

Solving Equations Graphically Past Paper Questions GCSE Edexcel

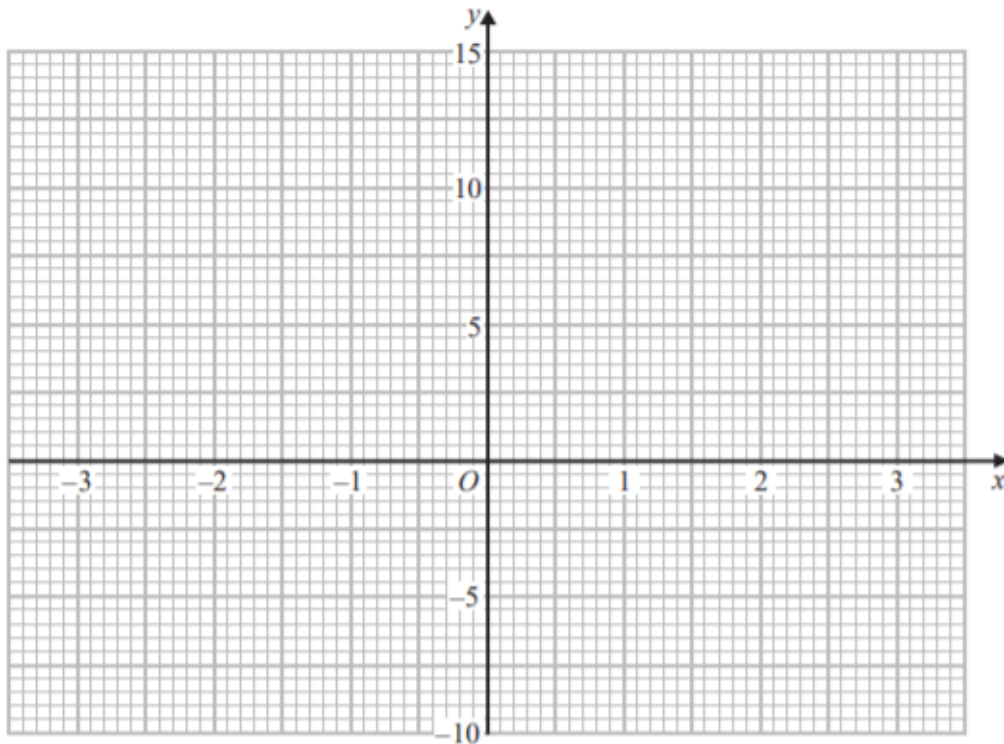
1.

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

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

(2)

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



(2)

(c) Use the graph to estimate a solution to $x^2 + x - 4 = 0$

.....

2.

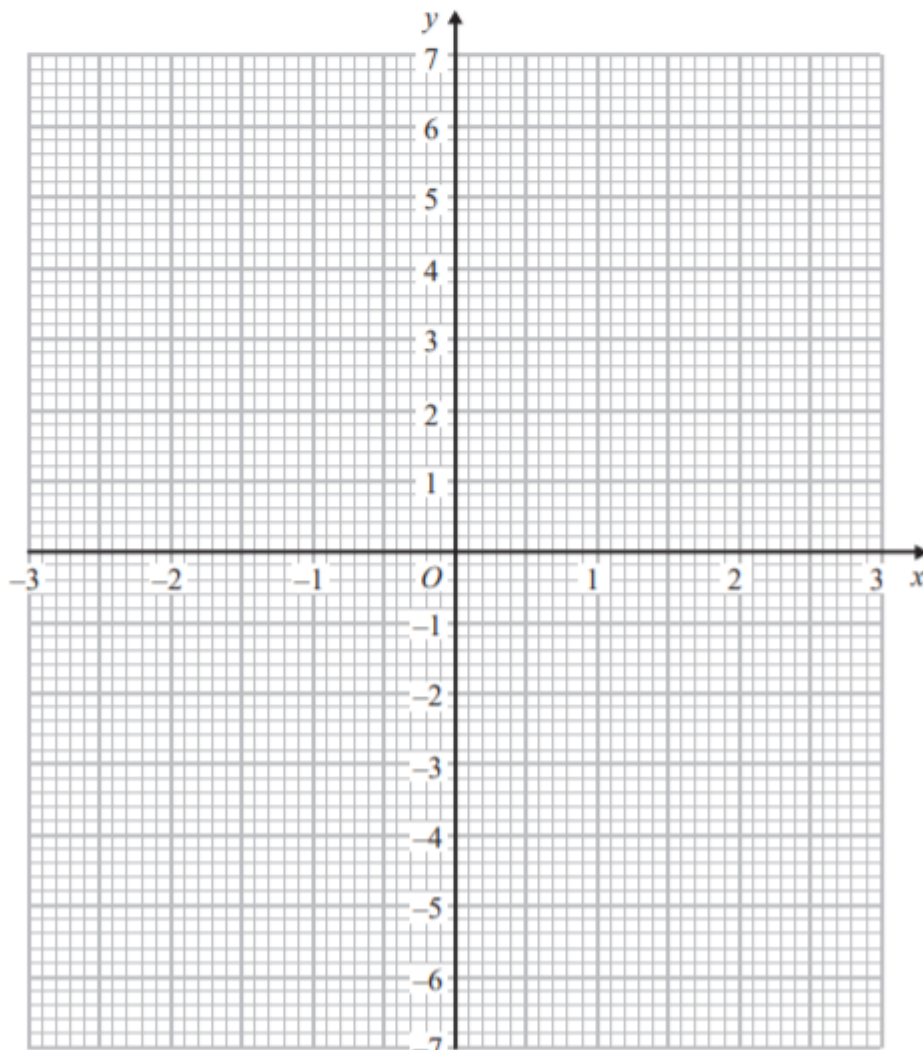
(a) Complete the table of values for $y = x^2 - x - 6$

