

(Concentrations of solutions)

Q1. (2018)

A solution of NaOH had a concentration of 40 g/dm^3 What mass of NaOH would there be in 250 cm^3 of the solution?**[2 marks]**

Mass = _____ g

Q2.a) (2020)

The student used a pipette to measure 25.0 cm^3 of hydrochloric acid.

Figure 12 shows a pipette.

Figure 12The pipette is labelled $25.0 \pm 0.06 \text{ cm}^3$

Calculate the percentage uncertainty in the volume measured using this pipette.

Use the equation:

$$\text{percentage uncertainty} = \frac{\text{uncertainty}}{\text{volume measured}} \times 100$$

[2 marks]

Percentage uncertainty = _____ %

Q2.b) (2020)

Give **one** advantage of using a pipette rather than using a measuring cylinder to measure the volume of hydrochloric acid.**[1 mark]**

Q3.a) (2023)

Table 1 shows the results.

Table 1

Trial	1	2	3	4
Volume of hydrochloric acid added in cm ³	24.3	24.5	28.1	24.4

Which is the anomalous result in Table 1?

[1 mark]

Trial 1 ☐ Trial 2 ☐ Trial 3 ☐ Trial 4 ☐

Q3.b) (2023)

Suggest **one** reason for the anomalous result in Table 1.

[1 mark]

Q3.c) (2023)

The student used a solution of sodium hydroxide of concentration 4.00 g/dm³.

Calculate the mass of sodium hydroxide in 25.0 cm³ of this solution.

1 dm³ = 1000 cm³

[3 marks]

Mass = _____ g