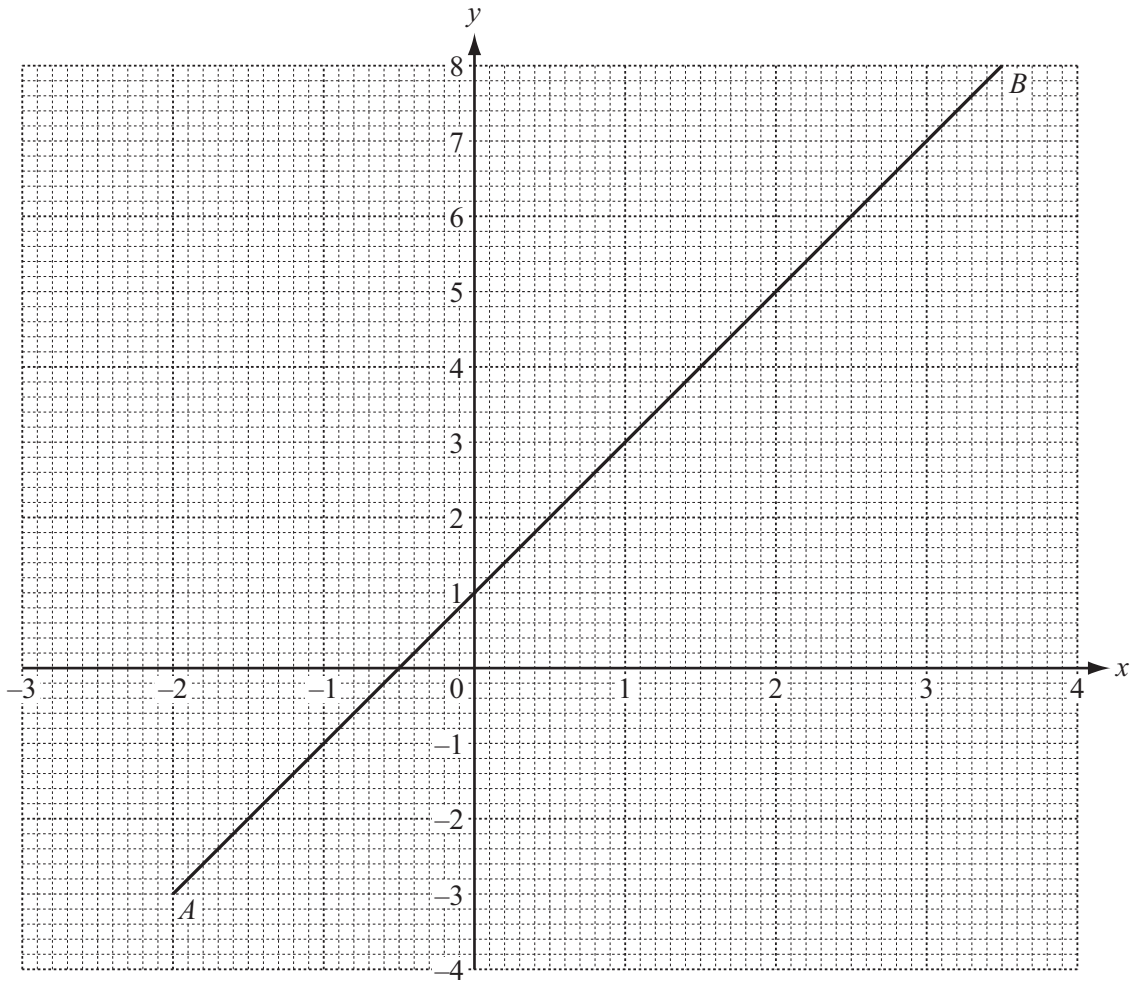
1



(a) **(i)** Find the gradient of the line AB.

Answer(a)(i) ..... [2]

(ii) Write down the equation of the line AB in the form $y = mx + c$.

Answer(a)(ii) $y =$ ..... [2]

(b) The table shows some values of the function $y = x^2 - 2$.

x	−3	−2	−1	0	1	2	3
y	7		−1		−1		7

(i) Complete the table. [2]

(ii) On the grid, draw the graph of $y = x^2 - 2$ for $-3 \leqslant x \leqslant 3$. [4]

(iii) Use your graph to solve the equation $x^2 - 2 = 0$.

Answer(b)(iii) $x =$ ..... or $x =$ ..... [2]

(c) Write down the co-ordinates of the points where your graph meets the line AB.

