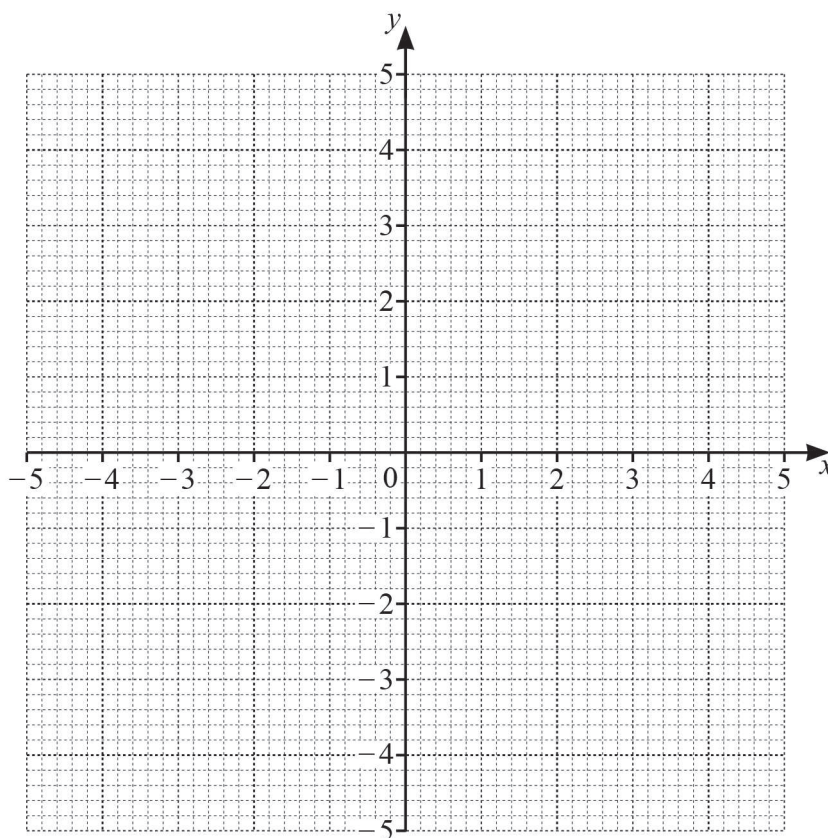


- 1 (a) Complete the table of values for $y = \frac{5}{x}$.

x	-5	-4	-2.5	-2	-1		1	2	2.5	4	5
y	-1		-2	-2.5	-5		5	2.5	2		1

[2]

- (b) On the grid, draw the graph of $y = \frac{5}{x}$ for $-5 \leq x \leq 5$ and $1 \leq x \leq 5$.



[4]

