

2-6**Practice**

Form K

Ratios, Rates, and Conversions

Convert the given amount to the given unit.

1. 12 in.; cm **30.48**

2. 528 cm; yd **5.77**

3. 9 hr; min **540**

4. 12 meters; cm **1200**

5. 8 liters; qt **8.45**

6. 7 days; hours **168**

7. 10 pounds; grams **4535.92**

8. 45 ft; yd **15**

9. 10 meters; ft **32.81**

10. A plumber needs to replace 20 feet of copper piping. When he gets to the supply store, the lengths are given in meters. How many meters of piping does he need to purchase? **6.1 m**

11. An athletic director is laying out a rectangular soccer field to be 60 m wide and 95 m long. What are the dimensions of the field to the nearest whole yard?
66 yd wide by 104 yd long

Complete each statement.

12. 9 gal/s = **2160** qt/min

13. 5.5 days = **7920** min

14. 50 yd = **45.72** m

15. 10 mi/hr = **268.2** m/min

16. 25 mi/gal = **10.61** km/L

17. 5 m/s = **16.4** ft/s

2-6

Practice (continued)

Form K

Ratios, Rates, and Conversions

18. Which weighs more, 5 ounces or 150 grams? **150 grams**
19. Which is longer, 5 miles or 10 kilometers? **10 kilometers**
20. Which is the better buy, 3 pounds for \$8.31 or 5 pounds for \$12.95? Explain.
5 pounds for \$12.95 because the unit price is \$2.59 and the unit price of the 3 lb is \$2.77.
21. A cyclist is riding 18 miles per hour.
- What conversion factors should be used to convert 18 mi/hr to ft/sec?
 $\frac{1 \text{ hr}}{60 \text{ min}}, \frac{1 \text{ min}}{60 \text{ sec}}, \frac{5280 \text{ ft}}{1 \text{ mi}}$
 - How many feet per second is the cyclist riding? **26.4**

Determine if each rate is a unit rate.

22. 3 liters per 60 seconds 23. 55 miles per hour 24. \$15 per hour
no **yes** **yes**

Find each unit rate.

25. 5 pounds of apples cost \$9.95. **\$1.99 per lb**
26. The tub filled with 12 gallons of water in 5 minutes. **2.4 gal per min**
27. Rocky earned \$102 in 8 hours. **\$12.75 per hr**
28. **Writing** Suppose you want to convert miles per hour to feet per second. What conversion factors would you choose to use? How did you determine which units should go in the numerators and the denominators of the conversion factors?
 $\frac{5280 \text{ ft}}{1 \text{ mi}}, \frac{1 \text{ min}}{60 \text{ sec}}, \frac{1 \text{ hr}}{60 \text{ min}}$; **The conversion factors must be set up with units in the numerator and denominator so that all of the units cancel each other leaving you with $\frac{\text{ft}}{\text{sec}}$.**