

MC 06 Practice

1. A pH value greater than 7 indicates an acid. True or False
2. What does the p in pH stand for? Could a pH value be greater than 14?
3. A solution has $[\text{OH}^-] = 3.7 \times 10^{-4}$. What is the pH of the solution?
4. Solution A has $[\text{H}^+]$ 420 times greater than that in solution B. What is the difference in pH values of the two solutions?
5. How much does $[\text{H}^+]$ change for a pH change of 2.51 units?
6. What is the range of $[\text{H}^+]$ in raindrops if they have a pH range of 4.6 to 5.3?
7. Fill in the missing row below:

$[\text{H}^+]$	$[\text{OH}^-]$	pH	pOH	Acidic or basic?
7.7×10^{-3}				

8. 0.57 g of hydrogen chloride is dissolved in 5.0 L of solution. What is the pH of the resulting solution?
9. 0.76 g of sodium hydroxide is dissolved in water to make 3.0 L of solution. What is the pH of this solution?

10. Calculate the pH of a 0.50 M solution of barium hydroxide.
11. Calculate the pH of a 0.50 M solution of sodium hydroxide.
12. Calculate the pH of a 0.50 M solution of hydrazine, N_2H_4 , given K_b for hydrazine is 1.3×10^{-6}
13. Calculate the pH of a 0.50 M solution of HOCl , given $K_a = 3.5 \times 10^{-8}$
14. If K_b for NX_3 is 3.5×10^{-6} what is the pOH of a 0.225 M aqueous solution of NX_3 ?
15. What is the percent ionization for this solution?
16. Calculate the molar concentration of OH^- ions in a 6.5×10^{-2} M solution of ethylamine, given $K_b = 6.4 \times 10^{-4}$