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Multiplying Binomial

Unit 8 Lesson 3

Multiplying Binomials

Students will be able to:

Factor and perform multiplication of Polynomials specifically Binomials.

Key Vocabulary:

- Multiplication
- Binomial
- Polynomials

Multiplication of Algebraic Expression:

Binomial is a polynomial composed of two terms.

Polynomial by Polynomial. *The distributive law is once more used to multiply two polynomials*

Sample Problem 1: Find the product of the following binomials

$1.(2x-3)(5x-1)$

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

$3.(6x-3)(4x-2)$

$4.(7a+2b)(3a-b)$

Sample Problem 1: Find the product of the following binomials

$$1.(2x-3)(5x-1)$$

Method 1:

$$2x(5x-1) = 10x^2 - 2x \qquad -3(5x-1) = -15x+3$$

$$= 10x^2 - 2x - 15x + 3$$

$$= 10x^2 - 17x + 3$$

Sample Problem 1: Find the product of the following binomials

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

Method 1:

$$2x(4x-5y) = 8x^2 - 10xy \qquad 3y(4x-5y) = 12xy - 15y^2$$

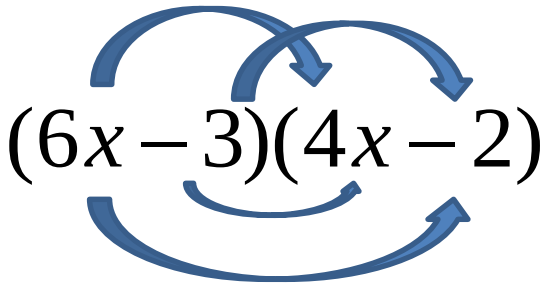
$$= 8x^2 - 10xy + 12xy - 15y^2$$

$$= 8x^2 + 2xy - 15y^2$$

Sample Problem 1: Find the product of the following binomials

$$3.(6x-3)(4x-2)$$

Method 2:



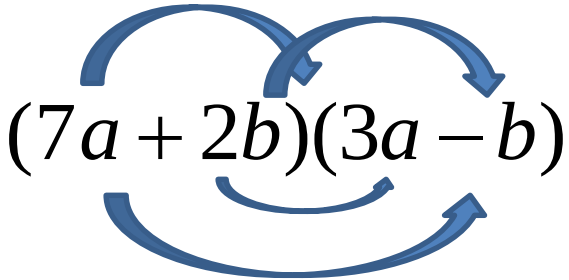
$$24x^2 \; -12x \; \; -12x \; +6$$

$$24x^2 - 24x + 6$$

Sample Problem 1: Find the product of the following binomials

$$4.(7a+2b)(3a-b)$$

Method 2:



$$21a^2 - 7ab + 6ab - 2b^2$$

$$21a^2 - ab - 2b^2$$