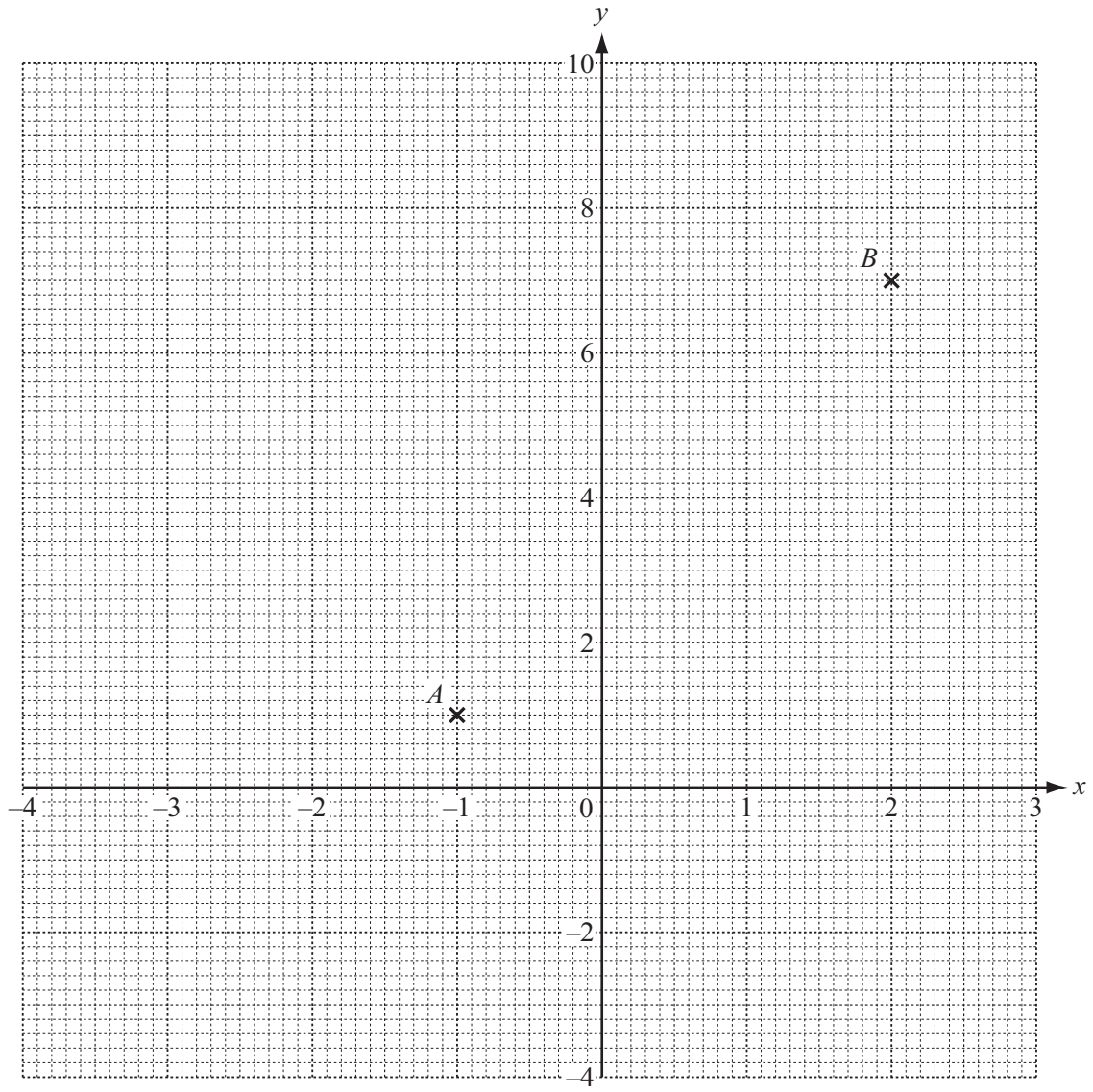
Answer(c)(..... , ...) and (..... , ...) [2]

2 **(a)** The table shows some values of the function $y = x^2 + x - 3$.

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

(i) Complete the table. [2]

(ii) On the grid, draw the graph of $y = x^2 + x - 3$ for $-4 \leqslant x \leqslant 3$.



[4]

(iii) Use your graph to solve the equation $x^2 + x - 3 = 0$.

