Name _____ Date _____ Period _____

Dilutions Review

1. By the additions of distilled water, 30.0 mL of 6.0 M H_2SO_4 is diluted to 150.0 mL. What is the concentration of H_2SO_4 after dilution?

2. By the addition of distilled water, 40.0 mL of 8.0 M H_2SO_4 is diluted to 160.0 mL. What is the molarity after dilution?

3. What volume of 1.23 mol/L hydrochloric acid would you have to use to prepare 2.00 L of 0.0334 mol/L hydrochloric acid solution?

4. What volume of 6.0 Molar hydrochloric acid is needed to prepare 300.0 mL of 0.300 mol/L solution?

5. Water is added to 100.0 mL of 2.0 mol/L sulfuric acid, H_2SO_4, until the total volume is 500.0 mL. What is the concentration of sulfuric acid in the resulting solution?

6. What volume of 6.00 mol/L HCl must be diluted with distilled water to prepare 1.0 L of 1.2 mol/L HCl?

7. What volume of 6.00 mol/L nitric acid, $HNO_3(aq)$, solution is needed to make 4.2 L of 0.15 mol/L HNO_3 solution?

8. 20.0 mL of 9.0 Molar sulfuric acid is diluted to a total volume of 3.0 L. What is the concentration of the dilute solution?

9. What volume of 5.0 mol/L HCl is needed to prepare 400.0 mL of 0.25 mol/L HCl solution?

10. What volume of water must be added to 800.0 L of 0.130 M solution to dilute it to a 0.100 Molar solution?

Name _____ Date _____ Period _____

Molarity Review

1. Sea water contains roughly 28.0 g of NaCl per liter. What is the molarity of sodium chloride in sea water?

2. What is the molarity of 245.0 g of H_2SO_4 dissolved in 1.00 L of solution?

3. What is the molarity of 5.30 g of Na_2CO_3 dissolved in 400.0 mL solution?

4. What is the molarity of 5.00 g of NaOH in 750.0 mL of solution?

5. How many moles of Na_2CO_3 are there in 10.0 L of 2.0 M soluton?

6. How many moles of Na_2CO_3 are in 10.0 mL of a 2.0 M solution?

7. How many moles of NaCl are contained in 100.0 mL of a 0.20 M solution?

8. What mass (in grams) of NaCl would be contained in problem 7?

9. What mass (in grams) of H_2SO_4 would be needed to make 750.0 mL of 2.00 M solution?

10. What volume (in mL) of 18.0 M H_2SO_4 is needed to contain 2.45 g H_2SO_4?

11. What volume (in mL) of 12.0 M HCl is needed to contain 3.00 moles of HCl?

12. How many grams of $Ca(OH)_2$ are needed to make 100.0 mL of 0.250 M solution?

13. What is the molarity of a solution made by dissolving 20.0 g of H_3PO_4 in 50.0 mL of solution?

14. What mass (in grams) of KCl is there in 2.50 liters of 0.50 M KCl solution?

15. What is the molarity of a solution containing 12.0 g of NaOH in 250.0 mL of solution?