7.1 Multiplying Binomials

A binomial has two terms like (x + 3) or (6x - 5)

There are a few ways to multiply binomials.

1) Break the first bracket into two terms,then multiply.

2) Use the acronym F.O.I.L. as a method to multiply.

3) Use algebra tiles

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Expand and simplify.

$(x + 3)(x + 4)$

Brackets together mean to multiply

Split the first bracket, then multiply by the terms in the second bracket.

$x(x + 4) + 3(x + 4)$

$x^2 + 4x + 3x + 16$

Group like terms 4x and 3x

$x^2 + 7x + 16$

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Multiplying Binomials Using FOIL

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

First Outside Inside Last

F O I L

$6x^2 + 10x + 9x + 15$

Mar 19-7:45 AM

Expand and Simplify $(x + 6)(x - 4)$

1) Breaking the first bracket

$(x + 6)(x - 4)$

$x(x - 4) + 6(x - 4)$

$x^2 - 4x + 6x - 24$

$x^2 + 2x - 24$

2) Using FOIL

$(x + 6)(x - 4)$

F $x \cdot x = x^2$

O $x \cdot -4 = -4x$

I $+6 \cdot x = +6x$

L $+6 \cdot -4 = -24$

$x^2 - 4x + 6x - 24$

$x^2 + 2x - 24$

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