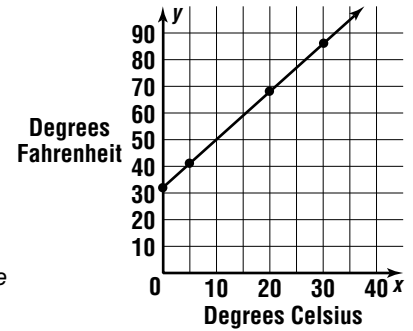


# 8-5 Draw a Graph (Pages 396–399)

A graph lets you represent data in pictorial form. If the graph of a set of data is a line, you can use the graph to predict additional values that you might obtain if you gathered more data.

## EXAMPLE

Eduardo noticed that his daily paper reported high temperatures for cities around the world in Celsius and Fahrenheit. He plotted the two temperatures for four cities and drew a line through the points. What was the temperature in degrees Fahrenheit for a fifth city whose high temperature was  $10^{\circ}\text{C}$ ? Assume that the rate of change is constant.



*Find the point corresponding to  $10^{\circ}\text{C}$  on the horizontal axis. Go straight up to the line that Eduardo drew. Estimate the y-coordinate of the point. The y-coordinate appears to be about 50. So the high temperature was about  $50^{\circ}\text{F}$ .*

## Try These Together

*Use the graph for the example above.*

1. What was the high in degrees Fahrenheit in a city that had a Celsius high of  $15^{\circ}\text{C}$ ?

*HINT: On the graph, find the point with x-coordinate 15. What is the approximate y-coordinate?*

2. What was the approximate high in degrees Celsius in a city that had a Fahrenheit high of  $77^{\circ}\text{F}$ ?

*HINT: On the graph, find the point with y-coordinate 77. What is the approximate x-coordinate?*

## PRACTICE

*Use a graph to solve each problem. Assume the rate is constant in each problem.*

3. Find the missing coordinates of each point given so that the point is on the line that contains  $(2, 3)$  and  $(-1, -1)$ .  
 a.  $(?, 11)$       b.  $(?, -9)$
4. **Home Repair** A repair person charges a basic fee for a house call and an additional amount based on time. She charged \$65 for a job that took 30 minutes and \$85 for a job that took 50 minutes. Predict how much she would charge for a job that takes 70 minutes.



5. **Standardized Test Practice** A line contains the three points  $(-1, 0)$ ,  $(3, 1)$ , and  $(7, ?)$ . Find the missing y-coordinate for the third point.

- A** 2                      **B** 1                      **C** -1                      **D** -2

**Answers:** 1. about  $59^{\circ}\text{F}$  2. about  $25^{\circ}\text{C}$  3. a. (8, 11) b. (-7, -9) 4. \$105 5. A