

General Chemistry
Mr. MacGillivray
Quiz #38:
pH Calculations I

$$\text{pH} = -\log[\text{H}_3\text{O}^+]$$

$$\text{pOH} = -\log[\text{OH}^-]$$

$$\text{pOH} + \text{pH} = 14$$

$$[\text{H}_3\text{O}^+] \times [\text{OH}^-] = 1.00 \times 10^{-14} = K_w$$

Solve each problem. Show all work.

Find the pH of the following solutions:

a) $[\text{H}_3\text{O}^+] = 0.010 \text{ M}$

b) $[\text{OH}^-] = 0.010 \text{ M}$

c) $\text{pOH} = 8.77$

Find the $[\text{H}_3\text{O}^+]$ of each of the following solutions:

a) $\text{pH} = 8.00$

b) $\text{pOH} = 8.00$

c) $[\text{OH}^-] = 7.5 \times 10^{-3} \text{ M}$