

# Convert Measurement Units

## Convert Larger Units to Smaller Units

Each relationship in the table can be written as a ratio. For example, you know that 1 yard = 3 feet. You can use the ratio  $\frac{3 \text{ ft}}{1 \text{ yd}}$  to convert from yards to feet.

Customary Conversions			
Type of Measure	Larger Unit	→	Smaller Unit
Length	1 foot (ft)	=	12 inches (in.)
	1 yard (yd)	=	3 feet
	1 mile (mi)	=	5,280 feet
Weight	1 pound (lb)	=	16 ounces (oz)
	1 ton (T)	=	2,000 pounds
Capacity	1 cup (c)	=	8 fluid ounces (fl oz)
	1 pint (pt)	=	2 cups
	1 quart (qt)	=	2 pints
	1 gallon (gal)	=	4 quarts

Like a unit rate, a **unit ratio** is one in which the denominator is 1 unit. So, the ratio  $\frac{3 \text{ ft}}{1 \text{ yd}}$  is a unit ratio.

**Dimensional analysis** is the process of including units of measurement as factors when you compute.

## Guided Practice

**Complete.** (Examples 1 and 3)

1.  $5\frac{1}{3} \text{ yd} =$  \_\_\_\_\_ ft    2.  $4\frac{1}{2} \text{ pt} =$  \_\_\_\_\_ c    3. 12 qt = \_\_\_\_\_ gal    4. 28 in. = \_\_\_\_\_ ft

Show your work.

5. A large grouper can weigh  $\frac{1}{3}$  ton. How much does a large grouper weigh to the nearest pound? (Example 2) \_\_\_\_\_

# Independent Practice

Complete. (Examples 1 and 3)

1. 18 ft = \_\_\_\_\_ yd

2. 2 lb = \_\_\_\_\_ oz

3. 6.5 c = \_\_\_\_\_ fl oz

Show your work.

4. 2 mi = \_\_\_\_\_ ft

5. 5,000 lb = \_\_\_\_\_ T

6.  $2\frac{3}{4}$  qt = \_\_\_\_\_ pt

7. One of the largest pumpkins ever grown weighed about  $\frac{3}{4}$  ton. How many pounds did the pumpkin weigh? (Example 2)

8. A 40-foot power boat is for sale by owner. How long is the boat to the nearest yard? (Example 4)

Show your work.

9. A 3-pound pork loin can be cut into 10 pork chops of equal weight. How many ounces is each pork chop?

20.  $1\frac{1}{4}$  mi = \_\_\_\_\_ ft

21. 13 c = \_\_\_\_\_ pt

22.  $3\frac{3}{8}$  T = \_\_\_\_\_ lb

23. Speed skiing takes place on a course that is  $\frac{2}{3}$  mile long. How many feet long is the course?

24. A total of 35 pints of blood were collected at a local blood drive. How many quarts of blood were collected?

Show your work.