November 7, 2017

Factoring Trinomials

ax^2+bx+c, $a=1$

* Sign Patterns

Recall our Steps: ① ac = Product ② b = Sum

$p(ac)$ $s(b)$

\+ + Both numbers are Positive

$x^2 \oplus^{2} 7x \oplus^{1} 12 = (x+4)(x+3)$

\+ − Both number are negative.

$x^2 \ominus 7x \oplus 12 = (x-4)(x-3)$ (same sign)

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p s

− + Opposite signs the larger number is positive.

$x^2 \oplus 7x \ominus 12 = (x+4)(x-3)$ (opposite signs)

− − Opposite signs, larger number is negative.

$x^2 - x - 12 = (x-4)(x+3)$

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$x^2 - 13x + 36$

Steps
* no GCF
① $ac = +36$
② $b = -13$
③ -9, -4

$x^2 - 9x - 4x + 36$

$x(x-9) - 4(x-9)$

$(x-9)(x-4)$

$x^2 - 4x - 9x + 36$

$x^2 - 13x + 36$ ✓

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$3x^2 + 4x - 32$ * $a \neq 1$ ** no GCF

① $ac = (3)(-32) = -96$

② $b = 4$

③

+	−	×	+
10	6	-60	✓
11	7	-77	✓
12	8	-96	✓

$3x^2 + 12x - 8x - 32$

GCF: $3x$

$3x(x+4) - 8(x+4)$ R.P. R.P.

GCF: $(x+4)$

$(x+4)(3x-8)$

$3x^2 - 8x + 12x - 32$

$3x^2 + 4x - 32$ ✓

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$6x^2 + 17x + 7$

$(3x+7)(2x+1)$

Do 6.3

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