## **EXAMPLE 7** Write and use a compound inequality

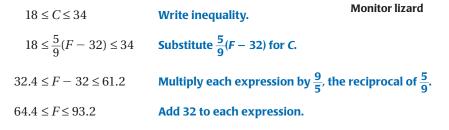
**BIOLOGY** A monitor lizard has a temperature that ranges from 18°C to 34°C. Write the range of temperatures as a compound inequality. Then write an inequality giving the temperature range in degrees Fahrenheit.

## **Solution**

**USE A FORMULA** 

 $C = \frac{5}{9}(F - 32).$ 

In Example 7, use the temperature formula The range of temperatures *C* can be represented by the inequality  $18 \le C \le 34$ . Let *F* represent the temperature in degrees Fahrenheit.



▶ The temperature of the monitor lizard ranges from 64.4°F to 93.2°F.

<b>GUIDED PRACTICE</b>	for Examples 5, 6, and	7		
Solve the inequality. Then graph the solution.				
<b>9.</b> $-1 < 2x + 7 < 19$	9	<b>10.</b> $-8 \le -x - 5 \le 6$		
<b>11.</b> $x + 4 \le 9$ or $x - $	$3 \ge 7$	<b>12.</b> $3x - 1 < -1$ or $2x + 5 \ge 11$		
<b>13. WHAT IF?</b> In Example 7, write a compound inequality for a lizard whose temperature ranges from 15°C to 30°C. Then write an inequality giving th temperature range in degrees Fahrenheit.				

**1.6 EXERCISES** 

HOMEWORK

 = WORKED-OUT SOLUTIONS on p. WS1 for Exs. 13, 25, and 55
= TAKS PRACTICE AND REASONING Exs. 15, 36, 56, 59, 61, and 62

## **Skill Practice**

- **1. VOCABULARY** Copy and complete: The set of all points on a number line that represent solutions of an inequality is called the <u>?</u> of the inequality.
- 2. **WINTENDG** The first transformation on page 42 can be written as follows:

If *a*, *b*, and *c* are real numbers and a > b, then a + c > b + c.

Write similar statements for the other transformations listed on page 42.

EXAMPLE 1	<b>GRAPHING INEQUALITIES</b> Graph the inequality.			
on p. 41 for Exs. 3–10	<b>3.</b> $x > 4$	<b>4.</b> $x < -1$	<b>5.</b> $x \le -5$	<b>6.</b> $x \ge 3$
	<b>7.</b> $6 \ge x$	<b>8.</b> $-2 < x$	<b>9.</b> $x \ge -3.5$	<b>10.</b> $x < 2.5$