

Factoring Trinomials Notes ($a \neq 1$)

<p>3 Terms</p> <p>$a > 1$</p>	<ul style="list-style-type: none"> $ax^2 + bx + c$ "X group" <p>Step 1: Mult. "a" (1st #) & "c"(last #)</p> <p>Step 2: Find the factors of ac that +/- to equal "b"</p> <p>Step 3: rewrite problem replacing bx (middle term) with the factors that you found in the box</p> <p>Step 4: Draw a line to group the 1st two terms and the last 2 terms</p> $ax + bx + ay + by$ <p>Step 5: Factor by GCF for each pair (see above)</p> $x(a + b) + y(a + b)$ <p>Step 6: Put #/variables in front of parenthesis together and the common factor together as is for final factors</p> $(x + y)(a + b)$	<p>Example: $8x^2 + 47x - 63$</p>
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1. $2x^2 + 17x + 30$

p: 60

s: 17

$$(2x^2 + 12x)(5x + 30)$$

$$2x(x+6) + 5(x+6)$$

$$(2x+5)(x+6)$$

2. $6x^2 - 37x + 35$

p: 210

s: -37

$$(6x^2 - 30x)(-7x + 35)$$

$$6x(x-5) - 7(x-5)$$

$$(6x-7)(x-5)$$

Name: _____

3. $4x^2 - 17x - 15$

p: -60
s: -17

$$(4x^2 - 20x) + 3x - 15$$
$$4x(x-5) + 3(x-5)$$
$$(4x+3)(x-5)$$

4. $8x^2 + 49x - 49$

p: -392
s: 49

$$(8x^2 + 56x) - 7x - 49$$
$$8x(x+7) - 7(x+7)$$
$$(8x-7)(x+7)$$

5. $7t^2 - 66t + 27$

p: 189
s: -66

$$(7t^2 - 63t) - 3t + 27$$
$$7t(t-9) - 3(t-9)$$
$$(7t-3)(t-9)$$

6. $2r^2 + r - 10$

p: -20
s: 1

$$(2r^2 - 4r) + 5r - 10$$
$$2r(r-2) + 5(r-2)$$
$$(2r+5)(r-2)$$

Help for signs:

