

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)

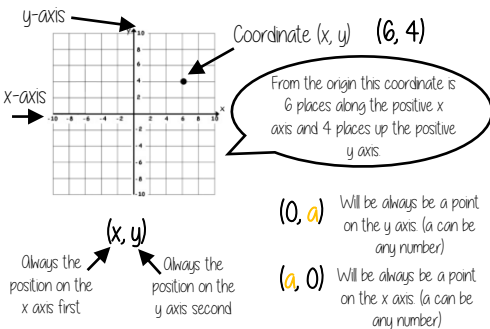
Origin: (0,0) on a graph. The point the two axes cross

Parallel: Lines that never meet

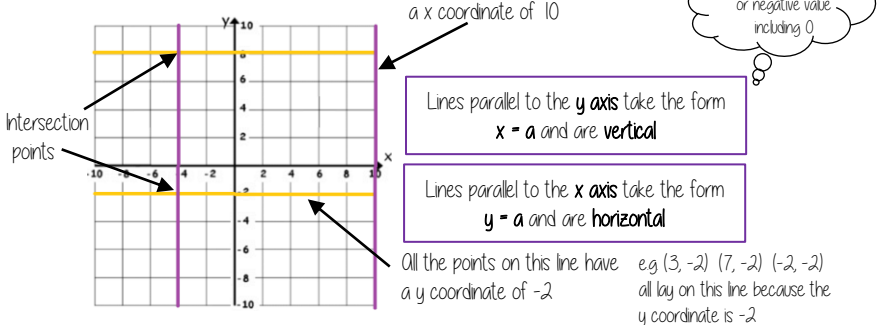
Gradient: The steepness of a line

Intercept: Where lines cross

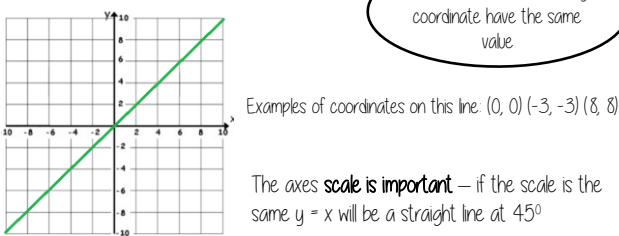
Coordinates in four quadrants



Lines parallel to the axes

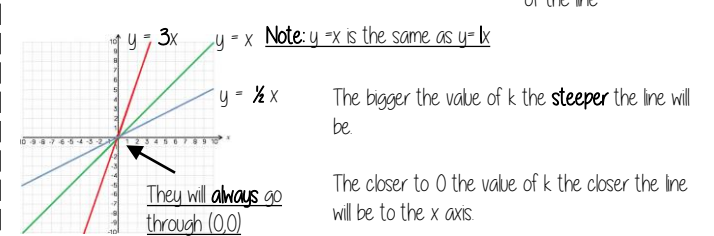


Recognise and use the line $y=x$

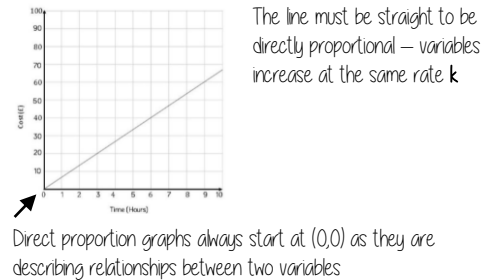


Recognise and use the lines $y=kx$

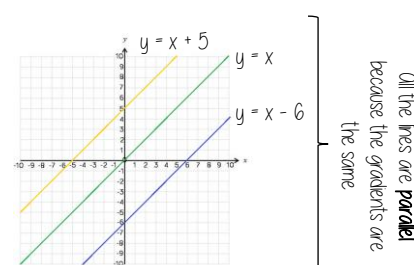
The value of k changes the steepness of the line



Direct Proportion using $y=kx$



Lines in the form $y = x + a$

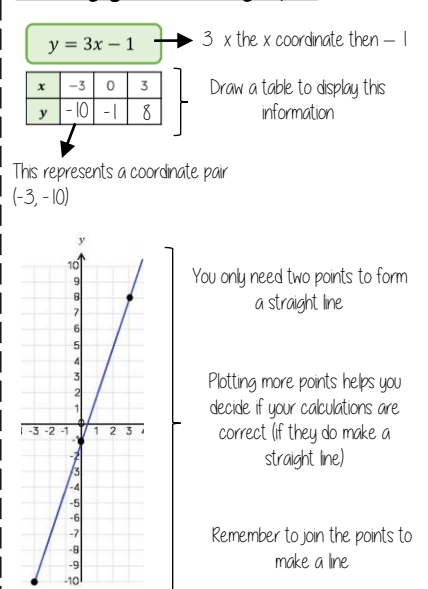


This is the line $y=x$ when the y and x coordinate are the same

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

