8.6 Factoring Trinomials Day 1

You learned how to multiply 2 binomials using the FOIL method.

(x+3)(x-2)

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

$x^2 + 5x - 6$

KeyConcept Factoring $x^2 + bx + c$

Words	To factor trinomials in the form $x^2 + bx + c$, find two integers, m and p, with a sum of b and a product of c. Then write $x^2 + bx + c$ as $(x + m)(x + p)$.
Symbols	$x^2 + bx + c = (x + m)(x + p)$ when $m + p = b$ and $mp = c$.
Example	$x^2 + 6x + 8 = (x + 2)(x + 4)$, because $2 + 4 = 6$ and $2 \cdot 4 = 8$.

Use UseUse

Use the product/sum method to factor trinomials

EX: $x^2 + 9x + 20$

$y^2 + 11y + 24$

When c is positive, both factors have the same signs, either positive or negative based on the value of b.

EX: $x^2 - 8x + 12$

$m^2 - 22m + 21$

When c is negative, one factor will have a positive sign, and one factor will have a negative based on the value of b.

EX: $x^2 - 2x - 24$

EX: $y^2 + 13y - 48$

EX: $p^2 - 3p - 70 = 0$

EX: $x^2 + 3x - 18 = 0$