

2.13

Addition Property of Equality: Problem Type 1

• Example 1

Solve

$$x - 3 = 9$$

Remember that our goal is to isolate x on one side of the equation. Since 3 is being subtracted from x , we can add 3 to remove it. We must use the addition property to add 3 to both sides of the equation.

To check, replace x with 12 in the original equation:

$$\begin{aligned}x - 3 &= 9 \\12 - 3 &= 9 \\9 &= 9\end{aligned}$$

Since we have a true statement, 12 is the solution.

$$\begin{array}{r}x - 3 = 9 \\+ 3 \quad +3 \\ \hline x \quad = 12\end{array}$$

Since 12 is the solution for the equivalent equation $x = 12$, it is the solution for our original equation.

● ● ● CHECK YOURSELF 1

Solve and check.

$$x - 5 = 4$$

● ● ● CHECK YOURSELF ANSWER

1. 9.

2.13 Exercises

Name _____

Section _____

Date _____

A N S W E R S

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

Solve and check the following equations.

1. $x - 9 = 11$

2. $x - 4 = 6$

3. $x - 8 = 3$

4. $x - 11 = 15$

5. $x - 5 = 2$

6. $11 = x - 5$

7. $x - 7 = 0$

8. $x - 5 = 7$

9. $x - 9 = 3$

10. $x - 7 = 4$

11. $x - 12 = 15$

12. $22 = x - 7$