Name _____ Date _____ Class _____

pH and pOH

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

pH range 0 to-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.		7			
3.			10^{-4} M		
4.	10^{-2} M				
5.				11	
6.		12			
7.			10^{-5} M		
8.	10^{-11} M				
9.				13	
10.		6			