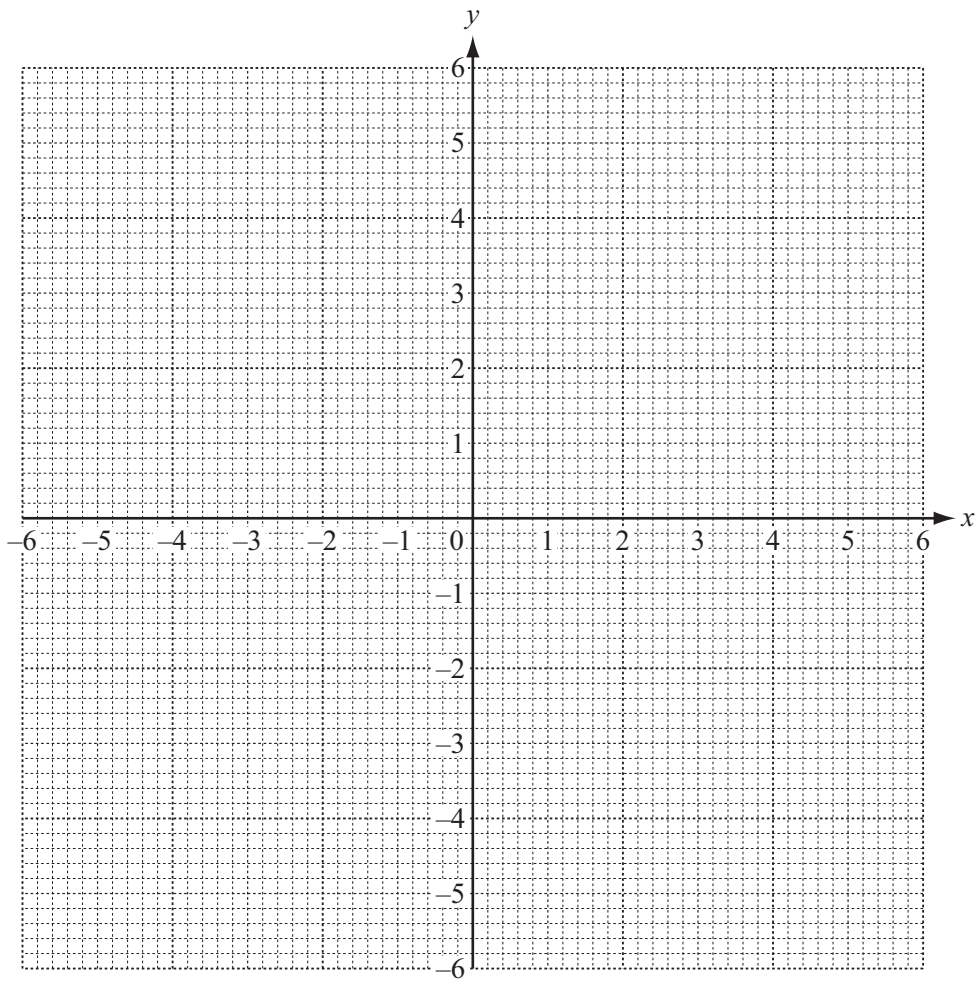
Answer(a)(iii) $x =$ ..... or $x =$ ..... [2]

3 **(a)** **(i)** Complete the table for the function $y = \frac{6}{x}$, $x \neq 0$.

x	–6	–5	–4	–3	–2	–1	1	2	3	4	5	6
y	–1	–1.2		–2	–3	–6	6	3			1.2	1

[2]

(ii) On the grid, draw the graph of $y = \frac{6}{x}$ for $-6 \leqslant x \leqslant -1$ and $1 \leqslant x \leqslant 6$.



[4]

(b) **(i)** Complete the table for the function $y = \frac{x^2}{2} - 2$.

x	–4	–3	–2	–1	0	1	2	3	4
y	6	2.5			–2			2.5	6

[2]

(ii) On the grid opposite, draw the graph of $y = \frac{x^2}{2} - 2$ for $-4 \leqslant x \leqslant 4$. [4]

(c) Write down the co-ordinates of the point of intersection of the two graphs.

Answer(c)(..... , ...) [2]

4 **(a)** The table shows some values of $y = \frac{10}{x}$.

x	–8	–5	–4	–2	–1		1	2	4	5	8
y	–1.25			–5			10			2	

(i) Complete the table. [2]

(ii) On the grid opposite, draw the graph of $y = \frac{10}{x}$ for $-8 \leqslant x \leqslant -1$ and $1 \leqslant x \leqslant 8$. [4]

(b) **(i)** On the same grid, draw the straight line through the points (−3, −5) and (1, 3). Extend the line to the edges of the grid. [2]

(ii) Find the co-ordinates of the points of intersection of this line with the graph of $y = \frac{10}{x}$.

