

Lesson 5-9

Example 1 Solve by Using Addition

Solve $m - 3.6 = 2.9$. Check your solution.

$$\begin{array}{ll} m - 3.6 = 2.9 & \text{Write the equation.} \\ m - 3.6 + 3.6 = 2.9 + 3.6 & \text{Add 3.6 to each side.} \\ m = 6.5 & \text{Simplify.} \end{array}$$

CHECK

$$\begin{array}{ll} m - 3.6 = 2.9 & \text{Write the original equation.} \\ 6.5 - 3.6 = 2.9 & \text{Replace } m \text{ with 6.5.} \\ 2.9 = 2.9 \checkmark & \text{Simplify.} \end{array}$$

Example 2 Solve by Using Subtraction

Solve $\frac{7}{8} = \frac{2}{3} + w$.

$$\begin{array}{ll} \frac{7}{8} = \frac{2}{3} + w & \text{Write the equation.} \\ \frac{7}{8} - \frac{2}{3} = \frac{2}{3} + w - \frac{2}{3} & \text{Subtract } \frac{2}{3} \text{ from each side.} \\ \frac{7}{8} - \frac{2}{3} = w & \text{Simplify.} \\ \frac{21}{24} - \frac{16}{24} = w & \text{Rename the fractions using the LCD, 24.} \\ \frac{5}{24} = w & \text{Subtract.} \end{array}$$

Example 3 Solve by Using Division

Solve $2.1b = -12.6$. Check your solution.

$$\begin{array}{ll} 2.1b = -12.6 & \text{Write the equation.} \\ \frac{2.1b}{2.1} = \frac{-12.6}{2.1} & \text{Divide each side by 2.1.} \\ b = -6 & \text{Simplify.} \end{array}$$

CHECK

$$\begin{array}{ll} 2.1b = -12.6 & \text{Write the original equation.} \\ 2.1(-6) = -12.6 & \text{Replace } b \text{ with } -6. \\ -12.6 = -12.6 \checkmark & \text{Simplify.} \end{array}$$

Example 4 Solve by Using Multiplication

a. Solve $\frac{1}{9}y = -2$. Check your solution.

$$\frac{1}{9}y = -2 \quad \text{Write the equation.}$$

$$9\left(\frac{1}{9}y\right) = 9(-2) \quad \text{Multiply each side by 9.}$$

$$y = -18 \quad \text{Simplify. Check the solution.}$$

CHECK $\frac{1}{9}y = -2$ Write the original equation.

$$\frac{1}{9}(-18) \stackrel{?}{=} -2 \quad \text{Replace } y \text{ with } -18.$$

$$-2 = -2 \checkmark \quad \text{Simplify.}$$

b. Solve $5 = \frac{2}{9}c$.

$$5 = \frac{2}{9}c \quad \text{Write the equation.}$$

$$\frac{9}{2}(5) = \frac{9}{2}\left(\frac{2}{9}c\right) \quad \text{Multiply each side by } \frac{9}{2}.$$

$$\frac{45}{2} = c \quad \text{Simplify.}$$

$$22\frac{1}{2} = c \quad \text{Simplify.}$$