Tips for Homework (Module 4)

1. The abbreviation *ml* is also used for milliliters, in addition to *mL*. Do not let this throw you.

2. Review the formulas in the module given for finding the strength of a solution depending on if the solute (the substance dissolved in the solvent) is dry or liquid. It is interesting to note that the units needed if the drug is dry are "**grams** of the drug and **milliliters** of the solvent". There are three different formulas given, 1. liquid drug in a liquid solution, 2. dry drug in a liquid solution, and 3. dry drug in a dry solution (i.e. tablets).

3. In the examples given in the module notes, the variable *x* represents the unknown quantity. It is best to write this down specifically. In example 2, I would write "*x* = amount of pure alcohol (mL)" before I write the proportion. That helps us keep straight what we have found at the end of the algebra.

4. (Homework problems 1, 2, 5, 8, 9) It is a good idea to not only write how much of the drug you need to add as the question often asks, but also to write down how much dilutant (also called diluent) that should be added. I think this makes more sense of the problem and you can start to see how you would really make these solutions.

5. (Homework problems 8, 9) For the diluting solutions formula $V_1C_1 = V_2C_2$, it is helpful to think of V_1 and C_1 as the volume and concentration of the **final** (or desired) solution and V_2 and C_2 as that of the solution you have on hand (or starting solution).

6. You may have to convert liters to milliliters or milligrams to grams. Remember that the formulas given in the section deal with milliliters and grams.

7. (Homework problem 19) For year 1, find 96% of 1.5 million to find the number of heart attacks that year. For year 2, find 96% of the previous answer to find the number of heart attacks that year. For year 3, find 96% of the previous answer to find the number of heart attacks that year. To answer the question, we want to find 35% of this final number (for year 3) of heart attacks.

8. (Homework problem 20) Write your final answer as a ratio that has whole numbers on both top and bottom. Do not leave it with .5 in the numerator (top of fraction).

9. Many problems can be done with proportions or unit analysis (called dimensional analysis in the book, module 5), whichever you prefer.