

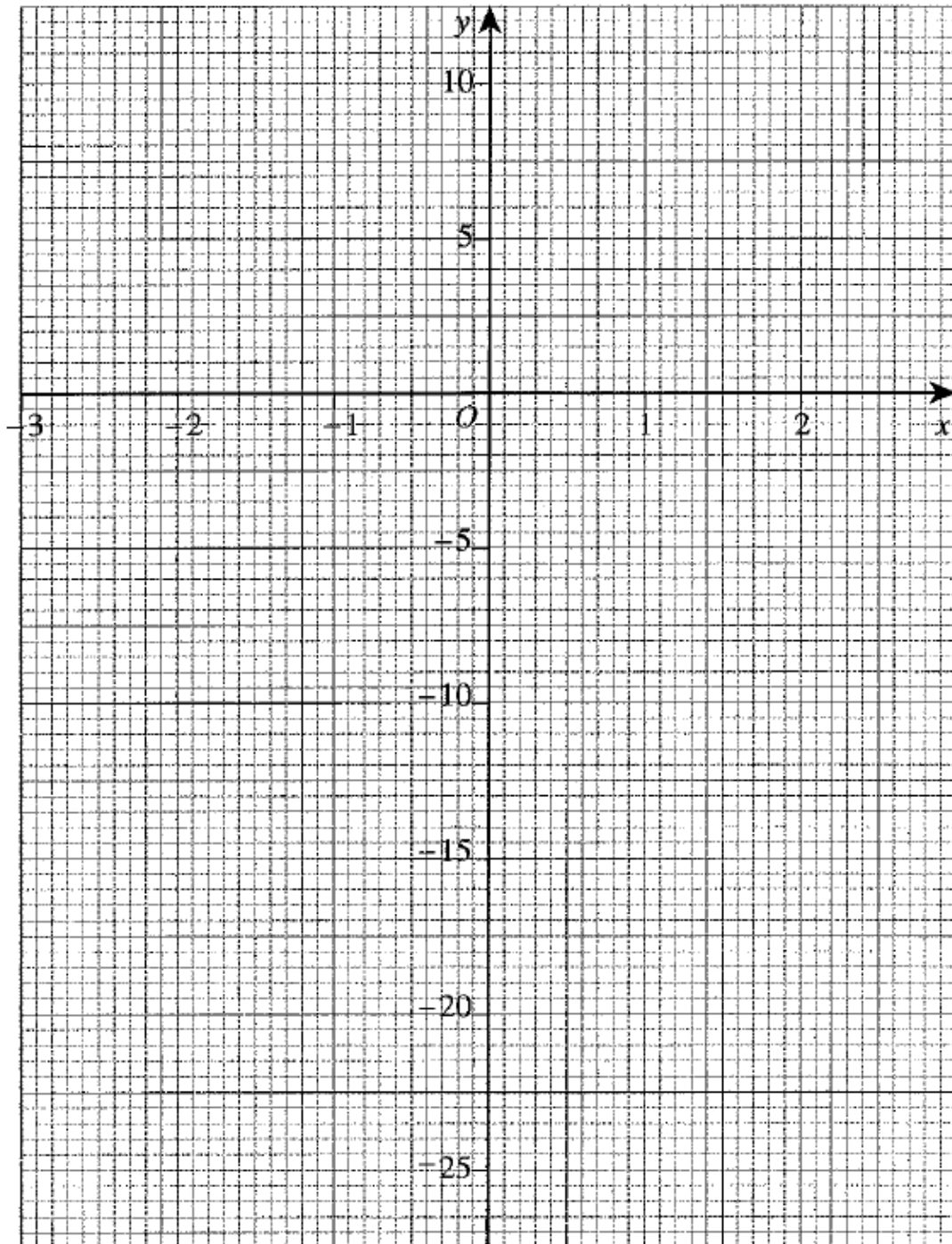
Past Paper Questions – Algebraic Graphs; Using to solving equations

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

x	-3	-2	-1	0	1	2
$y = x^3 + 2$	-25					10

(2)

(b) On the grid, draw the graph of $y = x^3 + 2$.