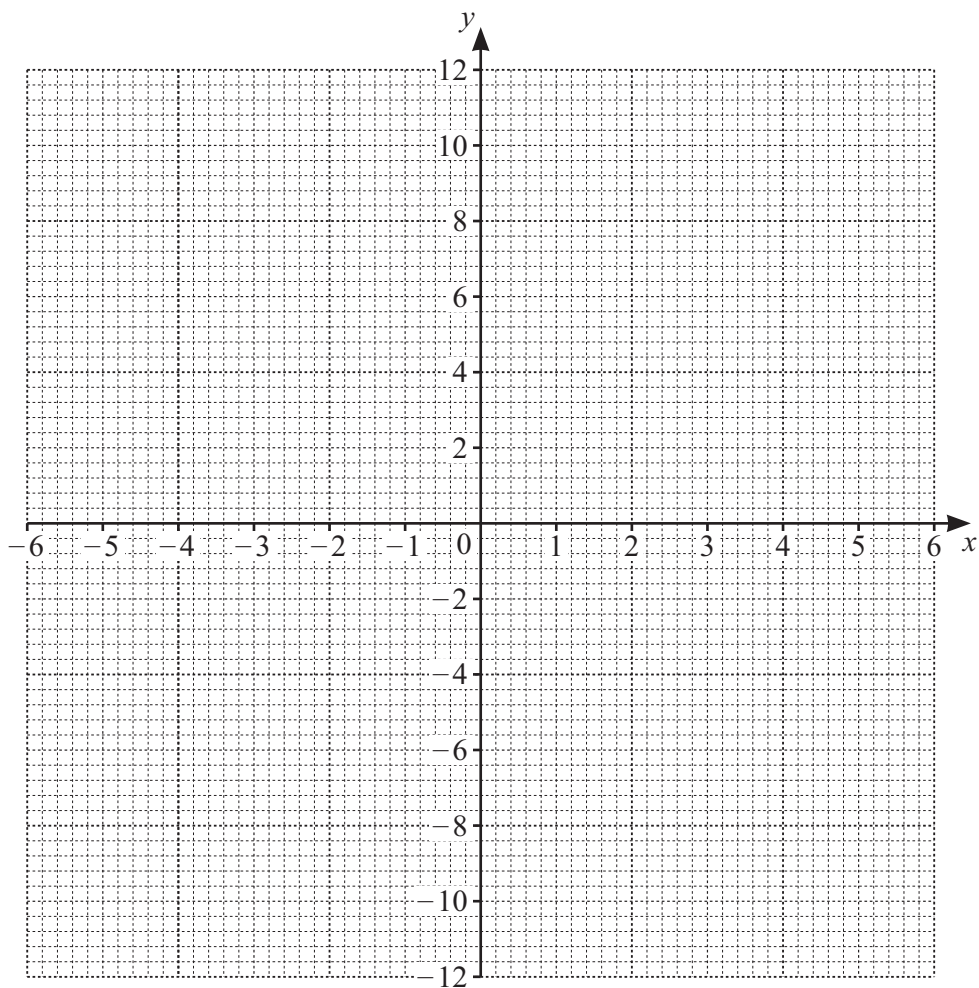
[Total: 6]

- 2 (a) Complete the table of values for $y = \frac{12}{x}$, $x \neq 0$.

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

[3]

- 2 (b) On the grid, draw the graph of $y = \frac{12}{x}$ for $-6 \leq x \leq -1$ and $1 \leq x \leq 6$.



[4]

- (c) On the grid, draw the line $y = 5$.

[1]

- (d) Use your graph to solve the equation $\frac{12}{x} = 5$.

$x = \dots\dots\dots$ [1]

