**pH Scale and Dilution Problems**

1) What is the difference between pH 2 and pH 3?

2) 10.0 mL of a 0.1 mol/L HCl solution was diluted to a volume of 100.0 mL. What is the new pH?

3) If 4.00 g of NaOH are dissolved to make 100.0 mL of solution, what is the pH of the solution?

4) If 3.65 g of HCl are dissolved to make 1000.0 mL of solution, what is the pH of the solution?

5) How many times more concentrated in H+ ion is a solution of pH 3 versus pH 5?

6. How many more times concentrated in OH- ion is a solution of pH 11 versus pH 8?

7. If a 100.0 mL of a 0.01 mol/L solution of KOH is diluted to 0.0001 mol/L by adding water:

1. What is the new pOH of the solution?
2. How much water had to be added?