5.5 - Factoring Trinomials, ax^2+bx+c

Note Title 4/27/2009

Let's investigate patterns from factoring we've done so far.

$x^2+10x+16=$

$x^2+6x-16=$

$x^2-10x+16=$

$x^2-6x-16=$

So in review

$$ax^2 \pm bx + c$$

$$ax^2 \pm bx - c$$

Multiply

$$(2x+1)(x+6)=$$

$2x+1$
$x+6$

Multiply

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

$2x+3$

$3x-4$

Possibilities using Guess and Check...

For the following "method" to work, we MUST ALWAYS factor out the _____ first.

(1) Factor

a) $4x^2+12x+5$

(When you can, start with the most "middle" values for "a")

b) $6x^2-5x+1$

c) $2x^2 - 11x + 12$

d) $35x^2 + 4x - 4$

e) $14a^2 - 3ab - 2b^2$

f) $6xy^2 + 33xy - 18x$

g) $-5x^2-19x+4$

h) $30x^2-23x-45$

i) $42a^2b+55ab-25b$

j) $12x^2 + 5x - 6$

Important: if the leading coefficient is 1 $(x^2 + bx + c)$ YOU DON'T NEED A TABLE!!!

② Solve

$30x^2 - 26x + 4 = 0$

(3) Given $f(x) = 24x^2 - 37x$, Find a such that $f(a) = 72$

You Try

(4) Factor

$$-30p^3q + 88p^2q^2 + 6pq^3$$

(5) Find the x-intercepts of $f(x) = 63x^3 + 111x^2 + 36x$