Secondary 2
lesson 2.1

Greatest Common Factor

Objective

Find the GCF (Greatest Common Factor) of a Polynomial

FACTORS

Factors are numbers/polynomials that are multiplied together to get the whole.

Examples:

$3(2) = 6$ $\rightarrow 3,2$ are factors of 6

$5x(2y) = 10xy$ $\rightarrow 5, x, 2, y$ are factors of $10xy$

GREATEST COMMON FACTORS

- **GCF** is the largest value that **ALL** terms can be divided by. It can include both numbers and variables.
- Find the greatest common factor.

1) 30 and 10

3) 24 and 8

GREATEST COMMON FACTORS

Find the greatest common factor.

5) $35xy^2,\ 42x^2y^2$

7) $39v,\ 22u$

11) $10y^2,\ 20z^2, 15y^2$

12) $10x^2, 20, 10y$

POLYNOMIAL GCF

- Terms of a polynomial are separated by $+, -$. Each term needs a **GCF** with all other terms.

Example:

$$2x^2 + 6x$$
$$= 2 \cdot x \cdot x + 2 \cdot 3 \cdot x$$

GCF $= 2x$

Find the **GCF** of the polynomial.

13) $2a^3 - 8a^2$

15) $15n + 25$

21) $4x^2y^3 + 6x^4y^2$

24) $6x^3 + 7x^2 - 10$

Sometimes the **GCF** is a binomial!

Example: $x^2(\boldsymbol{x-3})+4(\boldsymbol{x-3})$

$\boldsymbol{factor\ out\ the\ GCF}$:

$\boldsymbol{3x}(x+4)+\boldsymbol{2}(x+4)$

$\boldsymbol{x}(2x+1)+\boldsymbol{2}(2x+1)$

Assignment:

Finish 2.1 worksheet

and

MathXL 2.1

Remember to do the work on paper and show all your steps!