pH AND pOH

Name _____

The pH of a solution indicates how acidic or basic that solution is.

       pH range of 0 - 7 acidic

                7 neutral

             7-14 basic

Since $[H^+][OH^-] = 10^{-14}$ at 25° C, if $[H^+]$ is known, the $[OH^-]$ can be calculated and vice versa.

     $pH = -\log[H^+]$ So if $[H^+] = 10^{-6}$ M, pH = 6.

     $pOH = -\log[OH^-]$ So if $[OH^-] = 10^{-8}$ M, pOH = 8.

     Together, pH + pOH = 14.

Complete the following chart.

	$[H^+]$	pH	$[OH^-]$	pOH	Acidic or Basic
1.	10^{-5} M	5	10^{-9} M	9	Acidic
2.	10^{-7} M	7	10^{-7} M	7	neutral
3.	10^{-10} M	10	10^{-4} M	4	basic
4.	10^{-2} M	2	10^{-12} M	12	acidic
5.	10^{-3} M	3	10^{-11} M	11	acidic
6.	10^{-12} M	12	10^{-2} M	2	basic
7.	10^{-9} M	9	10^{-5} M	5	basic
8.	10^{-11} M	11	10^{-3} M	3	basic
9.	10^{-1} M	1	10^{-13} M	13	acidic
10.	10^{-6} M	6	10^{-8} M	8	acidic