

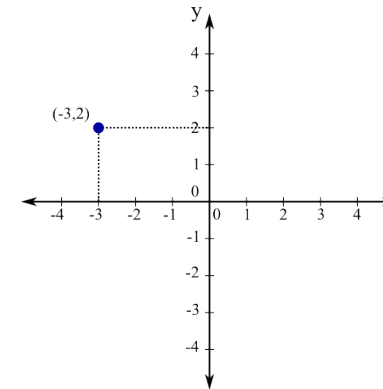
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TOPIC 6: FUNCTIONS & GRAPHS

FUNCTIONS & GRAPHS

Cartesian coordinates of a point refer to a pair of numbers (x, y) which specify the distance from the origin along the x-y axis.

- x refers to the x -coordinate (along horizontal axis)
- y refers to the y -coordinate (along vertical axis)



Function line

Example: Draw the graph of $y = 2x - 1$

- Step 1: Draw the table below (x coordinate points are up to you)

x	0	1	2	3
$y = 2x - 1$	-1	1	3	5

- Step 2: Sub in the y -coordinate values using the given equation
- Step 3: Mark out the appropriate points on your sketch and draw a line to connect them

Linear Functions

$$y = mx + c$$

where:

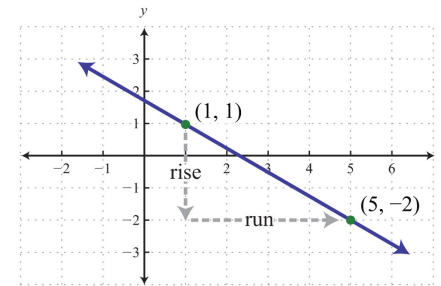
m = gradient

c = constant

Gradient

$$\frac{\text{change in } y - \text{coordinates } (y_1 - y_2)}{\text{change in } x - \text{coordinates } (x_1 - x_2)}$$

To find the gradient of a line (example attached), follow these steps:



- Step 1: Find the cartesian coordinates of 2 points on the graph $(1, 1)$ and $(5, -2)$
- Step 2: Apply the formula above, $\frac{1 - (-2)}{1 - 5} = -\frac{3}{4}$ (answer)

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