

Week 1 First 10

Name: _____

Date: 1/9-1/13 Block: _____

Monday: Write a goal for the week

What is your goal for the week?

How will you attain that goal?

Tuesday: College of the week

Name of the college: _____

What is the yearly tuition?

What are the requirements to be accepted?

ACT:

SAT:

GPA:

What majors do they offer?

What are the average class sizes?

Male to Female ratio?

Wednesday: Math Skill

How to Calculate the Tip?

10% - move dec.
1 left + 1

15% - $\frac{1}{2}$ 10% +
10%

20% mult 10%
by 2

Bill Total

48.50

$$\begin{array}{l} \text{Calc} \\ \text{amount} \cdot .13 \\ (48.50) \cdot (.13) \\ 132 \end{array}$$

10% \$ 4.85

15% 7.28

20% \$ 9.70

Factoring

Greatest Common Factor (GCF)

Difference of Perfect Squares

Grouping

Factor: a number or expression that is multiplied with another number or expression to get a product.

$$\begin{array}{c} (2) \\ \uparrow \\ \text{Factor} \end{array} \begin{array}{c} (3) \\ \uparrow \\ \text{Factor} \end{array} = \begin{array}{c} 6 \\ \uparrow \\ \text{product} \end{array}$$

Factors of 18

$$\begin{array}{l} 1 \ 18 \\ 2 \ 9 \\ 3 \ 6 \end{array}$$

Greatest Common Factor: the highest number or expression that divides exactly into two or more expressions.

When: Always (complete first)

How:

1. Break down each term and find what they have in common
2. Divide out GCF
3. Write remainder for each term inside parenthesis

Setup: GCF (remainder for each term)

Examples:

1) $3x^2 + 12x$

$$\frac{3 \cdot x \cdot x}{3x} + \frac{3 \cdot 4 \cdot x}{3x}$$

$$3x(x+4)$$

2) $35ab^4 - 84ab$

$$\frac{\cancel{7} \cdot 5 \cdot \cancel{a} \cdot b \cdot b \cdot b \cdot b}{7ab} - \frac{\cancel{7} \cdot 12 \cdot \cancel{a} \cdot b}{7ab}$$

$$7ab(5b^3 - 12)$$

3) $12x + 6$

$$\frac{6}{6} \quad \frac{6}{6}$$

$$6(2x + 1)$$

 Difference of Squares

When: if there are 2 terms and the following requirements are met

- Both terms are perfect squares
- There is a subtraction sign between the two terms

How:

1. Set up two sets of parenthesis () ()
2. Take the square root of each term
3. Place each result of the square root in the correct spot of each parenthesis.
4. One parenthesis should be addition and the other subtraction

Examples: $\sqrt{x^2} = x$
 $\sqrt{49} = 7$

$$\frac{\sqrt{25x^2}}{\sqrt{81}} = \frac{5x}{9}$$

$$\frac{\sqrt{x^2}}{\sqrt{4}} = \frac{x}{2}$$

3) $x^2 - 49$

4) $25x^2 - 81$

5) $x^2 - 225y^2$

6) $9x^2 - 36$

$$(x+7)(x-7)$$

$$(5x-9)(5x+9)$$

$$(x+15y)(x-15y)$$

$$9(x^2 - 4)$$

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

Grouping:

When: You have 4 terms

How:

1. Group first two terms and group 3rd and 4th term
2. Determine/ factor out the GCF for the first two terms
3. Determine/factor out the GCF for 3rd and 4th terms
4. Make sure parenthesis are EXACTLY the same
5. Factor out the GCF (this is your parenthesis)

Examples

$\underline{3x^2 + 3x} + \underline{7x + 7}$ $3x(\cancel{x+1}) + 7(\cancel{x+1})$ $(x+1)(3x+7)$ <p>Answer</p> $(x+1)(3x+7)$	$\underline{16ax + 6ay} - \underline{56bx - 21by}$ $2a(8x+3y) - 7b(8x+3y)$ $(8x+3y)(2a-7b)$ $(8x+3y)(2a-7b)$	$\underline{7r^2n + 28rmn} - \underline{4rmk - 16m^2k}$ $\frac{7r^2n}{7rn} + \frac{28rmn}{7rn} - \frac{4rmk}{4mk} - \frac{16m^2k}{4mk}$ $7rn(r+4m) - 4mk(r+4m)$ $(r+4m)(7rn-4mk)$
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