

Geometry 9/13

Warm Up IXL

6th Grade

Z.7

0-1 Changing Units of Measure within a System

I can convert units of measure within the standard and metric system

Standard system: (aka US customary system)

inches (in), feet (ft), yards (yd), miles (mi), pounds (lb),
ounces (oz), tons (T), cups (c), fluid ounces (fl oz), pints
(pt), quarts (qt), gallons (gal) ...

Metric system:

millimeters (mm), centimeters (cm), meters (m),
kilometers (km), milligrams (mg), grams (g),
kilograms (kg), milliliters (mL), liters (L)...

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How to convert units within a system:

1. From larger units to smaller units: **Multiply**

2. From smaller units to larger units: **Divide**

When more than one conversion is necessary use Dimensional Analysis (conversion changes) and multiply by a ratio of units

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Ex. 1 State which metric unit you would use to measure the following objects

A. a pen

cm

B. liquid in a cup

mL

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| Metric Units of Length |
|------------------------------------|
| 1 kilometer (km) = 1000 meters (m) |
| 1 m = 100 centimeters (cm) |
| 1 cm = 10 millimeters (mm) |

| Customary Units of Length |
|-------------------------------|
| 1 foot (ft) = 12 inches (in.) |
| 1 yard (yd) = 3 ft |
| 1 mile (mi) = 5280 ft |

| Metric Units of Capacity |
|-------------------------------------|
| 1 liter (L) = 1000 milliliters (mL) |

| Customary Units of Capacity | |
|------------------------------------|-----------------------|
| 1 cup (c) = 8 fluid ounces (fl oz) | 1 quart (qt) = 2 pt |
| 1 pint (pt) = 2 c | 1 gallon (gal) = 4 qt |

| Metric Units of Mass |
|----------------------------------|
| 1 kilogram (kg) = 1000 grams (g) |
| 1 g = 1000 milligrams (mg) |

| Customary Units of Weight |
|-------------------------------|
| 1 pound (lb) = 16 ounces (oz) |
| 1 ton (T) = 2000 lb |

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Ex. 2 Complete each sentence

A. 4.2 km = 4200 m

$$4.2 \times 1000$$

B. 13 yds = 39 ft

$$13 \times 3 = 39$$

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Ex. 3 complete each sentence

A. 17 mm = _____ m

$$\frac{17}{10} = 1.7 \text{ cm}$$
$$\frac{1.7}{100} = \boxed{0.017}$$

B. 6600 yds = _____ mi

$$6600 \times 3 = \frac{19800 \text{ ft}}{5280}$$
$$\boxed{3.75 \text{ mi}}$$

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Ex. 4 Complete each sentence

A. 4 gal = 32 pt

$$4 \cdot 8 =$$

B. 3.7 L = 3700 mL

$$3.7 \times 1000$$

C. 5.47 kg = 5,470,000 mg

$$5.47 \cdot 1000 = 5470 \text{ g} \times 1000$$

$$5470 \cdot 100 = 547,000$$

D. 5 T = 160,000 oz

$$5 \cdot 2000 = 10,000 \text{ lb} \cdot 16$$

| Customary Units of Capacity | |
|------------------------------------|-----------------------|
| 1 cup (c) = 8 fluid ounces (fl oz) | 1 quart (qt) = 2 pt |
| 1 pint (pt) = 2 c | 1 gallon (gal) = 4 qt |

$$1 \text{ gallon} = 8 \text{ pt}$$

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