

# MPM 1DI

## Unit 2 Polynomials

### Day 5 - Simplifying Polynomials Part I (Collecting Like Terms)

TERM: " a number or variable or the product of a number and a variable"

Like TERM: " two terms where the variable and exponent parts are identical "

Examples:

- $x$  and  $2x$  - Like
- $x$  and  $x^2$  - UNLike
- $ab$  and  $2ab$  - Like
- $a^2b$  and  $ab^2$  - UNLike

Example: Group the following into like terms:

$$\begin{array}{cccc} 6a^2b^2 & 5x & 5mn & -3a^2b^2 \\ 2x^3 & 7a^5 & -3x & 4a^5 \\ -5 & -2x^3 & -3mn & \end{array}$$

- add or subtract **like terms only**
- apply integer rules to the coefficients of like terms

Example: Collect the like terms and simplify:

a)  $5x - 3x$

b)  $-3mn + 5mn$

c)  $4a^5 + 7a^5$

d)  $-2x^3 + 2x^3$

e)  $6a^2b^2 - 3a^2b^2$

Examples:

Simplify (i.e. collect like terms)

1)  $5x + 2 + 3x + 4$

2)  $4m - 3 - m + 4$

3)  $3x^2 + 5 - \frac{1}{2}x^2 + 4$

4)  $3a^2 - 2ab - 2b^2 - 2a^2 - ab + b^2$

5)  $2m^3n^2 + 3m^2n^3 - m^3n^2 - 2m^2n^3$