

Q) find out mol. wt of a gas if v.d is 20 ($O_2 = 32$)

$$v.d_{O_2} = \frac{32}{32} = \frac{1}{2}$$

$$v.d = 20 \times \frac{1}{2} = 10$$

$$mol\ wt = v.d \times 2 = 10 \times 2 = 20\ g$$

Formula based question

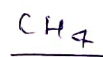
$$A_x B_y = \frac{n_A}{n_B} = \frac{x}{y}$$

$$CH_4 = \frac{n_C}{n_H} = \frac{1}{4}$$

ex: → find out formula of hydrocarbon containing 25% H & 75% C

$$C_x H_y = \frac{n_C}{n_H} = \frac{x}{y}$$

$$\frac{75}{12} = \frac{x}{\frac{25}{1}} = \frac{x}{y} = \frac{1}{4}$$



Principle of atom conservation



stoichiometry → no. need to balance
constant & balance
(if both are)

$$1 \times n_{CH_4} = 1 \times n_{CO_2}$$

$$4 \times n_{CH_4} = 2 \times n_{H_2O}$$

concentration

$$molarity\ (m) \rightarrow \frac{n\ (solute)}{wt\ of\ solvent\ (kg)}$$

$$molarity\ (M) = \frac{moles\ of\ solute}{volume\ of\ solution\ (L)}$$

$$\frac{N}{m} = factor$$

$$PPM = \frac{no.\ of\ part\ of\ compound \times 10^6}{Total\ no.\ of\ part\ in\ solution}$$