73 K_w, pH, AND pOH CALCULATIONS

1. Calculate the $[OH^-_{(aq)}]$ in limes which have a $[H^+_{(aq)}]$ of 1.3×10^{-2} mol/L.

2. Calculate the $[H^+_{(aq)}]$ in lemons which have a $[OH^-_{(aq)}]$ of 2.0×10^{-12} mol/L.

3. A sodium hydroxide solution is prepared by dissolving 2.50 g to make 2.00 L of solution. Calculate the hydroxide and hydrogen ion concentrations.

4. A 0.728 g sample of hydrogen chloride gas is dissolved in 200 mL of solution. Calculate the hydrogen and hydroxide ion concentrations.

5. A vinegar solution has a hydrogen ion concentration of 1.5×10^{-3} mol/L. Calculate the pH.

6. An ammonia solution has a pOH of 2.92. What is the concentration of hydroxide ions in the solution?

7. Calculate the pOH and pH of a solution made by dissolving 7.50 g of strontium hydroxide to make 500 mL of solution.

Complete the following table.

	Substance	$[H^+_{(aq)}]$ (mol/L)	pH	$[OH^-_{(aq)}]$ (mol/L)	pOH	Acidic, Basic, or Neutral
8.	milk			3.2×10^{-8}		
9.	pure water		7.0			
10.	blood	4.0×10^{-8}				
11.	cleaner				3.20	