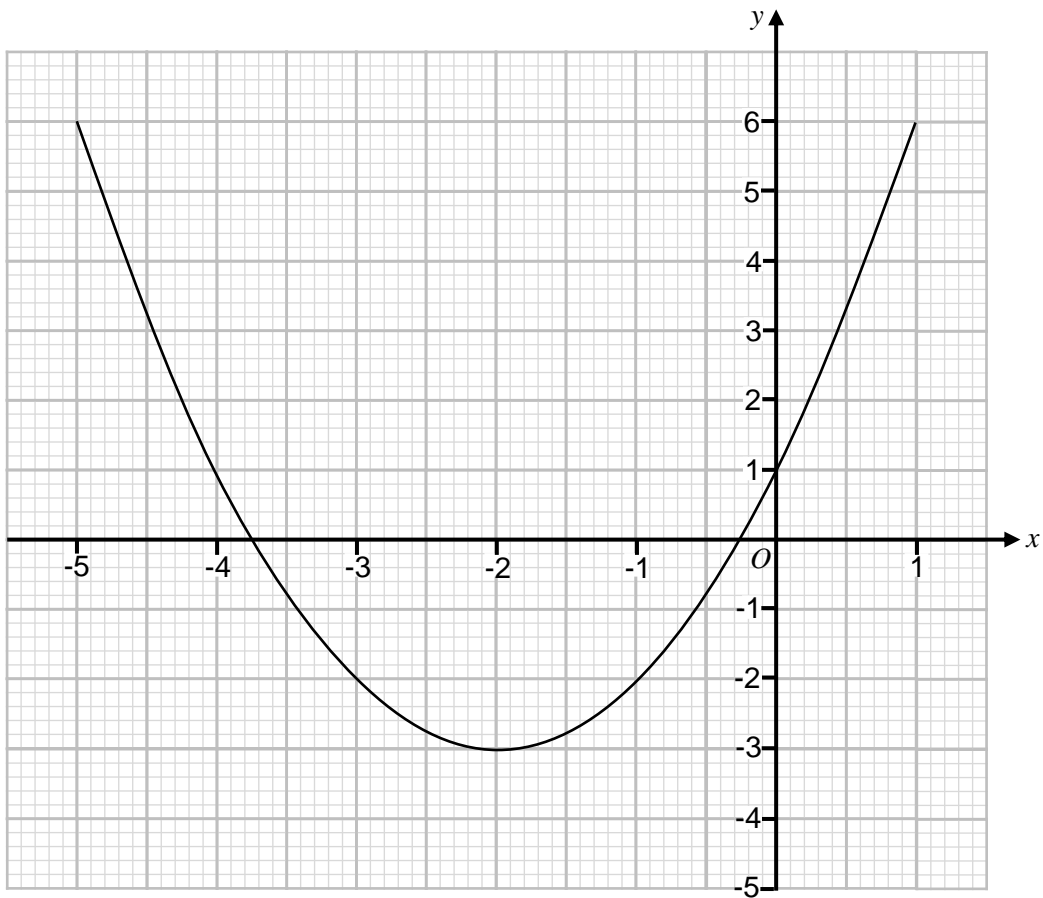
Answer 2 and 4

9 (b) Write down the coordinates of the turning point of the graph $y = x^2 - 6x + 8$ [1 mark]

Answer (3 , -1)



10 Here is the graph of $y = x^2 + 4x + 1$ for x values from -5 to 1



10 (a) Write down estimate for the roots of $x^2 + 4x + 1 = 0$ [2 marks]

Answer -0.3 and -3.7

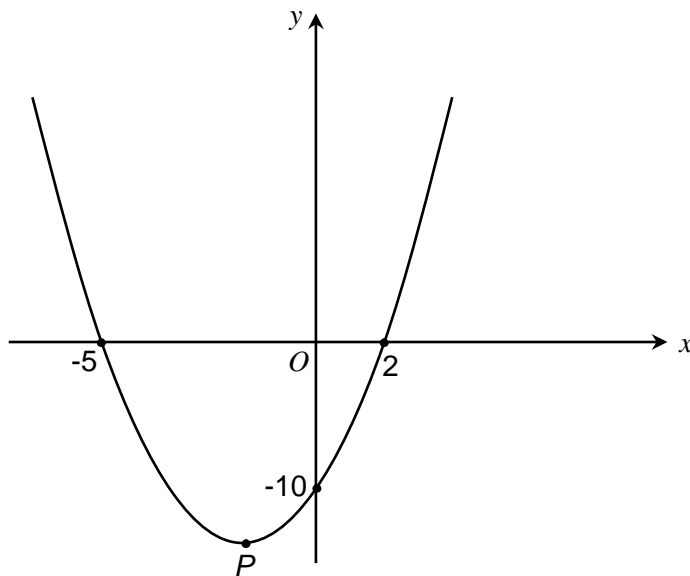
10 (b) Write down the equation of the line of symmetry of the graph.

