Big Chem: Units 24 & 25 Acids, Bases, Salts, Electrolytes

PRINT Name _____ Period _____

1. What is the difference between concentrated and dilute solutions?

2. Find the $H_3O^+_{(aq)}$ concentration of the following solutions:
   a. pH = 8, b. pH = 4, c. pH 7, d. pH = 10, e. pH 1.

   Ans: a = 1 X 10^{-8} M, b = 1 X 10^{-4} M, c = 1 X 10^{-7} M,
   d = 1 X 10^{-10} M, e = 1 X 10^{-1} M.

Remember: **at the End Point:**

Mol of Acid = Mol of Base, so

$ML_{(acid)}$ = $ML_{(base)}$, and L = mL/1000mL/L

3. What volume in mL of 0.196M LiOH is required to neutralize 27.3 mL of 0.413M HBr in

   HBr + LiOH ---> LiBr + H_2O, so
   the net ionic equation is
   $H^+ + OH^- \text{---> } H_2O$
   Ans: 57.5 mL

4. What is the value for the ion product constant (big K) for water, K_w?

5. What is the molarity of 1.00 liter of a solution containing 46.6 g of $Hg(CN)_2$?
   Hint: M = mol/L, and mol = g/MM. Ans: 0.184 M.

6. Differentiate among **unsaturated**, **saturated**, and **supersaturated** solutions.

7. Write out the Rules for finding **if a precipitate will form** when Ions are reacted.

8. The solubility product constant of silver iodide is 1.50 x 10^{-16}. Find $[Ag^+]$ in a solution at equilibrium? Ans: 1.22 X 10^{-8}M.

9. Find the concentration of Ba^{2+} in a saturated solution $BaCO_3$?
   K_{sp} = 8.10 x 10^{-8}. Ans: 2.85 X 10^{-4} M.

10. Compare the Properties of Acids with the Properties of Bases.