Chem I Name _____

Date _____ Per _____

Worksheet # C58: Molarity (M)

A. Quick definitions: Molarity =

solvent + solute ----------> solution

B. Getting the numbers right: 5 kinds of problems.

1. Find the molarity if you're given moles of solute and liters of the final solution.

Ex: If you put 3.79 moles of NaCl into enough water to make 15.8 liters of solution, what's the final molarity?

2. Find the molarity if you're given grams of solute and liters of the final solution.

Ex: If you put 123 grams of NaCl in enough water to make 4.00 liters of solution, what's the final molarity?

3. Given the molarity and the volume of a solution, how many moles do you have of the solute?

Ex: Given 250. mL of a 3.00 M solution of NaCl, how many moles of NaCl do you have?

4. Given molarity and volume, find the grams of the solute.

Ex: How many grams of NaCl would there be in 500. mL of a 6.00 M NaCl solution?

5. Given grams of solute and the molarity of the solution, find the volume of the solution.

Ex: To what volume should 88.00 grams of NaCl be diluted to make a 3.50 M solution?

C. Mixed Problems

6. How many grams of KNO_3 should be used to prepare 2.00 L of a 0.500 M solution?

7. What is the molarity of a solution in which 58 g of NaCl are dissolved in 1.0 L of solution?

8. To what volume should 5.0 g of KCl be diluted in order to prepare a 0.25 M solution?

9. What is the molarity of a solution in which 10.0 g of $AgNO_3$ are dissolved in 500. mL of solution?

10. Given 350. mL of a 7.5.0 M solution of NaCl, how many moles of NaCl do you have?

11. How many grams of $CuSO_4 \cdot 5H_2O$ are needed to prepare 175. mL of a 0.10M solution?