WORKSHOP 9: NAME_____
Solutions

Section _____

1. Calculate the % by mass of solute in a solution containing:

    a. 7.32 g $K_2Cr_2O_7$ in 25.0 g solution.

    b. 148.0 g H_2SO_4 in 1812 g water.

2. How many grams of Na_2SO_4 are in 650.0 g of 14.0% Na_2SO_4 solution?

3. Describe how you would prepare 550.0 g of 8.22% Na_2SO_4 solution. Show calculations, and tell in words, how much solute (Na_2SO_4) and how much solvent (H_2O) you would mix. (Attach an extra page for your description, if necessary.)

4. Calculate the molarity (M) of a solution containing:

    a. 0.500 moles of NaOH in 250.0 mL of solution.

    b. 25.0 g NaOH in 2.11 liters of solution.

5. How many grams of Na_2SO_4 are in 600.0 mL of 12.5 M Na_2SO_4 solution?

6. How many moles of HCl are present in 25.00 mL of 0.324 M HCl solution?

7. Describe in detail how you would prepare 0.500 liters of 0.231 M K_2SO_4 solution

    a. from 6.00 M K_2SO_4

    b. from pure solid K_2SO_4

8. Aluminum hydroxide will react with hydrochloric acid to yield aluminum chloride and water.

    a. Write the balanced equation for this reaction.

    b. How many grams of aluminum hydroxide will react with 25.0 mL of 0.943 M HCl solution?

    c. If 0.775 g of aluminum hydroxide reacts exactly with 34.00 mL of a HCl solution, what is the molarity of the HCl solution?