Guided/Independent Practice

- **1-9 Directions:** Determine each of the following as being true of acidic(A), basic(B), or neutral (C) solutions at 25°C.
- 1. $[H_3O^{1+}]=2.00\times10^{-4}M$
- 4. $[OH^{1-}]=7.00\times10^{-11}M$
- 7. pH=13.0 13

- **2.** $[H_3O^{1+}]=4.30\times10^{-10}M$
- 5. $[H_3O^{1+}]=[OH^{1-}]$
- 8. pOH=9.00

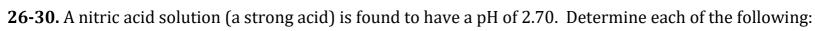
- 3. $[OH^{1-}]=9.80\times10^{-7}M$
- **6.** pH=3.00 **4**
- **10-13.** Determine the pH and pOH of the following strong acid solutions.
- **10.** 3.41x10⁻²M HCl
- **12.** 1.00x10⁻⁵M HI
- **11.** $150 \times 10^{-3} \text{M HNO}_3$ **13.** $1.00 \times 10^{-4} \text{M HBr}$
- $\begin{array}{c} \text{POIT} = 12.53 & \text{II} \\ \text{POH} = 1.824 & \text{II} \\ \text{POH} = 11.176 & \text{POH} = 9.000 \end{array}$
- **14-16.** Determine the pH and pOH of the following strong base solution.
- **14.** 3.75x10⁻²M NaOH
- **15.** 1.27x10⁻³M Sr(OH)₂
- **16.** 1.00x10-4M LiOH
- PH = 17.574 (is) pH = 11.405 pOH = 1.426 pOH = 2.595
- 00/1=4,00 00/1=4,00
- **17-19.** Determine the hydrogen and hydroxide ion concentrations in a solution that is 1.57x10⁻⁴M HCl.
 - **17.** Calculate the $[H_3O^{1+}]$ concentration. $\begin{bmatrix} 1 & 57 & 10 & 4 \end{bmatrix}$
 - 18. Calculate the [OH¹-] concentration.

 19. Is the solution acidic(A) or basic(B)?

- **20-22.** Determine the hydrogen and hydroxide ion concentrations in a solution that is 1.00x10⁻⁴M Ca(OH)₂.
 - **20.** Calculate the $[H_3O^{1+}]$ concentration. 5×10^{-5}
 - **21.** Calculate the [OH¹-] concentration.
 - **22.** Is the solution acidic(A)or basic(B)?







26. Calculate the
$$[H_3O^{1+}]$$
 concentration.

27. Calculate the [OH¹-] concentration.

$$5 \times 10^{-12}$$
28. Is the solution acidic(A)or basic(B)?

29. Calculate then number of moles of HNO₃ required to prepare
$$5.50L$$
 of this solution.

30. The mass of the moles of HNO₃ in the solution from question #29.

30. The mass of the moles of
$$HNO_3$$
 in the solution from question #29.

31. A solution of sulfuric acid has a pH of 3.2. Calculate the concentration of sulfuric acid.

$$H_{7}50y \rightarrow 2H^{\dagger} + 50y^{2} \qquad \boxed{3.15\times10^{-4}MH_{2}}$$
 $10^{-9H} = CH^{\dagger} \qquad CH^{\dagger} = 6.31\times10^{-4} \qquad \boxed{}$

32. A solution of aluminum hydroxide has an H of 10.3. Calculate the concentration of aluminum hydroxide

Al
$$(OH)_3$$
 A 1^{3+} + $3OH$ OH = 10^{3} A 10^{3}