

2.15

Addition Property of Equality: Problem Type 3

• Example 1

Solve.

$$54 = 168 - x$$

To use the addition property in this case, we need to add the variable x to both sides of the equation.

$$\begin{array}{r} 54 \quad = \quad 168 - x \\ + x \quad \quad + x \\ \hline 54 + x = 168 \end{array}$$

We want to isolate x , therefore we need to subtract 54 from both sides.

$$\begin{array}{r} 54 + x = 168 \\ -54 \quad \quad -54 \\ \hline x = 114 \end{array}$$

Since 114 is the solution for the equivalent equation $x = 114$, it is the solution for our original equation.

● ● ● CHECK YOURSELF 1

Solve and check.

a. $809 = 1112 - x$

b. $10 - x = 3$

● ● ● CHECK YOURSELF ANSWER

1. (a) 303; **(b)** 7.

2.15 Exercises

Name _____

Section _____

Date _____

A N S W E R S

1. _____

2. _____

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11. _____

12. _____

Solve for x and check the following equations.

1. $160 - x = 144$

2. $-10 = 22 - x$

3. $5 - x = -2$

4. $16 - 3 = -x$

5. $48 - x = 22$

6. $110 = 77 - x$

7. $912 - x = 0$

8. $201 = 7 - x$

9. $0 = 12 - x$

10. $18 - x = 44$

11. $21 = 77 - x$

12. $94 - x = 45$