Acc. Honors Chemistry Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Calculating pH

1. Find [H+] and [OH-] and visa versa. Also, find the pH for each solution:

|  |  |  |
| --- | --- | --- |
| **[H+]** | **[OH-]** | **pH** |
| 1 x 10-5 M |  |  |
| 1 x 10-11 M |  |  |
| 1 x 10-7 M |  |  |
|  | 1 x 10-3 M |  |
|  | 1 x 100 M |  |
|  | 1 x 10-12 |  |

1. Find the [H+] from the pH:

|  |  |
| --- | --- |
| **[H+]** | **pH** |
|  | 2 |
|  | 4.1 |
|  | 9.7 |
|  | 12.4 |
|  | 3.22 |

1. If the pH of a solution is 6, what is the concentration of the H3O+ ion? What is the concentration of the hydroxide ion?
2. Find the hydronium and hydroxide ion concentration in a bottle of soda that has a pH of 2.09.
3. Calculate the pH of a sample of acid rain that has [H3O+] = 1.29 x 10-4 M. What is the [OH-]?
4. Calculate the pH of a 1.0 M HCl solution.
5. A sample of freshly pressed apple juice has a pH of 3.76. Calculate [H+], [OH-}, and pOH.
6. Find the pH, pOH and [OH-] of a grapefruit that has [H3O+] = 0.0120 M.

9. The pH of a sample of human blood was found to be 7.41 at 25oC. Calculate [H+] and [OH-].