

Unit 5 Objective 4 Remediation

Solving Equations by Using Multiplication

Multiplication Property of Equality: If each side of an equation is multiplied by the same number, the results of both sides are equal.

Example 1: Solve the equation $\frac{x}{11} = -25$ by using the Multiplication Property of Equality.

Solution: $\frac{x}{11} = -25$

$$\frac{x}{11} \cdot 11 = -25 \cdot 11$$

Remember to apply the rules for multiplying real numbers.

$$x = -275$$

Don't forget, you can always check your solution for accuracy.

Example 2: Solve the equation $-9 = -\frac{y}{3.1}$ by using the Multiplication Property of Equality.

Solution: $-9 = -\frac{y}{3.1}$

$$-9 \cdot -3.1 = -\frac{y}{3.1} \cdot -3.1$$

Remember to apply the rules for multiplying real numbers.

$$y = 27.9$$

Don't forget, you can always check your solution for accuracy.

Example 3: Solve the equation $\frac{1}{2}d = \frac{1}{2}$ by using the Multiplication Property of Equality.

Solution: $\frac{1}{2}d = \frac{1}{2}$

$$\frac{1}{2}d \cdot \frac{2}{1} = \frac{1}{2} \cdot \frac{2}{1}$$

Remember to apply the rules for multiplying real numbers.

$$d = 1$$

Don't forget, you can always check your solution for accuracy.

Example 4: Solve the equation $-5 = -\frac{5}{7}x$ by using the Multiplication Property of Equality.

Solution: $-5 = -\frac{5}{7}x$

$$-5 \cdot -\frac{7}{5} = -\frac{5}{7}x \cdot -\frac{7}{5}$$

Remember to apply the rules for multiplying real numbers.

$$7 = x$$

Don't forget, you can always check your solution for accuracy.

Try These

1. $11 = \frac{m}{5}$

2. $-10 = \frac{y}{-7}$

3. $-\frac{1}{4}a = -16$

4. $\frac{x}{2} = -34$

5. $\frac{t}{13} = -24$

6. $-\frac{n}{12} = 4$

7. $\frac{x}{-3.6} = 14$

8. $-\frac{y}{4.9} = -9.8$

9. $\frac{1}{4}a = -\frac{3}{4}$

10. $-9.5 = \frac{y}{-7.3}$

11. $\frac{y}{3} = -1.5$

12. $\frac{n}{99} = -1$

13. $\frac{1}{2} = -\frac{1}{2}b$

14. $\frac{2}{3}x = -\frac{5}{6}$