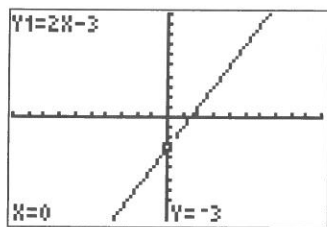


We can describe the characteristics of the function $y = 2x - 3$ by stating that it:



Slope Direction: Rises to the right.

Sign of leading coefficient: Positive

End Behaviour: Q III to Q I.

Domain: $x \in R$

Range: $y \in R$

A note about the Domain and Range of a function:

Domain: The domain of a function is the complete set of all possible x values.

Range: The range of a function is the complete set of all possible y values.

For linear functions, because the possible values for both x and y are limitless, both the domain and range are the set of all Real Numbers, which we represent by the math symbols:

$$x \in R \text{ and } y \in R.$$

Domain Range

However, be aware that when we use linear functions to model 'real world' problems, the domain and range may be restricted to certain values for x and y .

Example:

1. Enter the equation into your calculator: $y = 2x + 3$
2. Sketch the graph and label 2 points on the graph.

$$y = 2x + 3$$

- Leading coefficient is $+3$
- End behaviour is Q III to Q I
- Slope direction: Rises to the right
- Domain: $\{x/x \in R\}$
- Range: $\{y/y \in R\}$

