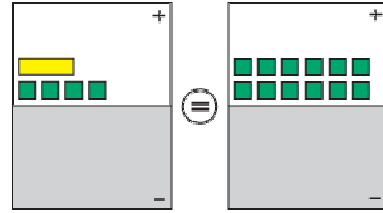


## Lesson 2-4

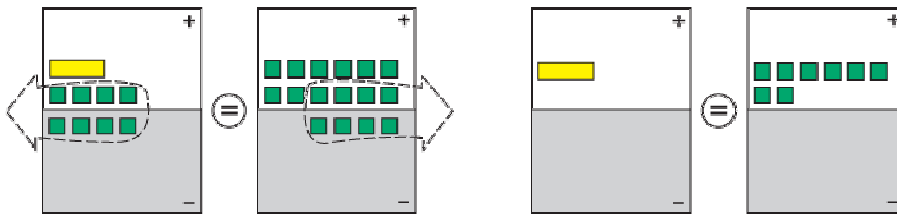
## Example 1

Use Algeblocks to solve  $x + 4 = 12$ .



## Solution

Represent the equation. Adding  $-4$  to each mat will result in zeros and leave the  $x$ -piece alone on one mat.



Read the answer,  $x = 8$ .

## Example 2

Use the mathematical notation to show the steps in solving the equation.

$$x - 2.8 = -0.4$$

## Solution

$$\begin{aligned} x - 2.8 &= -0.4 \\ x - 2.8 + 2.8 &= -0.4 + 2.8 \\ x &= 2.4 \end{aligned}$$

**Example 3**

Solve each equation.

a.  $1\frac{3}{4}2x = 24$

b.  $-4y = 64$

**Solution**

a.  $1\frac{3}{4}2x = 24$

$$1\frac{4}{3}21\frac{3}{4}2x = 241\frac{4}{3}2$$

$$1x = 32$$

$$x = 32$$

b.  $-4y = 64$

$$1-\frac{1}{4}2(-4y) = 641-\frac{1}{4}2$$

$$1y = -16$$

$$y = -16$$

**Example 4**

Solve:  $q - 5 + 26 = |-3 - 8|$

**Solution**

$$\begin{aligned}q - 5 + 26 &= |-3 - 8| \\q + 21 &= 11 \\q + 21 + (-21) &= 11 + (-21) \\q &= -10\end{aligned}$$

The solution is -10.

**Example 5**

**Translate the sentence into an equation using  $n$  to represent the unknown number. Then solve the equation for  $n$ .**

When a number is increased by 28, the result is the square of 5.

**Solution**

When a number is increased by 28, the result is the square of 5.

The equation is:

$$\begin{aligned}n + 28 &= 5^2 \\n + 28 &= 25 \\n + 28 + (-28) &= 25 + (-28) \\n &= -3\end{aligned}$$

The number is -3.