

0	1
---	---

A student used a pipette to add 25.0 cm^3 of sodium hydroxide of unknown concentration to a conical flask.

The student carried out a titration to find out the volume of 0.200 mol/dm^3 sulfuric acid needed to neutralise the sodium hydroxide.

0	1	.	1
---	---	---	---

Describe how the student would complete the titration.
You should name a suitable indicator and give the colour change that would be seen.

[4 marks]

.....

.....

.....

.....

.....

.....

.....

.....

The student carried out five titrations. Her results are shown in **Table 5**.

Table 5

	Titration 1	Titration 2	Titration 3	Titration 4
Volume of sulfuric acid in cm^3	22.40	23.15	22.55	22.65

0	1	.	2
---	---	---	---

Concordant results are within 0.10 cm^3 of each other.

Use the student's concordant results to work out the mean volume of 0.200 mol/dm^3 sulphuric acid added.

[2 marks]

.....

.....

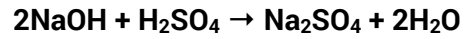
.....

.....

Mean volume = cm^3

0	1	.	3
---	---	---	---

The equation for the reaction is:



Calculate the concentration of the sodium hydroxide. Give your answer to three significant figures.

[4 marks]

.....

.....

.....

.....

Concentration = mol/dm³

(Total 10 marks)

End