

### pH practice

$$\text{pH} = -\log[\text{H}^+]$$

$$\text{pOH} = -\log[\text{OH}^-]$$

$$\text{pH} + \text{pOH} = 14$$

$$[\text{H}^+] \times [\text{OH}^-] = 1.0 \times 10^{-14}$$

For each of the following problems, identify the pH AND tell if the solution is acidic, basic, or neutral.

1.  $[\text{OH}^-] = 7.6 \times 10^{-10}$
2.  $[\text{H}^+] = 1.3 \times 10^{-7}$
3.  $\text{pOH} = 7.9$
4.  $\text{pOH} = 2.5$
5.  $[\text{OH}^-] = 8.8 \times 10^{-2}$
6.  $[\text{H}^+] = 3.5 \times 10^{-5}$
7.  $[\text{OH}^-] = 6.6 \times 10^{-3}$
8.  $\text{pOH} = 7$
9.  $[\text{H}^+] = 4.0 \times 10^{-1}$
10.  $[\text{H}^+] = 9.1 \times 10^{-1}$

	$[\text{H}^+]$	pH	$[\text{OH}^-]$	pOH	Acidic, Basic, or Neutral
11	$10^{-5} \text{ M}$	5	$10^{-9} \text{ M}$	9	Acidic
12		7			
13			$10^{-4} \text{ M}$		
14	$10^{-2} \text{ M}$				
15				11	
16		12			
17			$10^{-5} \text{ M}$		
18	$10^{-11} \text{ M}$				
19				13	
29		6			

*Selected Answers:*

1.  $\text{pH} = 4.88$  ( $[\text{H}^+] = 1.3 \times 10^{-5} \text{ M}$ )
3.  $\text{pH} = 6.1$
6.  $\text{pH} = 4.46$
13.  $[\text{H}^+] = 10^{-10} \text{ M}$ ;  $\text{pH} = 10$ ;  $\text{pOH} = 4$ ; Basic