Year 8 Knowledge Organiser
PLOTTING AND INTERPRETTING GRAPHS

Key Concept

Substitution – This is where you replace a number with a letter
If a = 5 and b = 2

a + b =	5 + 2 = 7
a − b =	5 − 2 = 3
3a =	3 × 5 = 15
ab =	5 × 2 = 10
a² =	5^2 = 25

hegartymaths
Clip Numbers
206 - 210, 251

Key Words

Intercept: Where two graphs cross.
Gradient: This describes the steepness of the line.
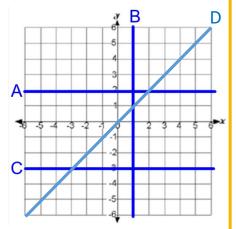**y-intercept:** Where the graph crosses the y-axis.
Linear: A linear graph is a straight line.
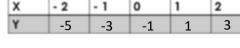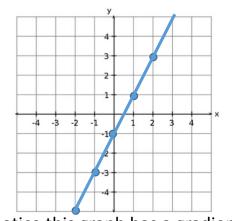**Quadratic:** A quadratic graph is curved, u or n shape.

Tip
Parallel lines have the same gradient.

Formula

$$Gradient = \frac{difference\ in\ y's}{difference\ in\ x's}$$

Examples

A: y = 2   B: x = 1
C: y = -3   D: y = x

Draw the graph of y = 2x - 1

X	- 2	- 1	0	1	2
Y	-5	-3	-1	1	3

Notice this graph has a gradient of 2 and a y-intercept of -1.

Questions
1) What are the gradient and y-intercept of:
a)   y = 4x – 3   b) y = 4 + 6x   c) y = - 5x – 3
2) Draw the graph of y = 3x – 2 for x values from -3 to 3 using a table.

ANSWERS: 1) a) m = 4, c = -3   b) m = 6, c = 4   c) m = -5, c = -3