4.4 Factoring Monic (Simple) Trinomials

Recall: Expanding. $(x + 3)(x + 2) =$

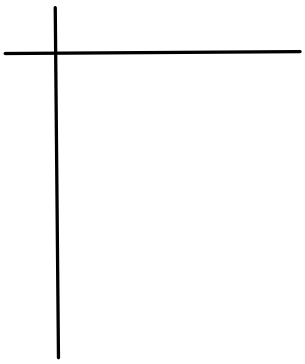
The result is a _____ trinomial: the coefficient of x^2 is _____.

Now try to factor $x^2 + 5x + 6$ using algebra tiles.

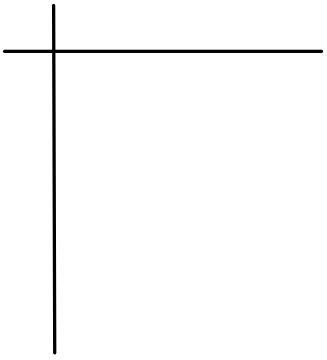
Remember... create a rectangle whose _____ and _____ represent the factors of the trinominal.

Ex.1 Factor using algetiles.

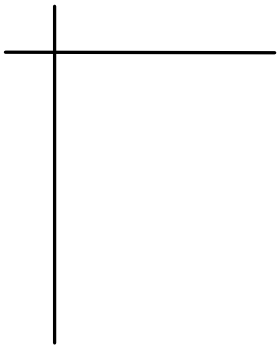
a) $x^2 + 6x + 5$



b) $x^2 - 2x - 8$



c) $x^2 - 4x + 3$



Investigation.. look for patterns in factoring!

a) $x^2 + 6x + 8 = (x + 2)(x + 4)$

b) $x^2 + 9x + 20 = (x + 4)(x + 5)$

c) $x^2 - 7x + 10 = (x - 5)(x - 2)$

d) $x^2 + 4x - 5 = (x + 5)(x - 1)$

e) $x^2 +$ _____$x +$ ____ $= (x + r)(x + s)$

<u>Conclusion</u> To factor a quadratic expression $x^2 + bx + c$:

- Find 2 numbers that ----------_____.
- Express as a product $(x + r)(x + s)$ where r and s represent _____.

Ex.2 Factor.

a) $x^2 + 8x + 15$

Multiply:
Add:
Numbers:

b) $x^2 - 8x + 12$

M
A
N

c) $x^2 + 3x - 18$

M
A
N

d) $x^2 - 3x - 4$

M
A
N

e) $x^2 - 4x + 6$

M
A
N

Sneaky Simple Trinomials...

ALWAYS check first to see if there is a _____.

If yes, then _____.
If no, then stay tuned for Factoring Complex Trinomials tomorrow.

Ex. 3 **Fully** factor.

a) $3x^2 + 3x - 36$

b) $2w^3 - 14w^2 + 20w$