Metric Conversions and Dimensional Analysis Name:

Metric conversions

1) 3.4 liters to milliliters 6) 45 dekameters to centimeters

2) 876 millimeters to decimeters 7) 117 centigrams to kilograms

3) 78,999 milligrams to grams 8) 0.0009 kiloliters to dekaliters

4) 0.9 centigrams to milligrams 9) 44 centimeters to meters

5) 112 decimeters to millimeters 10) 277 hectograms to grams

Density calculations

1. A block of aluminum occupies a volume of 15.0 mL and weighs 40.5 g. What is its density?
2. Find the mass of 250.0 mL of benzene. The density of benzene is 0.8765 g/mL.
3. What volume of silver metal will weigh exactly 2500.0 g. The density of silver is 10.5 g/cm3.

Dimensional analysis

1. Convert 2.05 x 105 seconds into years.
2. Traveling at 65 miles/hour, how many minutes will it take to drive 125 miles to San Diego?
3. Traveling at 65 miles/hour, how many feet can you travel in 22 minutes? (1 mile = 5280 feet)
4. The total amount of fresh water on earth is estimated to be 3.73 x 108 km3. What is this volume in cubic meters? In liters?
5. In Raiders of the Lost Ark, Indiana Jones tried to remove a gold idol from a booby-trapped pedestal. He replaces the idol with a bag of sand. If the idol has a mass of 2.00 kg, how many litres of sand must he place on the pedestal to keep the mass sensitive booby-trap from activating? (Density of sand is 3.00 g/cm3)