(2)

(c) Use your graph to find

(i) an estimate of the solution of the equation $x^3 + 2 = 0$

$x = \dots\dots\dots$

(ii) an estimate of the solution of the equation $x^3 + 2 = 8$

$x = \dots\dots\dots$

(3)

(d) By drawing a suitable straight line on the grid find estimates of the solutions of the equation $x^3 - 4x + 2 = 0$

Label clearly the straight line you have drawn.

$\dots\dots\dots$
(3)

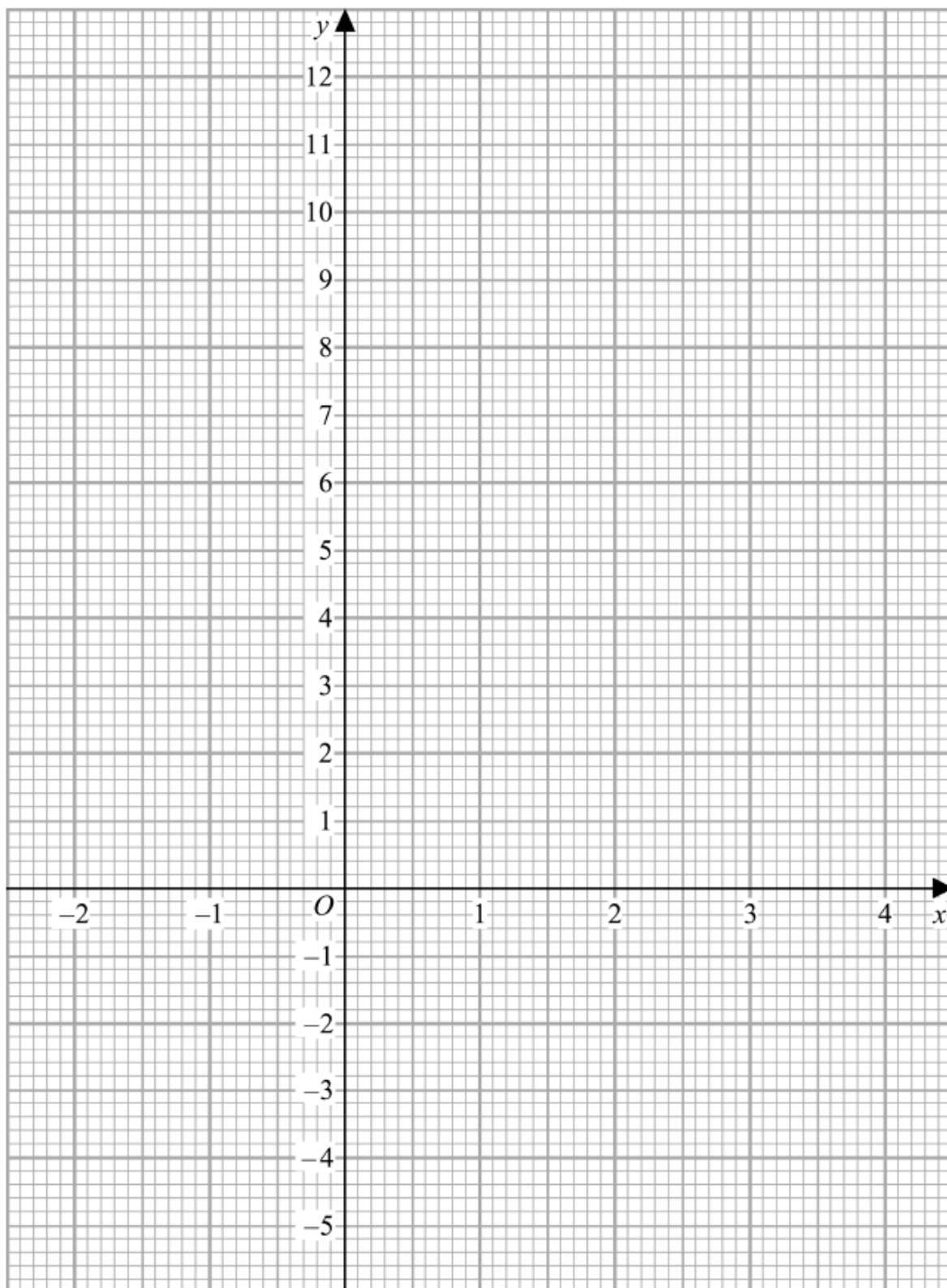
7. (a) Complete the table for $y = x^2 - 3x + 1$

x	-2	-1	0	1	2	3	4
y	11		1	-1		1	5

(2)

