

### Quiz 3

Name \_\_\_\_\_

1) How many milliliters of 0.200 M NaOH are required to completely neutralize 5.00 mL of 0.100 M  $\text{H}_3\text{PO}_4$ ? 1) \_\_\_\_\_

2) A 32.4 mL sample of  $\text{H}_2\text{SO}_4$  requires 20.0 mL of 0.368M NaOH for complete neutralization. What is the molarity of the acid? 2) \_\_\_\_\_

3) What is the pH of a solution prepared by adding 24.6 ml of 0.146 M NaOH to 25.0 ml of 0.165 M  $\text{HNO}_3$ ? 3) \_\_\_\_\_

4) Using a buret, you add 29.34 mL of 0.09967 M strontium hydroxide to 25.00 mL of 0.2576 M hydrochloric acid containing a couple drops of phenolphthalein. What color will your sample be? (phenolphthalein is clear below, and pink above, pH 8.2) 4) \_\_\_\_\_

5) A sample of magnesium oxide was dissolved in 50.0 mL of 0.183 M hydrochloric acid, and the excess acid was titrated to a phenolphthalein endpoint by 13.4 mL of 0.105 M sodium hydroxide. What was the mass of the magnesium oxide sample? 5) \_\_\_\_\_

6) Calculate the pH of a 0.161 M solution of sulfuric acid? ( $K_a$  for  $\text{HSO}_4^-$  is  $1.2 \times 10^{-2}$ ) 6) \_\_\_\_\_