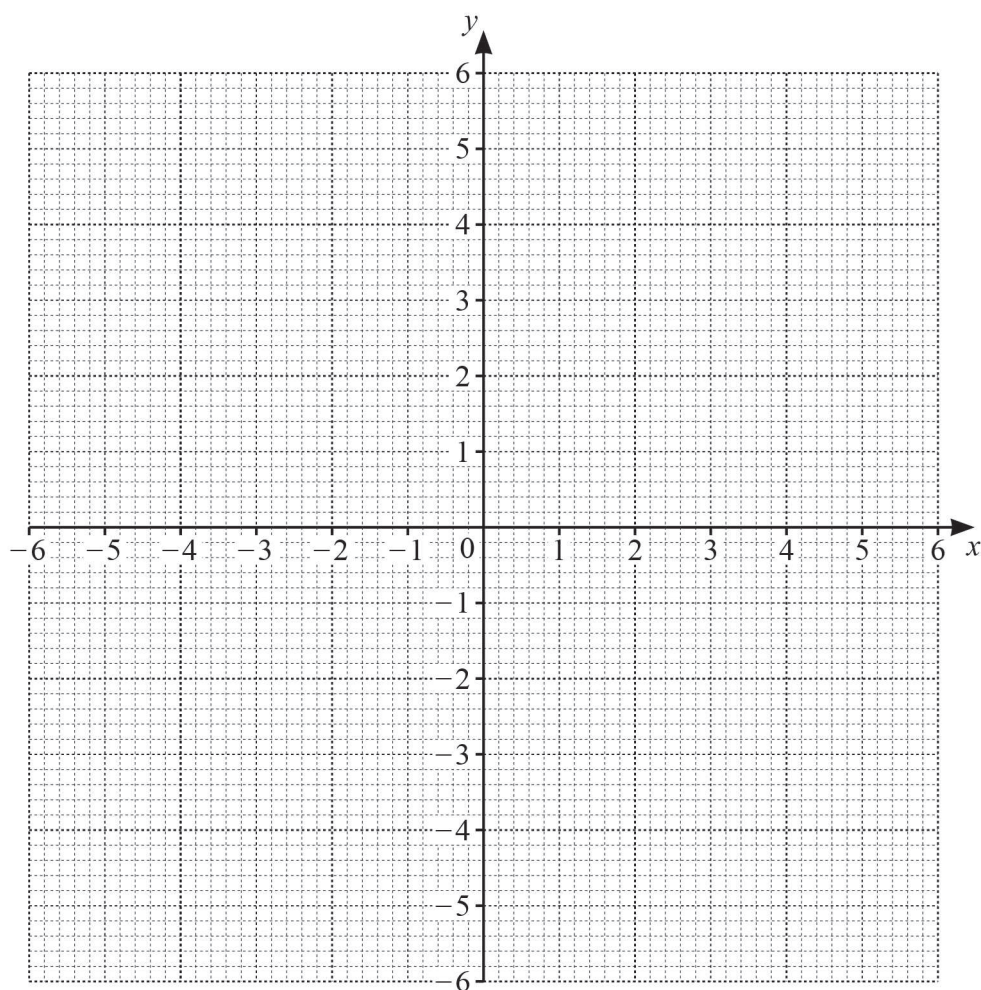
[Total: 9]

- 3 (a) Complete the table of values for $y = \frac{-6}{x}$.

x	-6	-4	-3	-2	-1.5	-1		1	1.5	2	3	5	6
y	1		2	3		6		-6		-3	-2		-1

[3]

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



[4]

- (c) Write down the order of rotational symmetry of the graph.

..... [1]

- (d) Write down the equation of each line of symmetry of the graph.

..... and [2]

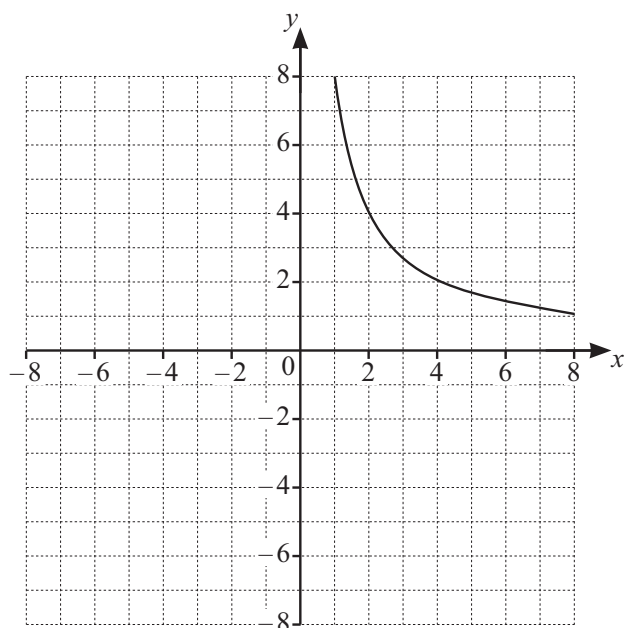
- (e) On the grid, draw the line $y = 2.5$.

[1]

- (f) Use your graph to solve the equation $\frac{-6}{x} = 2.5$.

$x =$ [1]

[Total: 12]



The diagram shows the graph of $y = \frac{k}{x}$ for $1 \leq x \leq 8$.

