Solving Equations by Using Addition

Addition Property of Equality: If equal amounts are <u>added</u> to the expressions <u>on each side</u> of an equation, the expressions remain equal.

Example 1: Solve the equation $y - 32 = 65$ by using the Addition Property of Equality.

Solution: $y - 32 = 65$

$y - 32 + 32 = 65 + 32$ Remember to apply the rules for adding real numbers.

$y = 97$ Don't forget, you can always check your solution for accuracy.

Example 2: Solve the equation $12.5 = -7.2 + x$ by using the Addition Property of Equality.

Solution: $12.5 = -7.2 + x$

$12.5 + 7.2 = -7.2 + 7.2 + x$ Remember to apply the rules for adding real numbers.

$19.7 = x$ or $x = 19.7$ Don't forget, you can always check your solution for accuracy.

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

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

$d - \frac{1}{2} + \frac{1}{2} = -\frac{1}{2} + \frac{1}{2}$ Remember to apply the rules for adding real numbers.

$d = 0$ Don't forget, you can always check your solution for accuracy.

Example 4: Solve the equation $d - \frac{1}{3} = -\frac{1}{4}$ by using the Addition Property of Equality.

Solution: $d - \frac{1}{3} = -\frac{1}{4}$

$d - \frac{1}{3} + \frac{1}{3} = -\frac{1}{4} + \frac{1}{3}$

$d = -\frac{1}{4} + \frac{1}{3}$

$d = -\frac{3}{12} + \frac{4}{12}$ Remember to apply the rules for adding real numbers.

$d = \frac{1}{12}$ Don't forget, you can always check your solution for accuracy.

Try These

1. x − 3 = 15

2. t − 8 = -34

3. 18 = y - 7

4. m − 2.4 = 18

5. b − 3.8 = -13.3

6. 275 = x - 365

7. $y - 3\frac{5}{6} = 4\frac{2}{3}$

8. -10 + a = 15

9. -1.8 + x = 0.2

10. $-2\frac{7}{8} + y = -4\frac{1}{8}$

11. -225 + b = 45

12. -17.5 + c = 28.2

13. x - 9 = -2

14. -49 + y = -7

15. m − 99 = -99

16. $y - 2\frac{1}{2} = 3\frac{2}{6}$