

Wednesday 8/14/19

1. Grab Calc, Take out HW/Calendar
2. HW Questions
3. Quiz - Simp. Radicals, Complex #'s
4. GCF/Grouping Factoring Review

Did you hear about the chef that died?
He pasta way
We cannoli do so much
His legacy will become a pizza history
He ran out of thyme



Topic: GCF and Factoring by Grouping

Name: _____

What am I learning today?

Warm-Up:

Write out the factors of the following expressions:

$$a^5 = aaaaa$$

1. $8ax$

8: 2, 4, 1, 8

a: a

x: x

2. $56a$

56: 7, 8, 4, 14, 28, 2, 1, 56

a: a

GCF: $8a$

Vocabulary

GCF

Factoring

Prime

A GCF or greatest common factor is the biggest number or term that divides evenly into each term of an expression.

FACTORING is a method used to breakdown or separate an expression into simpler terms or into expressions that have been multiplied together. When you factor you are "undoing" multiplication.

If the only GCF is "1" the expression is considered to be prime factorization.

Examples

Finding the GCF

21: 7, 3, 1, 21

x: x

28: 7, 4, 1, 28

2, 14

Ex 1: $21x, 28$

GCF: 7

Ex 2: $10x^4, 25x^2$

10: 1, 2, 5, 10

GCF: $5x^2$

$x^4: x \cdot x \cdot x \cdot x$
 $25: 1 \cdot 5 \cdot 5$

$x^2: x \cdot x$

Ex 3: $12x^3, 35$

GCF: 1

Ex 4: $8x^5, 24x^4, 4x^3$

GCF: $4x^3$

8: 1, 2, 4, 8

$x^5: x \cdot x \cdot x \cdot x \cdot x$

24: 1, 24, 2, 12, 4, 6, 3, 8

$x^4: x \cdot x \cdot x \cdot x$

4: 1, 2, 4

Examples

GCF Factoring

GCF: 7

Use the GCF to factor the following expressions

Ex 5: $21x + 28$

7
 $7(3x + 4)$

Ex 6: $40x^2 - 10x$

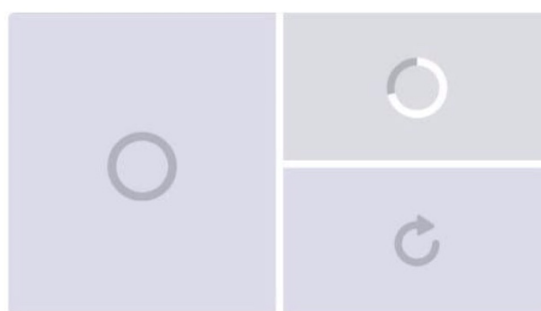
10x
GCF: 10x

$10x(4x - 1)$

Friday 8/16/19

1. Take out HW & Calendar
2. Begin Warm-Up: "You Try: GCF Factoring" problems on back of notes
3. Finish Factoring by Grouping, Trinomial Factoring

my brain in math



Via wittystatus.com

Topic: GCF and Factoring by Grouping

Date: _____

Examples

GCF Factoring:
Negative Leading
Coefficient

Ex. $-32x^2 - 18$

$-2(16x^2 + 9)$

Ex. $-12x^2 + 18x$

$-6x(2x + 3)$

You Try!

GCF Factoring
Warm-Up:

1) $28x + 42x^2 + 14$

$14(3x^2 + 2x + 1)$

2) $9x^2 + 20$

$1(9x^2 + 20)$

3) $4x^2y + 10xy$

$2xy(2x + 5)$

4) $12x + 9 - 3x^2$

$\rightarrow -3x^2 + 12x + 9$
 $-3(x^2 - 4x - 3)$

Factor by Grouping

Steps



- 1: Use it when you have 4 terms.
- 2: After the terms are put in standard form, group them in to 2 groups of 2.
- 3: Factor out the GCF of each group. Remember to factor out a negative if the leading term of the group is negative.
- 4: It only works if the expressions in each parentheses match.
- 5: Group the GCF's as one binomial and the parenthetical expression is the other factor.

Examples

Factoring by
Grouping

1) $(x^2 - 3x + 7x - 21)$
 $x(x - 3) + 7(x - 3)$
 $(x + 7)(x - 3)$

2) $(8x^3 + 6x^2 - 4x - 3)$
 $2x^2(4x + 3) - 1(4x + 3)$
 $(2x^2 - 1)(4x + 3)$

#9
#11

3) $(2x^2 - 3xy + 2xy - 3y^2)$
 $x(2x - 3y) + y(2x - 3y)$
 $(x + y)(2x - 3y)$

4. $3x^2 + 3x + 15x + 15$
 $3(x^2 + x + 5x + 5)$
 $x(x + 1) + 5(x + 1)$
 $3(x + 5)(x + 1)$

Summary

Summarize the
lesson in your own
words