Mid-Unit Review

SWBAT evaluate and simplify expressions.

Assignments

HW07

HW08 (A-Days only)

Unit 1 Vocabulary

- Variable
  - Letter representing a quantity that might change
- Coefficient
  - Number multiplied to a variable
- Term
  - Number, Variable, or Numbers and Variables multiplied together
- Expression
  - Set of Terms
- Like Terms
  - Terms with the same variable and exponent; if radicals, the same radicand
- Equation
  - 2 expressions said to be equal
- Solution
  - Value(s) that make an equation true

Order of Operations

- **P**   Parentheses

- **E**   Exponents

- **M**   Multiplication

- **D**   Division

- **A**   Addition

- **S**   Subtraction

▶ *Parentheses* means simplifying *inside*. Numerators and denominators are in invisible parentheses.

▶ *Exponents* includes radicals, so that would be when you simplify square roots

▶ *Multiplication* and *Division* are done at the same time (going from left to right)

▶ So do *Addition* and *Subtraction*

Recommended: Turn all subtraction into addition at the start.

Evaluating Expressions

- **Evaluate**: find the value of an expression when given specific values for variables

- Remember that variables can be anything! Including π and radicals.

- Steps:
  1. Substitute/Replace
  2. Simplify

- Ex. $5x - 2y + (\sqrt{x} - 2)^3$; use $x = 16$ and $y = -10$

Combining Like Terms

- "*Simplify*": make the expression smaller and easier to read

- One tool is "*combining like terms*"

1. Change all subtraction into addition.

2. Identify like terms.

3. Rearrange the terms to put the like terms next to each other. (optional)

4. Add the coefficients of the like terms.

Ex. $3x - 6y + 4x - 6$

Simplifying Expressions – More on the Distributive Property

- When simplifying, remember PEMDAS.
  - Simplifying square roots counts as *exponents*
  - The distributive property counts as *multiplying/dividing*
  - Combing like terms counts as *adding/subtracting*

1. $-(4x - 90)$
2. $-6(x - 2)$
3. $2(3 - n)$
4. $-2x + 4(-3x - 8)$
5. $25 + 5x - (5 - 2x)$
6. $16 - 4(y + 5) + 16y$
7. $20y^2 - 16y + \frac{1}{2}(6y - 2) - 10y^2$
8. $11\sqrt{6} - \sqrt{2}(5\sqrt{3} + 4) - \sqrt{8}$
9. $\sqrt{5}(3x - 1) + \sqrt{20} - x\sqrt{5}$