**Name:­­­­­­­­­­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Ksp and Keq Quiz**

**You must show all work to get credit for any part of this quiz.**

1. **H2 (g) + I2 (g) 🡨🡪 2 HI (g)**

**The [H2] = 0.189 M and [I2] = 0.189 M and [HI] = 0.965**

**If the Keq = 3.5 x 10-8 at 427 C, is the reaction at equilibrium. Explain your answer. If it's not at equilibrium, state in which direction the reaction is running.**

1. **Write the Equilibrium expression (Keq) (1pt)**
2. **Calculate Q (1pt)**
3. **Is the reaction @ equilibrium? If it isn’t. Explain if it is favoring the forward or reverse reaction.(3pt)**

**2.) What are the equilibrium concentrations of the dissolved ions in a saturated solution of Fe(OH)2 at 25 0C.**

 **(Ksp= 8.05 x 10-16)**

* 1. **Write the dissolution (dissolving reaction) (1pt)**
	2. **Write the Ksp expression (1pt)**
	3. **Calculate the [ ]’s of the ions (2pts)**

**3.) A solution is prepared by adding 50 mL of 4.2 x 10-2  M of MgCl2 to 50 mL of 6.8 x 10-2  M of Na2CO3 at 25 0C.**

**The excpected precipitate has a Ksp = 3.5 x 10-8**

1. **Write the dissolution (dissolving) reaction for the expected precipitate. (1pt)**
2. **Write the Ksp expression for the expected precipitate. (1pt)**
3. **Calculate the moles of Mg+2 in its initial solution (1pt)**
4. **Calculate the moles of CO3-2 in its initial solution (1pt)**
5. **Calculate the Molarity of of Mg+2 after the solutions are mixed (1pt)**
6. **Calculate the Molarity of CO3-2 after the solutions are mixed (1pt)**
7. **Solve for Q (1pt)**
8. **Relate Q to Ksp and explain if a precipitate forms (1pt)**