

Compare intercepts

1 a) Complete the tables of values for the four lines: P, Q, R and S.

P $y = x + 1$

x	-2	-1	0	1	2
y					

R $y = -3x + 1$

x	-2	-1	0	1	2
y					

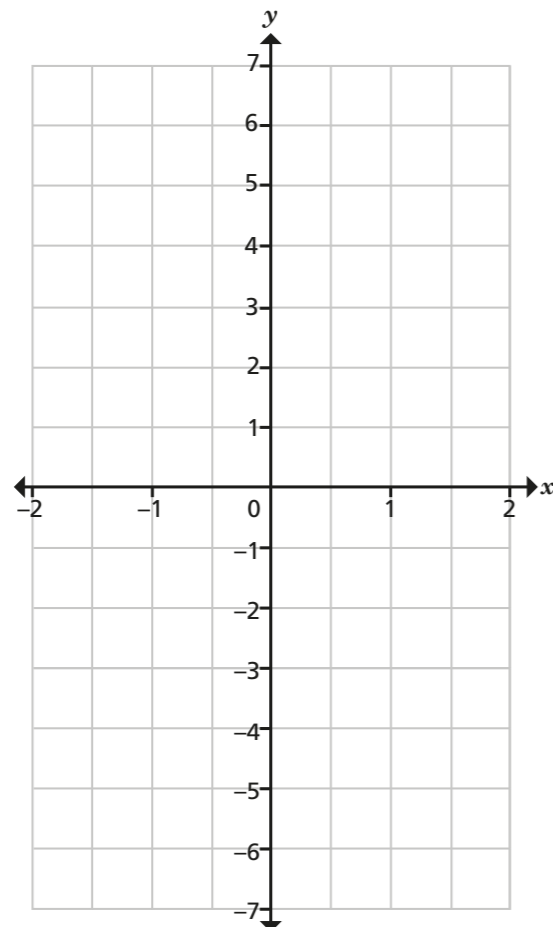
Q $y = -2x + 1$

x	-2	-1	0	1	2
y					

S $y = \frac{1}{2}x + 1$

x	-2	-1	0	1	2
y					

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



c) What do you notice?



2 a) Complete the tables of values for the four lines: J, K, L and M.

J $y = x + 5$

x	-2	-1	0	1	2
y					

L $y = -3x - 1$

x	-2	-1	0	1	2
y					

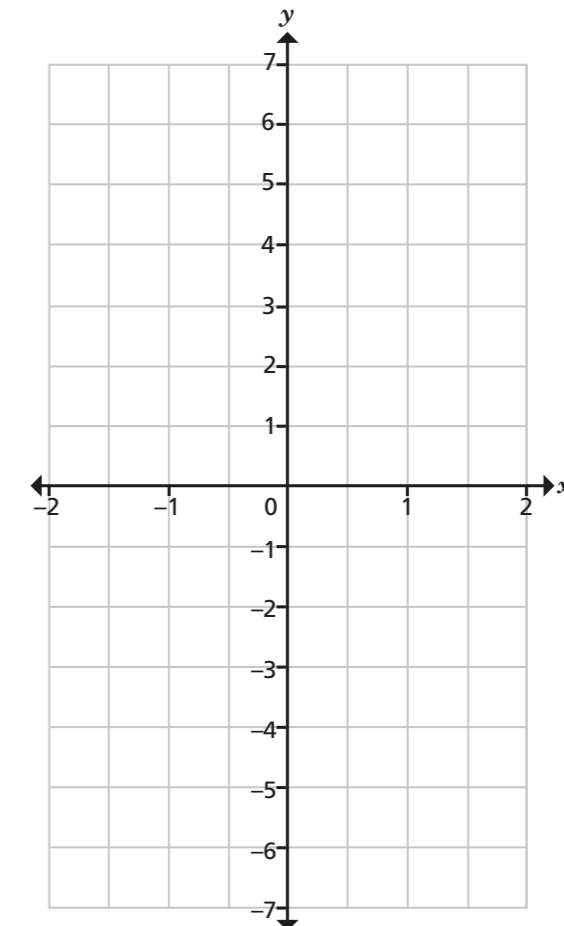
K $y = 2x - 3$

x	-2	-1	0	1	2
y					

M $y = 2 - x$

x	-2	-1	0	1	2
y					

b) Plot and label the lines J, K, L and M.



c) Complete the coordinates for a point on each line.

