pH Homework

1. What is pH a measure of? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. What is the equation used for finding pH? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. What is the equation that relates to pH and pOH? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Complete the following table

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| [H3O+] | [OH-] | pH | pOH | Acidic/Basic? |
| 1.0 x 10-9 M |  |  |  |  |
|  | 4.1x10-2 M |  |  |  |
|  |  | 3.75 |  |  |
|  |  |  | 5.45 |  |

1. What would be the **pH** for letters a-f, and the **pOH** for letters g-j:

a) 0.0010 M HCl \_\_\_\_ g) 0.024 M KOH \_\_\_\_

b) 0.0010 M HNO3 \_\_\_\_ h) 0.075 M Ba(OH)2 \_\_\_\_

c) 0.010 M NaOH \_\_\_\_ i) 0.000034 M HCl \_\_\_\_

d) 0.0035 M Ca(OH)2 \_\_\_\_ j) 0.000000000001M HCl \_\_\_\_

e) 1.0 M H2SO4 \_\_\_\_

f) 1.0 M KOH \_\_\_\_

1. A 2.63 g NaOH are dissolved in 156 mL of solution. Determine the NaOH concentration & the pH.

[NaOH]= \_\_\_\_\_\_\_\_\_ pH= \_\_\_\_\_\_\_\_\_

1. List 3 strong acids and explain why these acids are considered strong acids.

\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. List 3 weak acids and explain why these acids are considered weak acids.

\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. List 2 strong bases and explain why these bases are considered strong bases.

\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. List 1 weak base and explain why it is considered a weak base.

\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_