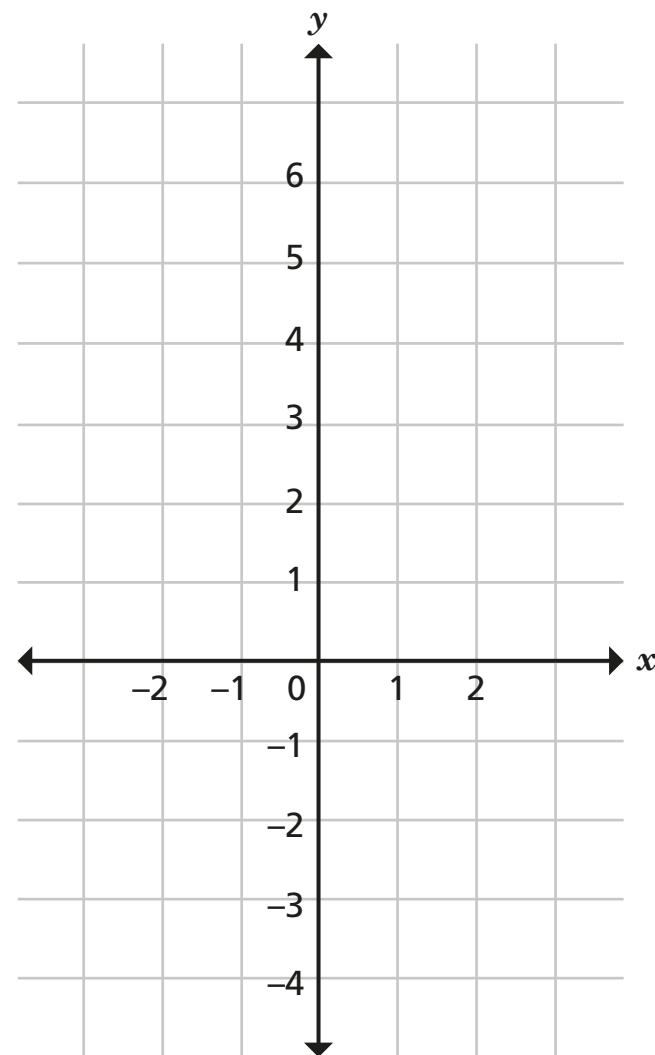


# Plot graphs of the form $y = mx + c$

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

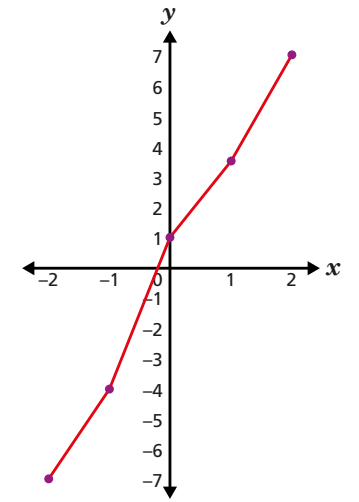
|     |    |    |   |   |   |
|-----|----|----|---|---|---|
| $x$ | -2 | -1 | 0 | 1 | 2 |
| $y$ |    |    |   |   |   |

- b) Draw the graph of  $y = 2x + 1$  for values of  $x$  from  $x = -2$  to  $x = 2$



- 2 Annie is plotting the graph of the line  $y = 3x + 1$ . Here is her coordinate table and graph.

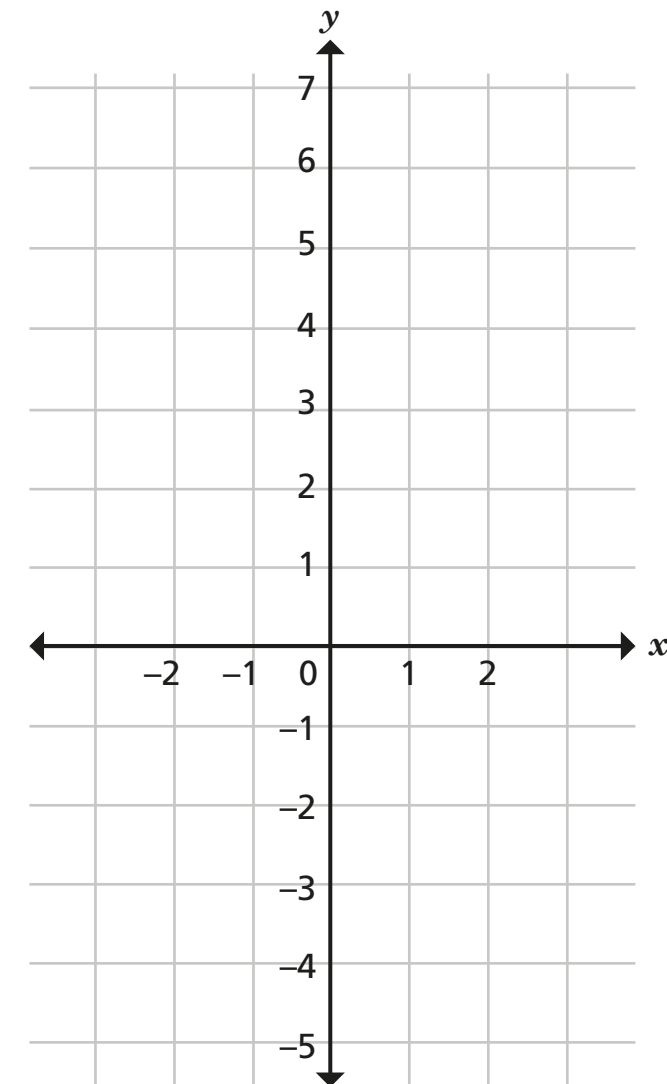
|     |    |    |   |   |   |
|-----|----|----|---|---|---|
| $x$ | -2 | -1 | 0 | 1 | 2 |
| $y$ | -7 | -4 | 1 | 4 | 7 |



- a) How can Annie tell from her graph that she is wrong?  
b) Complete the coordinate table correctly.

|     |    |    |   |   |   |
|-----|----|----|---|---|---|
| $x$ | -2 | -1 | 0 | 1 | 2 |
| $y$ |    |    |   |   |   |

- c) Correctly draw the line  $y = 3x + 1$



3 Here are three tables of values for the lines P, Q and R.

a) Complete the tables.