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

(2)

(b) On the grid, draw the graph of $y = x^2 - x - 6$ for values of x from -3 to 3

(2)



(c) Use your graph to find estimates of the solutions to the equation $x^2 - x - 6 = -2$

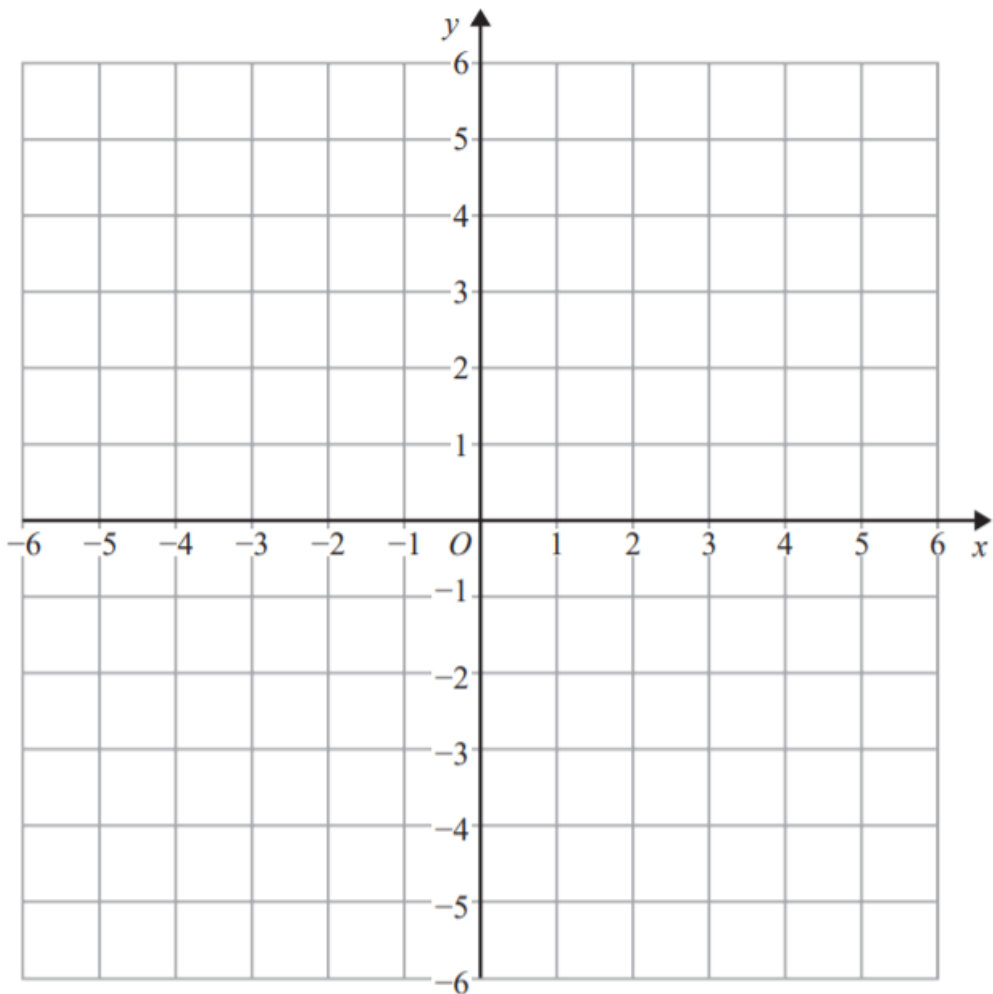
(2)

3.

