

CALCULATION OF NEUTRALISATION THROUGH TITRATION METHOD

Question 1

2



mol dm⁻³ nitric acid

25.0 cm³ of 1.0 mol dm⁻³ sodium hydroxide.

25.0 cm³ of nitric acid is added to 25.0 cm³ of 1.0 mol dm⁻³ sodium hydroxide to reach the end point. What is the concentration of nitric acid?

$x (M_A) () = x () ()$

$M_A = \frac{x () ()}{x} =$

Question 2

3



cm³ of 0.5 mol dm⁻³ sulphuric acid

25.0 cm³ of 1.0 mol dm⁻³ sodium hydroxide.

How much of 0.5 mol dm⁻³ sulphuric acid is needed to neutralise 25.0 cm³ of 1.0 mol dm⁻³ sodium hydroxide?

$x () (V_A) = x () ()$

$V_A = \frac{x () ()}{x} =$

Question 3

4

cm³ of 1.0 mol dm⁻³ hydrochloric acid

How much of 1.0 mol dm⁻³ hydrochloric acid is needed to neutralise 15.0 cm³ of 1.0 mol dm⁻³ barium hydroxide?

$x (\quad) (V_A) = x (\quad) (\quad)$

$V_A = \frac{x (\quad) (\quad)}{x} =$

Question 4

If it takes 25 mL of 0.05 M HCl to neutralize 345 mL of NaOH solution, what is the concentration of the NaOH solution?

$$x (M_B) (\quad) = x (\quad) (\quad)$$

$$M_B = \frac{x (\quad) (\quad)}{x} = \quad \text{mol dm}^{-3}$$

Question 5

If it takes 50.0 mL of 0.5 M Ca(OH)_2 solution to completely neutralize 125 mL of HNO_3 solution, what is the concentration of the HNO_3 solution?

$$x (M_A) () = x () ()$$

$$M_A = \frac{x () ()}{x} = \text{mol dm}^{-3}$$

Question 6

A 25.0 mL sample of HCl was titrated to the endpoint with 15.0 mL of 2.0 M NaOH . What is the molarity of HCl in g dm^{-3} ? [RAM: H = 1, Cl = 35.5]

$$x (M_A) () = x () ()$$

$$M_A = \frac{x () ()}{x} =$$

$$\text{Change to g dm}^{-3}: \quad x = \text{g dm}^{-3}$$

Question 7

If it takes 75.0 mL of 1.5 M HNO_3 solution to completely neutralize 125 mL of Ca(OH)_2 what is the concentration of the Ca(OH)_2 solution in g dm^{-3} ? [RAM : Ca = 40 , O = 16, H = 1]

$$x (M_B) () = x () ()$$

$$M_B = \frac{x () ()}{x} =$$

$$\text{Change to g dm}^{-3}: \quad x = \text{g dm}^{-3}$$