Name:_____

Chemistry: Solutions- Molarity Practice

I. Determine the **molarity** of the following solutions:

1) 450 g Na_2SO_4 (142.05 g/mol) in 785 mL of solution

_____ M

2) 155 g $NaHCO_3$ (84.01 g/mol) in 500. mL

_____ M

3) 25 g $MgCl_2$ (95.21 g/mol) in 135 mL

_____ M

4) 185 g $AuPO_4$ (291.94 g/mol) in 1,250 mL

_____ M

5) 15 g $Mg_3(PO_4)_2$ (262.87 g/mol) in 50. mL

_____ M

II. Determine the number of **grams** of solute necessary to make the following solutions:

1) 150. mL of 3.75 M NaOH (40.00 g/mol)

_____ g

2) 485 mL of 1.50 M HCl (36.41 g/mol)

_____ g

3) 100. mL of 0.500 M $CaSO_4$ (136.15 g/mol)

_____ g

4) 375 mL of 1.00 M $FeCl_3$ (162.20 g/mol)

_____ g

5) 150. mL of 2.50 M NH_4NO_3 (80.06 g/mol)

_____ g

III. Solve the following problems:

1) A lab procedure calls for the use of **1,500. mL** of **4.000 M** Copper (II) Nitrate. How many **grams** of Copper (II) Nitrate (187.57 g/mol) are required to make this solution?

1) _____

2) During an experiment, a student dissolves **4.50 g** of Potassium Bromide (119.00 g/mol) in water to make **350 mL** of solution. What is the **molarity** of this solution?

2) _____

3) How many **grams** of Sodium Sulfide (78.05 g/mol) would be needed to make **575 mL** of **1.20 M** Sodium Sulfide?

3) _____

4) How many **grams** of Zinc (II) Nitrate (189.41 g/mol) would be needed to make **250 mL** of **2.00 M** Zinc (II) Nitrate solution?

4) _____

5) A solution is prepared by dissolving **1.90 g** of Sodium Hydroxide (40.00 g/mol) in water to make **350 mL** of solution. What is the **molarity** of this solution?

5) _____