Answer(b)(ii) (..... , ...) and (..... , ...) [2]

(c) For the line in **part (b)(i)**

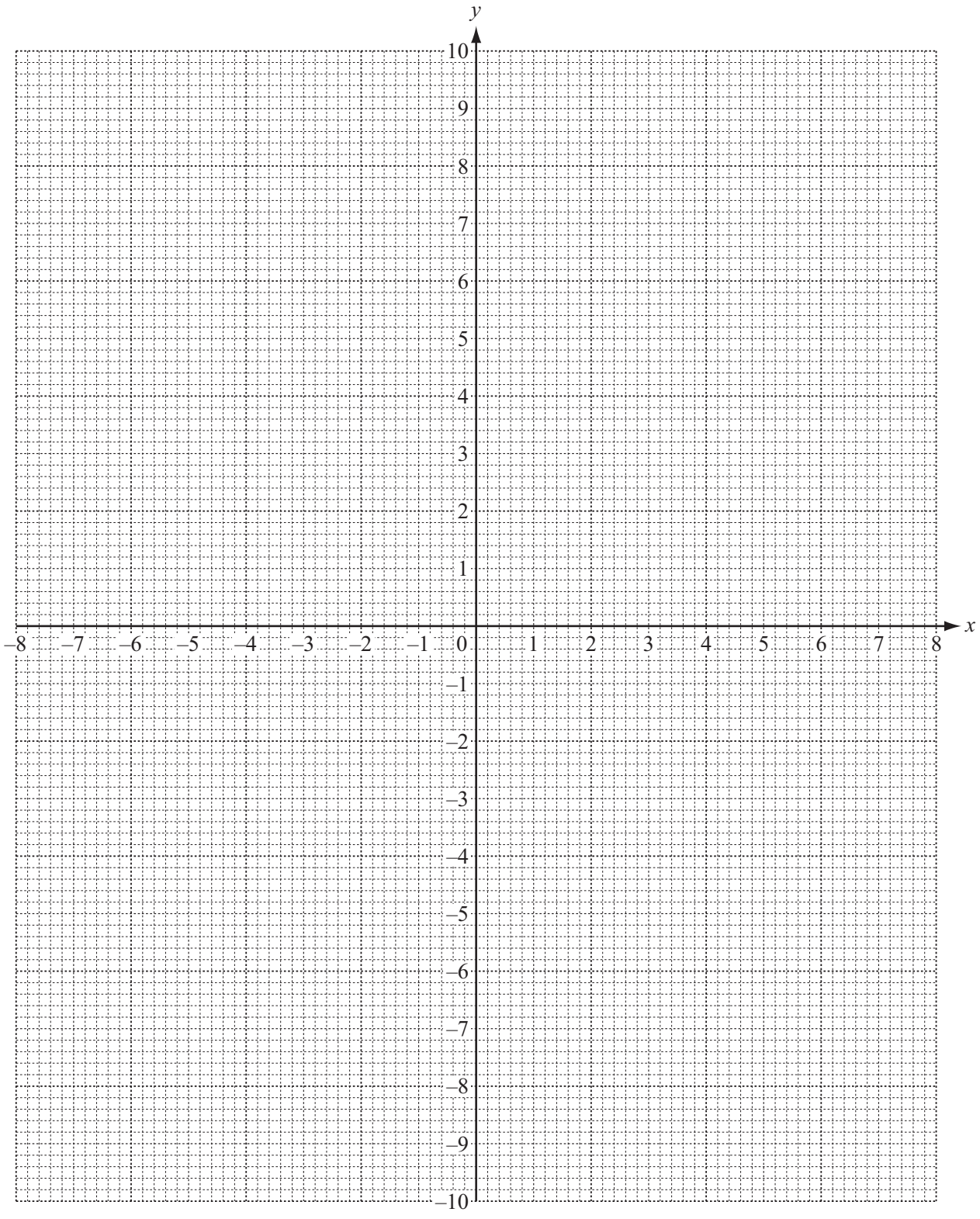
(i) work out the gradient,

Answer(c)(i) ..... [2]

(ii) write down the equation in the form $y = mx + c$.

