

Homework 1 – GFM and Both Equations

- 1) The gram formula mass of a molecule is the sum of all the atomic masses for each atom in the chemical formula of a substance. Atomic masses are found in the data book. Calculate the gram formula mass (GFM) of the following compounds:
- a) NaOH
 - b) KCl
 - c) H_2SO_4
 - d) Water
 - e) Hydrogen chloride
 - f) Ethane (you should know the formula for this unless you didn't do S3 chemistry!)

National 5 Extension

- 1) Calculate the GFM of the following compounds:
- a) Ammonium nitrate
 - b) Copper(II) oxide

- 2) Calculate the mass of:

- a) 10 moles of oxygen
- b) 1.5 moles of calcium hydroxide
- c) 2.5 moles of potassium sulfate

- 3) Calculate the number of moles in:

- a) 9g water
- b) 11.7g sodium chloride
- c) 12.7g iodine

$$\text{mass} = n \times \text{GFM}$$

$$n = \frac{\text{mass}}{\text{GFM}}$$

$$\text{GFM} = \frac{\text{mass}}{n}$$

4) Calculate the number of moles in:

a) 100cm^3 , 0.1 mol l^{-1} solution

b) 50cm^3 , 0.25 mol l^{-1} solution

5) Calculate the concentration of:

a) 250cm^3 of solution containing 2.5 moles

b) 3.5 litres of solution containing 0.1 moles

$$\begin{aligned} n &= C \times V \\ C &= \frac{n}{V} \\ V &= \frac{n}{C} \end{aligned}$$

6) Calculate the volume of 0.025 mol l^{-1} solution that contains 0.1 moles of solute.