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Worksheet - Factoring by GCF

Date: 1/26/09<http://www.mathvizza.com>

Objectives

1. The students will comprehend basic factoring vocabulary.
2. The students will identify the GCF of a number of terms.
3. The students will factor an expression by removing its greatest common factor.

Vocab

a multiplication

factor (verb) - the re-expression of a number as a product

factor (noun) - an integer divisor of a number (divides it evenly)

guzinta (LOL)

greatest common factor - GCF - the largest number that is a divisor for a set of numbers or a group of terms

Finding the GCF

There is an essential question that you must memorize for this!!!!

What is the largest number
that goes into each term?

1. 8, 16, 12 GCF=4

1	8	1	16	1	12
2	4	2	8	2	6
	4	3	4		4

2. x^3, x^2, x^5 GCF = x^2

1	x^3	1	x^2	1	x^5
x	x^2	x	x	x	x^4
	x^2		x^2		x^3

3. 5, 10, 13 GCF=1
relatively prime

1	5	1	10	1	13
	5		2		13

4. $6x^2, 3x, 12x^3$

GCF = $3x$

5. $20y^3, 16y^4, 24y^5$

GCF = $4y^3$

GCF is smallest exponent

Factoring with GCF

1st term

Steps

1. Identify the **GCF** (state "prime" if the GCF is 1). If the lead term is **negative**, then make the **GCF negative**.
2. Divide each term by the **GCF**.
3. Write the product of the **GCF** and your answers from step 2.

ExamplesDirections: Please factor.

GCF = 1

$$1. \quad \underbrace{4x^3y}_{2x} - \underbrace{12x^2}_{2x} + \underbrace{2x}_{2x}$$

$$2x(2x^2y - 6x + 1)$$

$$2. \quad \underbrace{-15x^3y}_{-3x^2y} - \underbrace{12x^2y^4}_{-3x^2y}$$

$$-3x^2y(5x + 4y^3)$$

$$3. \quad 4xy - 5$$

Prime

 Let's Take a Look at Tonight's Worksheet

Closure Question

Why do you think that some people
call the **GCF** method
"undistribution"?