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| **Chemistry 11**  **Solution Review** | **Name: Date:**  **Block:** |

1. What mass of H3PO4 is contained in 83.5 mL of a 6.15 M solution?
2. If 9.0 mL of 4.00 M HNO3 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:
   1. Na2CO3
   2. MgSO4
   3. Barium nitrate
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:
   1. Magnesium sulphide and zinc chloride
   2. Sodium carbonate and barium sulphide
   3. H2SO3 (aq) and CaCl2 (aq)
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.
   1. Cu2+, Ba2+ and Ag+.
   2. Cl-, SO42-, S2-
9. Consider the following results from a titration lab.

3.00 g of NaOH was dissolved to make a 100. mL solution

Below is the volume of the NaOH solution needed to neutralize 10.0 mL H2SO4

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|  | **Trial #1** | **Trial #2** | **Trial #3** |
| Initial reading of burette (mL) | 0.00 | 12.44 | 24.94 |
| Final reading of burette (mL) | 12.44 | 24.94 | 37.36 |

1. What is the balanced chemical reaction?
2. What is the concentration of the standardized solution of NaOH?
3. What was the average volume of NaOH was needed?
4. What is the concentration of the acid?