

**Algebra I**  
**Lesson 7.7 Multiplying Polynomials**  
**Mrs. Snow, Instructor**

By using the properties of exponents that were presented in the first part of the chapter, we can multiply polynomials.

Multiply:

use your distribution property!

$(5x^3)(3x^4)$	$(3x^2)(6x^2)$	$(2r^2t)(5t^3)$	$2x(4x^2 + x + 3)$	$5r^2s^2(r - 3s)$
group factors with like bases together:  $(5)(3)(x^3)(x^4)$ simplify: $\therefore = 15x^7$				

When we need to multiply a binomial by a binomial, we still use the distributive property, however, we distribute (multiply) each term of the first binomial to the second binomial. This technique is also called the FOIL Method: Multiply the **F**irst terms, multiply the **O**uter terms, multiply the **I**nnner terms, and then multiply the **L**ast terms.

 $(x + 3)(x - 4)$	$(a + 4)(a + 5)$	$(2a - b^2)(a + 4b^2)$	$(x - 3)^2$
multiply x times each term of the 2 <sup>nd</sup> binomial. then multiply 3 times each term of the 2 <sup>nd</sup> binomial.			

Follow the distribution rule and multiply:

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