FACTORING PART ONE

DIRECTED LEARNING ACTIVITY

GREATEST COMMON FACTOR (GCF)

OBJECTIVE:

- To understand how to factor using the Greatest Common Factor.

VOCABULARY:

- Distributive Property
- Factor
- Prime
- Prime Numbers
- Greatest Common Factor.

GREATEST COMMON FACTOR

Watch this video on how to find the Greatest Common Factor.

GCF

PRACTICE

Factor Completely.

1. $18x + 36$
2. $x^3 - x^2$
3. $5x^5 + 25x^4 - 20x^3$

FACTORING TRINOMIALS ($a \neq 1.$)

OBJECTIVE:

To understand how to factor trinomials in the form $ax^2 + bx + c,$ when $a \neq 1.$

VOCABULARY:

- Distributive Property
- Factor
- Factors
- Trinomial
- Greatest Common Factor.

ACTIVITY

Multiplying Polynomials

- One method for factoring trinomials is to "guess and check." This process requires an understanding of multiplying binomials.

- Remember the **distributive property:** $a(b + c) = ab + ac$

- Example: $4(x + 3) = 4 \cdot x + 4 \cdot 3 = 4x + 12$

You Try:

I) Multiply. $x(x - 2)$ =

2) Multiply. $3(x - 5)$ =

One strategy to multiply binomials (a polynomial with 2 terms) is to use the distributive property twice.

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

You Try:

1) Multiply. $(3x-2)(x+3)$

2) Multiply. $(4x-1)(3x+4)$

- **Factoring** "undoes" or reverses the multiplication. You are finding the **factors** that will multiply to the given product.

Example: Factor. $x^2 - 9x - 22$

- This will be $(x + 2)(x - 11)$, since if you multiply these two factors you will get $x^2 - 9x - 22$. This process is called factoring. $(x + 2)$ and $(x - 11)$, are factors of $x^2 - 9x - 22$.

FACTORING TRINOMIALS ($a \neq 1$.)

Watch this video on how to factor trinomials when $a \neq 1$. AC Method $a \neq 1$

PRACTICE

Factor completely.

1. $8x^2 - 14x + 3$
2. $15x^2 + x - 2$
3. $24x^2 - 42x + 9$
4. $20x^2 + 22x + 6$