Corrective comments will be highlighted

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Lesson Title: Adding and Subtracting with Equations

Suggested Grade Level: 8th

Estimated Lesson Time: 40 minutes

Student Prior Knowledge:

 Students will know the definition of a variable and understand their use in an equation. They will also have knowledge with addition and subtraction in order to solve an equation.

 With prior knowledge, I should not have used phrases like “will know”. I need to use states like “students know the definition of a variable”. I also need to include having prior knowledge or order of operations.

Standards:

 Solve literal equations for a specified variable. (MA.8.A.4.1)

Goals:

 Students will be able to define an equation and solve basic equations involving one variable using addition and subtraction. Understanding a literal equation will help students form their basic understanding of algebra in order to help their future math studies.

Learning Objective:

 Given an equation, students will successfully solve for the variable using addition and subtraction.

Resources:

 Smart Board

Procedures:

I would start class out with bell work or a few review problems from yesterday’s class that would help lead into the topic of today. This would also allow time to take attendance.

I will show definitions of the words variable and equation on the board. This would help the students understand the concepts of solving for variables using equations.

1. I will start by writing an equation on the smart board. I will continue to explain how to solve the equation by aiming to have the variable on one side of the equation and all numbers on the other side. I will elaborate on the fact that in order to get a number to the other side of the equation, you must do the opposite to both sides of the equation in order to cancel it out on the side with the variable. (For example, x+3 = 6, you must subtract 3 from both sides). Students will take notes during the explanation. (15 minutes)

Example problem-

 10 = 6 + x

I will explain that in order to solve the equation, you must get the variable alone on one side of the equal sign. With this problem, you must move the 6 to the other side of the equation. Since the number is positive, you must cancel it out by subtracting it from both side of the equation.

 10 – 6 = 6 – 6 + x

Then I should show that you do the addition or subtraction on both sides of the equation to get the answer

 4 = x

1. Next I will put 4 example problems on the smart board and give students the chance to try and solve them. I will call on students to come up to the board to solve the equation using the smart board. After I will go over each equation with the class and make any corrections needed to the problem. (10 minutes)

I would then give an example of a real world problem having to do with equations. This would help the students understand how they can use equations in the real world.

 Example problem-

Anna and Emily are sisters and are buying a birthday gift for their mother. The necklace they want to buy her cost $63. They have $27 to spend on their mother. How much additional money will they need?

Equation-

 27 + x = 63

To get x on its own side of the equation, subtract 27 from both sides

 27 – 27 + x = 63 – 27

 X = 36

Anna and Emily need $36 more to purchase the necklace.

1. I will then pass out a worksheet with 30 practice problems that will be for homework. I will give students time in class to work on the homework in case they have questions. (15 minutes).

Assessment:

 At the beginning of class the following day I will go over the worksheet which was for homework and answer any questions. After I will give a 10 question quiz in class to make sure the students understand how to solve the equations.