Answer(c)(ii) $y =$ ..... [1]

Yr 9 core mod 5 rev sheet 3

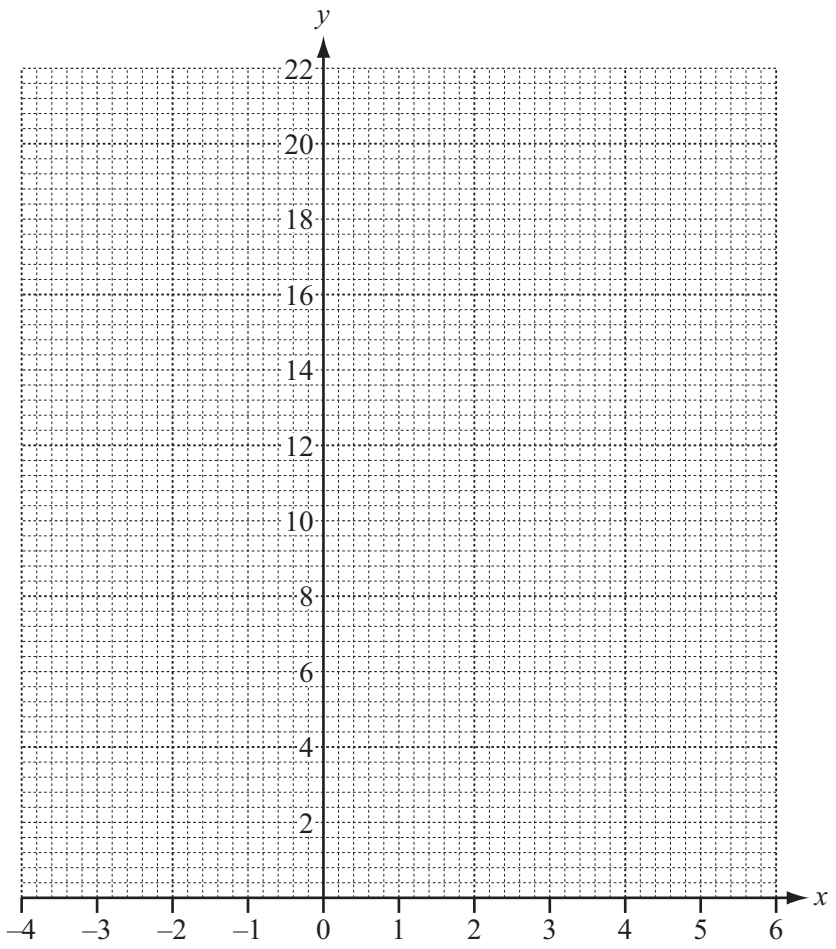


5 **(a)** Complete the table of values for $y = x^2 - 2x + 5$.

x	–3	–2	–1	0	1	2	3	4	5
y	20		8				8		20

[3]

(b) On the grid, draw the graph of $y = x^2 - 2x + 5$ for $-3 \leqslant x \leqslant 5$.



[4]

(d) **(i)** On the grid, draw the line $y = 12$. [1]

(ii) Use your graph to solve the equation $x^2 - 2x + 5 = 12$.

Answer(d)(ii) $x =$ ..... or $x =$ ..... [2]

(e) The equation of a straight line is $y = 6 - 3x$.

(i) Write down the gradient of this line.

Answer(e)(i) ..... [1]

(ii) Write down the co-ordinates of the point where this line crosses the y-axis.

Answer(e)(ii) (..... , ...) [1]

(iii) Write down the equation of a line parallel to $y = 6 - 3x$.

