CONCEPT: pH OF STRONG ACIDS AND BASES

pH & pOH Formulas
pH + pOH = 14
pH = - log $[H^+]$ $[H^+] = 10^{-pH}$
pOH = - log $[OH^-]$ $[OH^-] = 10^{-pOH}$

- Recall: strong acids and strong bases completely ionize in water
  - □ $[H^+]$ and $[OH^-]$ are _____ to concentration of _____ acid and base, respectively.

0.25 M HCl $\longrightarrow$ $H^+ + Cl^-$	$[H^+]$ = ____ M
1.2 M $Ca(OH)_2$ $\longrightarrow$ $Ca^{2+} + 2\ OH^-$	$[OH^-]$ = 1.2 M x __ = ____

- Recall: strong bases may contain the following ions.

Ions of Strong Bases:	OH^-, H^-, NH_2^-, O^{2-}
Calculation of pH or pOH:	[___] = $[H^-]$, $[NH_2^-]$, $[O^{2-}]$

EXAMPLE: If the concentration of $Ba(H)_2$ solution is 0.398 M, calculate its pOH.

PRACTICE: An aqueous solution of $HBrO_4$ has a pH of 4.34. Find the molar concentration of $HBrO_4$ solution.

PRACTICE: Calculate the pH of a 25 mL of 5.45 x 10^{-2} M LiOH solution.

PRACTICE: HI is a strong acid (K_a = 3.2 x 10^9). Calculate $[H^+]$, $[OH^-]$, pH and pOH of a 7.1 x 10^{-2} M HI solution.