



Name: _____ Date: _____

1. Listening:

Equations

An **equation** is an (1) **expression** stating the equality of two (2) **algebraic** expressions. This equality exists only when certain (3) **values** are assigned to the (4) **letters**. For example, the equation $2x + 3 = x + 5$ is (5) **true** only when $x = 2$.

On each (6) **side** of the equal sign in an equation there is an (7) **expression (first and second expression)**. The addends that comprise the expressions are called (8) **terms**. The letters are called (9) **unknowns**. The values for which the equation is true are called (10) **solutions**.

$2x + 3$ FIRST EXPRESSION	=	$x + 5$ SECOND EXPRESSION	$x = 2$ is the solution because $2 \cdot 2 + 3 = 2 + 5$
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2. Match each equation with its solution:

$2x + 8 = 3x + 4$	$x = 2$	$x - 5 = 2x - 4$	$x = -3$
$5x - 10 = 0$	$x = -2$	$5x - 2 = x + 2$	$x = 1$
$3x + 8 = 2$	$x = 4$	$3 - x = 6$	$x = -1$

Problems

Remember to follow these steps:

1. Label the unknowns. 2. Set up the equation. 3. Solve the equation. 4. Find the value for the unknowns. 5. Check

- Find two consecutive integers whose sum is 45.
- Find three consecutive even integers whose sum is 72.
- Find two consecutive even integers such that the sum of the larger and twice the smaller is 62.
- Seven times a number is equal to 12 more than 3 times the number. Find the number.
- The second of two numbers is 4 times the first. Their sum is 50. Find the numbers.
- The perimeter of a rectangle is 24 inches. Find the dimensions if its length is 3 inches greater than its width.
- The perimeter of a triangle is 51 centimeters. The lengths of its sides are consecutive odd integers. Find the lengths of all three sides.
- Eighteen subtracted from a number equals 31. Find the number.
- What number decreased by 77 equals -18?
- There are 31 people in a café. How many men and how many women are in the café if there are 5 more men than women?