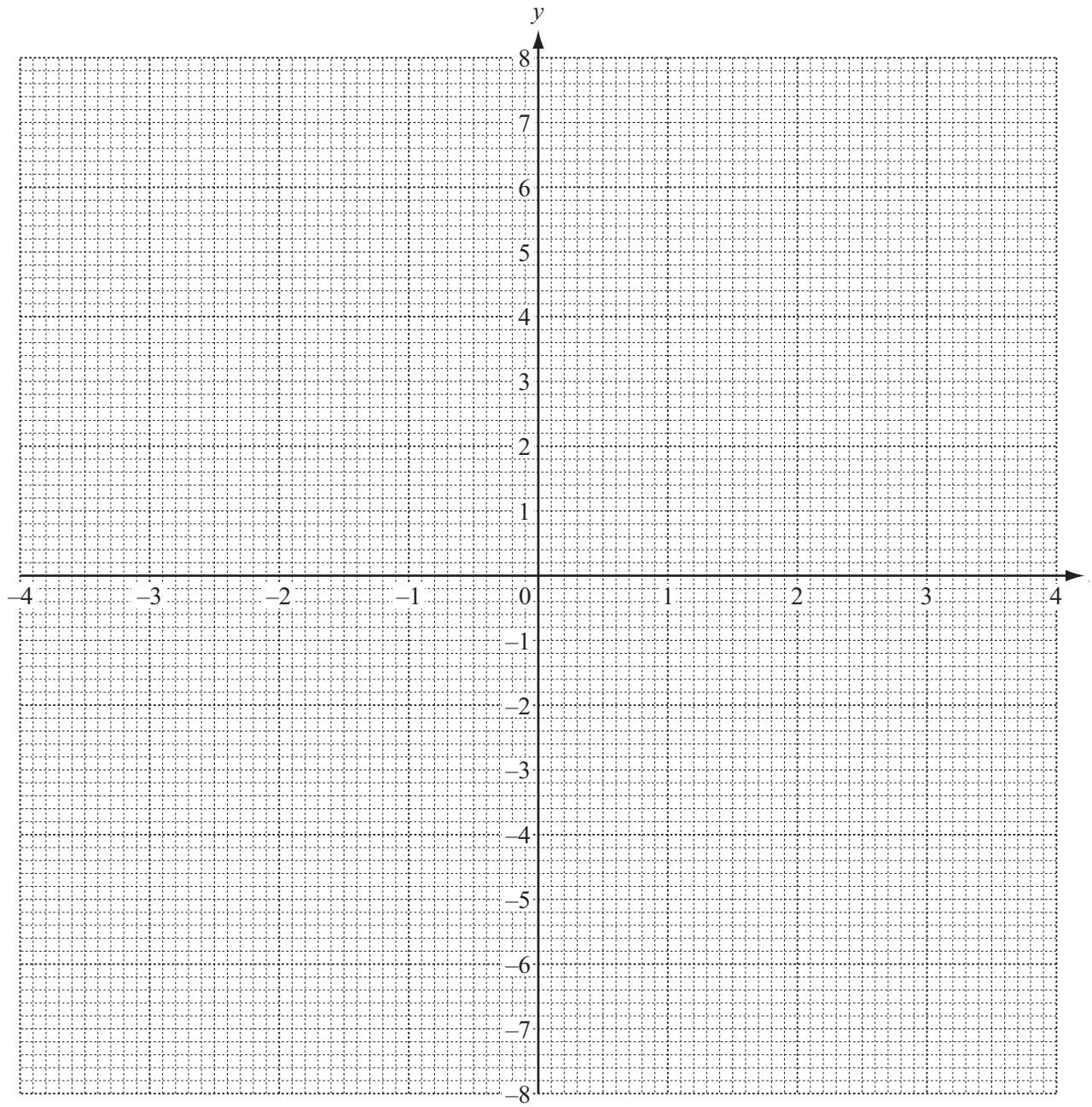
Answer(e)(iii) ..... [1]

6 **(a)** Complete the table of values for $y = \frac{4}{x}$, $x \neq 0$.

x	–4	–3	–2	–1	– 0.5		0.5	1	2	3	4
y		–1.3	–2		–8		8	4	2		

[2]

(b) On the grid below, draw the graph of $y = \frac{4}{x}$, for $-4 \leqslant x \leqslant -0.5$ and $0.5 \leqslant x \leqslant 4$.



[4]

(c) Complete the following statement.

The point (–2.5, ...) lies on the graph of $y = \frac{4}{x}$. [1]

(d) **(i)** On the grid, draw the line $y = 5$. [1]

(ii) Use your graphs to solve the equation $\frac{4}{x} = 5$.

Answer(d)(ii) $x =$ ..... [1]

(e) **(i)** On the grid, draw the straight line joining the points (– 0.5 , – 8) and (2 , 2). [2]

(ii) Find the gradient of this line.

Answer(e)(ii) ..... [1]

(iii) Write down the equation of this line in the form $y = mx + c$.

