Name:_____

Acids and Bases Worksheet

1) Determine the pH for the following assuming H^+ fully dissociates:
   a) A 0.0034 M HNO_3 solution.

   b) A solution that contains 25 grams of hydrochloric acid (HCl) dissolved in 1.5 liters of water?

   c) A solution that contains 1.32 grams of nitric acid (HNO_3) dissolved in 750 mL of water?

   d) A solution made by diluting 25 mL of 6.0 M HCl until the final volume of the solution is 1.75 L

   e) A solution made by diluting 25 mL of 6.0 M HCl until the final volume of the solution is 1.75 L.

2) An acidic solution has a pH of 4. If I dilute 10 mL of this solution to a final volume of 1000 mL, what is the pH of the resulting solution?

3) A solution that contains 1.2 moles of nitric acid (HNO_3), a strong acid, dissolved in 1000 liters of water, what is its pH?

4) Determine the pOH for the following assuming OH^- fully dissociates:
   a) A 3.67×10^{-5} M KOH solution.

   b) A 0.0034 M HNO_3 solution.

   c) A 4.3×10^{-4} M NaOH solution.

5) If a solution has a $[H^+]$ concentration of 4.5×10^{-7} M, is this an acidic or basic solution? Explain and calculate the pH.

6) Why would we say that a solution with a H^+ concentration of 1.00×10^{-7} M is said to be neutral. If it contains acid, shouldn't it be acidic?