L4 Multiplying Binomials

Tuesday, September 6, 2022 6:57 PM

L4 Multiplying Binomials

Lesson 4 Multiplying Binomials

Distributive property: Multiply each term of the first polynomial by each term in the second polynomial.

Recall:
Polynomial: an algebraic expression containing one or more terms

Multiplying Two Binomials

Binomial: a polynomial containing two terms

Steps:
1.) Multiply each term of the first binomial with each term of the second binomial.
2.) Combine like terms.

Example 1
Multiply.
a.) $(x-4)(x+2)$

$x^2 + 2x - 4x - 8$

$x^2 - 2x - 8$

* Combine like terms

Distributive Property (F O I L)

$(x-4)(x+2) =$

- x^2 First
- $2x$ Outside
- $-4x$ Inside
- -8 Last

$x^2 + 2x - 4x - 8$

b.) $(x+3)(x-7)$

$x^2 - 7x + 3x - 21$

$x^2 - 4x - 21$

c.) $(5-x)(7-x)$

$35 - 5x - 7x + x^2$

$x^2 - 12x + 35$

d.) $(-2n+5)(7-3n)$

$-14n + 6n^2 + 35 - 15n$

$6n^2 - 29n + 35$

Try

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

$-6x^2 + 11x - 4$

Example 2
Binomial Squared
Multiply
$(2x+5)^2$

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

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

$4x^2 + 20x + 25$

Example 3
Expand and Simplify: $(2x-3)(x+5) - (x-3)(3x+1)$

mult mult

$2x^2 + 10x - 3x - 15 \; -1(3x^2 + x - 9x - 3)$

$2x^2 + 7x - 15 - 3x^2 - x + 9x + 3$

$-x^2 + 15x - 12$

* Don't forget the brackets!!