

Factoring Trinomials a=1

$$(x+2)(x+4)$$

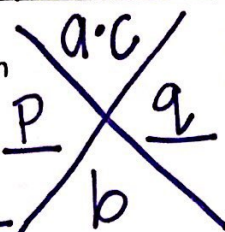
$$x^2 + 4x + 2x + 8$$

$$x^2 + 6x + 8$$

Steps:

- Use when $a=1$ & you have a trinomial
- Must be in Standard Form: $ax^2 + bx + c$
- Use X-Game to find the factors (may also need a product/sum chart)
- Factor to Root Form, Intercept Form, Factored Form
- CHECK!!! Using Foil

$$(x+p)(x+q)$$



* Find 2 numbers that multiply to give you top # & Add to give you the bottom *

Sign Rules:

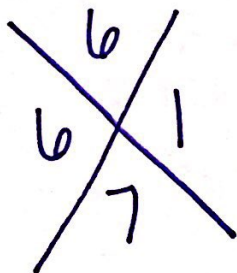
- When the last term is POSITIVE... $+, +$ or $-, -$
 - The signs inside the parenthesis will be the SAME as the middle number's sign
- When the last term is NEGATIVE... $+, -$
 - The parenthesis will have DIFFERENT SIGNS.
 - The larger factor will have the SAME sign as the middle number

Examples:

$$x^2 + 7x + 6$$

$$a=1 \quad b=7 \quad c=6$$

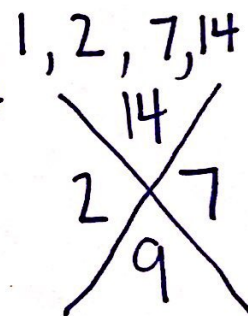
$$(x+6)(x+1)$$



$$x^2 + 9x + 14$$

$$a=1 \quad b=9 \quad c=14$$

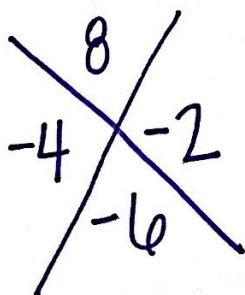
$$(x+2)(x+7)$$



$$x^2 - 6x + 8$$

$$a=1 \quad b=-6 \quad c=8$$

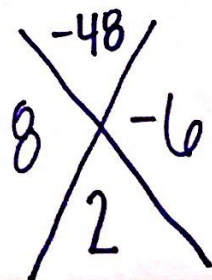
$$(x-4)(x-2)$$



$$n^2 + 2n - 48$$

$$a=1 \quad b=2 \quad c=-48$$

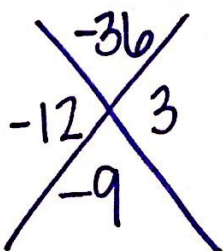
$$(n+8)(n-6)$$



$$x^2 - 9x - 36$$

$$a=1 \quad b=-9 \quad c=-36$$

$$(x-12)(x+3)$$



$$2x^2 - 16x + 24$$

* TAKE OUT GCF FIRST *

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

$$a=1 \quad b=-8 \quad c=12$$

$$2(x-6)(x-2)$$