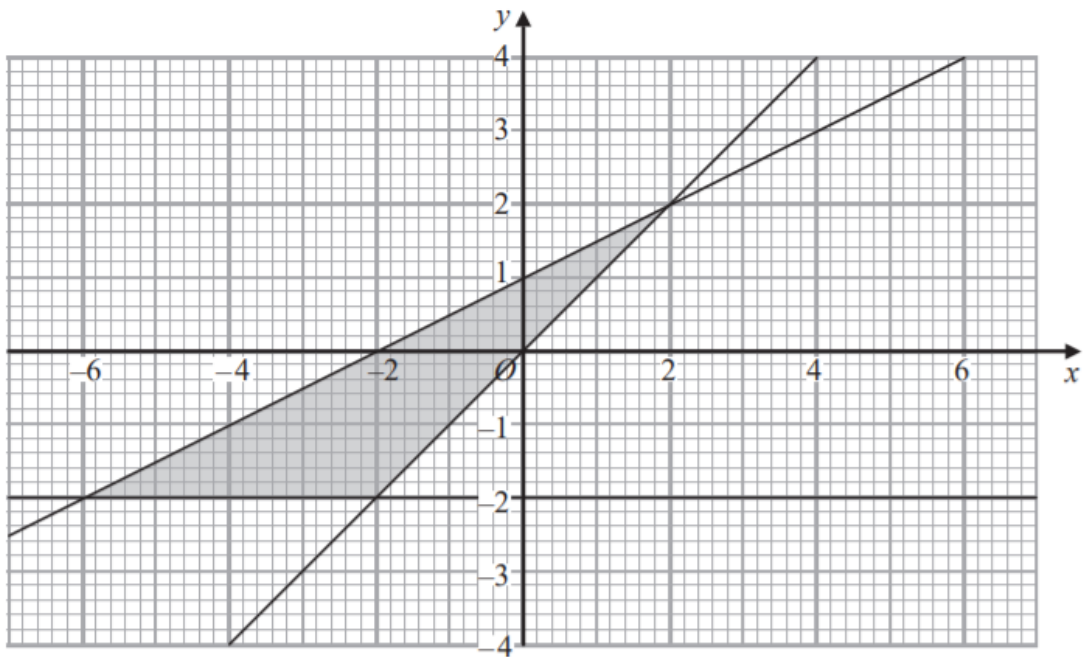
On the grid, shade the region that satisfies all these inequalities.

$$y > 1 \quad x + y < 5 \quad y > 2x$$

Label the region **R**.



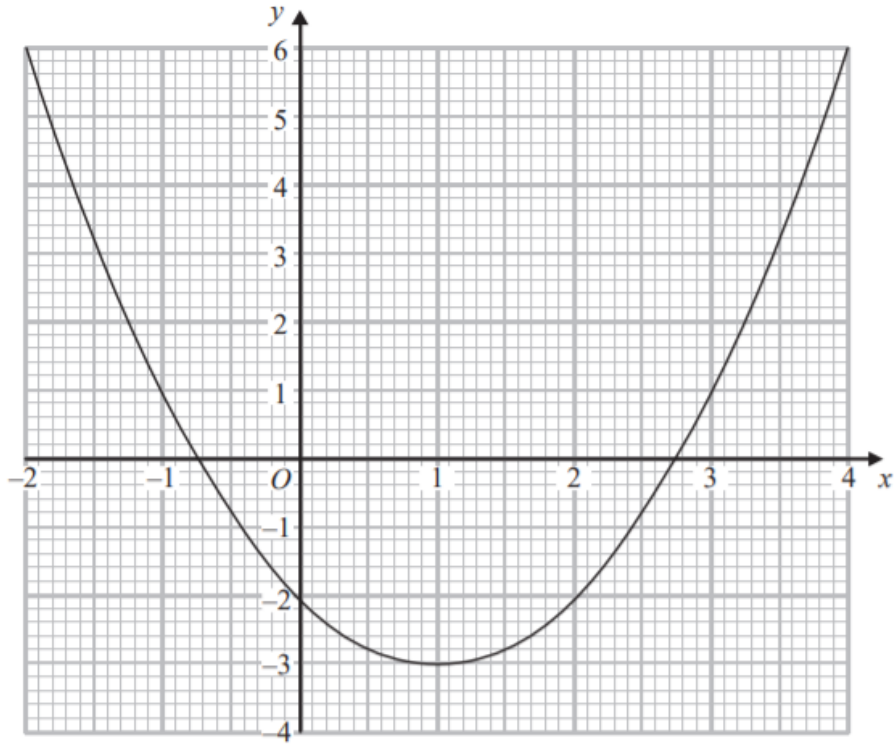
4.



