

Section 5.3 American/English Units

Name _____

Conversion factors

1 foot = 12 inches

1 yard = 3 feet

1 mile = 5280 feet

1 pound = 16 ounces

1 ton = 2000 pounds

1 cup = 8 fluid ounces

1 pint = 2 cups

1 quart = 2 pints

1 gallon = 4 quarts

1 minute = 60 seconds

1 hour = 60 minutes

1 day = 24 hours

Example 1: Convert 3 yards to feet.

Start with your given units and place them over one to make it a fraction. Then multiply by unit fractions. Set up your units to cancel out. For example, if you have yards in the numerator, place yards in the denominator.

$$3 \text{ yards} = \frac{3 \text{ yards}}{1} \cdot \frac{3 \text{ feet}}{1 \text{ yard}} = 9 \text{ feet}$$

Example 2: Convert 5 days into minutes.

$$5 \text{ days} = \frac{5 \text{ days}}{1} \cdot \frac{24 \text{ hr}}{1 \text{ days}} \cdot \frac{60 \text{ min}}{1 \text{ hr}} = 7200 \text{ minutes}$$

Try it: Fill in the missing parts to convert 2 quarts to cups.

$$2 \text{ quarts} = \frac{2 \text{ qt}}{1} \cdot \frac{2}{\text{qt}} \cdot \frac{\text{cups}}{\text{qt}} = \quad \text{cups}$$

Practice:

1. 33 yards to feet

2. 80 ounces to pounds

3. 10,000 ft to miles

4. 2.5 tons to ounces

5. 128 fluid ounces to gallons

6. How many seconds are there in one year?

Section 5.4 Metric Units

Conversion factors

1 kilometer = 1000 meters

1 hectometer(hm) = 100 meters

1 dekameter(dam) = 10 meters

1 meter = 10 decimeters(dm)

1 meter = 100 centimeters(cm)

1 meter = 1000 millimeters(mm)

In the metric system you can use unit fractions or just move the decimal point. The chart below shows how many places to move the decimal point and which direction to move it.

km	hm	dam	meter	dm	cm	mm
kg	hg	dag	gram	dg	cg	mg
kl	hl	dal	liter	dl	cl	ml

Example 1: Convert 10 kilometers to centimeters.

To get from km to cm in the chart, move 5 decimal places to the right.

10 kilometers = 1,000,000 cm

Example 2: Convert 1000mg to grams

1000mg = 1gram (3 places to the left)

Practice:

1. 400 grams to kilograms

2. 1 centimeter to meters

3. 400 liters to milliliters

4. 45.5 centimeters to mm

5. 500 mg to cg

6. 0.0034 ml to liters