

Look back at Example 4 and notice three things:

1. Each step in the solving process is directly below the preceding step.
2. The equal signs are lined up, one below the other.
3. We created a coefficient of 1 (the multiplicative identity) to isolate the variable.

When the coefficient is  $-1$ , we can clear it by either dividing or multiplying each side by  $-1$ .

**Example 5:** Solve  $-x = 7$  by (a) dividing by  $-1$  (b) multiplying by  $-1$ .

**Procedure:** The coefficient is  $-1$ .

**Answer:** a)  $-x = 7$  ← Divide each side by  $-1$ .      b)  $-x = 7$  ← Multiply each side by  $-1$ .

$$\frac{-1x}{-1} = \frac{7}{-1}$$

$$-1 \cdot (-1x) = -1 \cdot 7$$

$$x = -7 \quad \leftarrow \text{We get the same solution.} \rightarrow \quad x = -7$$

**You Try It 4** Solve each of these equations by clearing the coefficient. Verify the solution. Use Examples 4 and 5 as guides.

a)  $\frac{5}{6}v = -30$

b)  $-20 = -5x$

c)  $12 = \frac{-3y}{4}$

d)  $-w = -14$

e)  $-21p = 6$

f)  $8 = -x$

**Remember:** Whenever we use one of the properties of equality to clear a constant or coefficient, we must keep the equation balanced by modifying each side in the same way.

This is sometimes stated as, “Whatever you do to one side, you must do to the other.”