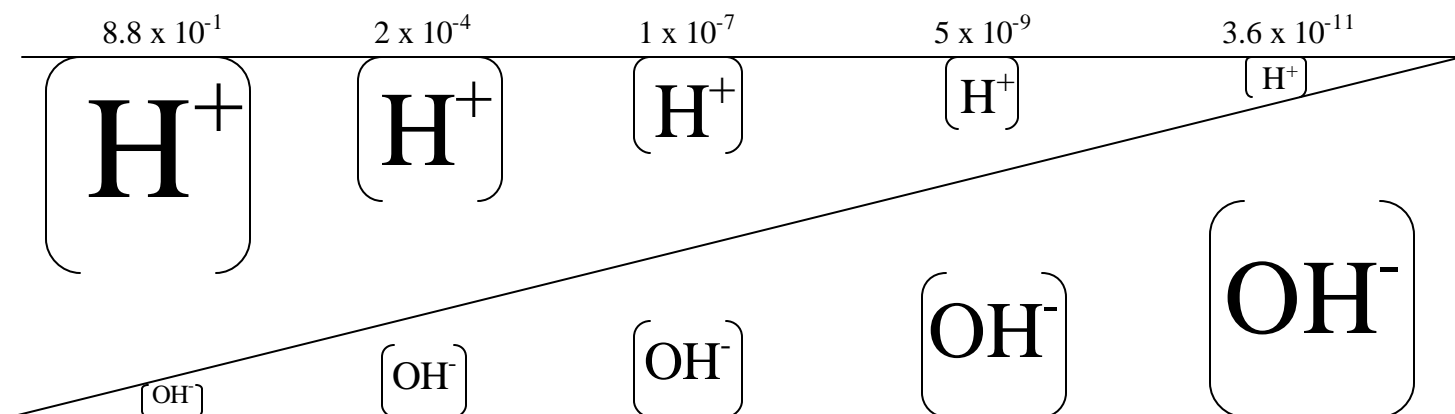


## 17 • Acid-Base Equilibria

## pH PRACTICE



- Write the pH of each solution above the  $[H^+]$ 's.  $pH = -\log[H^+]$
- Label the "Z" diagram as "Acidic", "Basic" and "Neutral."
- Knowing that the  $[H^+] \times [OH^-]$  always equals  $1 \times 10^{-14}$ , fill in the  $[OH^-]$  for each of the five solutions in the "Z" Diagram. ( $1 \times 10^{-14}$  is called the Dissociation Constant for water,  $K_w$ ) ( $1 \times 10^{-14} = 10 \times 10^{-15}$ )
- Write the "pOH" of each solution below the  $[OH^-]$ 's.
- $pH + pOH$  always equals \_\_\_\_\_.
- A solution of acid has  $[H^+] = 3.0 \times 10^{-3} M$ 
  - Calculate the  $[OH^-]$  \_\_\_\_\_
  - Calculate the pH \_\_\_\_\_ the pOH \_\_\_\_\_
- A solution of base has an  $[OH^-] = 4.25 \times 10^{-5} M$ 
  - Calculate the  $[H^+]$  \_\_\_\_\_
  - Calculate the pH \_\_\_\_\_ the pOH \_\_\_\_\_
- Calculate the pH's of the following solutions:
 

$2.53 \times 10^{-2} M HCl$      $pH =$

$2.53 \times 10^{-4} M HCl$      $pH =$

$2.53 \times 10^{-5} M HCl$      $pH =$

A pH with 3 significant figures is written with \_\_\_\_\_ numbers after the decimal place.