

Chemistry
Standard level
Paper 1B

Practice paper

Topic: Measurement and Uncertainty (SL)

1. Titration of HCl with NaOH. Trial 1 data provided.

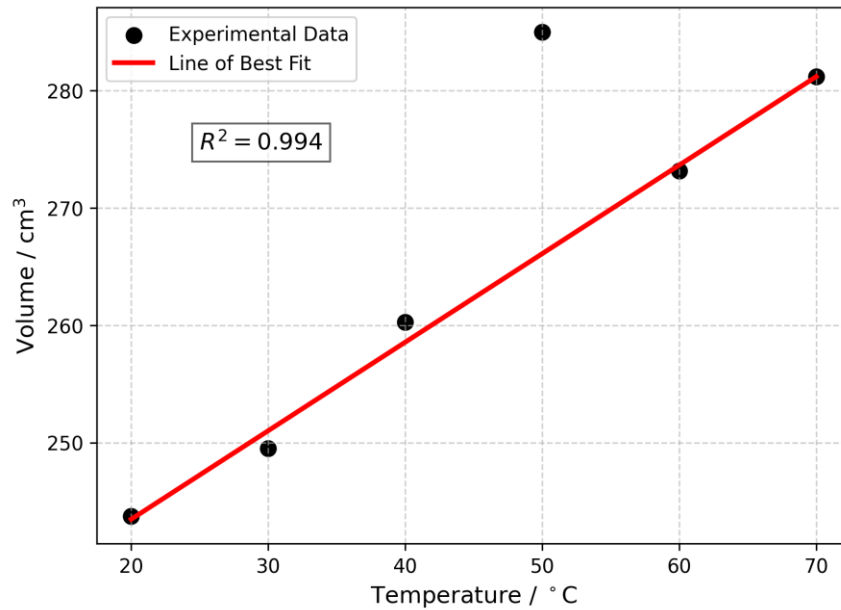
Initial Burette / cm^3 (+/- 0.05)	0.50
Final Burette / cm^3 (+/- 0.05)	24.60

(a) Calculate total volume used and absolute uncertainty.

[2]

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2. A student investigated Charles' Law by measuring the volume of an air bubble trapped in a capillary tube submerged in a water bath. The data was recorded as the temperature of the water bath was varied, as shown in the graph below.



(a) Identify the outlier on the graph.

[1]

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(b) The coefficient of determination (R^2) for the line of best fit, calculated by excluding the outlier, is 0.994. Discuss what this value indicates about the random error in the experiment.

[2]

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