

## Class Notes on Multiplying a monomial by a polynomial

**Remember!**

When multiplying powers with the same base, keep the base and add the exponents.

$$x^2 \cdot x^3 = x^{2+3} = x^5$$

**EXAMPLES:****A. Multiply**

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

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

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

$$12x^2 + 16x - 32$$

**B. Multiply.**

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

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

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

$$6x^3 - 15x^2 + 21x$$

**C. Multiply.**

$$6pq(2p - q)$$

$$(6pq)(2p - q)$$

$$(6pq)2p + (6pq)(-q)$$

$$12p^2q - 6pq^2$$

**D. Multiply.**

$$2x^2(6x^2 + 7x - 12)$$

$$2x^2(6x^2 + 7x - 12)$$

$$2x^2(6x^2) + 2x^2(7x) + 2x^2(-12)$$

$$12x^4 + 14x^3 - 24x^2$$