pH Calculation Practice (Chemistry) Name: _____Pd: ____

Show formula, setup and answer with units if appropriate.

1. What is the pH of a solution if its $[H^+]$ is as given? Determine if the solution is acidic or basic.
   a. $4.2x10^{-12}$ M
   b. 0.537 M

2. Determine the pH of the following solutions. Determine if the solution is acidic or basic.
   a. 0.033M HNO_3
   b. 0.017M HI

3. What is the pH of a solution if the pOH is as given? Determine if the solution is acidic or basic.
   a. 13.25
   b. 2.95

4. Determine the [H+] for the following solutions:
   a. pH = 3.95
   b. pH = 12.82

5. What is true about the relative concentrations of hydrogen ions $[H^+]$ & hydroxide ions $[OH^-]$ in each of these solutions:
   a. Basic _____
   b. Acidic_____
   c. Neutral_____

6. Identify each as an acid, base, conjugate acid and conjugate base. You may use BA, BB, ca, cb.
   a. $HC_2H_3O_2 + H_2O \leftrightarrows H_3O^+ + C_2H_3O_2^-$
   b. $H_2O + C_2H_3O_2^- \leftrightarrows HC_2H_3O_2 + OH^-$

7. Classify each of these as an Arrhenius acid or base:
   a. $Ca(OH)_2$ _____
   b. HNO_3 _____
   c. KOH _____
   d. C_2H_5COOH _____