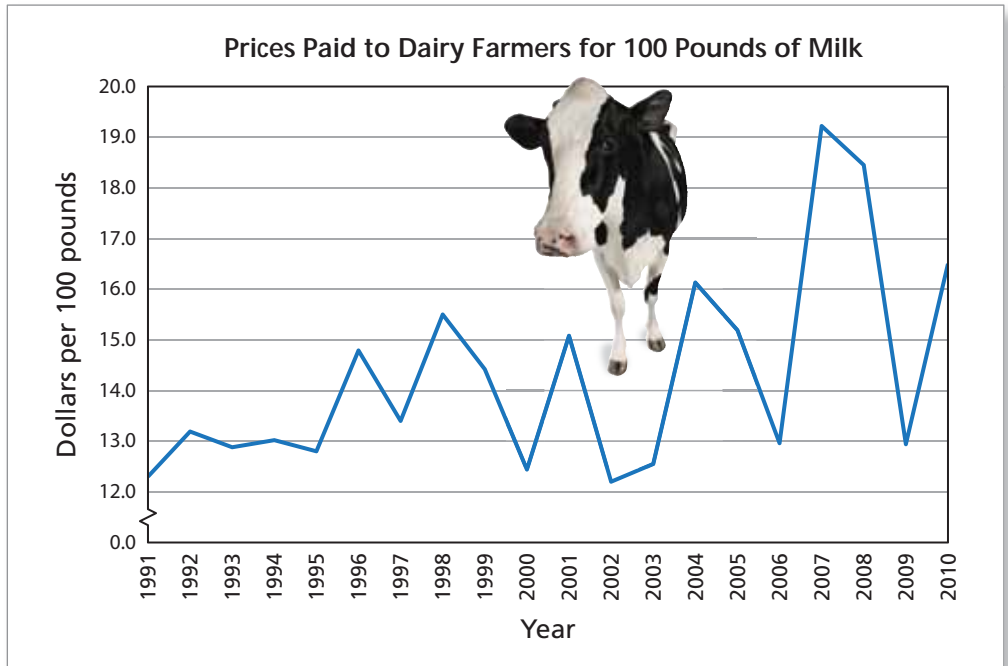EXAMPLE 2   **Analyzing a Unit Price**

Dairy farmers are paid for every 100 pounds of milk produced.

a. In 2010, how much did a dairy farmer earn per gallon of milk produced? (A gallon of whole milk weighs about 8.6 pounds.)

b. In 2010, the price of a gallon of milk was about $3.25. What percent of the price did the dairy farmer earn?

Study Tip

An old saying is "A pint is a pound the world around." The actual weight of a pint of water is about 1.04 pounds. There are 8 pints in a gallon, so a gallon of water weighs about 8.32 pounds.

Prices Paid to Dairy Farmers for 100 Pounds of Milk

SOLUTION

a. In 2010, a dairy farmer earned about $16.50 for every 100 pounds of milk produced.

$$\text{Unit price} = \frac{\$16.50}{100\ \text{lb}} = \frac{\$16.50}{100\ \cancel{\text{lb}}}\left(\frac{8.6\ \cancel{\text{lb}}}{1\ \text{gal}}\right) = \frac{\$1.419}{\text{gal}}$$

A dairy farmer earned about $1.42 per gallon of milk produced.

b.

Amount earned by farmer

Price per gallon

$$\frac{\$1.42}{\$3.25} \approx 0.44$$

The dairy farmer earned about 44% of the price.

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In 2010, a dairy farmer earned about $25 for every 100 pounds of milk produced organically. The price of a gallon of organic milk was about $5.25.

c. How much did a dairy farmer earn for a gallon of organic milk in 2010?

d. What percent of the price did the dairy farmer earn?

For milk to be labeled "organic," the cows must meet four criteria.

• Not treated with growth hormone
• Not given antibiotics while in a herd
• Not fed feed treated with pesticides
• Must have access to pasture