Metric System

Distance	Weight	Volume
1 kilometer = 1000 meters	1 kilogram = 1000 grams	1 kiloliter = 1000 liters
1 meter = 100 centimeters	1 gram = 100 centigrams	1 liter = 100 centiliters
1 meter = 1000 millimeters	1 gram = 1000 milligrams	1 liter = 1000 milliliters
1 meter = 0.001 kilometers	1 gram = 0.001 kilograms	1 liter = 0.001 kiloliters
1 centimeter = 0.01 meters	1 centigram = 0.01 grams	1 centiliter = 0.01 liters
1 millimeter = 0.001 meter	1 milligram = 0.001 grams	1 milliliter = 0.001 liters

Examples:

Starting unit	Conversion Factor	Ending Units
liters	Multiply by 1000	milliliters
grams	Multiply by 1000	milligrams
meters	Divide by 1000	kilometers
centigrams	Divide by 100	grams

If you start with the *larger* unit, multiply by the conversion factor to convert to a smaller unit. If you start with a *smaller* unit, divide to get a larger unit.

Practice Problems 1:

1. How many grams are there in 6,000 milligrams?

2. How many meters are there in 25 kilometers?

3. How many centiliters are there in 2.2 liters?

4. How many kilograms are there in 4,300 centigrams?

5. How many milliliters are there in 340 centiliters?

6. How many milligrams are in 100 kilograms?

United States Standard Measurement System

Distance	Weight	Volume
1 mile = 5280 feet	1 pound = 16 ounces	1 gallon = 4 quarts
1 foot = 12 inches	1 ton = 2000 pounds	1 quart = 2 pints
1 yard = 3 feet		1 pint = 2 cups
		1 gallon = 16 cups
		1 quart = 4 cups

Practice Problems 2:

1. How many quarts are in 2 gallons?

2. How many miles are in 27456 feet?

3. How many ounces are in 3.5 pounds?

4. How many pints are in 6 cups?

5. A recipe for key lime pie calls for ¾ cups of condensed milk. If condensed milk is sold in 1 pint cans, and Marie wants to make 4 key lime pies, how many cans of condensed milk does she need to buy?

6. Daniel wants to make a Halloween costume. He needs 5 feet of shiny blue fabric to make his cape. At the store, the fabric is sold for $1.25 a yard. How many yards of fabric should Daniel buy and what will be the total cost?

Common Equivalences

1 mile = 1.96 kilometers
1 km = 0.62 miles
1 ft = 30.48 cm
1 in. = 2.54 cm
1 m = 3.28 ft
1 kg = 2.2 lbs.
1 lb = 0.453 kg
1 gal = 3.7852 l
1 l = 0.264 gal

1°C = 33.8°F
1°F = -17.2°C

Practice Problems 3: (round decimals to the hundredth place)

1. How many liters are in 3 gallons?

2. How many miles are in 2 kilometers?

3. How many kilograms are in 32 ounces?

4. How many centimeters are in 4 feet?

5. How many feet are in 6.5 meters?

6. How many milliliters are in 1 gallon?

7. How many miles are in 3000 meters?

8. How many centimeters are in 25 inches?

9. How many pounds are in 2500 grams?

10. How many yards are in 3 meters?