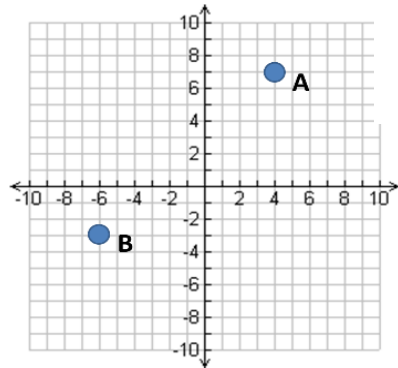


Y7 Mastery: Unit 10 – Coordinates

Coordinates

The y axis is the vertical line and the x axis is the horizontal line

y-axis



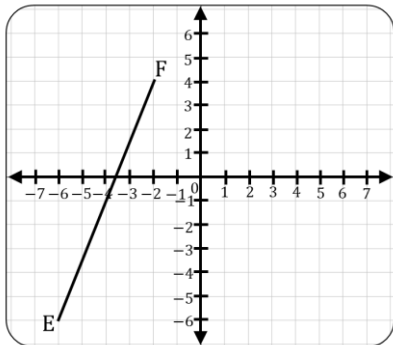
A (4, 7) B (-6, -3)

Written in **pairs** as (x, y). The **first** term is the **x-coordinate** (movement **left or right**). The **second** term is the **y-coordinate** (movement **up or down**)

Line Segment

A **line segment** is the portion of a line that connects two points.

e.g. here the line segment is between E and F



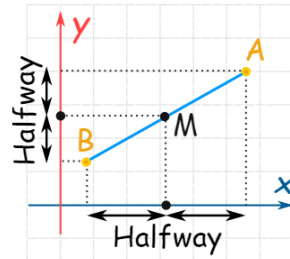
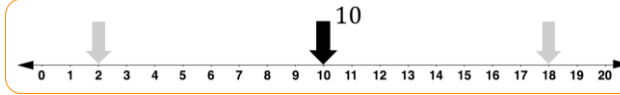
Other Topics/Units this could appear in:

- Straight-line Graphs
- Transformations
- Similarity and Congruence in 2D
- Coordinate Geometry

The midpoint of a line is the coordinate **halfway** along the line segment

Midpoint

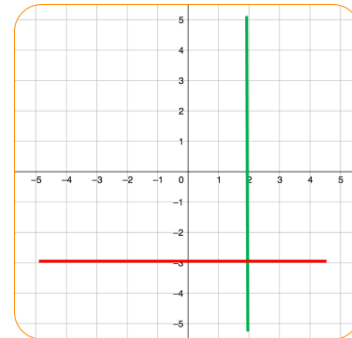
To find the midpoint of a number line, you can count halfway.



To find the midpoint of the line segment, you can find half way along the y axis and half way along the x axis.

Equation of a Line

Every point on the **red** line has a y-coordinate of **-3**.
The line has the equation $y = -3$



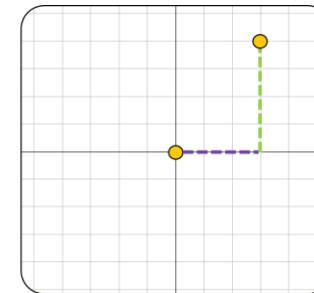
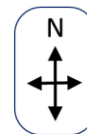
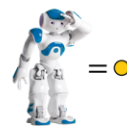
Every point on the **green** line has a x-coordinate of **2**.
The line has the equation $x = 2$

Directional Code in 2D

A robot can be coded using **two pieces** of code from the list of four:

<north()> <south()> <east()> <west()>

<east(3)> <north(4)>



Keyword/Skill	Definition/Tips
Coordinate	Written in pairs as (x, y). The first term is the x-coordinate (movement left or right). The second term is the y-coordinate (movement up or down)
Axis/Axes	The lines that make up a graph. The y axis is the vertical line. The x axis is the horizontal line.
X-ordinate	This is the first term written in a coordinate, it represents where the coordinate is on the x axis (x, y)
Y-ordinate	This is the second term written in a coordinate, it represents where the coordinate is on the y axis (x, y)
Origin	The very middle of a graph, the coordinate of (0,0)
Line segment	A line segment is the portion of a line that connects two points.
Midpoint	The coordinate or point that is exactly in the middle of a line or line segment.
Directional 2D code	A set of directions for a robot, going from one point to another.
Equidistant	Equal distance i.e. two lines or points can be equidistant (an equal distance) from the origin.