- (a) Use the graph to find the value of x when $y = 4$.

$x = \dots\dots\dots$ [1]

- (b) (i) Show that $k = 8$.

[1]

- (ii) Calculate the value of y when $x = 250$.

$y = \dots\dots\dots$ [1]

- (c) (i) Complete this table of values for $y = \frac{8}{x}$.

x	-8	-4	-2	-1
y				

[2]

- (ii) On the grid, draw the graph of $y = \frac{8}{x}$ for $-8 \leq x \leq -1$.

[3]

- (d) Write down the equation of each line of symmetry of the graph.

$\dots\dots\dots$ and $\dots\dots\dots$ [2]

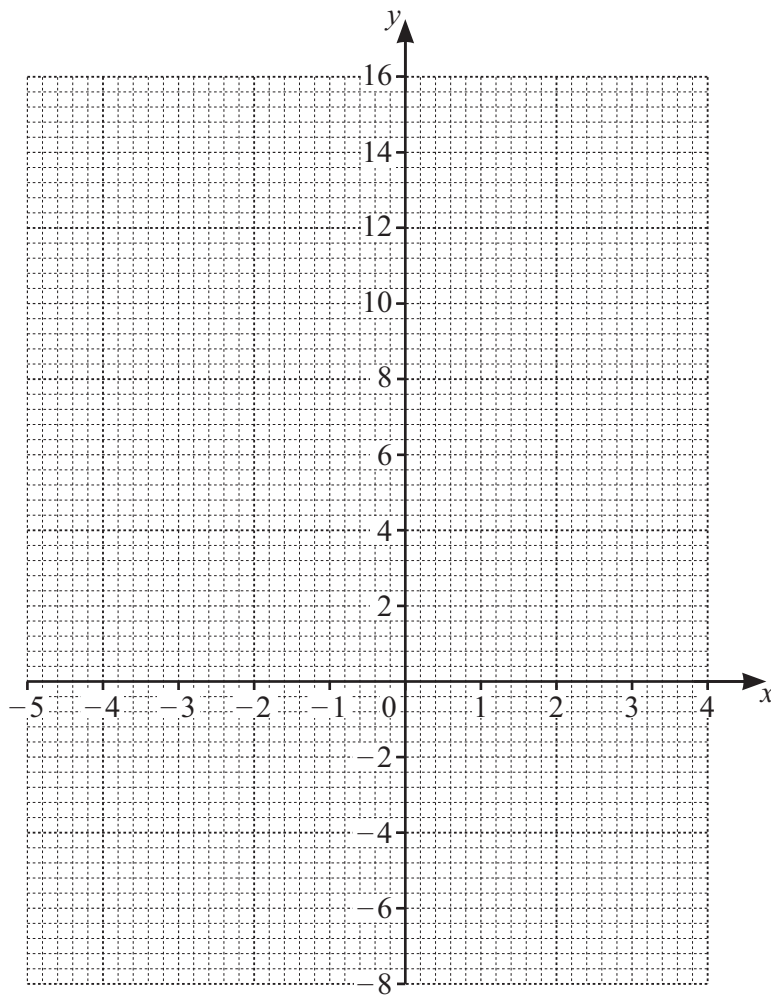
[Total: 10]

- 5 (a) Complete the table of values for $y = -x^2 - x + 14$.

x	-5	-4	-3	-2	-1	0	1	2	3	4
y			8	12			12	8		

[3]

- 5 (b) On the grid, draw the graph of $y = -x^2 - x + 14$ for $-5 \leq x \leq 4$.



[4]

- (c) (i) Write down the equation of the line of symmetry of the graph.

..... [1]

- (ii) Find the coordinates of the highest point on the graph.

(..... ,) [1]

(d) Use your graph to solve the equation $-x^2 - x + 14 = -2$.

