Chapter 2: Algebraic Expressions, Linear Equations and Applications

Section 2.1a: Variables and Algebraic Expressions

<u>Objectives</u>

Identify the following algebraic expressions:

- Variables

- Constants

- Terms

- Coefficients

<u>Instruct</u>

1. Define TERM and give an example of an algebraic expression with two terms.

2. Define VARIABLE TERM and give an example.

3. Define a CONSTANT TERM and give an example.

4. Define numerical coefficient and give an example.

If we have the term $"x"$, the coefficient is understood to be _____, since $x=1x$. Similarly, the coefficient of the term $"-x"$ is understood to be _____.

In the expression, $a+b+5$ identify the variables and constants.

   Variables: Constant(s):

In the expression, $4y-x$ what is the **COEFFICIENT** associated with the y variable? What is the **COEFFICIENT** associated with the x variable?

   Coefficient of y variable: _____   Coefficient of x variable: _____

Section 2.1b: Simplifying Expressions

<u>Objectives</u>
- Simplify algebraic expressions by combining like terms.
- Simplify algebraic expressions with parentheses by combining like terms.

<u>Instruct</u>

1. Are 2x and 5x like terms? Why or why not?

2. Are $2x^2$ and 6x like terms? Why or why not?

3. Circle the like terms in the expression: $4x - 7x^2 y + 6xy + 9x^2 y$

4. Simplify the following expression: $5 - 4y - 2 + 9y$

5. Copy the 2 steps for simplifying an algebraic expression:

6. Define the distributive law.

Section 2.1c: Evaluating Algebraic Expressions

Objectives
- Evaluate expressions for given values of the variables.

Instruct

1. In most cases, if an expression is to be _____, like terms should be _____ first and then the resulting expression evaluated by following the _____.

2. Why is it recommended to use parentheses around negative numbers when substituting?

3. Evaluate the following for x=2. **Notice Hawkes' example with regards to the negative sign.

   a. $x^2 =$

   b. $-x^2 =$

   c. $(-x)^2 =$

4. Copy the steps to evaluate an algebraic expression.

5. Evaluate the following expressions.   (Solve by substituting)

$$\frac{x - y}{6} \quad \text{for } x = 4 \text{ and } y = -8$$

6. On slide 7, find and select the green wording saying, *Reducing Fractions.* Read the information contained here and below, write the example fraction used and its reduced form.