SOLUTION STOICHIOMETRY

Name

Section

- 1. a. How many grams of sodium hydroxide are required to prepare 500.0 mL of 0.500 M NaOH?
 - b. Describe how you would prepare this solution.

2. Calculate the volume of 0.750 M KNO_3 that contains 17.0 g of KNO_3 .

3. What is the concentration of HCl in a 250.0 mL sample of hydrochloric acid if 15.5 mL of 0.0100 M NaOH is needed to react with all of the HCl?

4. Given the reaction

 $2 \operatorname{Na}(s) + 2 \operatorname{H}_2O(l) \rightarrow 2 \operatorname{NaOH}(aq) + \operatorname{H}_2(g)$

a. If a piece of sodium weighing 1.25 grams is added to 450 mL of water, calculate the grams of $\rm H_{2}$ produced.

b. Calculate the concentration of NaOH in the solution after the reaction is complete; assume a negligible volume change.

5. What volume of 0.406 M KOH is required to completely react with 18.50 mL of 0.287 M H_2SO_4 ?