Solutions Quiz—Study Sheet

* Preparing a solution
  + From a solid
    - How many grams of sodium chloride would be required to create 500 mL of a 0.1 M solution? What equipment would you need to do so?
  + From another solution
    - How many mLs of 0.2 M sulfuric acid would be required to create 100 mL of a 0.15 M solution?
* Calculations using molarity
  + Determine the limiting reactant
  + Determine the amount of precipitate formed
    - What mass of iron(III) hydroxide is produced when 35.0 mL of a 0.250 M solution of iron (III) nitrate is mixed with 65 mL of a 0.180 M solution of NaOH?
* Balance a redox reaction
  + Identify which species is oxidized
  + Identify which species is reduced
    - S2- + NO3-1 🡪 S8 + NO2
* Redox titration
  + Describe the steps in the titration
  + Calculate the molarity of KMnO4 given grams of FAS and the readings from the burette.

|  |  |
| --- | --- |
| Grams of FAS | 0.212 g |
| Initial burette reading (KMnO4) | 12.2 mL |
| Final burette reading (KMnO4) | 25.3 mL |

Solutions Quiz—Study Sheet

* Preparing a solution
  + From a solid
    - How many grams of sodium chloride would be required to create 500 mL of a 0.1 M solution? What equipment would you need to do so?
  + From another solution
    - How many mLs of 0.2 M sulfuric acid would be required to create 100 mL of a 0.15 M solution?
* Calculations using molarity
  + Determine the limiting reactant
  + Determine the amount of precipitate formed
    - What mass of iron(III) hydroxide is produced when 35.0 mL of a 0.250 M solution of iron (III) nitrate is mixed with 65 mL of a 0.180 M solution of NaOH?
* Balance a redox reaction
  + Identify which species is oxidized
  + Identify which species is reduced
    - S2- + NO3-1 🡪 S8 + NO2
* Redox titration
  + Describe the steps in the titration
  + Calculate the molarity of KMnO4 given grams of FAS and the readings from the burette.

|  |  |
| --- | --- |
| Grams of FAS | 0.212 g |
| Initial burette reading (KMnO4) | 12.2 mL |
| Final burette reading (KMnO4) | 25.3 mL |