

Beginning Factoring

Greatest Common Factor: _____, the biggest number that goes into each term/number. When possible, take out the GCF, which is the opposite of the _____ Property.

$$5x^2 + 20x$$

$$-12x - 18$$

$$-4x^2 + 2x$$

STEPS FOR FACTORING

$$x^2 + bx + c$$

1. Always look for a GCF (Greatest Common Factor), if you find one, divide each term by the GCF and re-write using the distributive property.
2. Determine what two factors multiply to give you **c** and add or subtract to give you **b**.

$$x^2 + \underline{\underline{13x}} + \textcircled{40} \xrightarrow{\text{factors of } 40}$$

3. Plug the factors you find into the parenthesis (be careful with the signs)

$$(x \quad)(x \quad)$$

Rules to Remember

- ❖ If the last sign is _____ both signs are the **same**
 - The signs are the same as the _____
- ❖ If the last sign is _____ both signs are **different**
 - The middle term takes the sign of the _____ number

Problems for Left

Learning Target: What are the steps to follow for factoring?

Examples: Factor each polynomial.

1. $15x + 25$
2. $-4x + 12$
3. $3x^2 - 24x$

Factor.

1. $x^2 + 7x + 10$
2. $x^2 - 7x + 12$
3. $x^2 + 8x + 15$
4. $x^2 - 25$
5. $4x^2 + 12x + 8$

Solve

6. $x^2 - 8x + 16$
7. $x^2 + x - 6$
8. $3x^2 - 3x - 60$