

### EXAMPLE 5 Write and solve an equation



**BIRD MIGRATION** A flock of cranes migrates from Canada to Texas. The cranes take 14 days (336 hours) to travel 2500 miles. The cranes fly at an average speed of 25 miles per hour. How many hours of the migration are the cranes *not* flying?

#### Solution

Let  $x$  be the amount of time the cranes are not flying. Then  $336 - x$  is the amount of time the cranes are flying.

Distance (miles)	=	Rate (miles/hour)	•	Time spent flying (hours)
2500	=	25	•	$(336 - x)$
				$2500 = 25(336 - x)$
				$2500 = 8400 - 25x$
				$-5900 = -25x$
				$236 = x$

**Write equation.**  
**Distributive property**  
**Subtract 8400 from each side.**  
**Divide each side by  $-25$ .**

#### ANOTHER WAY

You can also begin solving the equation by dividing each side of the equation by 25.

▶ The cranes were not flying for 236 hours of the migration.



#### GUIDED PRACTICE for Example 5

7. **WHAT IF?** Suppose the cranes take 12 days (288 hours) to travel the 2500 miles. How many hours of this migration are the cranes *not* flying?

## 3.3 EXERCISES

#### HOMEWORK KEY

- = **WORKED-OUT SOLUTIONS** on p. WS1 for Exs. 17 and 39
- = **TAKS PRACTICE AND REASONING** Exs. 18, 36, 41, 44, and 45
- = **MULTIPLE REPRESENTATIONS** Ex. 42

### SKILL PRACTICE

1. **VOCABULARY** What is the reciprocal of the fraction in the equation

$$\frac{3}{5}(2x + 8) = 18?$$

2. **WRITING** Describe the steps you would use to solve the equation

$$3(4y - 7) = 6.$$

#### EXAMPLE 1

on p. 148  
for Exs. 3–11

**COMBINING LIKE TERMS** Solve the equation. Check your solution.

- |                        |                          |                         |
|------------------------|--------------------------|-------------------------|
| 3. $p + 2p - 3 = 6$    | 4. $12v + 14 + 10v = 80$ | 5. $11w - 9 - 7w = 15$  |
| 6. $5a + 3 - 3a = -7$  | 7. $6c - 8 - 2c = -16$   | 8. $9 = 7z - 13z - 21$  |
| 9. $-2 = 3y - 18 - 5y$ | 10. $23 = -4m + 2 + m$   | 11. $35 = -5 + 2x - 7x$ |