7-2 Exercises

FOR EXTRA PRACTICE

see page 744

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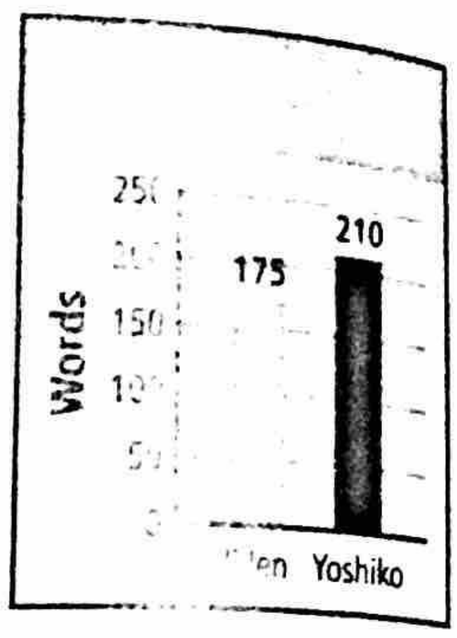
GUIDED PRACTICE

See Example 1

1. The height of a bridge is 68 ft, and its length is 340 ft. Find the ratio of its height to its length in simplest form. 1:5

See Example 2

For Exercises 2 and 3, use the bar graph to find each unit rate.



2. Ellen's words per minute 35 wpm
3. Yoshiko's words per minute 42 wpm

See Example 3

Determine the better buy.

4. a 15 oz can of corn for $1.39 or a 22 oz can for $1.85
   22 oz can
5. a dozen golf balls for $22.99 or 20 golf balls for $39.50
   dozen golf balls

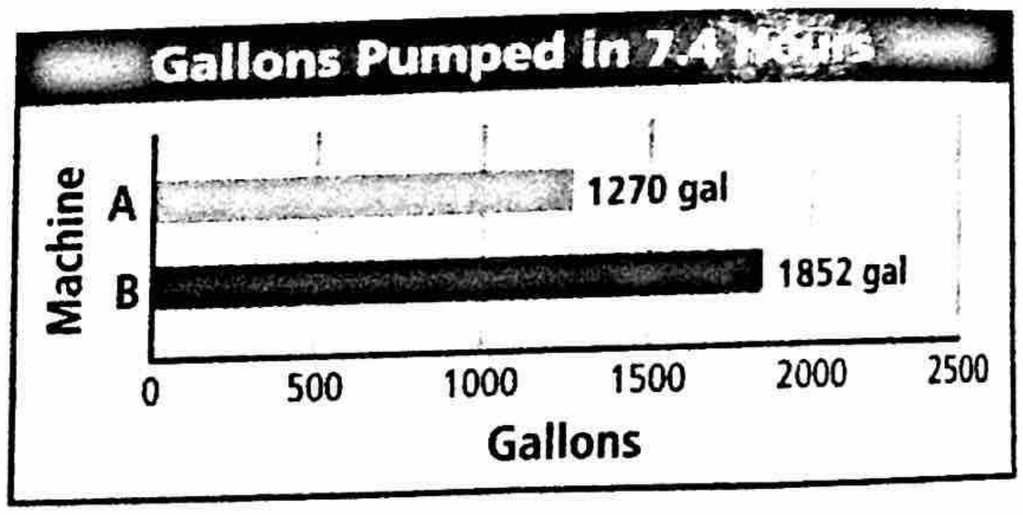
INDEPENDENT PRACTICE

See Example 1

6. A child's basketball hoop is 6 ft tall. Find the ratio of its height to the height of a regulation basketball hoop, which is 10 ft tall. Express the ratio in simplest form. 3:5

See Example 2

For Exercises 7 and 8, use the bar graph to find each unit rate.



7. gallons per hour for machine A ≈ 171.6 gal/h
8. gallons per hour for machine B ≈ 250.3 gal/h

See Example 3

Determine the better buy.

9. 4 boxes of cereal for $9.56; 2 boxes of cereal for $4.98
   4 boxes
10. 8 oz jar of soup for $2.39; 10 oz jar of soup for $2.69
    10 oz jar

PRACTICE AND PROBLEM SOLVING

Find each unit rate.

11. $525 for 20 hours of work
12. 96 chairs in 8 rows 12 chairs per row
13. 12 slices of pizza for $9.25
14. 64 beats in 4 measures of music

Find each unit price and tell which is the better buy.

15. $7.47 for 3 yards of fabric; $11.29 for 5 yards of fabric
16. A $\frac{1}{2}$-pound hamburger for $3.50; a $\frac{1}{3}$-pound hamburger for $3.25
17. 10 gallons of gasoline for $13.70; 12.5 gallons of gasoline for $17.75
18. $1.65 for 5 pounds of bananas; $3.15 for 10 pounds of bananas

7-3 Exercises

FOR EXTRA PRACTICE

see page 744

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GUIDED PRACTICE

See Example 1

Find the appropriate factor for each conversion.

1. feet to inches $\frac{12 \text{ in.}}{1 \text{ ft}}$ **2.** gallons to pints $\frac{8 \text{ pt}}{1 \text{ gal}}$ **3.** centimeters to meters $\frac{1 \text{ m}}{100 \text{ cm}}$

See Example 2

4. Aihua drinks 4 cups of water a day. Find the total number of gallons of water she drinks in a year. **91.25 gal**

See Example 3

5. A model airplane flies 22 feet in 2 seconds. What is the airplane's speed in miles per hour? **7.5 mi/h**

See Example 4

6. If a fish swims 0.09 centimeter every hundredth of a second, how fast in meters per second is it swimming? **0.09 m/s**

See Example 5

7. There are about 400 cocoa beans in a pound. There are 2.2 pounds in a kilogram. About how many grams does a cocoa bean weigh? **≈ 1.14 g**

INDEPENDENT PRACTICE

See Example 1

Find the appropriate factor for each conversion.

8. kilometers to meters **9.** inches to yards **10.** days to weeks

See Example 2

11. A theme park sells 71,175 yards of licorice each year. How many feet per day does the park sell? **585 ft**

See Example 3

12. A yellow jacket can fly 4.5 meters in 9 seconds. How fast in kilometers per hour can a yellow jacket fly? **1.8 km/h**

See Example 4

13. Brilco Manufacturing produces 0.2 of a brick every tenth of a second. How many bricks can be produced in an 8-hour day? **57,600 bricks**

See Example 5

14. Assume that one dollar is equal to 1.14 euros. If 500 g of an item is selling for 25 euros, what is its price in dollars per kg? **$43.86/kg**

PRACTICE AND PROBLEM SOLVING

Use conversion factors to find each specified amount.

15. radios produced in 5 hours at a rate of 3 radios per minute

16. distance traveled (in feet) after 12 seconds at 87 miles per hour

17. hot dogs eaten in a month at a rate of 48 hot dogs eaten each year **4 hot dogs**

18. umbrellas sold in a year at a rate of 5 umbrellas sold per day **1825 umbrellas**

19. miles jogged in 1 hour at an average rate of 7.3 feet per second **≈ 4.98 mi**

20. states visited in a two-week political campaign at a rate of 2 states per day **28 states**