Knowledge recall:
1. What is the relative molecular mass of a molecule?
2. Which substances produce ions in ionic equations?
3. What is the atom economy of a reaction?
4. What is the formula and charge of the nitrate ion?

Mathematical questions:

What volume of 0.125 moldm^{-3} sodium hydroxide is needed to titrate 25.0 cm^3 of 0.085 moldm^{-3} sulphuric acid?

Carbon dioxide is prepared by the action of 2.00 moldm^{-3} hydrochloric acid on calcium carbonate. What volume of acid is required to give 10.0 dm^3 of carbon dioxide, measured at 9.9x10^4 Pa and 26.0 °C?

Knowledge recall:

1. What are the formulae for the following acids? Hydrochloric, nitric, sulphuric
2. What are the formulae of sodium sulphate, calcium hydroxide, lithium carbonate, magnesium chloride.
3. Give the units for P, V, n, R and T

Mathematical questions:

A 2.00 g sample of limestone is allowed to react with 200 cm³ of 0.200 moldm^{-3} hydrochloric acid. The excess acid required 49.6 cm³ of 0.100 moldm^{-3} sodium hydroxide solution for neutralisation. Calculate the percentage by mass of calcium carbonate in the limestone.

Calculate the atom economy to make oxygen from hydrogen peroxide.

$H_2O_2 \rightarrow H_2O + O_2$