CHEM 130 **Name**_____

Quiz 1 - "Mathish" problems **Due by 4:00 PM, Friday Sept 2.**

These are typical problems involving unit conversion, the metric system, percentage calculations, etc. You may use your book, **but you may not seek help from anyone other than Dr. Lamp**. As you work these problems remember to keep track of units and be sure that every answer has the correct units and significant figures. Clearly mark your answers.

Percent (%) = (parts component)/(100 parts sample) e.g. % by mass = (g component)/(100g sample)

1. A mass of 17 micrograms (μg) is equal to _____ kilograms.

2. Of the volumes 86.30 mL, 0.0863 L and 8.630×10^5 μL, which (if any) is the largest?

3. If a 4.50 g sample of a Zn-Al-Cu alloy contains 2.45 g Zn and 1.34 g Al, what is the % composition of Cu?

4. Car batteries are filled with sulfuric acid. What is the mass of the acid (in grams) in 500.0 mL of the battery acid solution if the density of the solution is 1.285 g/cm^3 and if the solution is 38.1 % sulfuric acid by mass?