

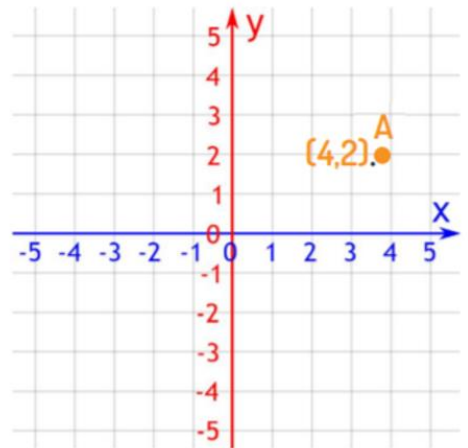
NICKS & TRICKS

JC Guide to – Graphing Functions

1. Graphing Functions!

In order to graph a function, we need to be able to read graphs and co-ordinates.

In the diagram on the right, the **x-axis** is shown in blue and the **y-axis** is shown in red. The **coordinates of A** are **(4,2)**. For coordinates, the **first number** is where the point is on the **x-axis** and the **second number** is where the point is on the **y-axis**.



2. Roots are important starting points when graphing functions!

Roots: A Root is the value of x where the curve/line crosses the **x-axis**

Worked Example

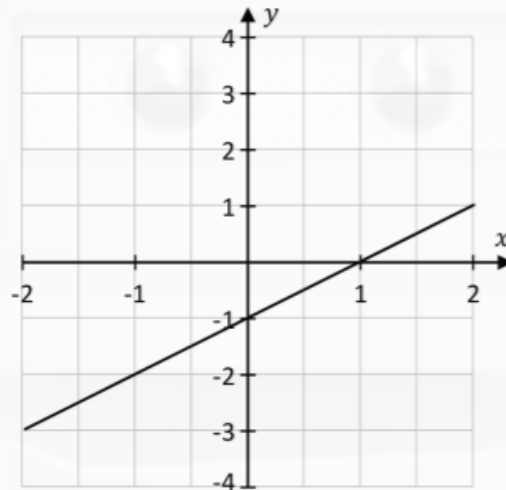
- (i) Draw each of the following three functions in the domain $-2 \leq x \leq 2$ of $x \in \mathbb{R}$,
 $y = x - 1$

This is a linear equation. It's a straight line!

If it was something like $y = x^2 - x - 1$ it would be a quadratic equation and look like a smiley face!

Subbing the values for x - Which is $-2, -1, 0, 1, 2$ - into our formula. When you sub in an 'X' value we get a y-value. That gives us 2 points, like the below! Draw the line.

Points on $y = x - 1$ are $(-2, -3)$ and $(2, 1)$.



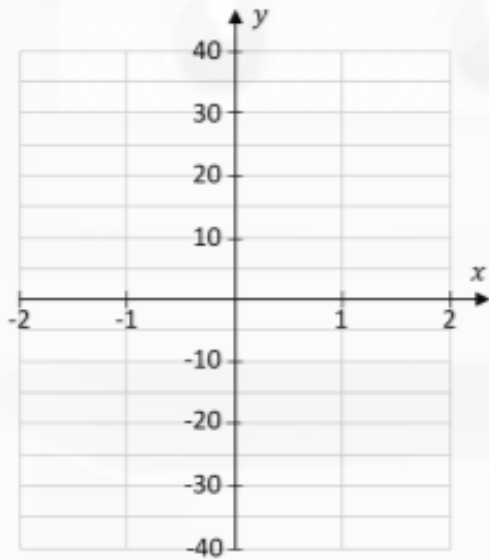
Exam Style Question – 10 mins – Time yourself!

Question 10

(Suggested maximum time: 10 minutes)

Draw each of the following two functions in the domain $-2 \leq x \leq 2$, for $x \in \mathbb{R}$.
Show your working out.

Function: $y = 10x - 4x^2$



Function: $y = 3^x$

