

Algebra 1

Chapter 8

Section 8-3

Review: Multiplying a Monomial and a Binomial

$$4x(x^4 - 4x)$$

$$4x^5 - 16x^2$$

$$10xy(x^3 + 7y)$$

$$10x^4y + 70xy^2$$

$$-a^6b^3(-a - b)$$

$$a^7b^3 + a^6b^4$$

Multiplying Two Binomials

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

- $40x^6 + 16x^4 + 5x^2 + 2$

- First Outside Inside Last
- Called the FOIL Method

Multiplying Two Binomials

$$(3x - 1)(7x^2 + 2x)$$

- $21x^3 + \underline{6x^2} - \underline{7x^2} - 2x$

- Always combine like terms

- $21x^3 - x^2 - 2x$

Multiply.

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

$$\begin{array}{l} x^2 - 5x + 7x - 35 \\ x^2 + 2x - 35 \end{array}$$

Multiply using FOIL.

$$(s - 2)(7s - 3)$$

$$\begin{array}{l} 7s^2 - 3s - 14s + 6 \\ 7s^2 - 17s + 6 \end{array}$$

Multiply.

$$(9x + 3y)(5x - 2y)$$

$$45x^2 - \underline{18xy} + \underline{15xy} - 6y^2$$

$$45x^2 - 3xy - 6y^2$$

Multiply using the distributive property.

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

$$x^9 - \underline{7x^5} + \underline{3x^5} - 21x$$

$$x^9 - 4x^5 - 21x$$

FOIL.

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

Multiplying a Binomial and a Trinomial.

$$(2x + 5)(x^2 - 4x + 3)$$
$$\underline{2x^3} - \underline{8x^2} + \underline{6x} + \underline{5x^2} - \underline{20x} + \underline{15}$$
$$2x^3 - 3x^2 - 14x + 15$$

Multiplying a Binomial and a Trinomial.

$$(x - 5y)(y^2 - xy + 7x^2)$$
$$\underline{1xy^2} \quad \underline{-1x^2y} \quad + 7x^3 \quad - 5y^3 \quad + \underline{5xy^2} \quad - \underline{35x^2y}$$
$$6xy^2 - 36x^2y + 7x^3 - 5y^3$$