NAME _____ DATE _____

Real-Life Application:
When Will I Ever Use This?

For use with pages 96–101

Temperature Scales

The most common temperature scales are Fahrenheit and Celsius.
The United States is one of the few countries in the world that does not
predominantly use the Celsius scale for everyday temperature measure-
ment. In some cases, both types of measurement are used. Weather
reports, for example, usually give a temperature reading in both Celsius
and Fahrenheit. Nevertheless, in the United States, the Fahrenheit scale
is more commonly used than the Celsius scale.

The Swedish astronomer Anders Celsius developed the Celsius scale
in the mid-1700s while the Fahrenheit scale was developed around the
same time by a German physicist, Gabriel Daniel Fahrenheit. On a
Celsius scale, 0° is the freezing point of water and 100° is its boiling
point. This is different on a Fahrenheit scale, where the freezing point of
water is 32° and its boiling point is 212°.

In Exercises 1–4, use the following information.

It is sometimes necessary to convert degrees Celsius to degrees
Fahrenheit or vice versa. To convert from Celsius to Fahrenheit, you
can use the formula

$$F = \frac{9}{5}C + 32$$

where *C* is the temperature in degrees Celsius and *F* is the temperature
in degrees Fahrenheit.

1. Convert each of the following measurements to degrees Fahrenheit.

   a. 20°C   **b.** 30°C   **c.** -5°C

2. Solve the conversion formula for *C* and write a reason for each step.

3. Write another equation that is equal to your answer in Exercise 2.
What property should you have used to obtain your equation?

4. Convert each of the following measurements to degrees Celsius.

   a. 95°F   **b.** 14°F   **c.** -17.5°F