

Big Chem: Units 24 & 25 Acids, Bases, Salts, Electrolytes

PRINT Name _____ Period _____

1. What is the difference between concentrated and dilute solutions?
2. Find the $\text{H}_3\text{O}^+_{(\text{aq})}$ concentration of the following solutions:
a. pH = 8, b. pH = 4, c. pH 7, d. pH = 10, e. pH 1.

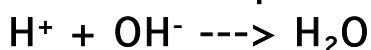
Ans: a = 1×10^{-8} M, b = 1×10^{-4} M, c = 1×10^{-7} M,
d = 1×10^{-10} M, e = 1×10^{-1} M.

Remember: **at the End Point:**

Mol of Acid = Mol of Base, so
 $\text{ML}_{(\text{acid})} = \text{ML}_{(\text{base})}$, and $\text{L} = \text{mL}/1000\text{mL/L}$

3. What volume in mL of 0.196M LiOH is required to neutralize 27.3 mL of 0.413M HBr in

$\text{HBr} + \text{LiOH} \rightarrow \text{LiBr} + \text{H}_2\text{O}$, so
the net ionic equation is



Ans: 57.5 mL

4. What is the value for the ion product constant (big K) for water, K_w ?
5. What is the molarity of 1.00 liter of a solution containing 46.6 g of $\text{Hg}(\text{CN})_2$?
Hint: M = mol/L, and mol = g/MM. Ans: 0.184 M.
6. Differentiate among **unsaturated**, **saturated**, and **supersaturated** solutions.
7. Write out the Rules for finding if a **precipitate will form** when ions are reacted.
8. The solubility product constant of silver iodide is 1.50×10^{-16} . Find $[\text{Ag}^+]$ in a solution at equilibrium? Ans: $1.22 \times 10^{-8}\text{M}$.
9. Find the concentration of Ba^{2+} in a saturated solution BaCO_3 ?
 $K_{\text{sp}} = 8.10 \times 10^{-8}$. Ans: 2.85×10^{-4} M.

10. Compare the Properties of Acids with the Properties of Bases.