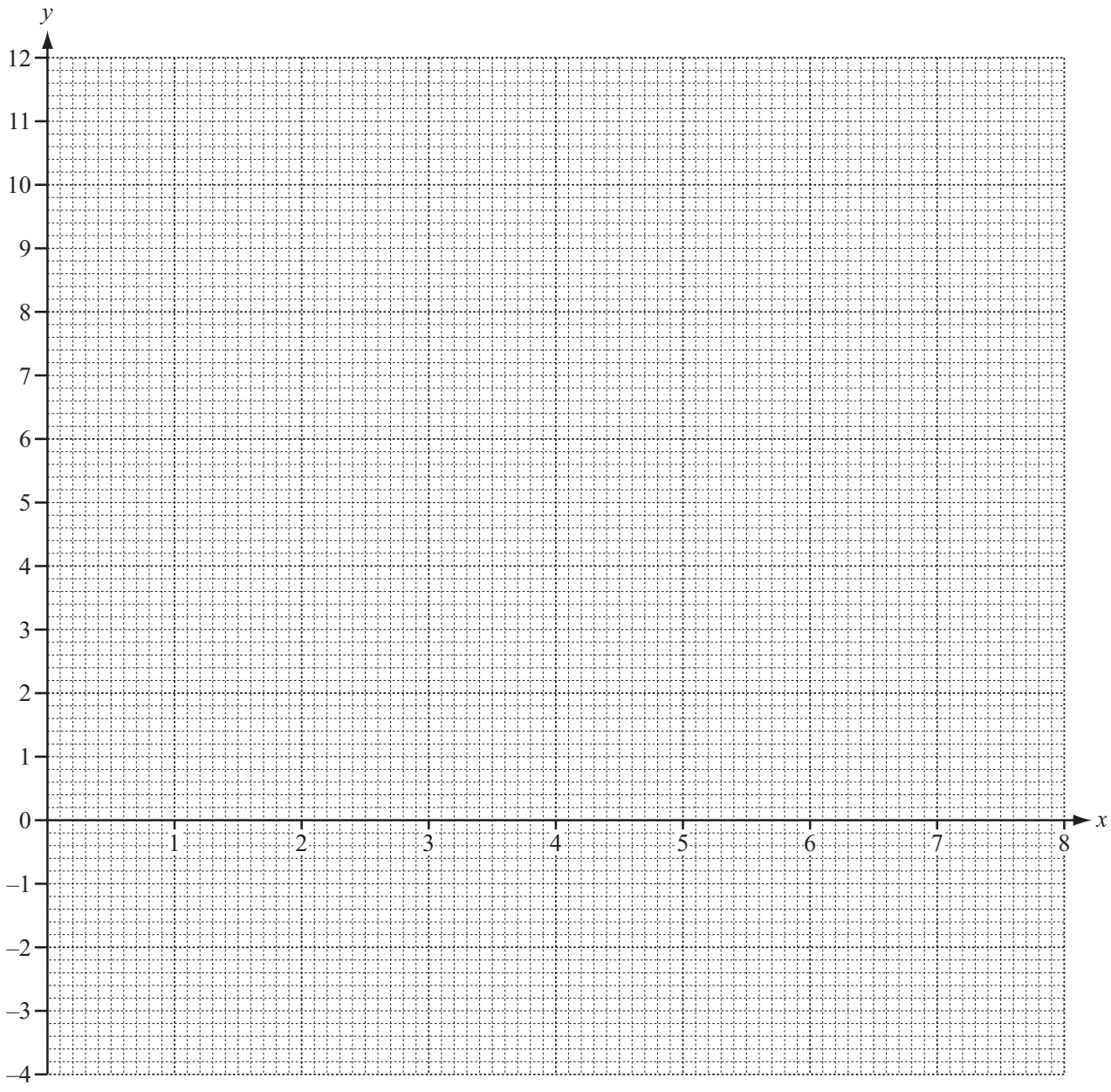
Answer(e)(iii) $y =$ ..... [2]

7 **(a)** **(i)** Complete the table for $y = 12 - x^2$.

x	0	1	2	3	4
y	12	11			– 4

[2]

(ii) On the grid, draw the graph of $y = 12 - x^2$ for $0 \leqslant x \leqslant 4$.



[3]

(iii) **Use your graph** to solve the equation $12 - x^2 = 0$.

Answer (a)(iii) $x =$ ..... [1]

(b) **(i)** Complete the table for $y = \frac{12}{x}$, $x \neq 0$.

x	1	2	3	4	5	6	7	8
y	12	6	4		2.4		1.7	

[3]

(ii) On the grid opposite, draw the graph of $y = \frac{12}{x}$ for $1 \leqslant x \leqslant 8$. [3]

(c) Write down the co-ordinates of the points of intersection of the two graphs.

