Title: Simplifying Like Terms and Evaluating Expressions

Grade Level: 7-9

Objective:

By the end of this lesson, students will be able to:

Identify like terms in algebraic expressions.

Simplify algebraic expressions by combining like terms.

Evaluate algebraic expressions by substituting values for variables.

Apply the concepts of simplifying like terms and evaluating expressions to solve real-life problems.

Materials:

Whiteboard or blackboard

Markers or chalk

Algebraic expressions handout

Worksheets with practice problems

Real-life examples involving algebraic expressions

Lesson Plan:

Introduction (10 minutes):

Begin by reviewing the concept of variables and algebraic expressions.

Explain that like terms have the same variables and exponents, but may have different coefficients.

Discuss the importance of simplifying expressions to make them easier to work with and evaluate.

Ask students to identify like terms in a few examples.

Identifying and Combining Like Terms (15 minutes):

Review the concept of like terms and provide additional examples for students to identify and combine like terms.

Explain the steps for simplifying expressions with like terms:

a. Identify the like terms in the expression.

b. Combine the coefficients of the like terms while keeping the variables and exponents unchanged.

Model examples of simplifying expressions by combining like terms step-by-step.

Provide opportunities for students to practice simplifying expressions independently or in pairs using worksheets.

Evaluating Expressions (15 minutes):

Review the concept of evaluating expressions by substituting values for variables.

Demonstrate the steps for evaluating expressions:

a. Identify the variable(s) in the expression.

b. Substitute the given value(s) for the variable(s) in the expression.

c. Simplify the expression by performing any necessary operations.

Model examples of evaluating expressions by substituting values step-by-step.

Allow students to practice evaluating expressions independently or in pairs using worksheets.

Real-Life Applications (10 minutes):

Discuss real-life situations where simplifying like terms and evaluating expressions are used, such as budgeting, calculating distances, or determining quantities.

Provide examples of word problems involving algebraic expressions and guide students in identifying the key information and solving the problems.

Encourage students to create their own word problems and challenge their classmates to solve them.

Conclusion (5 minutes):

Review the main concepts learned about simplifying like terms and evaluating expressions.

Summarize the importance of simplifying expressions and evaluating them to solve problems.

Address any remaining questions or concerns from students.

Assign relevant exercises or worksheets for additional practice if needed.

Assessment:

Monitor students' participation and engagement throughout the lesson.

Observe students' understanding during class activities and problem-solving tasks.

Review completed worksheets or assignments to assess students' grasp of simplifying like terms and evaluating expressions.

Evaluate students' ability to apply these concepts to real-life problems through their responses to word problems and created scenarios.