

## Warm Up

### I. Add/Subtract

$$(2x^3 + 5x^2 - 7) + (-2x^3 + 6x^2 - 1)$$

$$2x^3 + 5x^2 - 7 - 2x^3 + 6x^2 - 1$$

$$11x^2 - 8$$

$$(3x^2 - 4x - 6) - (-2x^2 + 7x - 3)$$

$$3x^2 - 4x - 6 + 2x^2 - 7x + 3$$

$$5x^2 - 11x - 3$$

### II. Multiply

$$(3x + 5)(6x - 2)$$

$$18x^2 - 6x + 30x - 10$$

$$18x^2 + 24x - 10$$

$$(2x - 3)^2$$

$$(2x - 3)(2x - 3)$$

$$4x^2 - 6x - 6x + 9$$

$$4x^2 - 12x + 9$$

$$(5x - 2)^2 = (5x - 2)(5x - 2)$$

$$= 25x^2 - 10x - 10x + 4$$

$$\rightarrow = 25x^2 - 20x + 4$$

$$(3x + 5)^2 = (3x + 5)(3x + 5)$$

$$= 9x^2 + 15x + 15x + 25$$

$$\rightarrow = 9x^2 + 30x + 25$$

$$(3x - 7)^2 = (3x - 7)(3x - 7)$$

$$= 9x^2 - 21x - 21x + 49$$

$$= 9x^2 - 42x + 49$$

$$(5x + 1)^2 = 25x^2 + 10x + 1$$

$$(7x + 2)^2 = 49x^2 + 28x + 4$$

$$(x - 1)^2 = x^2 - 2x + 1$$

### Squaring a Binomial

- To **expand** a product of polynomials means to remove brackets by multiplying and then simplify by adding/subtracting "Like" terms.
- We must use the **Distributive Property** to multiply polynomials.

What is the 3-Step rule??? Ex:  $(2x - 7)^2$

- is used when you want to square a binomial.
- here is how it goes...
  - (1) Square the first
  - (2) Product of the first and last, then double
  - (3) Square the last

Another example??? Example - Squaring a Binomial.avi

Let's do some examples...

1)  $(3x-5)^2 = 9x^2 - 30x + 25$     2)  $2(x-3)^2 - 3(x-1)(x+3)$

$$2(x^2 - 6x + 9) - 3(x^2 + 3x - x - 3)$$

$$2x^2 - 12x + 18 - 3(x^2 + 2x - 3)$$

$$2x^2 - 12x + 18 - 3x^2 - 6x + 9$$

$$-x^2 - 18x + 27$$
  

$$(2x-6)(x-3) + (-3x+3)(x+3)$$

$$2x^2 - 6x - 6x + 18 - 3x^2 - 9x + 3x + 9$$

$$-x^2 - 18x + 27$$

## Add, Subtract & Multiply Polynomials

Previous text questions

**Page 186: #6 to #12 & #15**

**Page 187: #16, #17 & #19**

Worksheet 2: Add, Subtract & Multiply

## Attachments

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Add Subtract & Multiply Polynomials NS.pdf

Example - Squaring a Binomial.avi

Add Subtract and Multiply Polynomials.pdf