

## Acid-Base Neutralization



# moles acid = # moles base

$$M_A V_A = M_B V_B$$

### Examples

- (1) What volume of .00624M HBr is needed to neutralize 35.6 mL of .00782M NaOH solution by titration?

$$M_A V_A = M_B V_B$$

$$M_A = .00624 \text{ M}$$

$$V_A = ?$$

$$M_B = .00782 \text{ M}$$

$$V_B = 35.6 \text{ mL} = .0356 \text{ L}$$

$$(.00624 \text{ M}) V_A = (.00782 \text{ M})(.0356 \text{ L})$$

$$V_A = .0446 \text{ L}$$

- (2) You are given 12.5 mL of an unknown concentration of LiOH. You titrate it with 9.50 mL of .100M HNO<sub>3</sub>. What is the concentration of LiOH?

$$M_A V_A = M_B V_B$$

$$M_A = .100 \text{ M}$$

$$V_A = 9.50 \text{ mL} = .00950 \text{ L}$$

$$M_B = ?$$

$$V_B = 12.5 \text{ mL} = .0125 \text{ L}$$

$$(.100 \text{ M})(.00950 \text{ L}) = M_B (.0125 \text{ L})$$

$$M_B = .0760 \text{ M}$$