

Notes - Multiplying Polynomials

Ex 1: Simplify.

$$2x(x+10) \quad * \text{Distribute } 2x \text{ to both terms} *$$
$$= 2x^2 + 20x$$

Ex 2: Simplify.

$$\frac{1}{3}x(9x^2 - 6x + 3)$$
$$= 3x^3 - 2x^2 + 3x$$

Ex 3: Simplify.

$$(x+3)(x-7) \quad * \text{double distribution} *$$
$$= x(x-7) + 3(x-7) \quad * \text{break apart to distribute} *$$
$$= x^2 - 7x + 3x - 21 \quad * \text{Combine like terms} *$$
$$= x^2 - 4x - 21$$

Ex 4: Simplify.

$$(x-5)(x-4)$$
$$= x(x-4) - 5(x-4) \quad * \text{break apart to distribute} *$$
$$= x^2 - 4x - 5x + 20 \quad * \text{Combine like terms}$$
$$= x^2 - 9x + 20$$