Write down the three inequalities that define the shaded region.

5.

The graph of $y = f(x)$ is drawn on the grid.



(a) Write down the coordinates of the turning point of the graph.

(.....,)
(1)

(b) Write down estimates for the roots of $f(x) = 0$

.....
(1)

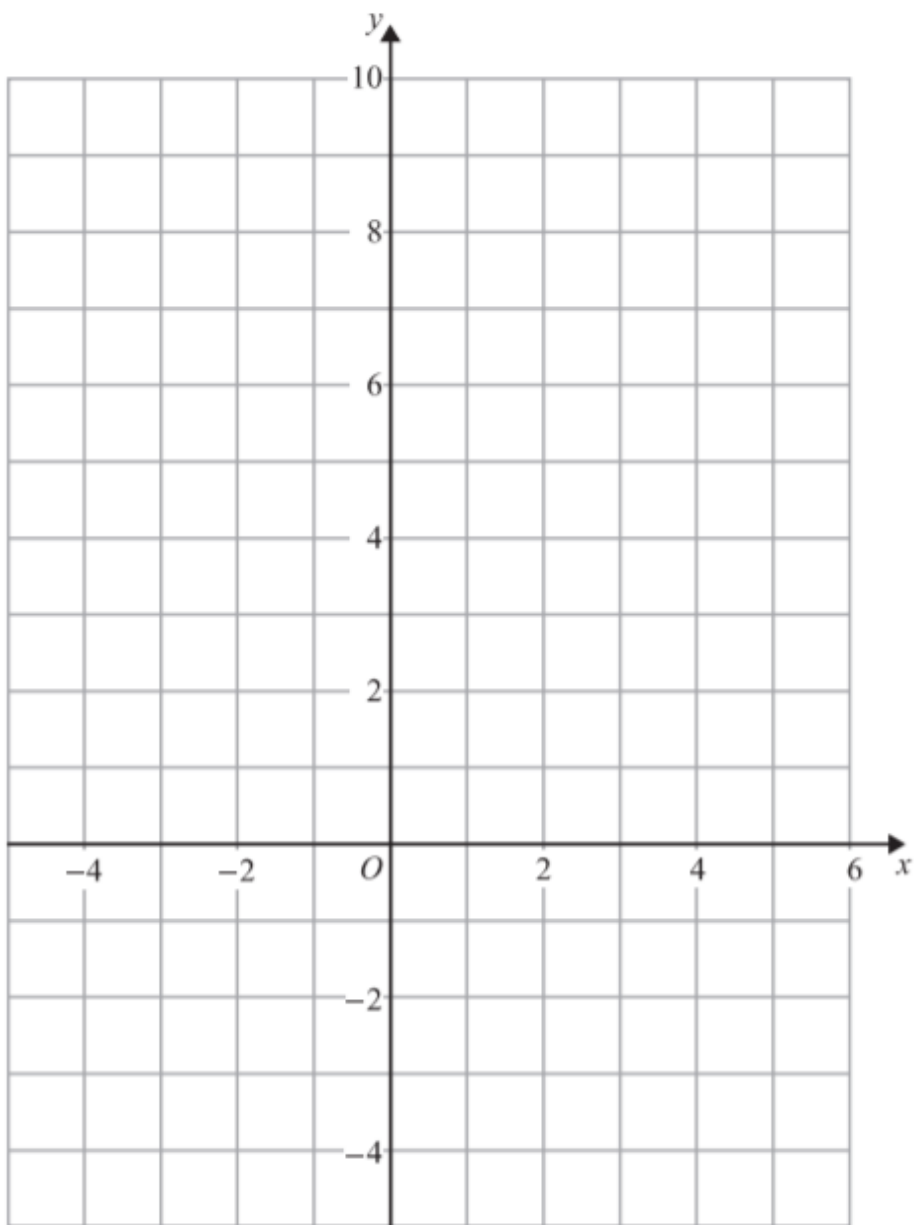
(c) Use the graph to find an estimate for $f(1.5)$

6.

On the grid, shade the region that satisfies all these inequalities.

