Chemistry Unit 6 - Solution concentration Practice

Name_____ Block_____ Date_____

1) A solution has a volume of 760 mL and contains 0.5 mol of sugar. What is its molarity?

2) What is the molarity of a solution made of 5 mol of alcohol in 3 L of solution?

3) What is the molarity of a solution containing 0.6 g NaCl in 250 mL of solution?

4) How many moles of NaCl are there in 450 mL of a 0.34 M solution of NaCl?

5) What volume of a 3 M solution of $NaNO_3$ contains 0.5 moles of $NaNO_3$?

6) How many milliliters of a 2 M solution of potassium iodide are needed to prepare 300 mL of 0.7 M solution?

7) How could you prepare 500 mL of 0.4 M solution of KCl using only a solution of 2.5 M KCl and water?

8) To 225 mL of a 0.80*M* of KI, a student adds enough water to make a 1L of a more dilute KI solution. What is the molarity of the new solution?

9) Calculate the molarity of a solution that contains 3.6 g of KOH per 150 mL.

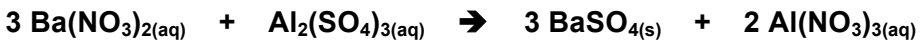
10) What mass of H_2SO_4 would be required to prepare 750 mL of a 0.15*M* H_2SO_4 solution?

Solution Stoichiometry

Solve the following solutions Stoichiometry problems:

1. What volume of 0.415 M silver nitrate will be required to precipitate as silver bromide all the bromide ion in 35.0 mL of 0.128 M calcium bromide?

2. How many mL of 0.280 M barium nitrate are required to precipitate as barium sulfate all the sulfate ions from 25.0 mL of 0.350 M aluminum sulfate?



$$3\ Ba(NO_3)_{2(aq)} + Al_2(SO_4)_{3(aq)} \rightarrow 3\ BaSO_{4(s)} + 2\ Al(NO_3)_{3(aq)}$$

3. How many grams of silver chromate will precipitate when 150. mL of 0.500 M silver nitrate are added to 100. mL of 0.400 M potassium chromate?

$$2\ AgNO_{3(aq)} + K_2CrO_{4(aq)} \rightarrow Ag_2CrO_{4(s)} + 2\ KNO_{3(aq)}$$

4. 25.0 mL of 0.350 M NaOH are added to 45.0 mL of 0.125 M copper (II) sulfate. How many grams of copper (II) hydroxide will precipitate?