Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_

Mr. Tallman Math 7

**Do Now**

**Matching Column: Match the EXPRESSION with the correct PROPERTY.**

|  |  |
| --- | --- |
| 1) $a+b=b+a$ | * Zero Property of Multiplication
 |
| 2) $a∙0=0$ | * Additive Inverse Property
 |
| 3) $a\left(b+c\right)=ab+ac$ | * Commutative Property
 |
| 4) $a+\left(-a\right)=0$ | * Distributive Property
 |
| 5) (a + b) + c = a + (b + c) | * Associative Property of Addition
 |

**Fill in the blank to complete each equation.**

|  |  |  |
| --- | --- | --- |
| 5) \_\_\_\_\_\_\_ $+ 5=12$ | 6) \_\_\_\_\_\_\_\_\_\_\_ $-10=8$ | 7) $3-$\_\_\_\_\_\_\_\_\_ $=-4$ |

**Lesson #9 – Solving One Step Equations involving Addition and Subtraction**

**Equations** are mathematical sentences in which two **expressions are equal**.

**Algebraic Equations** are equations that involve both numbers and variables.

 Examples of **Algebraic Equations**:

We use different mathematical properties in order to solve an equation for a given variable.

**Addition Property of Equality:** If A = B, then A + C = B + C

Example 1) Solve and check: x – 5 = 13

**Subtraction Property of Equality**: If A = B, then A – C = B – C

Example 2: Solve and Check: x + 10 = 26

Example 3)

Part A) Sean solved the equation $x-7=17$. What mathematical property did Sean use to find the solution?

Part B) Solve and check the equation from Part A.

Example 4) James solved the equation $x-8=-12$ and found that $x=-20$. Is James correct? If he is not correct, solve the equation and find the correct value of x.

Example 5) Tom owed his friend $15. He paid his friend back some money. After he paid his friend back some money, he only owed his friend $9.

Part A) Write an equation that models this situation. Be sure to include a let statement.

Part B) Solve your equation from part A to determine how much money Tom paid back.

**Now, You Try!**

**Solve and Check each equation.**

|  |  |
| --- | --- |
| 6) $n-8=8$ | 7) $s+10=5$ |
| 8) $-6+h=12$ | 9) $k-7=-20$ |
| 10) $t-13=11$ | 11) $-5+p=-14$ |
| 12) $4=-9+g$ | 13) $-14=y-6$ |

14) Jamie solved the equation $x+7=9$ and said that $x=16$. Is Jamie correct? If not, correct her error by solving the equation.

15) The temperature in the morning at MAMS was $70°$F. The temperature increased by a certain amount and at the end of 9th period, the temperature was $81°$. Set up and solve an equation to determine how much the temperature increased. Be sure to write a let statement.