P  $y = 3x + 4$

|     |    |    |   |   |   |
|-----|----|----|---|---|---|
| $x$ | -2 | -1 | 0 | 1 | 2 |
| $y$ |    |    |   |   |   |

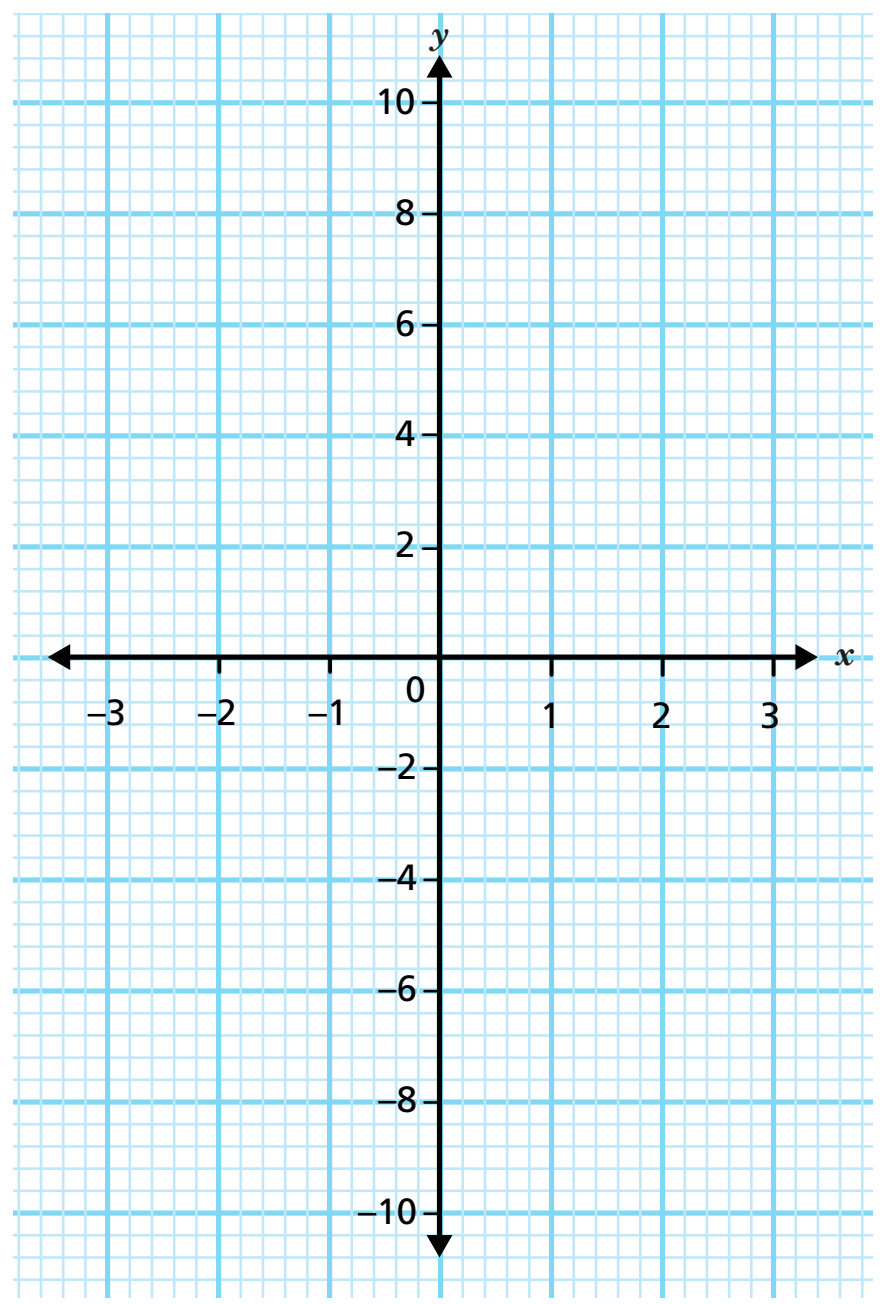
Q  $y = -x + 2$

|     |    |    |   |   |   |
|-----|----|----|---|---|---|
| $x$ | -2 | -1 | 0 | 1 | 2 |
| $y$ |    |    |   |   |   |

R  $y = 0.5x - 3$

|     |    |    |   |   |   |
|-----|----|----|---|---|---|
| $x$ | -2 | -1 | 0 | 1 | 2 |
| $y$ |    |    |   |   |   |

b) Plot and label lines P, Q and R.



c) Write the coordinates of a point that is not on any of the lines.

(  ,  )

d) Write the coordinates of a point that is on two of the lines.

(  ,  )

e) Which line is parallel to  $y = \frac{1}{2}x$ ? \_\_\_\_\_

4 A line passes through the points A(0, 6) and B(2, 0).

a) Draw a sketch to help find the equation of the line.

$y =$  \_\_\_\_\_

Another line passes through A and the point C(-2, 0).

b) What is the same and what is different about the two lines?

\_\_\_\_\_

\_\_\_\_\_

c) Find the equation of the new line.

$y =$  \_\_\_\_\_

