

# YEAR 8 - REPRESENTATIONS...

# Working in the Cartesian plane

@whisto\_maths

## What do I need to be able to do?

By the end of this unit you should be able to:

- Label and identify lines parallel to the axes
- Recognise and use basic straight lines
- Identify positive and negative gradients
- Link linear graphs to sequences
- Plot  $y = mx + c$  graphs

## Keywords

**Quadrant:** four quarters of the coordinate plane.

**Coordinate:** a set of values that show an exact position.

**Horizontal:** a straight line from left to right (parallel to the x axis)

**Vertical:** a straight line from top to bottom (parallel to the y axis)

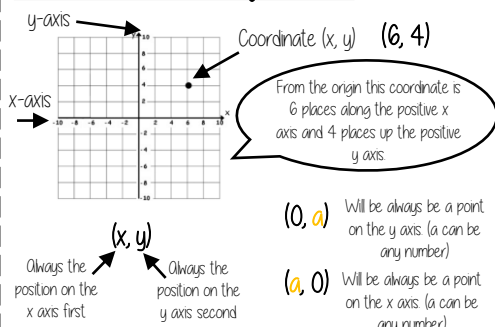
**Origin:** (0,0) on a graph. The point the two axes cross

**Parallel:** Lines that never meet

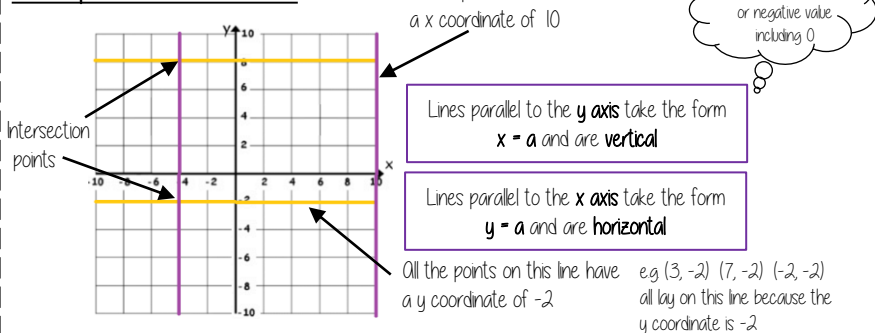
**Gradient:** The steepness of a line

**Intercept:** Where lines cross

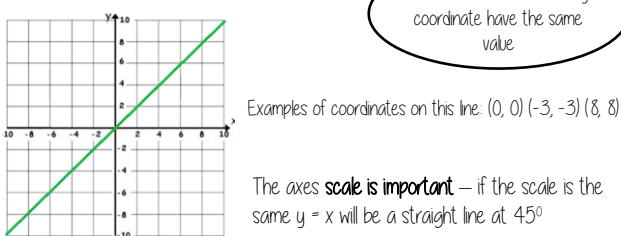
## Coordinates in four quadrants



## Lines parallel to the axes

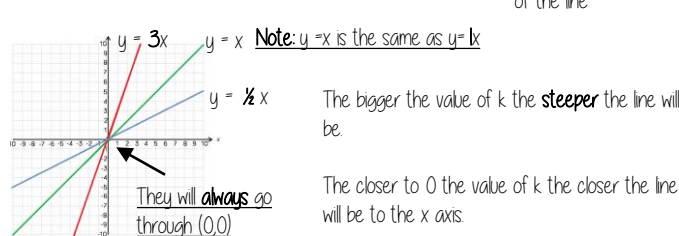


## Recognise and use the line $y=x$

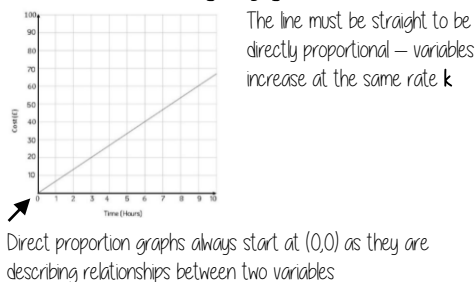


## Recognise and use the lines $y=kx$

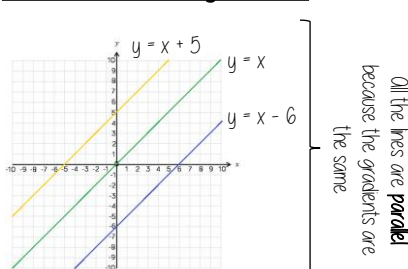
The value of k changes the steepness of the line



## Direct Proportion using $y=kx$



## Lines in the form $y = x + a$

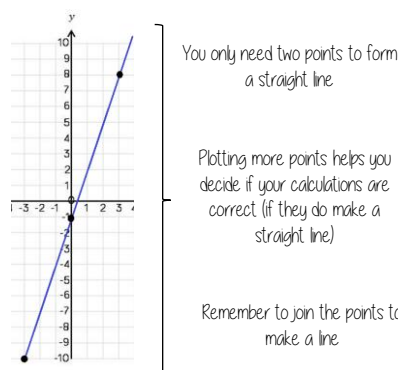
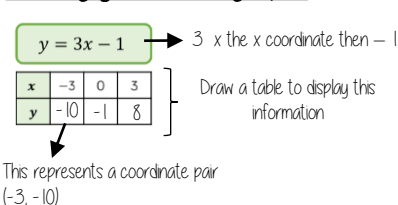


This is the line  $y=x$  when the y and x coordinate are the same

This shows the translation of that line e.g.  $y = x + 5$  is the line  $y=x$  moved 5 places up the graph

5 has been added to each of the x coordinates

## Plotting $y = mx + c$ graphs



## Lines with negative gradients

