

### Neutralization and Titration Review

**\*\*REMEMBER TO WRITE AND BALANCE YOUR REACTION\*\***

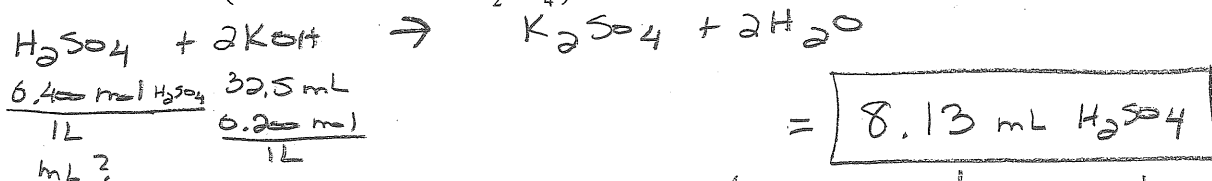
(Use this to review for both your quiz and test on this material.)

1) How many grams of LiOH are needed to neutralize 300.0 mL of a 2.00 M solution of HNO<sub>2</sub>? (Answer: 14.4 g LiOH)



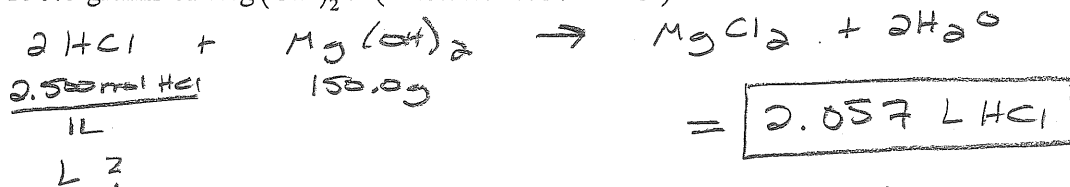
23.95 g LiOH	1 mol LiOH	2.00 mL HNO <sub>2</sub>	1 L HNO <sub>2</sub>	300.0 mL HNO <sub>2</sub>
1 mol LiOH	1 mol HNO <sub>2</sub>	1 L HNO <sub>2</sub>	1000 mL HNO <sub>2</sub>	

2) How many mL of a 0.400 M sulfuric acid are needed to neutralize 32.5 mL of a 0.200 M KOH solution? (Answer: 8.13 mL H<sub>2</sub>SO<sub>4</sub>)



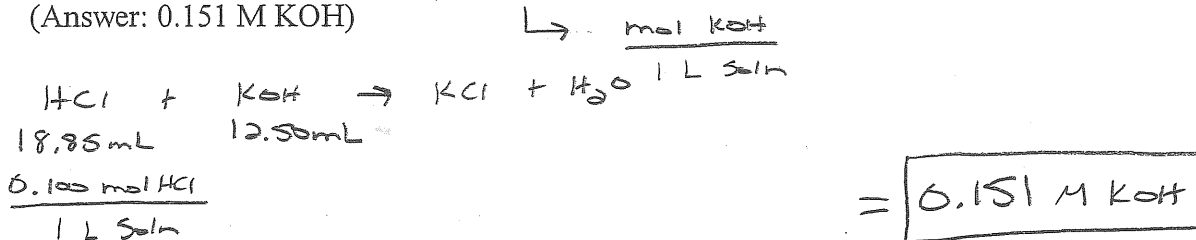
1000 mL H <sub>2</sub> SO <sub>4</sub>	1 L H <sub>2</sub> SO <sub>4</sub>	1 mol H <sub>2</sub> SO <sub>4</sub>	0.200 mol KOH	1 L KOH	32.5 mL KOH
1 L H <sub>2</sub> SO <sub>4</sub>	0.400 mol H <sub>2</sub> SO <sub>4</sub>	2 mol KOH	1 L KOH	1000 mL KOH	

3) How many liters of a 2.500 M hydrochloric acid solution are needed to neutralize 150.0 grams of Mg(OH)<sub>2</sub>? (Answer: 2.057 L HCl)



1 L HCl	2 mol HCl	1 mol Mg(OH) <sub>2</sub>	150.0 g Mg(OH) <sub>2</sub>
2.500 mol HCl	1 mol Mg(OH) <sub>2</sub>	58.33 g Mg(OH) <sub>2</sub>	

4) In the lab, 12.50 mL of KOH is titrated to the endpoint using 18.85 mL of a 0.100 M HCl solution. Determine the concentration of the KOH solution. (Answer: 0.151 M KOH)



1 mol KOH	0.100 mol HCl	1 L HCl	18.85 mL HCl	1000 mL KOH
1 mol HCl	1 L HCl	1000 mL HCl	12.50 mL KOH	1 L KOH