Chemistry Homework Name _____

Directions:

a. **Write the balanced neutralization reaction for each**
b. **Solve the problems using the titration data given**

1. A 5.00 mL sample of HCl is placed in a flask. The titration required 15.0 mL of 0.200 M NaOH. What is the molarity of the HCl in the sample?

2. How many mL of 0.200 M NaOH are required to neutralize completely 8.50 mL of 0.500 M H_2SO_4?

3. A 10.0 mL sample of H_3PO_4 is placed in a flask. Titration requires 42.0 mL of 0.100 M NaOH. What is the molarity of the H_3PO_4?

4. A 25.0 mL sample of HCl was titrated to the endpoint with 15.0 mL of 2.0 M NaOH. What was the molarity of the HCl?

5. A 10.0 mL sample of sulfuric acid was exactly neutralized by 13.5 mL of 1.0 M KOH. What is the molarity of the sulfuric acid?

6. How much 1.5 M NaOH is necessary to exactly neutralize 20.0 mL of 2.5 M H_3PO4?

7. How much of 0.5 M HNO_3 is necessary to titrate 25.0 mL of 0.05 M $Ca(OH)_2$ solution to the endpoint?

8. What is the molarity of a NaOH solution is 15.0 mL is exactly neutralized by 7.5 mL of a 0.02 M $HC_2H_3O_2$ solution?

9. How much 0.4 M H_2SO_4 is required to exactly neutralize 25.0 mL of 1.5 M $Al(OH)_3$?

10. How much diprotic strong acid with a molarity of 2.0 M is required to neutralize 50.0 mL of a strong group 1 hydroxide base with a molarity of 0.75 M?