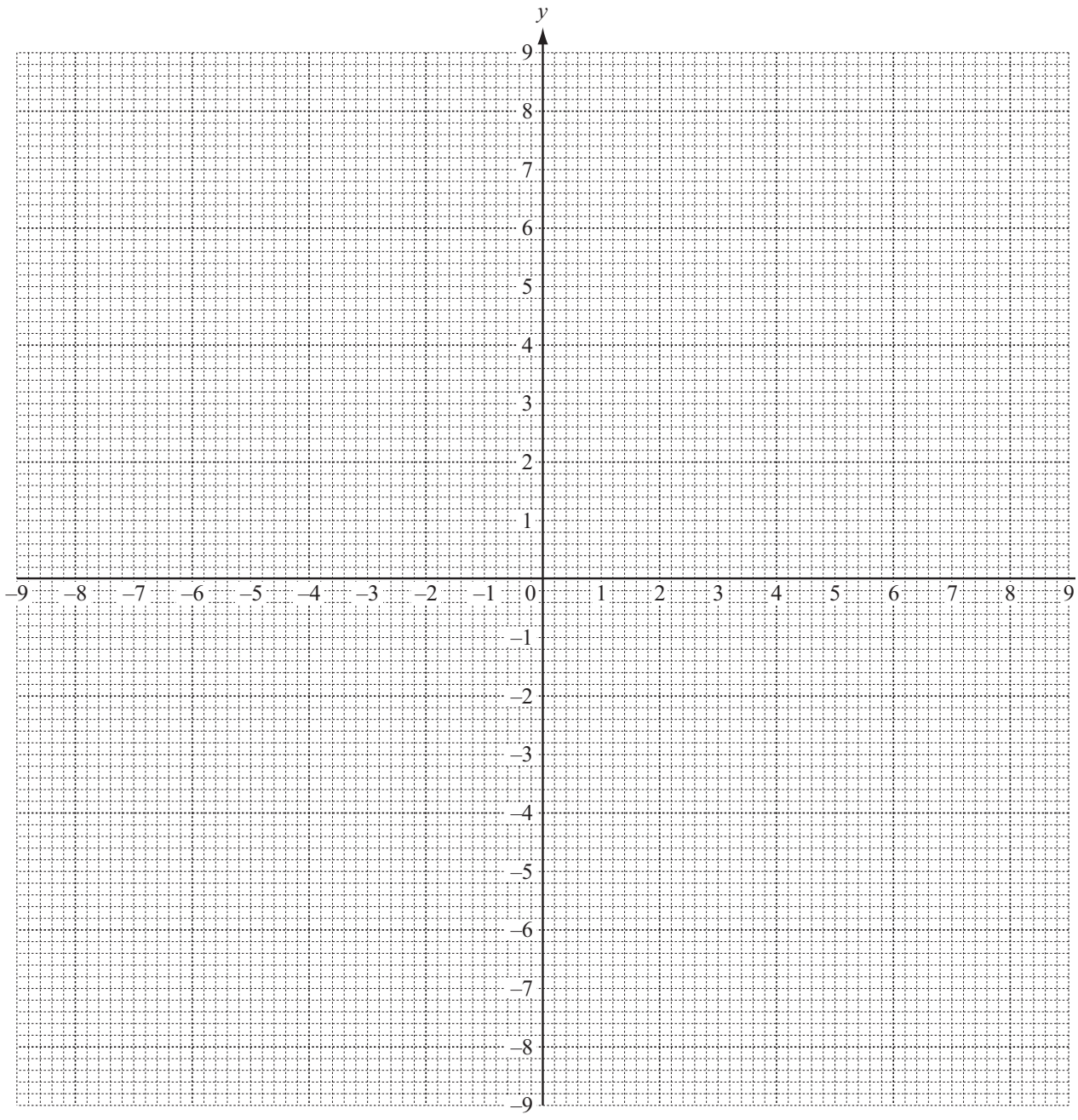
Answer(c) (..... , ...) , (..... , ...) [2]

8 **(a)** The table shows some values for $y = \frac{18}{x}$.

x	-9	-6	-4	-3	-2		2	3	4	6	9
y	-2		-4.5		-9				4.5	3	

(i) Complete the table. [2]

(ii) On the grid, draw the graph of $y = \frac{18}{x}$ for $-9 \leqslant x \leqslant -2$ and $2 \leqslant x \leqslant 9$.



[4]

(iii) Use your graph to solve the equation $\frac{18}{x} = -5$.

Answer(a)(iii) $x =$ ..... [1]

(b) **(i)** Complete the table of values for $y = 2x + 3$.

x	-4	-3	2	3
y	-5		7	

[2]

(ii) On the grid, draw the graph of $y = 2x + 3$ for $-4 \leqslant x \leqslant 3$. [1]

(iii) Find the co-ordinates of the points of intersection of the graphs of

$$y = \frac{18}{x} \text{ and } y = 2x + 3.$$

Answer(b)(iii) (..... , ...) and (..... , ...) [2]