Answers to Practice Problems D in page 556.

Answers to Practice Problems D

1. 6.9×10^{-3} M
2. 0.585 M
3. 4.674×10^{-3} moles
4. 2.31×10^{-5} M

Homework — GENERAL

Additional Practice

1. A volume of 20.00 mL of a solution of HNO_3 that has an unknown concentration is titrated with 34.37 mL of a 0.8220 M solution of NaOH. What is the concentration of the HNO_3 solution? Ans. 1.413 M HNO_3
2. A lab worker makes up 1000.00 mL of a KOH solution but forgets to record the mass of dissolved KOH. When a 42.82 mL sample of the solution is titrated with a 1.209 M solution of HCl, 28.35 mL of the acid solution are required to reach the equivalence point. What is the concentration of the KOH solution, and what mass of KOH was dissolved? Ans. 0.8004 M KOH; 44.91 g KOH
3. What volume of a 1.366 M solution of NaOH would be required to titrate 47.22 mL of a 2.075 M solution of H_2SO_4? Ans. 143.5 mL (note that H_2SO_4 has two ionizable protons)
4. A solution of sodium hydroxide was made by dissolving 4.500 g NaOH in water to form 1.000 L of solution. Then, 25.00 mL of the solution were titrated with 0.1020 M HCl. How many milliliters of HCl were required? Ans. 27.57 mL

LS Logical