EXAMPLE 4 Comparing Two Numbers Using Percent

A person's body fat percentage is the weight of the person's fat divided by the person's weight. The following ideal body fat percentages are from the American Council on Exercise.

Description	Women	Men
Athletes	14–20%	6–13%
Fitness	21–24%	14–17%
Average	25–31%	18–24%
Obese	32%+	25%+

Find the body fat percentage for the following people.

a. A man who weighs 210 pounds with 44 pounds of fat

b. A woman who weighs 145 pounds with 38 pounds of fat

SOLUTION

a. A man who weighs 210 pounds with 44 pounds of fat:

$$\frac{\text{Fat weight}}{\text{Total weight}} \rightarrow \frac{44 \text{ lb}}{210 \text{ lb}} \approx 0.2095 \approx 20.1\%$$

The man's body fat percentage is about 20%.

b. A woman who weighs 145 pounds with 38 pounds of fat:

$$\frac{\text{Fat weight}}{\text{Total weight}} \rightarrow \frac{38 \text{ lb}}{145 \text{ lb}} \approx 0.2621 \approx 26.2\%$$

The woman's body fat percentage is about 26%.

Study Tip

When you find a percent by dividing, the numerator and the denominator should have the same units.

Checkpoint

Help at Math.andYOU.com

The circle graph represents a typical 180-pound man. Find the percent of each type of material.