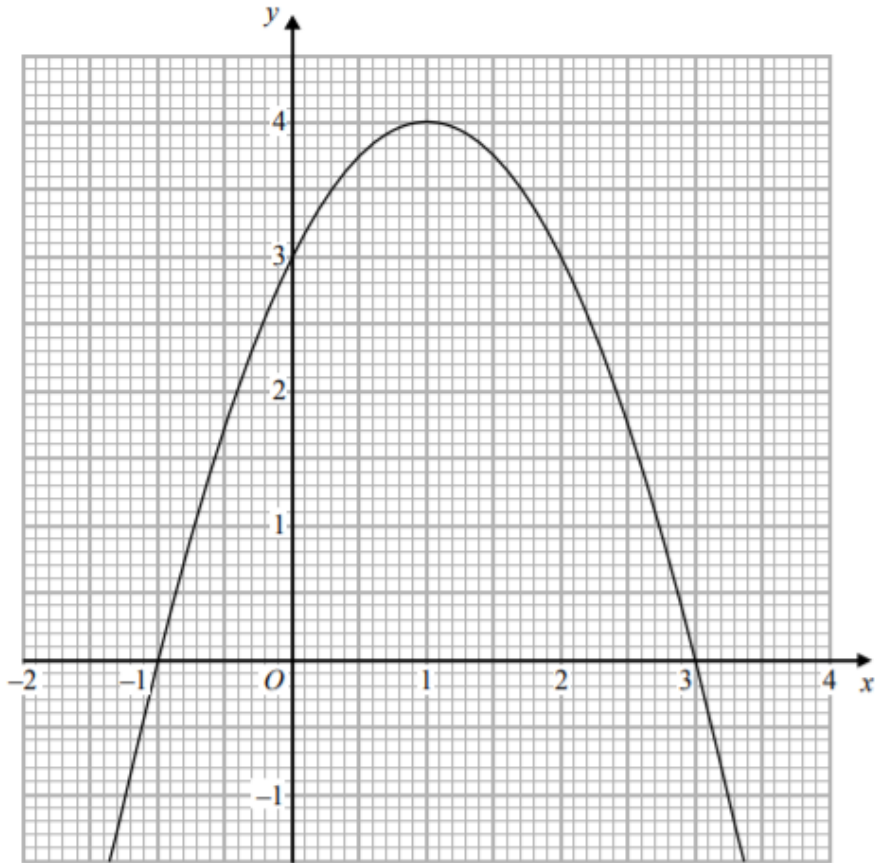
$$x + y < 4 \quad y > x - 1 \quad y < 3x$$

Label the region **R**.



7.

The graph of $y = f(x)$ is drawn on the grid.



(a) Write down the coordinates of the turning point of the graph.

(.....,)
(1)

(b) Write down the roots of $f(x) = 2$

.....
(1)

(c) Write down the value of $f(0.5)$

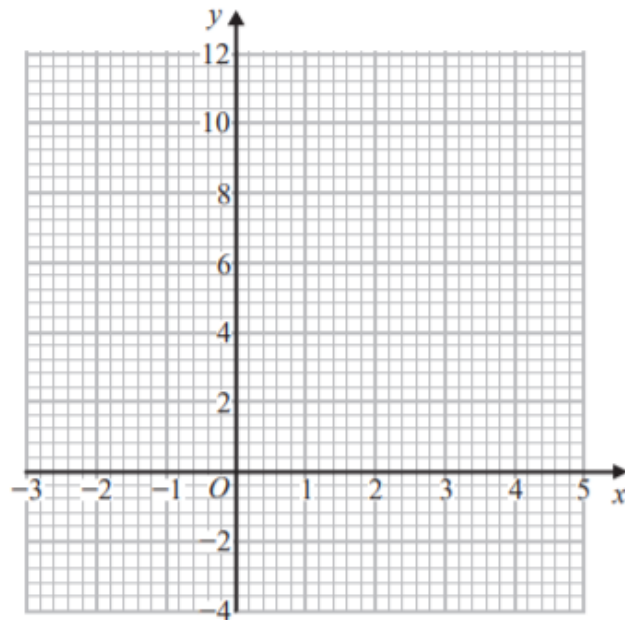
8.

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

x	-2	-1	0	1	2	3	4
y	11		1	-1		1	

(2)

(b) On the grid, draw the graph of $y = x^2 - 3x + 1$ for values of x from -2 to 4



(2)

