

FACTORIZING TRINOMIALS

$$\underline{A}x^2 + \underline{B}x + \underline{C}$$

STEPS FOR SUCCESS!

- 1- What multiplies to $A \cdot C$?
- 2- Circle the numbers that add to B.
- 3- Split the middle term
- 4- Factor by Grouping.
- 5- Multiply to check your work.

$$2x^2 + 13x + 6$$

A \downarrow B \downarrow middle term \downarrow C \downarrow

$$2x^2 + 12x + x + 6$$

$$2x(x+6) + 1(x+6)$$

$$(2x+1)(x+6)$$

$$\frac{2 \cdot 6 = 12}{\begin{array}{l} 2 \cdot 6 \\ 3 \cdot 4 \\ \underline{12 \cdot 1} \end{array}}$$

$$2x^2 - 7x + 5$$

$\frac{2 \cdot 5 = 10}{\begin{array}{l} 2 \cdot 5 \\ 2 \cdot 5 \\ 10 \cdot 1 \end{array}}$

$$2x^2 - 2x - 5x + 5$$

$$2x(x-1) - 5(x-1)$$

$$(2x-5)(x-1)$$

$$3a^2 - \underbrace{13a} + 4 \quad \begin{array}{l} -13 \\ 12 \cdot 1 \end{array}$$

$$3a^2 - 12a - 1a + 4$$

$$3a(a-4) - 1(a-4)$$

$$(3a-1)(a-4)$$

$$6c^2 + 7c + 2 \quad \begin{array}{l} 6 \cdot 2 = (12) \\ \hline 12 \cdot 1 \\ -12 \cdot 1 \\ -3 \cdot 4 \\ \hline (3 \cdot 4) \end{array}$$

$$3c(6c^2 + 3c) + 4c + 2$$

$$(2c+1) \quad (2c+1)$$

$$(2c+1)(3c+2)$$

$$2x^2 + 11x + 5$$

$$5x^2 - 3x - 8$$

$$3x^2 - 8x + 4$$

Windows

() ()

$$3x^2 + 10x + 8$$

$$2x^2 + 5x - 3$$

$$3x^2 - x - 14$$

Door

() ()