

**Simplifying Polynomials Part 1****Warm Up:** 1. Determine whether each pair of terms are “like” or “unlike”.

Terms	Like	Unlike
$x, 2x$		
$x, x^2$		
$ab, 2ab$		
$a^2b, ab^2$		

2. Group the following into like terms.

$6a^2b^2$

$5x$

$5mn$

$-5$

$2x^3$

$7a^5$

$4a^5$

$-3a^2b^2$

$-3x$

$-2x^3$

$-3mn$

$5m^2n$

**COLLECTING LIKE TERMS**

- Add or subtract \_\_\_\_\_.
- Apply integer rules to the \_\_\_\_\_ of like terms and keep the \_\_\_\_\_ - \_\_\_\_\_ the \_\_\_\_\_.

**Examples:** Simplify. (Collect like terms.)

a)  $5x - 3x$

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

c)  $\underline{5x} + 2 + \underline{3x} + 4$

d)  $\underline{4m} - 3 - \underline{m} + 4$

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

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

g)  $2m^3n^2 + \frac{3m^2n^3}{2} - m^3n^2 - \frac{1}{2}m^2n^3$

**NOTE:**  $\frac{3m^2n^3}{2} = \frac{3}{2}m^2n^3$