

Name:

Class:



Describe the test to show that a gas is chlorine.

Test: moist/ damp blue litmus.

Result: if the gas is chlorine the damp litmus paper will turn red and then is bleached white.

A solution of sulfuric acid has a concentration of 1.6 mol/dm³. What is this concentration in g/dm³?

$$\text{g/dm}^3 = \text{mol/dm}^3 \times \text{Mr}$$

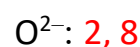
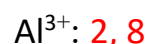
$$\text{g/dm}^3 = 1.6 \times 98$$

$$\text{g/dm}^3 = 156.8$$

State the functional group of an ester.



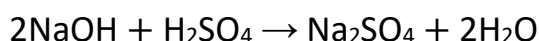
State the electronic configurations of the following:



A student titrated 25.0 cm³ portions of dilute sulfuric acid with a 0.105 mol/dm³ sodium hydroxide solution. The table below shows the student's results.

	Titration 1	Titration 2	Titration 3	Titration 4	Titration 5
Volume of sodium hydroxide solution in cm ³	23.50	21.10	22.10	22.15	22.15

The equation for the reaction is:



Calculate the concentration of the sulfuric acid in mol/dm³ Use only the student's concordant results. Concordant results are those within 0.10 cm³ of each other.

$$22.10 + 22.15 + 22.15 = 66.4 \div 3 = 22.13 \text{ cm}^3$$

$$\text{Mol of NaOH} = \text{concentration} \times \text{volume}$$

$$\text{Mol of NaOH} = 0.105 \times 0.02213$$

$$\text{Mol of NaOH} = 0.00232365$$

$$\text{Mol of H}_2\text{SO}_4 = 0.00232365 \div 2$$

$$\text{Mol of H}_2\text{SO}_4 = 0.001161825$$

$$\text{Concentration of H}_2\text{SO}_4 = \text{moles} \div \text{volume}$$

$$\text{Concentration of H}_2\text{SO}_4 = 0.001161825 \div 0.025$$

$$\text{Concentration} = 0.0465 \text{ mols/dm}^3$$

$$\text{Concentration of sulfuric acid} = 0.0465 \text{ mols/dm}^3$$

Aluminium ions react with phosphate ions to form aluminium phosphate.

Complete the **ionic equation** for the formation of aluminium phosphate in this reaction.

