CHEMISTRY   DIMENSIONAL ANALYSIS PRACTICE II

[Show your work when appropriate & place your answer in the blank supplied]

_____1. What are the correct units for the answer to a problem if the following series of conversion factor units are used?

zog^2	lump	twillig	dunks	dunks
	zog	lump	zog	twillig

_____2. Evaluate the following:

$$\frac{(6.02 \times 10^{23})\,(7.11 \times 10^{-31})\,(3.98 \times 10^{24})\,(3.82 \times 10^{8})}{(3.92 \times 10^{-16})\,(4 \times 10^{8})\,(6.99 \times 10^{16})\,(2.99 \times 10^{30})}$$

_____3. Given the following equivalents, convert 1 fizzle to frizzles.

3 swizzles   = 7 twizzles
1 fizzle   = 2 drizzles
2 twizzles   = 14 sizzles
1 swizzle   = 20 frizzles
8 drizzles   = 6 sizzles

_____4. Jules Verne wrote a book called *Twenty Thousand Leagues Under the Sea*. Using the conversion factors listed below, convert 20,000 leagues to yards.

12 in   = 1 ft
3 ft   = 1 yd
1 fathom   = 2 yards
1 statute mile   = 5280 ft
1 nautical mile = 6080 ft
1 league   = 3 nautical miles

Directions (5-7): Use your table of conversion factors to make the following conversions:

_____5. Convert 5.35 miles to kilometers.

_____6. Convert 50 inches to meters

_____7. Convert 65 mi/hr to in/min

_____8. At $1.30 per gallon, how much will it cost to buy 125 liters of Amoco Ultimate gasoline?

_____9. The volume of water in a graduated cylinder is 8.0 cm^3. The volume changes to 10.5 cm^3 when a 6.50 g sample of a substance is lowered into the cylinder. What is the density of the substance?

_____10. 70 mL of a liquid (density = 0.85 g/mL) is added to a graduated cylinder that has a mass of 60.75 g. What is the mass of the cylinder plus the liquid?