



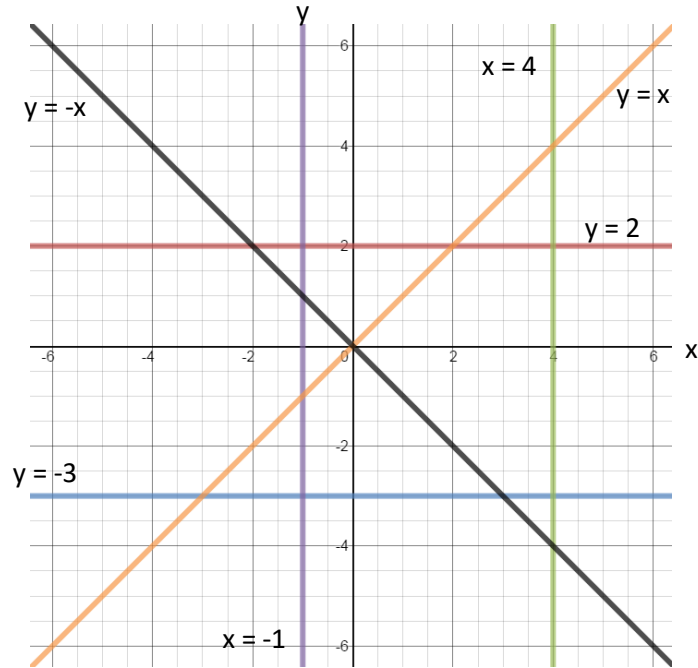
33 - Linear Graphs - Plotting

Plotting straight line graphs

For any equation of the form  $x = a$ , where  $a$  can take any value, the line will be vertical.

For any equation of the form  $y = b$ , where  $b$  can take any value, the line will be horizontal.

$y = x$  is a diagonal line.



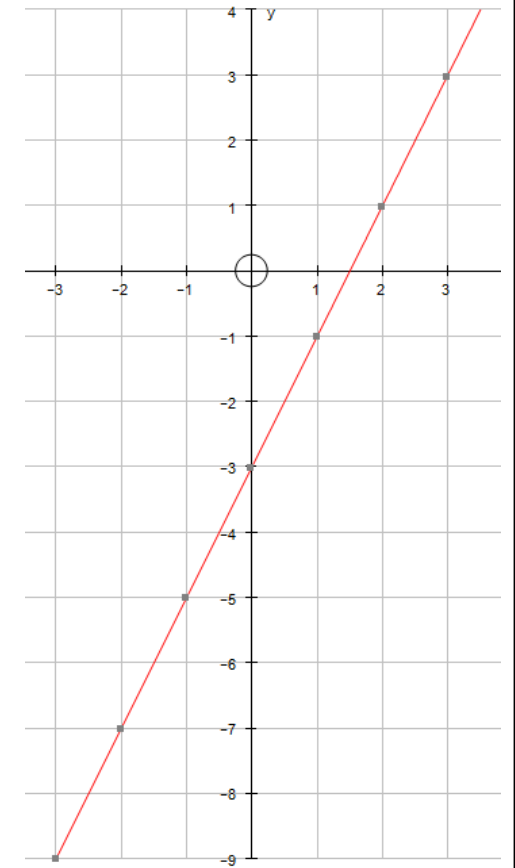
**Example:**

Plot the graph of  $y = 2x - 3$  for  $-3 \leq x \leq 3$ .

- First draw a table of values and substitute each  $x$ -value into the formula to find the corresponding  $y$ -value.

<b>x</b>	-3	-2	-1	0	1	2	3
<b>y</b>	-9	-7	-5	-3	-1	1	3

- Plot each pair of coordinates:  $(-3, -9)$ ,  $(-2, -7)$ , etc. – and draw a straight line through all of the points that reaches across the coordinate grid.



Linked Prior Topics

Coordinates, plotting, substitution

Vocabulary

Vertical, horizontal, diagonal, substitution

Linked Future Topics

Equation of a line, gradient, parallel and perpendicular, solving equations, quadratic and cubic graphs