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

(2)



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

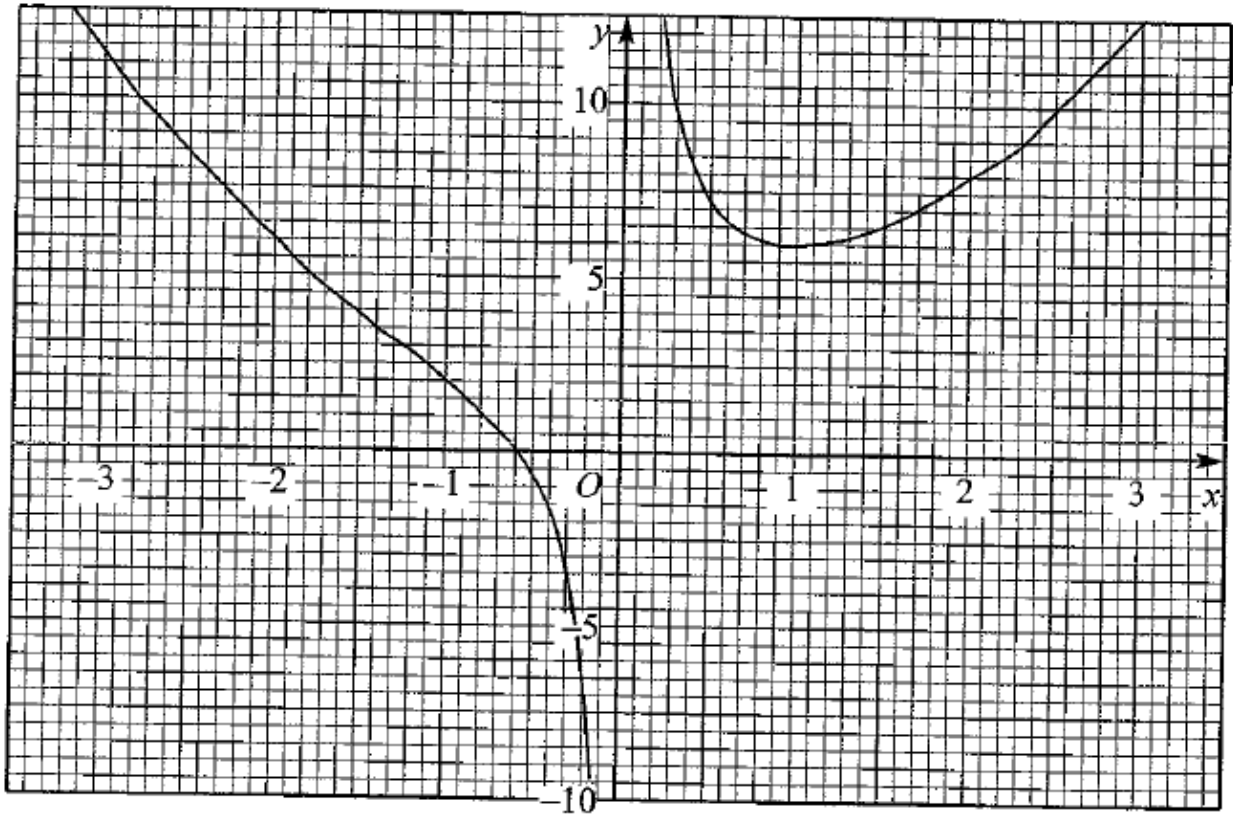
$$y = \dots\dots\dots \quad (1)$$

(d) Use a graphical method to find estimates of the solutions to the equation

$$x^2 - 3x + 1 = 2x - 4$$

$$x = \dots\dots\dots \text{ or } x = \dots\dots\dots \quad (3)$$

17. This diagram shows the graph of $y = x^2 + 3 + \frac{2}{x}$



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

$$x^2 - 5 + \frac{2}{x} = 0$$

Label your line with its equation.

Estimates are

(3)

(b) Write down the equation of the line you would need to draw to solve the equation

$$x^2 - 3x + \frac{2}{x} = 0$$

using the given graph.

Equation of the line is

(2)