Reactions in Solution

— Acids & Bases

"We can be sure that the greatest hope for maintaining equilibrium in the face of any situation rests within ourselves."
– Francis J. Braceland

Name: _____

Student ID: _____

Date: _____

1. Who told us an acid is an electrolyte the releases H^{1+} and a base is one that releases OH^{1-}?

   a. Svante Arrhenius b. Johannes Brønsted c. Thomas Lowry

2. Who told us an acid is proton (H^{1+}) donor and a base is a proton acceptor?

   a. Svante Arrhenius b. Johannes Brønsted c. Thomas Lowry

3. Who told us acid protons (H^{1+}) in solution exist as hydronium ions (H_3O^{1+})?

   a. Svante Arrhenius b. Johannes Brønsted c. Thomas Lowry

4. An aqueous solution has a OH^{1-} concentration of 8.24×10^{-3}. Is this solution acidic or basic and what is it's hydronium ion concentration $[H_3O^{1+}]$?

   (HINT: $K_W = 10^{-}$ ^ - 14 EXACTLY)

5. An aqueous solution has a H^{1+} concentration of 7.92×10^{-4}. Is this solution acidic or basic and what is it's hydroxide ion concentration $[HO^{1-}]$?

6. An aqueous solution has a hydronium ion concentration of 5.219×10^{-8}. Is it acidic or basic and what is it's pH?

7. An aqueous solution has pH of 2.460. Is it acidic or basic and what is it's hydronium ion concentration [H_3O^{1+}]?

8. An aqueous solution has pH of 9.42. Is it acidic or basic and what is it's hydronium ion concentration [H_3O^{1+}]?

9. An aqueous solution has pH of 1.75. Is it acidic or basic and what is it's hydroxide ion concentration [OH^{1-}]?

10. An aqueous solution has a hydroxide ion concentration [OH^{1-}] of 3.24 x 10-2. Is it acidic or basic and what is it's pH?

