**CST Review Topic 4-Chemical Reactions**

**Acids and Bases:**

1. Classify the following properties as those belonging to an acid or base or both. **(p. 598-599)**

a) feels slippery

b) sour taste

c) H+ ion donating

d) OH- ion donating

e) pH greater than 7

f) pH less than 7

g) H+ ion accepting

3. Fill-in the following table. **(p. 610-611)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **[H+]** | **[OH-]** | **pH** | **pOH** | **Acid, Base, or Neutral** |
|  |  | 4 |  |  |
|  | 1.0 x 10-5 |  |  |  |
| 1.0 x 10-11 |  |  |  |  |

**Reaction Rates & Equilibrium:**

1. How would adding a catalyst affect the reaction rate? Explain. **(p. 539-541)**

2. When is equilibrium in a chemical reaction established? **(p. 561)**

3. Given the following system at equilibrium: **(p. 569-574)**

**2SO2 (g) + O2 (g) ↔ 2SO3 (g) + heat**

Determine the effect of each of the following changes on the equilibrium position (shifts left or right) and on the amount of O2 that would result (increase or decrease).

|  |  |  |
| --- | --- | --- |
|  | **Reaction Shift (left or right)** | **Amount of O2 (increase or decrease)** |
| **Increasing temperature** |  |  |
| **Decreasing pressure** |  |  |
| **Adding SO2** |  |  |
| **Removing SO3** |  |  |
| **Increasing pressure** |  |  |
| **Adding SO3** |  |  |
| **Decreasing temperature** |  |  |
| **Removing SO2** |  |  |