Solutions Unit Review

c. Barium nitrate

Name: Date: Block:

1.	What mass of H_3PO_4 is contained in 83.5 mL of a 6.15 M solution?
2.	If 9.0 mL of 4.00 M HNO $_3$ solution is diluted to a volume of 600.0 mL, what will be the molarity of the diluted solution?
3.	What initial volume of 6.0 M hydrochloric acid is required to make 2.00 L of 0.500 M hydrochloric acid solution?
4.	How much water must be added to a 35.0 mL sample of 10.0 M HCl to give a resulting concentration of 0.350 M?
5.	Write the balanced ionization equation for the following solutes in water: $a. Na_2CO_3$ $b. MgSO_4$

6.	$250.0\ mL$ of $0.60\ M$ HCl is added to $300.0\ mL$ of $1.0\ M$ HBr. What is the final concentration of each ion in solution?
7.	Write a formula equation, complete ionic equation and net ionic equation for the following reactions: a. Magnesium sulphide and zinc chloride
	b. Sodium carbonate and barium sulphide

c.	H_2SO_3 (aq) and	CaCl _{2 (an)}

8. A solution contains the following ions. Using a flow chart, show what compounds could be added and in what order to separate these ions.

a.
$$Cu^{2+}$$
, Ba^{2+} and Ag^{+} .

9.	A titration was performed that required 14.7 mL of 0.102 M NaOH to titrate 25.00 mL of a hydrochloric acid, HCl, solution. Determine the concentration of the hydrochloric acid.	
10.	If 46.2 mL of 2.50 M NaOH is required to neutralize 1.54 M of a phosphoric acid, H_3PO_4 , solution, what volume of phosphoric acid was needed to reach the equivalence point?	
11.	If 8.6 mL of $0.0994~M~HNO_3$ is required to neutralize 25.00 mL of a strontium hydroxide solution, what is the molarity of the strontium hydroxide?	