(c) By drawing a suitable straight line on the grid, find estimates for the solutions of

$$x^2 - 3x + 1 = 3$$

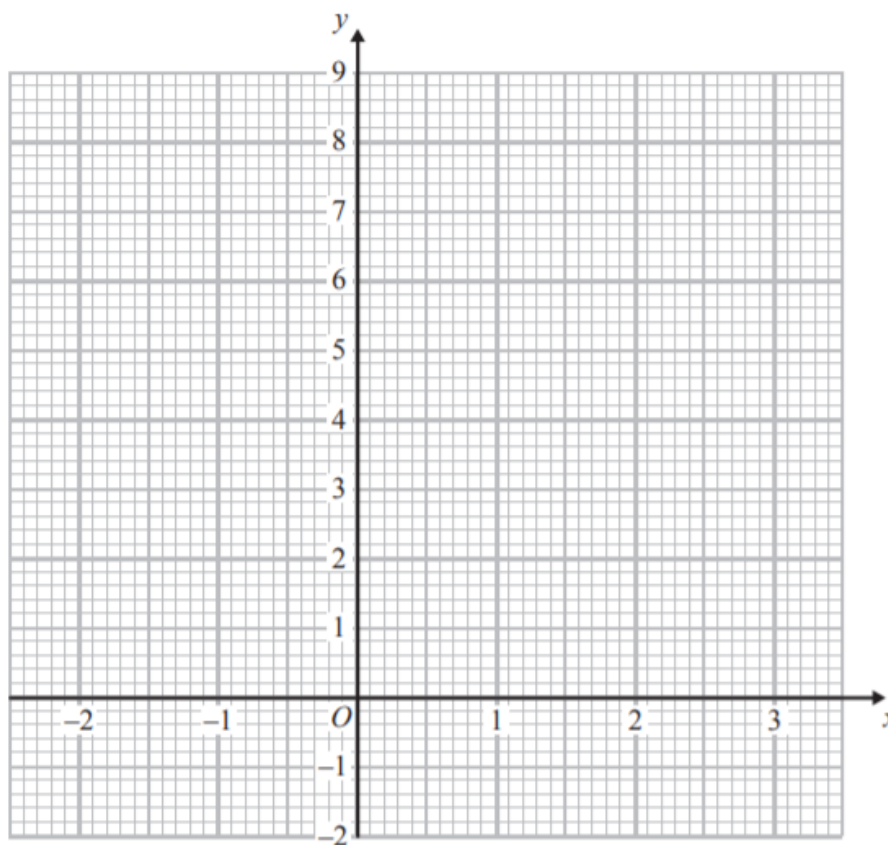
9.

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

x	-2	-1	0	1	2	3
y	0.25			2		

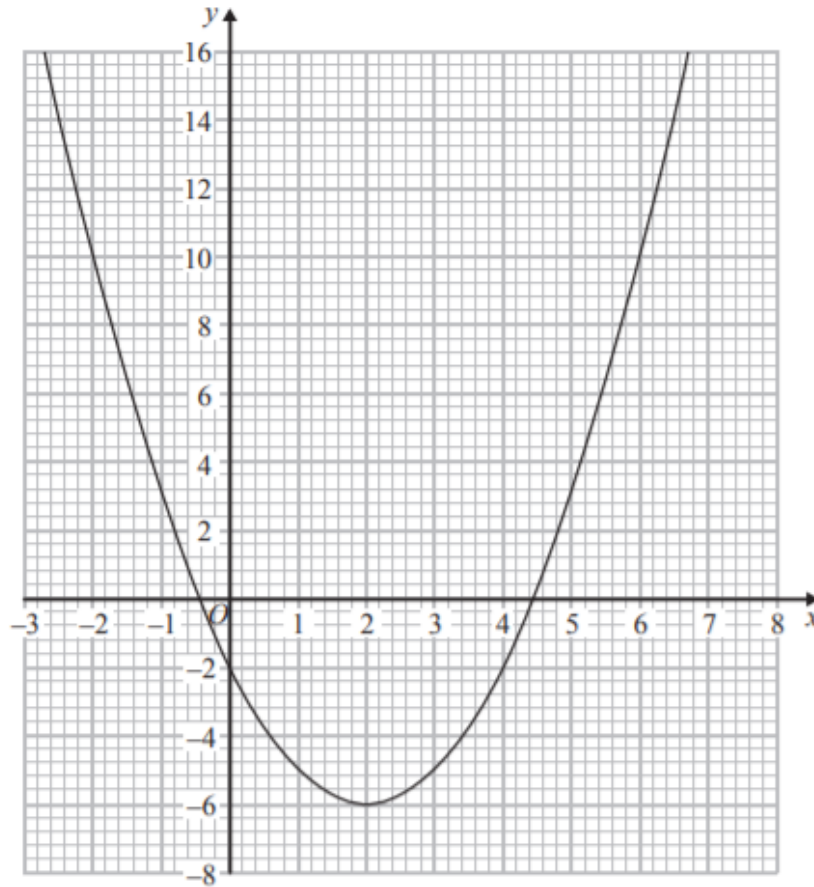
(2)

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



10.

The diagram shows the graph of $y = x^2 - 4x - 2$



(a) Use the graph to find estimates for the solutions of

(i) $x^2 - 4x - 2 = 0$

.....

