

Math 1303 - Math in the Liberal Arts

Exam #3 - 2014.11.21

Name: _____

Metric Units

Prefix	Symbol	Meaning
kilo	k	$1000 \times$ base unit
hecto	h	$100 \times$ base unit
deka	da	$10 \times$ base unit
—	—	base unit
deci	d	$\frac{1}{10}$ of base unit
centi	c	$\frac{1}{100}$ of base unit
milli	m	$\frac{1}{1000}$ of base unit

Water

Volume (cubic)	Volume (litres)	Mass
1 cm^3	1 ml	1 g
1 dm^3	1 l	1 kg
1 m^3	1 kl	1000 kg

Length

1 inch (in)	= 2.54 centimeters (cm)
1 foot (ft)	= 30 centimeters (cm)
1 yard (yd)	= 0.9 meter (m)
1 mile (mi)	= 1.6 kilometers (km)

Area

1 square inch (in ²)	= 6.5 square centimeters (cm ²)
1 square yard (yd ²)	= 0.8 square meters (m ²)
1 square mile (mi ²)	= 2.6 square kilometers (km ²)
1 acre	= 0.4 hectare (ha)
1 hectare (ha)	= 10000 square meters (m ²)

Volume

1 teaspoon (tsp)	= 5 milliliters (ml)
1 tablespoon (tbsp)	= 15 milliliters (ml)
1 fluid ounce (fl oz)	= 30 milliliters (ml)
1 cup (c)	= 0.24 liters (l)
1 pint (pt)	= 0.47 liters (l)
1 quart (qt)	= 0.95 liters (l)
1 gallon (gal)	= 3.8 liters (l)
1 cubic foot (ft ³)	= 0.03 cubic meters (m ³)
1 cubic yard (yd ³)	= 0.76 cubic meters (m ³)

Weight

1 ounce (oz)	= 28 grams (g)
1 pound (lb)	= 0.45 kilograms (kg)
1 ton (T)	= 0.9 tonne (t)

1. Convert the following:

(a) 86 cm to inches

(b) 42 liters to quarts

(c) 45 miles to kilometers

(d) 34000 square yards to acres

(e) 245 cubic feet to cubic yards

(f) 45 miles per hour to centimeters per second

2. You run around a 400 m track 11 times. How many kilometers have you run?
3. A rectangular fish tank at an aquarium is 20 m long by 20 m wide by 8 m deep.
- Determine the volume of the tank in m^3 .
 - Determine the volume of the tank in liters.
 - Determine the weight of the volume of water in kilograms.
 - Determine the weight of the volume of water in pounds (lbs).
4. The distance from Durant to Norman (by highways) is 132.8 miles. Convert this distance to millimeters, expressing your answer in scientific notation.