Tri Le
MATH 1314
College Algebra
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9/26/18 Exam Monday, 10/01/18

Factoring Trinominals

Recall: $(x+3)(x+5) = x^2+5x+3x+15 = x^2+8x+15$

Now start with $x^2+8x+15$ and find its original factors

Look for 2 numbers whose product is 15 and whose sum is 8. Those 2 numbers are +5 and +3. So my 2 binomials are $(x+5)$ and $(x+3)$.

$x^2+7x+12 = (x+3)(x+4)$

$x^2+9x+14 = (x+7)(x+2)$

$x^2-12x+20 = (x-2)(x-10)$

$x^2-2x-35 = (x+5)(x-7)$

$x^2+4x-12 = (x+6)(x-2)$

$6x^2 + x - 15$ $\quad a=6$, $b=1$, $c=-15$

↑ ↑ ↑

a b c

EX: $\frac{4}{9}y(y+1) - 2(y+1)$

$$\frac{4}{9}y(y+1) - 2(y+1)$$

$$= (y+1)\left(\frac{4}{9}y - 2\right)$$

$$= (y+1)\left(\frac{4}{9}y - \frac{18}{9}\right)$$

$$= (y+1)\left(\frac{1}{9}\right)(4y - 18)$$

$$= (y+1)\left(\frac{1}{9} \cdot 2\right)(2y - 9)$$

$$= \frac{2}{9}(y+1)(2y-9)$$