Worksheet 32: Titration

Topic 8

Set A: Titration- Calculation of moles

Objective: *To test your understanding of mole relation in titration (neutralization) problems.*

Omit

For each titration problem, show set and calculate the unknown.
Use the space to right to write equation, show set up and solve.

1. How many moles of KOH are needed to completely neutralize 0.5 L of 1.0 M HCl solution? .5

2. How many moles of HCl is needed to completely neutralize 1.5 L of a 0.3 M NaOH solution .45

3. How many moles of sodium hydroxide is needed to neutralize 0.3 L of 0.1 M nitric acid solution? .03

4. How many moles of NaOH is needed to completely neutralize 0.1 L of 2 M H_2SO_4 solution. 4.0

5. What is the number of moles of H_2SO_4 that will react of neutralize 0.5 L of a 6 M KOH solution? 1.5

Set B: Titration- Calculation of molarity or volume

Objective: *To test your ability to use titration equatio to solve for unknown in neutralization problem*

For each titration problem, show set up and solve for the unknown.

Use the space to the right to write equation, show set up and solve for the unknown.

6. How many milliliters of 2.5 M HCl are required to exactly neutralize 100 mL of 0.1 M NaOH solution? 4L

7. How many milliliters of 3 M KOH solution is required to exactly neutralize 100 mL of 1.5 M HNO_3 solution? 50L

8. What is the molarity of 60 ml HNO_3 solution if it takes 180 ml of 0.2 M KOH to neutralize it? .60

9. What is the molarity of 20 mL NaOH solution that is neutralized by a 5 ml of 0.1 M HCl solution .025

10. What is the molarity of 80 mL H_2SO_4 solution that is neutralized by 40 mL of 2 M NaOH solution? 2