J (0,) K (0,) L (0,) M (0,)

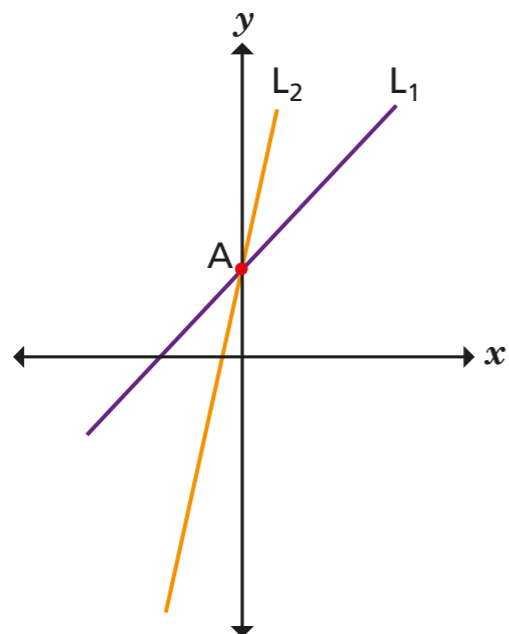
What do you notice?

d) Complete the coordinates for a point on the line $y = 7x + 22$

(0,)



- 3 Two lines are drawn on the axes.
The equation of line L_1 is $y = 4x + 5$



a) Write the coordinates of point A.

(0,)

b) Suggest the equation of line L_2

c) On the axes, sketch the line $y = 5 - 4x$

Compare answers with a partner.

- 4 Tick the equations for lines that intercept the y -axis at the same point.

$y = 8x + 9$

$y = 8x + 5$

$y = 8x - 7$

$y = 9 - 8x$

$17x + 9 = y$

$y = 2x + 5 + 4$

$y = \frac{1}{8}x - 9$

$y = 9x + 8$

$17 - 8 - x = y$



- 5 Write the coordinates of the y -intercepts of each line.

a) $y = \frac{1}{2}x + 5$

b) $y = 5x + \frac{1}{2}$

c) $17 - 8x = y$

d) $y = 12.7 + x$

e) $y = \frac{5}{3}x + \frac{17}{2}$

f) $-18x = y$

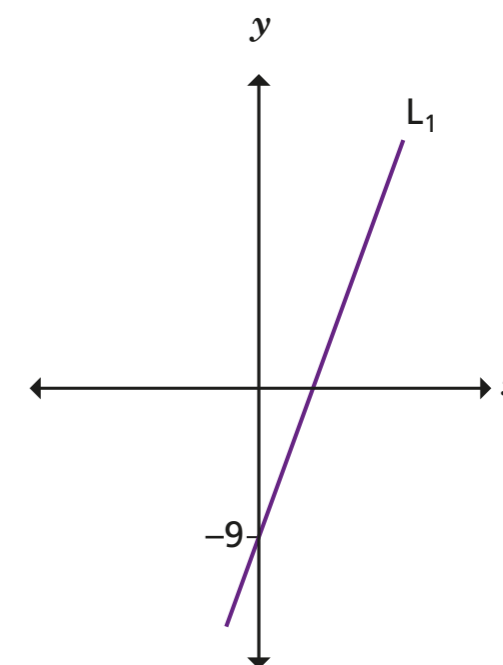
- 6 The diagram shows the line L_1

a) The gradient of L_1 is 7

What is the equation of L_1 ?

b) Another line, L_2 , is parallel to L_1 and passes through the point $(0, 3)$.

What is the equation of L_2 ?



- 7 Write the equations of the lines with the given gradients (m) and y -intercepts (c).

a) $m = 3, c = -12$

b) $m = -9, c = \frac{7}{9}$
