Worksheet 3

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 $[OH^-] = 3.7 \times 10^{-4}$. What is the pH of the solution?

4. Solution A has $[H^+]$ 420 times greater than that in solution B. What is the difference in pH values of the two solutions?

5. How much does $[H^+]$ change for a pH change of 2.51 units?

6. What is the range of $[H^+]$ in raindrops if they have a pH range of 4.6 to 5.3?

7. Fill in the missing row below:

$[H^+]$	**$[OH^-]$**	**pH**	**pOH**	**Acidic or basic?**
$7.7x10^-3$				

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 x 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 x 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 x 10^{-2} M solution of ethylamine, given $K_b =$ 6.4 x 10^{-4}