ANSWER KEY

pH CALCULATIONS

1. Complete the missing information in the table below:

$[H_3O^+]$	$[OH^-]$	pH	pOH	Acidic or Basic?
1.0×10^{-12} M	**1.0×10^{-2}**	**12.00**	**2.00**	**Basic**
2.8×10^{-6}	**3.6×10^{-9}**	5.56	**8.44**	**Acidic**
1.0×10^{-9}	1.0×10^{-5}	**9.00**	**5.00**	**Basic**
7.1×10^{-4}	**1.4×10^{-11}**	**3.15**	10.85	**Acidic**
4.0×10^{-9}	**2.5×10^{-6}**	8.40	**5.60**	**Basic**
1.5×10^{-4}	6.8×10^{-11}	**3.83**	**10.17**	**Acidic**
3.2×10^{-3}	**3.1×10^{-12}**	**2.49**	**11.51**	**Acidic**
4.8×10^{-10}	**2.1×10^{-5}**	**9.32**	4.68	**Basic**

2. Use the information in the table above to complete the following sentences:

   a) As the $[H_3O^+]$ of solution increases, the solution becomes more **acidic**

   b) As the $[OH^-]$ of solution increases, the solution becomes more **basic**

   c) As the pH of solution increases, the solution becomes more **basic**

   d) As the pOH of solution increases, the solution becomes more **acidic**

   e) As the acidity of a solution increases, its pH **decreases**

   f) As the basicity of a solution increases, its pH **increases**

   g) As the acidity of a solution increases, its pOH **increases**

   h) As the basicity of a solution increases, its pOH **decreases**