

Gradient of a straight line

Starter

1. (Review of last lesson) Find three points that lie on the line $y = 2 - 7x$.

Notes

The gradient of a straight line is a measure of how steep it is.

Gradients

Positive gradients

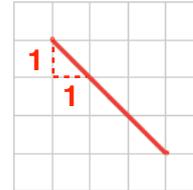
A line with a positive gradient goes up when looked at from left to right.



A gradient of 2 means that for every unit we go across to the right, we go 2 units **up**.

Negative gradients

A line with a negative gradient goes down when looked at from left to right.



A gradient of 1 means that for every unit we go across to the right, we go 1 unit **down**.

Geogebra: [Gradient of line with run of 1](#)

The gradient of a line is given by:

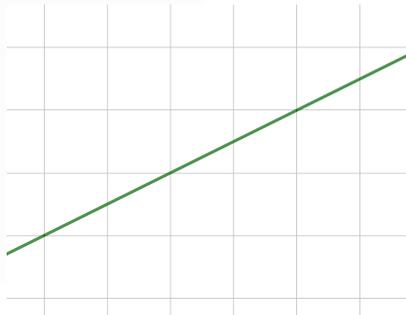
$$\text{Gradient} = \frac{\text{rise}}{\text{run}}$$

Calculating the gradient given the line

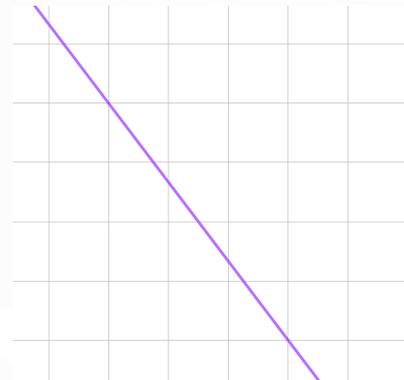
When calculating the gradient from a graph, try to choose points that are at integer values.

E.g. 1 Find the gradients of these lines:

(a)



(b)



Working: (a) $\text{Gradient} = \frac{\text{rise}}{\text{run}} = \frac{2}{4} = \frac{1}{2}$

