

SECTION 4.2: ADDING, SUBTRACTING, AND MULTIPLYING POLYNOMIALS

Homework: _____

Learning Targets:

- 4a. Understanding of how to add, subtract, multiply, and divide polynomials.
- 4b. Understanding of how to use Pascal's Triangle to expand polynomial functions.

Simplifying: Simplify means to _____

Adding Polynomials – combine like terms (exponents stay the same!)

$$(3x^2 + 4x + 3) + (x^2 - 5x)$$

$$(5x - x^2 + 8) + (x^3 + 4x^2 - 7)$$

Subtracting Polynomials – distribute the negative (change the signs) then combine like terms

$$(4x + 3x^2 + 8) - (4x^2 - 5x - 1)$$

$$(x^3 - 3x + 5) - (2x^2 + 4x - 6)$$

Multiplying Polynomials – distribute (add exponents with common bases)

$$-2xy^3(4x^2 + 5x - 2)$$

$$(x - 5)(x + 3)(x + 1)$$