1. What is the pH of an **acidic** solution with a concentration 4.55×10^{-4} M HNO_3?

2. What is $[H^+]$ for a solution with a pH of 2.75?

3. What is the pH of a **basic** solution with a concentration of 2.99×10^{-5} M LiOH?

4. 100.0 mL of 12.0 M HCl is diluted with 400.0 mL of water.
   a. After the dilution, what is the new molarity? ($M_1V_1 = M_2V_2$)

   b. What is the pH of the new dilute solution?

   c. What is the pH of the original 12.0 M solution (it should be a negative number, don't be alarmed)?

5. 45.0 g of NaOH are dissolved in enough solution to make 3.50 L of solution.
   a. What is the molarity of the solution?

   b. What is the pH of the solution?