

## 5.1 Multiply Polynomials

### Chapter 5 - Quadratic Expressions

#### 5.1 - Multiply Polynomials

**Objective:** Use the FOIL method to multiply polynomials

### 5.1 - Multiply Polynomials

**DO IT NOW**

Expand and Simplify:

1)  $5(x-7)$

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

3)  $(x-7y+3) + (x+3y-1)$

4)  $(x-7y+3) - (x+3y-1)$

**DISTRIBUTIVE PROPERTY**

\* The number/letter in front applies to \_\_\_\_\_ in the brackets.

$$-5(x-7)$$

\* What happens when there is more than just one number or variable in front of the bracket?

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

## 5.1 Multiply Polynomials

**Polynomial** - an algebraic expression formed by adding or subtracting terms

How do we multiply polynomials?

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

**FOIL!!!!**



### HOW TO USE THE FOIL METHOD

**FOIL METHOD:** You can find the product of two binomials by multiplying each term in the first binomial by each term in the second binomial. Then simplify by collecting like terms.

F  
O  
I  
L

$$(x+2)(x+5)$$

1

Simplify  $(x+2)(x+5)$  by using FOIL (the distributive property twice):

## 5.1 Multiply Polynomials

2

Simplify  $(x-2)(x+4)$  by using FOIL

3

Simplify:

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

4

Simplify:

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

5

Simplify:

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

## 5.1 Multiply Polynomials

6

Simplify:

$$-2(4x - 5)(7x - 6)$$

7

Simplify:

$$2(x + 7)(x - 3) - (4x + 3)(2x - 1)$$

8

Simplify:

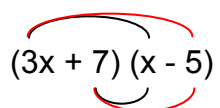
$$(2x + 5)(3x - 4) + 2(4x + 9)(2x - 1)$$

When working with quadratics when will this skill be useful?

## 5.1 Multiply Polynomials

### HOW TO USE FOIL

**F**IRST  
**O**UTSIDE  
**I**NSIDE  
**L**AST

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


**Note:** You can find the product of two binomials by multiplying each term in the first binomial by each term in the second binomial. Then simplify by collecting like terms.

HOMework

Pg. 217 #3-8 (aceg only)  
and #10