(ii) $x^2 - 4x - 6 = 0$

.....

(3)

(b) Use the graph to find estimates for the values of x that satisfy the simultaneous equations

$$y = x^2 - 4x - 2$$

$$x + y = 6$$

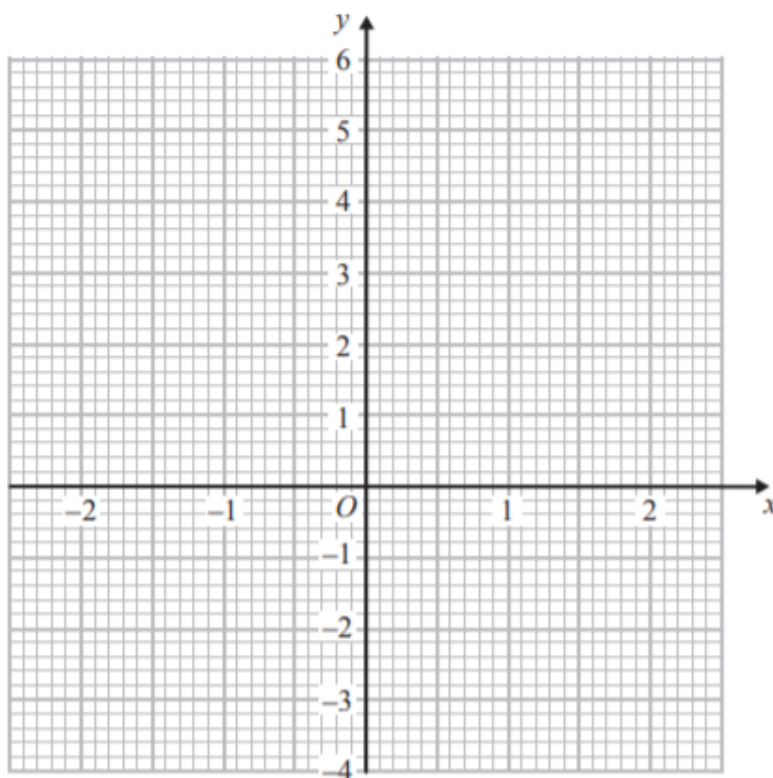
11.

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

x	-2	-1	0	1	2
y		3			3

(2)

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



12.

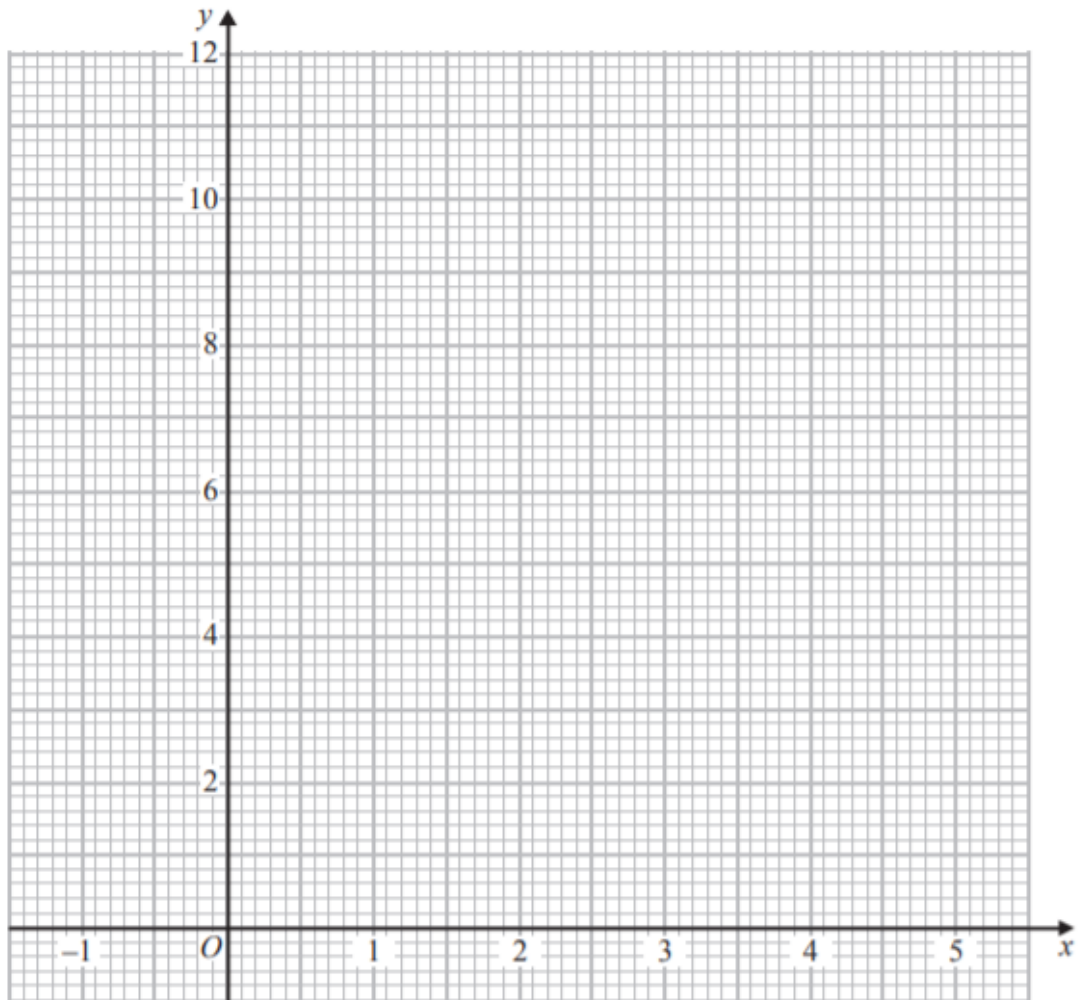
(a) Complete the table of values for $y = x^2 - 3x + 2$

