

Gradient between 2 points

$$\text{gradient} = \frac{\text{rise}}{\text{run}}$$

$$m = \frac{y}{x}$$

$$(x_1, y_1) \quad (x_2, y_2) \rightarrow \text{gradient} = \frac{y_2 - y_1}{x_2 - x_1}$$

rearrangements:

$$\text{gradient} = \frac{\text{rise}}{\text{run}}$$

$$\text{rise} = \text{run} \times \text{gradient}$$

$$\text{run} = \frac{\text{rise}}{\text{gradient}}$$

e.g. find the gradient of the line that lies on these two points,

$(3, 7)$ and $(10, 9)$

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{9 - 7}{10 - 3} = \frac{2}{7}$$

e.g. find the gradient of the line that lies on these two points,

$(-4, 7)$ and $(1, 3)$

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{3 - 7}{1 - (-4)} = \frac{3 - 7}{1 + 4} = \frac{-4}{5}$$