

Name: _____

Date: _____

Learning Goal 3.1

Perform combined operations with polynomials.

Recall the process of multiplying a polynomial by a constant (_____).**Example** Expand and simplify the following expressions, if possible.

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

$$-3(6a^7 - 9b^6 + 6c^5)$$

$$5(3x^4 - 9x^2 + 2x^3 + 3x^2 - 5x^4)$$

$$-5(4abc - 7ab^2c + 2abc^2 - 5a^2bc + 6a^2bc^2)$$

The same rules apply if that constant is replaced with a monomial (_____).

Example Expand and simplify the following expressions, if possible.

$$2x(4x)$$

$$2x(4x - 3)$$

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

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

The same rules apply if that constant is replaced with a binomial (_____).

Example Expand and simplify the following expressions, if possible.

$$(x + 1)(x + 2)$$

$$(x + 5)(x + 3)$$

$$(x + 1)(x - 2)$$

$$(x - 5)(x - 3)$$

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

$$(2x + 3)^2$$

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

$$(2xy + 3)(x^3 - x^2y + xy^2 - y^3)$$