**Dougherty Valley HS AP Chemistry**

**QUIZ YOURSELF**

**Acid Base Equilibrium Review**

**Name: Date: Period: Seat #:**

Work out these problems. Form groups at the lab tables and go over the answers. Make certain everyone understands each problem.

1. You place 2.0 mol of hydrogen iodide in a 1.0-L container at a certain temperature. The compound partially dissociates according to the equation 2 HI(g)  H2(g) + I2(g). If 22% of the HI has dissociated at equilibrium, calculate Kc.

2. A saturated solution of milk of magnesia, Mg(OH)2, has a pH of 10.5. What is the hydronium ion concentration of the solution? What is the hydroxide ion concentration? Is the solution acidic or basic?

3. Calculate the pH of the following solutions:

a) 2.8 x 10-3 M HCl

b) 2.8 x 10-5 M HCl

c) 2.8 x 10-8 M HCl

4. Dissolving ammonium bromide in water gives an acidic solution. Write a balanced equation showing how this can occur.

5. What are the equilibrium concentrations of hydronium ion, acetate ion, and acetic acid in a 0.20 M aqueous solution of acetic acid? What is the pH of the solution? Ka = 1.8 x 10-5

6. Calculate the hydroxide ion concentration, hydronium ion concentration, and pH for a 0.015 M solution of the salt sodium acetate, NaC2H3O2.