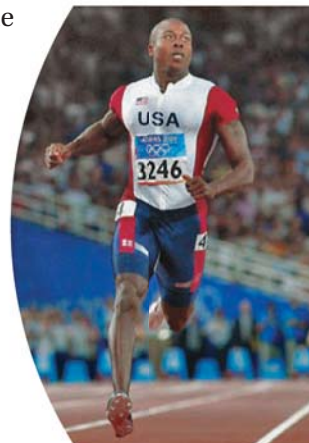


**EXAMPLE 6** Write and solve an equation

**OLYMPICS** In the 2004 Olympics, Shawn Crawford won the 200 meter dash. His winning time was 19.79 seconds. Find his average speed to the nearest tenth of a meter per second.

**Solution**

Let  $r$  represent Crawford's speed in meters per second. Write a verbal model. Then write and solve an equation.

$$\begin{array}{ccccc}
 \text{Distance} & = & \text{Rate} & \cdot & \text{Time} \\
 \text{(meters)} & & \text{(meters/second)} & & \text{(seconds)} \\
 \downarrow & & \downarrow & & \downarrow \\
 200 & = & r & \cdot & 19.79 \\
 \\ 
 \frac{200}{19.79} = \frac{19.79r}{19.79} \\
 10.1 \approx r
 \end{array}$$

► Crawford's average speed was about 10.1 meters per second.

✓ **GUIDED PRACTICE** for Example 6

17. **WHAT IF?** In Example 6, suppose Shawn Crawford ran 100 meters at the same average speed he ran the 200 meters. How long would it take him to run 100 meters? Round your answer to the nearest tenth of a second.

**3.1 EXERCISES****HOMEWORK KEY**

- = **WORKED-OUT SOLUTIONS**  
on p. WS1 for Exs. 13 and 55
- ✚ = **TAKS PRACTICE AND REASONING**  
Exs. 15, 16, 57, 58, 61, 64, 65, and 66
- ◆ = **MULTIPLE REPRESENTATIONS**  
Ex. 59

**SKILL PRACTICE**

1. **VOCABULARY** Copy and complete: Two operations that undo each other are called   ?  .
2. **WRITING** Which property of equality would you use to solve the equation  $14x = 35$ ? *Explain.*

**SOLVING ADDITION AND SUBTRACTION EQUATIONS** Solve the equation. Check your solution.

- |                  |                 |  |                   |
|------------------|-----------------|--|-------------------|
| 3. $x + 5 = 8$   | 4. $m + 9 = 2$  | 5. $11 = f + 6$  | 6. $13 = 7 + z$   |
| 7. $6 = 9 + h$   | 8. $-3 = 5 + a$ | 9. $y - 4 = 3$   | 10. $t - 5 = 7$   |
| 11. $14 = k - 3$ | 12. $6 = w - 7$ | <span style="border: 1px solid red; border-radius: 50%; padding: 2px;">13.</span> $-2 = n - 6$ | 14. $-11 = b - 9$ |

**EXAMPLES 1 and 2**

on pp. 134–135  
for Exs. 3–14