[1 mark]

Answer $x = -2$



11 Here is a sketch of the curve $y = x^2 + 3x - 10$



11 (a) Write down the roots of $x^2 + 3x - 10 = 0$ [1 mark]

Answer -5 and 2

11 (b) Write down the y -intercept of the curve. [1 mark]

Answer -10

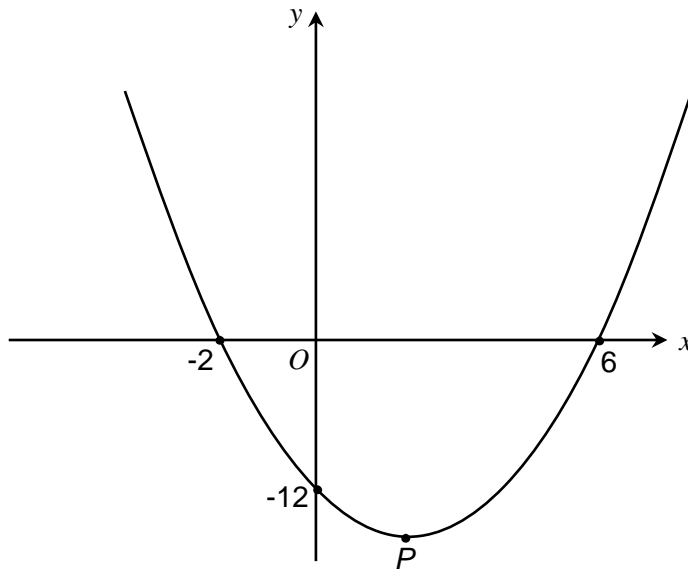
11 (c) Write down the x -coordinate of P , the turning point of the curve. [1 mark]

Answer -1.5





12 Here is a sketch of the curve $y = x^2 - 4x - 12$



12 (a) Write down the roots of $x^2 - 4x - 12 = 0$ [1 mark]

Answer -2 and 6

12 (b) Write down the y-intercept of the curve. [1 mark]

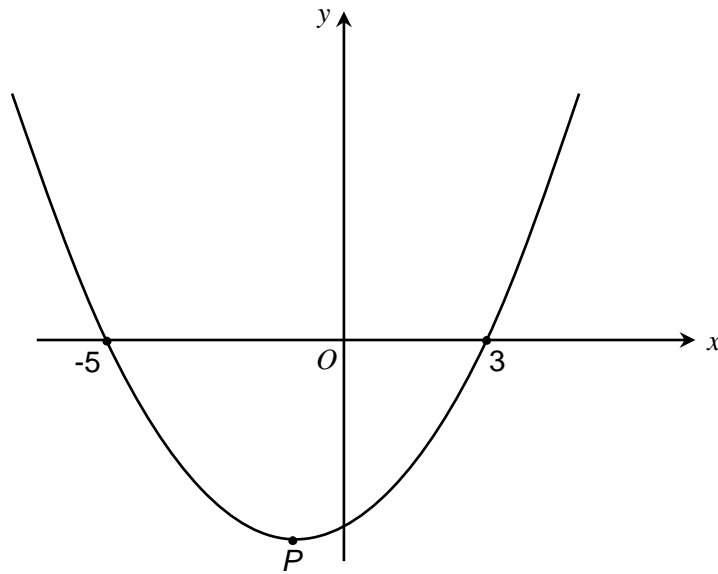
Answer -12

12 (c) Write down the equation of the line of symmetry of the curve. [1 mark]

Answer $x = 2$



13 Here is a sketch of the curve $y = x^2 + 2x - 15$



13 (a) Write down the roots of $x^2 + 2x - 15 = 0$ [1 mark]

Answer -5 and 3

13 (b) Write down the y-intercept of the curve. [1 mark]

Answer -15

13 (c) Work out the coordinates of P , the turning point of the curve. [2 marks]

$$\frac{-5+3}{2} = -1 \quad y = (-1)^2 + 2(-1) - 15$$
$$y = 1 - 2 - 15$$

Answer (-1 , -16)