$x = \dots\dots\dots$ or $x = \dots\dots\dots$ [2]

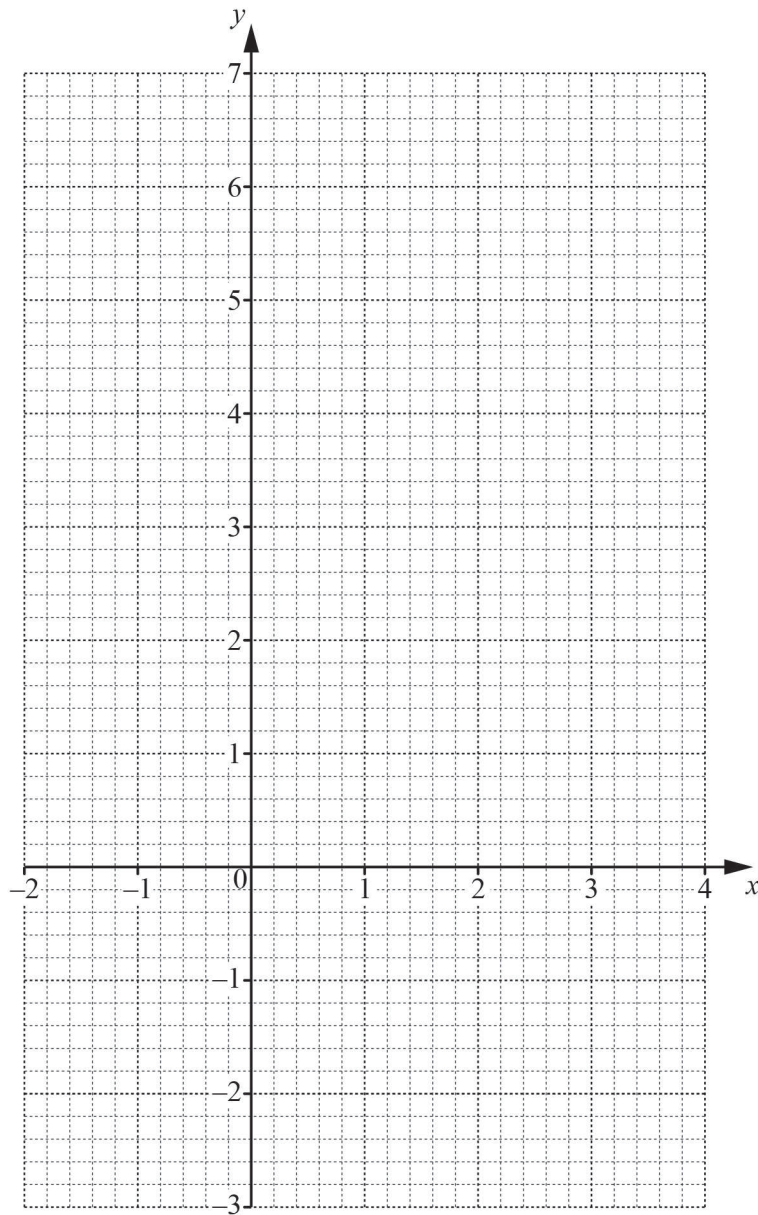
[Total: 11]

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

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

[2]

- 6 (b) On the grid, draw the graph of $y = 5 + 2x - x^2$ for $-2 \leq x \leq 4$.



[4]

- (c) (i) On the grid, draw the line of symmetry. [1]
 (ii) Write down the equation of the line of symmetry.

..... [1]

- (d) Use your graph to find the solutions of the equation $5 + 2x - x^2 = 4$.

$x = \dots\dots\dots$ or $x = \dots\dots\dots$ [2]

- (e) (i) On the grid, draw a line from $(-1, 2)$ to $(1, 6)$. [1]

(ii) Find the equation of this line in the form $y = mx + c$.

$$y = \dots\dots\dots [3]$$

[Total: 14]

7 The curve $y = x^2 - 2x + 1$ is drawn on a grid.

A line is drawn on the same grid.

