

Rules for Adding, Subtracting, and Multiplying Polynomials

Adding Polynomials

1. Combine like terms.
 - Variable(s) must be raised to the same power.
 - Exponents do not change.

- Examples -

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

$$(7x^3 + 6x^2 - 2x) + (9x^2 - 4x + 3) =$$

Subtracting Polynomials

1. All signs for each term must be switched within the parentheses that follow the subtraction sign.
2. Follow the rules for adding polynomials.

- Examples -

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

$$(7x^3 + 6x^2 - 2x) - (9x^2 - 4x + 3) =$$

Multiplying Polynomials

1. Use the distributive property multiple times.
 - boxing method
2. Combine like terms.

- Examples -

$$(5x - 3)(2x + 7)$$

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