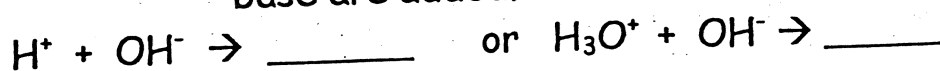


Neutralizations + Titrations

IV. Neutralization Reaction

A. Neutralization = occurs when equivalent amounts of an acid and base are added.



B. Titration = the molarity of an acid (or base) of unknown concentration can be determined by slowly combining it with a base (or acid) of known concentration.

1. During titration, the point of neutralization is called the _____ point.

2. Sample problem:

a) How many milliliters of 0.5 M NaOH solution are required to neutralize 50 mL of 0.2 M HCl solution?

b) If 150 milliliters of 2.0 M HNO₃ is used to completely neutralize 50.0 milliliters of KOH solution, what is the molarity of the KOH?

c) If you used H₂SO₄ in part b, how would your answer change?

1. The following data table shows the results of a titration experiment to determine the concentration of an unknown base.

Concentration of standard acid	1.0 M
Final volume of acid buret	34.00 mL
Initial volume of acid buret	10.00 mL
Final volume of base buret	25.00 mL
Initial volume of base buret	19.00 mL

Calculate the concentration of the base.

2. Sneed just swallowed 430 mL of 1 M HCl. How many milliliters of 4 M NaOH will be necessary to neutralize his excess stomach acid?

