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

Mr. Tallman Math 7

**Do Now**

**Solve the following equations. Only check questions 1 and 3.**

|  |  |
| --- | --- |
| 1) $x-7=12$ | 2) $12+x=-8$ |
| 3) $-6+y=-30$ | 4) $8+n=-10$ |

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

|  |  |  |
| --- | --- | --- |
| 5) \_\_\_\_\_\_\_ $∙6=48$ | 6) $30÷$\_\_\_\_\_\_\_\_\_\_\_ $=-5$ | 7) $3∙$\_\_\_\_\_\_\_\_\_ $=-27$ |

**Lesson #10 – Solving One Step Equations involving Multiplication and Division**

**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.

**Multiplication Property of Equality:** If A = B, then $A∙B=B∙A$

Example 1) Solve and check: $\frac{x}{3}=9$

**Division Property of Equality**: If $A=B, then\frac{A}{C}=\frac{B}{C}$

Example 2: Solve and Check: $-8y=48$

Example 3)

Part A) Brett solved the equation $-9x=63$. What mathematical property did Sean use to find the solution?

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

Example 4) Maria solved the equation $\frac{x}{10}=80$ and found that $x=8$. Is James correct? If he is not correct, solve the equation and find the correct value of x.

Example 5) Josh saved $10 dollars a week for a certain number of weeks in order to pay for a new video game. The video game costs $60.

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 many weeks Josh saved money.

**Now, You Try!**

**Solve and Check each equation.**

|  |  |
| --- | --- |
| 6) $5x=25$ | 7) $\frac{y}{4}=-7$ |
| 8) $\frac{n}{2}=20$ | 9) $-6g=54$ |
| 10) $8b=64$ | 11) $\frac{h}{-6}=11$ |
| 12) $\frac{f}{4}=9$ | 13) $-49=7s$ |

14) Hannah solved the equation $-5x=-45$ and said that $x=-9$. Is Hannah correct? If not, correct her error by solving the equation.

15) Jordan wants to sign up for a certain music streaming service. That music streaming service costs $9 per month for unlimited streaming without ads. After a certain number of months, Jordan paid $81 and then canceled his subscription. Write and solve an equation to determine for how many months his subscription was active. Be sure to include a let statement.