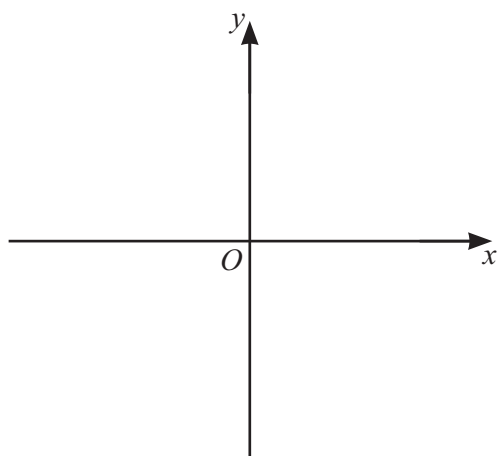
The points of intersection of the line and the curve are used to solve the equation $x^2 - 7x + 5 = 0$.

Find the equation of the line in the form $y = mx + c$.

$$y = \dots\dots\dots [1]$$

[Total: 1]

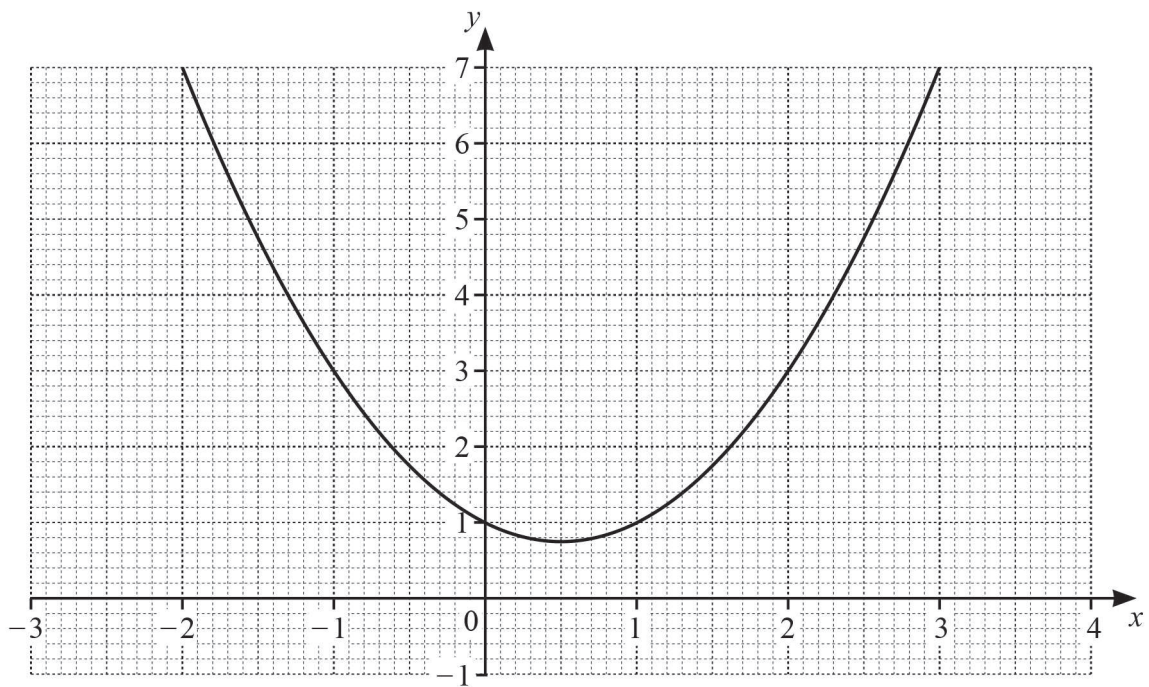
8 On the axes, sketch the graph of the function $y = \frac{2}{x}$.