x	-1	0	1	2	3	4	5
y	6				2		12

(2)

(b) On the grid, draw the graph of $y = x^2 - 3x + 2$ for values of x from -1 to 5

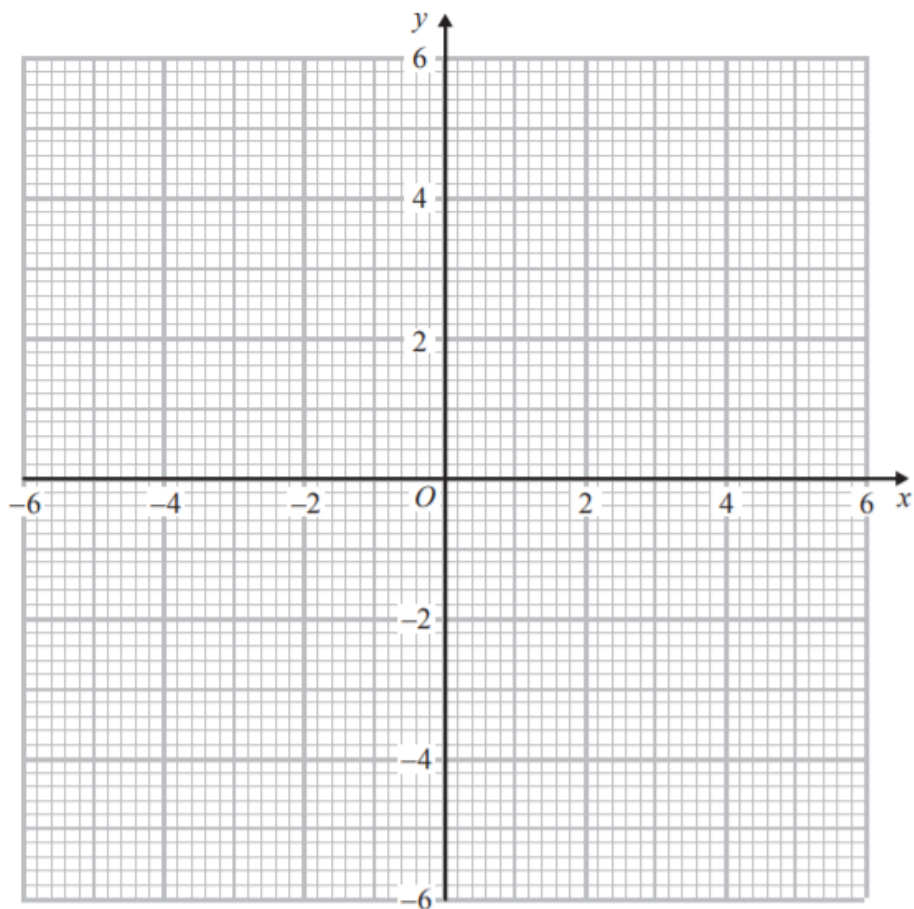
(2)



(c) Find estimates for the solutions of the equation $x^2 - 3x + 2 = 4$

13.

(a) On the grid, construct the graph of $x^2 + y^2 = 16$



(2)

(b) Find estimates for the solutions of the simultaneous equations

$$\begin{aligned}x^2 + y^2 &= 16 \\ y &= 2x + 1\end{aligned}$$