Comparing Unit Prices

EXAMPLE 3 Comparing Unit Prices

Compare the unit prices of the three laundry detergents.

a. Brand A

100 fl oz
$12.99

b. Brand B

2 gal
$17.99

c. Brand C

50 fl oz
$7.99

Study Tip

To compare unit prices, you need the same units. That is why a conversion factor is used to calculate the unit price of brand B.

SOLUTION

a. $$\text{Unit price} = \frac{\text{item price}}{\text{total units}} = \frac{\$12.99}{100 \text{ fl oz}} \approx \$0.13 \text{ per fl oz}$$

b. $$\text{Unit price} = \frac{\text{item price}}{\text{total units}} = \frac{\$17.99}{2 \text{ gal}}\left(\frac{1 \text{ gal}}{128 \text{ fl oz}}\right) \approx \$0.07 \text{ per fl oz}$$

c. $$\text{Unit price} = \frac{\text{item price}}{\text{total units}} = \frac{\$7.99}{50 \text{ fl oz}} \approx \$0.16 \text{ per fl oz}$$

Brands A and C are comparable, with brand A being a little less per fluid ounce. Brand B has a considerably lower unit price.

Checkpoint

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Each of the above detergents recommends using 2 fluid ounces per load. Compare the cost per load of brand B with the cost per load of homemade laundry soap.

Homemade Laundry Soap (Use 1/2 cup per load)

* 1/3 bar Fels-Naptha Soap ($0.40)
* 1/2 cup washing soda ($0.17)
* 1/2 cup borax powder ($0.14)

Preparation: Grate the soap and put it in a cooking pan. Add 6 cups water and heat until the soap melts. Add the washing soda and borax and stir until dissolved. Pour 4 cups hot water into a bucket. Add the soap mixture and stir. Then add 1 gallon plus 6 cups water and stir. Let the soap mixture stand for about 24 hours and it will gel.