[2]

[Total: 2]

- 9 The graph of $y = x^2 - x + 1$ is shown on the grid.



By drawing a suitable line on the grid, solve the equation $x^2 - 2x - 2 = 0$.

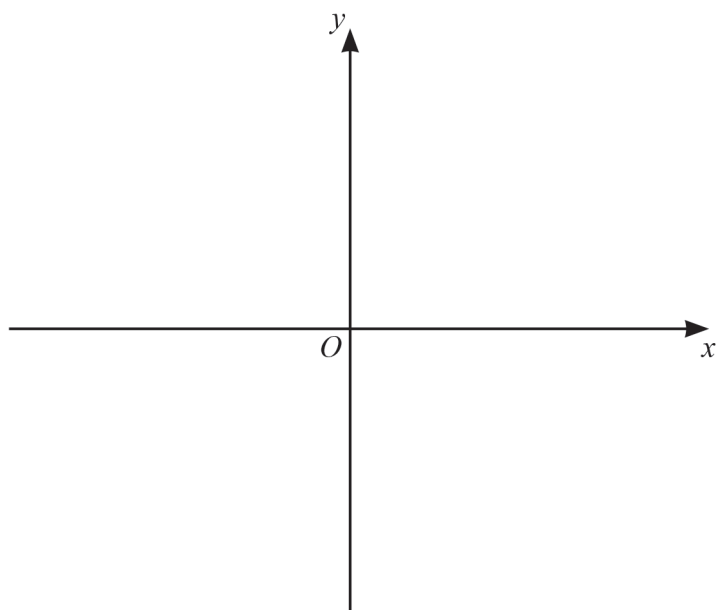
$x = \dots\dots\dots$ or $x = \dots\dots\dots$ [3]

[Total: 3]

- 10 (a) Write $x^2 + 10x + 14$ in the form $(x + a)^2 + b$.

$\dots\dots\dots$ [2]

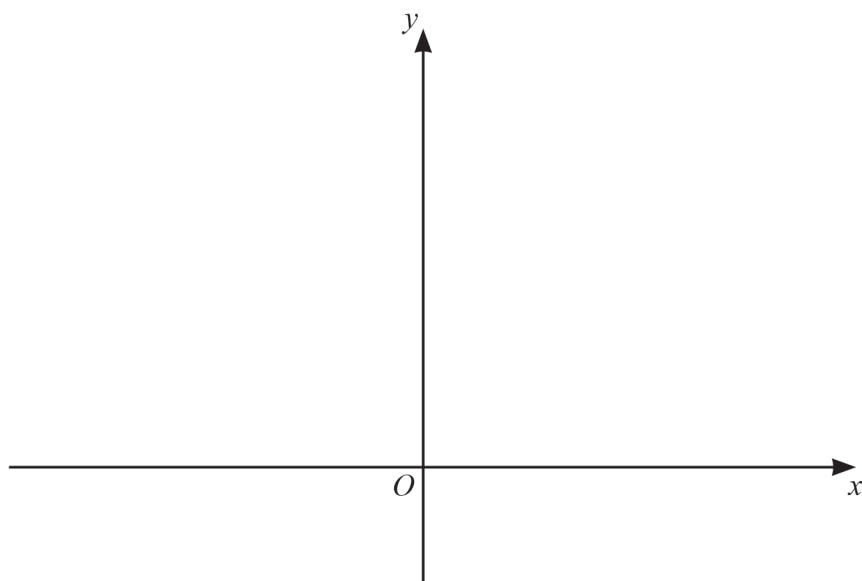
- 10 (b) On the axes, sketch the graph of $y = x^2 + 10x + 14$, indicating the coordinates of the turning point.



[3]

[Total: 5]

11



On the diagram,

- (a) sketch the graph of $y = (x - 1)^2$, [2]
- (b) sketch the graph of $y = \frac{1}{2}x + 1$. [2]

[Total: 4]