Tough Conversations!

Name: Key

7th Grade Math

Use the tables below to convert each of the following measurements.

Customary Units	Metric Units	Customary/Metric
1 ft = 12 in 1 yd = 3 ft 1 mi = 5,280 ft	1 m = 100 cm 1 km = 1,000 m	1 in = 2.54 cm 1 mi = 1.6093 km
1 cup = 8 fl oz 1 pt = 2 cup 1 qt = 2 pt 1 gal = 4 qt	1 liter = 1,000 mL	1 gal = 3.79 liters
1 lb = 16 oz 1 ton = 2,000 lb	1 kg = 1,000 grams	1 lb = 0.45 kg

1. 7 qt = how many cups?

$\frac{7\text{qt}}{1} \cdot \frac{2\text{pt}}{1\text{qt}} \cdot \frac{2\text{c}}{1\text{pt}}$

28 c

2. 32,000 in = how many mi?

$\frac{32{,}000\text{in}}{1} \cdot \frac{1\text{ft}}{12\text{in}} \cdot \frac{1\text{mi}}{5{,}280\text{ft}}$

$\frac{32{,}000\text{ mi}}{63{,}360} = .51\text{ mi}$

3. 4 days = how many sec?

$\frac{4\text{ days}}{1} \cdot \frac{24\text{hrs}}{\text{day}} \cdot \frac{60\text{min}}{\text{hr}} \cdot \frac{60\text{sec}}{\text{min}}$

345,600 sec

4. 4 tons = how many kg?

$\frac{4\text{ tons}}{1} \cdot \frac{2{,}000\text{ lbs}}{\text{ton}} \cdot \frac{.45\text{kg}}{1\text{-lb}}$

3,600 kg

5. 1.2 mi = how many cm?

$\frac{1.2\text{mi}}{1} \cdot \frac{5{,}280\text{ ft}}{\text{mi}} \cdot \frac{12\text{in}}{\text{ft}} \cdot \frac{2.54\text{cm}}{\text{in}}$

193,121.28 cm

6. 17 gal = how many oz?

$\frac{17\text{ gal}}{1} \cdot \frac{4\text{qts}}{\text{gal}} \cdot \frac{2\text{pts}}{\text{qt}} \cdot \frac{2\text{c}}{\text{pt}} \cdot \frac{8\text{-oz}}{\text{c}}$

2,176-oz

7. 3.2 km = how many cm?

$$\frac{3.2\text{ km}}{1}\cdot\frac{1{,}000\text{ m}}{\text{km}}\cdot\frac{100\text{ cm}}{\text{m}}$$

320,000 cm

8. 10 liters = how many qts?

$$\frac{10\text{ L}}{1}\cdot\frac{1\text{ gal}}{3.79\text{ L}}\cdot\frac{4\text{ qts}}{\text{gal}}$$

$$\frac{40\text{ qts}}{3.79} = 10.55\text{ qts}$$

9. 32 in = how many m?

$$\frac{32\text{ in}}{1}\cdot\frac{2.54\text{ cm}}{\text{in}}\cdot\frac{1\text{ m}}{100\text{ cm}}$$

$$\frac{81.28\text{ m}}{100} = .8128\text{ m}$$

See if you can do this one . . . .

350 lbs of H_20 is how many gal?

10. 420 oz = how many pts?

$$\frac{420\text{-oz}}{1}\cdot\frac{1\text{ c}}{8\text{ oz}}\cdot\frac{1\text{ pt}}{2\text{ c}}$$

$$\frac{420\text{ pts}}{16} = 26.25\text{ pts}$$

$$\frac{350\text{-lbs}}{1}\cdot\frac{16\text{ oz}}{1\text{ lb}}\cdot\frac{1\text{ c}}{8\text{-oz}}\cdot\frac{1\text{ pt}}{2\text{ c}}\cdot\frac{1\text{ qt}}{2\text{ pts}}\cdot\frac{1\text{ gal}}{4\text{ qts}}$$

$$\frac{5{,}600\text{ gal}}{128} = 43.75\text{ gal}.$$