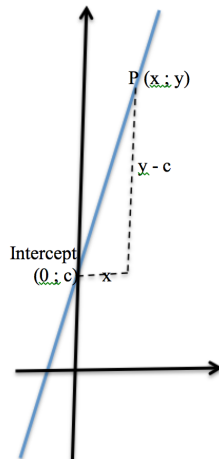
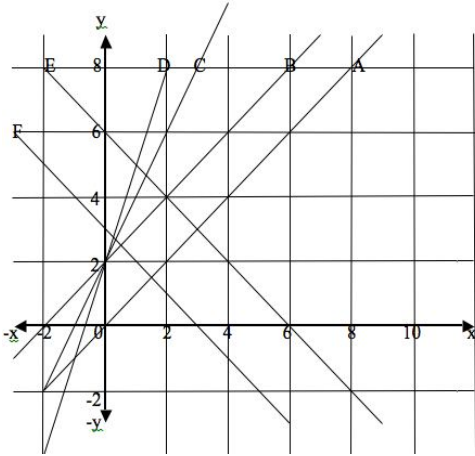


Straight lines



Equations of lines

If a straight line has gradient m and intercept on the y -axis $(0 ; c)$ then for any general point on the line with coordinates $(x ; y)$ the gradient is given by

$$m = \frac{y - c}{x}$$

Rearranging this equation gives the equation of the line in the form

$$\boxed{y = mx + c}$$

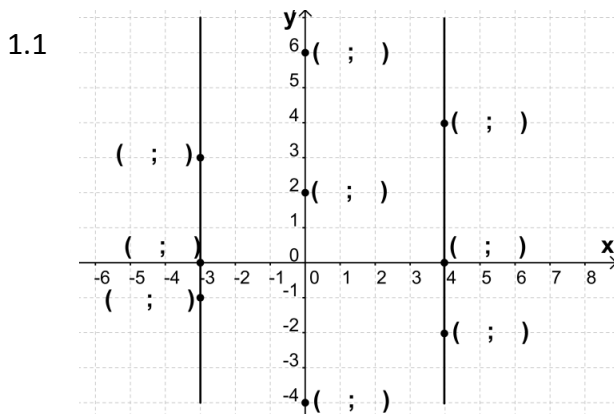
Activity 1

Fill in the table below from this diagram.

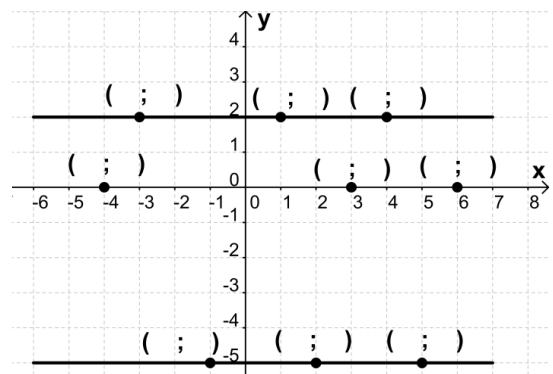
Line	Choose any 2 points on the line	Gradient Rise/Tread m	Intercept c	Equation of line
A	(;) (;)			
B	(;) (;)			
C	(;) (;)			
D	(;) (;)			
E	(-2 ; 8) (2 ; 4)	Rise/Tread = $-4/4 = -1$		$y = -x + 6$
F	(;) (;)			

Activity 2

1. Fill in the missing coordinates:



1.2



1.3 What did you notice?

2. Match Column B to column A:

	Column A	Column B
2.1	Equation of the y -axis	$x = k$ (k is a real number)
2.2	Equation of a line parallel to the y -axis	$y = 0$
2.3	Equation of the x -axis	$y = c$ (c is a real number)
2.4	Equation of a line parallel to the x -axis	$x = 0$