

In algebra we write our maths as **expressions**

- i) **Expressions** are made up of letter and numbers that are separated by operations
i.e. + and -

Eg: $3x + 4y$ This expression has **TWO** parts.

The parts of the expression are called **TERMS**

The letters in an expression are the **variables**
The number in front of the letter is the **coefficient**

In the example there is two terms

x and **y** are the **variables**

The **coefficient** of **x** is **3** the coefficient of **y** is **4**

Q1) The expression $2x^2 + 3x + 4$ is Quadratic

a) How many terms are in the expression?

b) What word is used for the letter in the expression?

c) What is the coefficient of x^2 ?

d) What is the coefficient of x ?

e) What do we call the number on its own (no letter)?

Rules for Integers (Z)

Add/subtract

$$\ominus \text{ and } \ominus = \ominus$$
$$\oplus \text{ and } \oplus = \oplus$$

} Add +
keep
same sign

$$\oplus \text{ and } \ominus \text{ subtract}$$

When the signs are different
subtract and keep the sign
of the bigger number.

Multiply

$$\oplus \times \oplus = \oplus$$

$$\ominus \times \ominus = \oplus$$

$$\oplus \times \ominus = \ominus$$

Divide

$$\frac{\oplus}{\oplus} = \oplus$$

$$\frac{\ominus}{\ominus} = \oplus$$

$$\frac{\oplus}{\ominus} \text{ or } \frac{\ominus}{\oplus} = \ominus$$

Rule for algebra

You can only ADD or SUBTRACT like terms

Eg 1) Simplify the following

i) $4x + 3x + 6x =$

ii) $5a - 3a + 4a =$

iii) $6x^2 + 4x^2 - 5x^2$

$$\text{iv) } 3x - 7 - 5x + 9 =$$

$$\text{v) } 3a + 8a - 4a$$

$$\text{vi) } 6y - 7y + 5y - 2y$$

$$\text{vii) } 3a^2 + b + 4a^2 - 3b$$

$$\text{viii) } \underline{9x^2} + 6 - \underline{3x^2} - \underline{8}$$