Review Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_hr\_\_\_\_\_\_\_

**pH = - log [*H3O+]***

**[*H3O+] = 10-pH***

**pOH = - log [*OH--]***

***pH + pOH = 14***

**[*H3O+] [OH-] = 1 x 10-14***

1. Write the dissociation equation of water \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. What is the name of H3O+  ?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. What is the name of OH-? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. In a solution with pH = 4, how does the [H3O+] compare to the [OH-]?

 Which do you have more of?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What is the factor between each pH unit (pH = 10 and pH = 11)? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. What is the factor between 3 pH units (pH = 4 and pH = 7)?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. What is the pH of a solution of 0.03 M HBr?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. What is the pH of a solution with 6.5 x 105 M H3O+?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. What is the pH of a solution with 0.05 moles of HBr in 330 Liter of water?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. If a solution has a pH = 5.6, then [*H3O+] = \_\_\_\_\_\_\_\_\_\_ acidic or basic?*
7. If a solution has a pH = 10.1, then [*H3O+] = \_\_\_\_\_\_\_\_\_\_ acidic or basic?*
8. If a solution has a pOH = 9.6, then [*OH-] = \_\_\_\_\_\_\_\_\_\_ acidic or basic?*
9. If a solution has a pOH = 2.1, then [*OH--] = \_\_\_\_\_\_\_\_\_\_ acidic or basic?*
10. If a solution has a [*OH--]* = 5.5 x 10-4, then [*H3O+] = \_\_\_\_\_\_\_\_\_\_ acidic or basic?*
11. If a solution has a [*H3O+]* = 2.7 x 10-8, then [*OH--] = \_\_\_\_\_\_\_\_\_\_ acidic or basic?*
12. If a solution has a pH = 1.5, then pOH *= \_\_\_\_\_\_\_\_\_\_ acidic or basic?*
13. If a solution has a pOH = 7.8, then pH *= \_\_\_\_\_\_\_\_\_\_ acidic or basic?*