**Chemistry B** MCj03519680000[1] **Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Solutions Review Period\_\_\_\_\_\_\_**

**Molarity problems:**

1. What is the molarity when 43.7 grams of H3PO4 are dissolved in enough water to make 750.0 mL of solution?
2. What mass of H3PO4 is needed to add to enough water to make 425.0 mL of a 0.55M solution?

3. An 8 ounce glass of orange juice contains 6 x 10 -5 grams of Vitamin C, C6H8O6. What is the Vitamin C concentration in orange juice? (HINT: 1 ml = 0.03 fluid oz)

**Molarity solution preparation problems:**

4. How much DDT, C14H9Cl5 , is needed to make fifty liters of 0.25M insecticide solution?

5. Given a 0.25M FeCl2 solution, how do you make 250ml of 0.015M iron (II) chloride?

6 Calculate the mass of LiOH needed to add to 100.0 grams of water to make a 4.0 M solution

**molality problems:**

Compute the molality for the following:

1. A solution that has 127.6 grams of Ca(OH)2 in 950.0 grams water.
2. 145 grams of (NH4)2C4H4O6 in 500.0 grams of water.

**molality solution preparation problems:**

1. What mass of calcium hydroxide is needed to add to 120 grams water to make a solution with a concentration of 0.100 m?
2. A 3.00 m solution of nickel chloride is needed. What mass is needed to add to 1000 grams of water to get this concentration?

**Dilutions**

1. You add water to 100 mL of a 0.15 M NaOH solution until the final volume is 150 mL, what will the Molarity of the diluted solution be?

2. How much water would you need to add to 500 mL of a 2.4 M KCl solution to make a 1.0 M solution?

**Colligative Properties**

1. What is a colligative property? Give two examples.
2. Explain what happens to the freezing point and boiling point of a water solution when NaCl is added.
   1. Why is salt used on roads in Northern Utah in the winter?
3. Explain what a distillation is and what it can be used for. Draw and label the distillations setup used in class.

4. Salt is added to water. What is the solvent, solute, and solution?