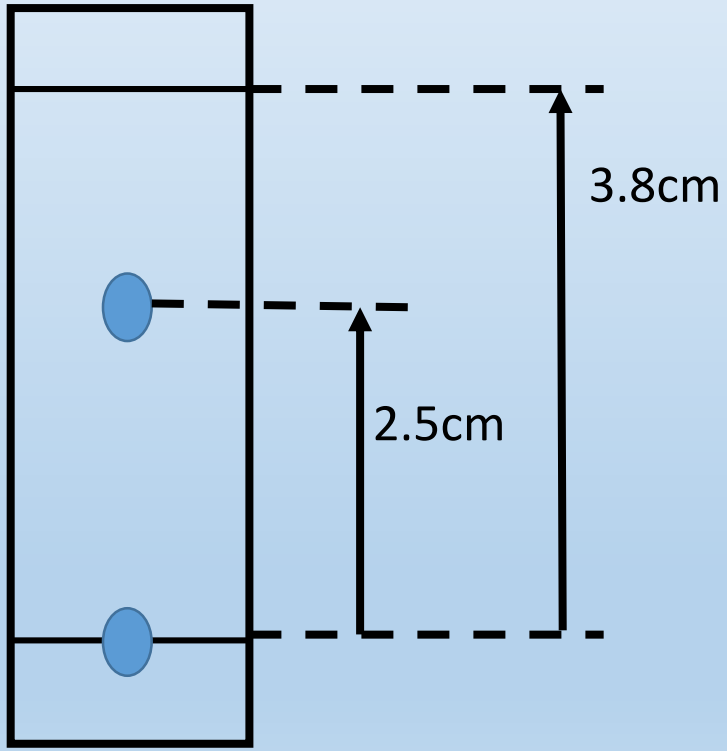
$$R_f = \frac{\text{Dist. moved by sample (cm)}}{\text{Dist. Moved by solvent (cm)}}$$



Finding Relative Atomic Mass (RAM)

A sample of 100 atoms contains:

20% ^{34}Cl 80% ^{35}Cl

$$RAM = \frac{(20 \times 34) + (80 \times 35)}{100 \text{ atoms}}$$

Finding empirical formula (EF)

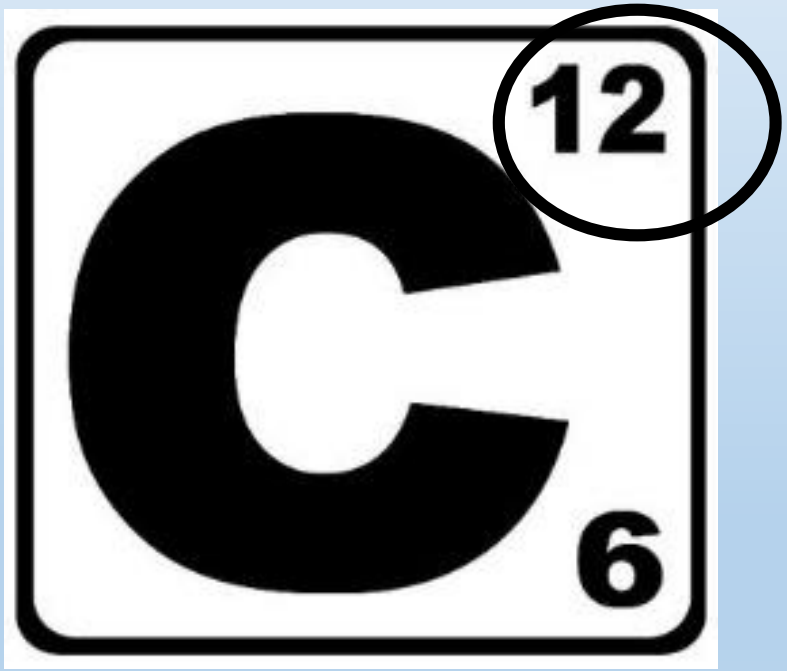
	Al	Br
Divide the mass of each element by the M_r (mass number)	$\frac{0.51g}{27}$	$\frac{4.49g}{80}$
	= 0.0189	= 0.0561
Divide the answers by the smallest number to find the simplest ratio	$\frac{0.0189}{0.0189}$	$\frac{0.0561}{0.0189}$
	= 1	= 2.97
Simplest whole number ratio	1	3
Empirical formula	$AlBr_3$	

Molecular mass (M_r) = sum of the mass numbers

Sometimes also called:

Relative Molecular Mass (RMM)

Relative Formula Mass (RFM)



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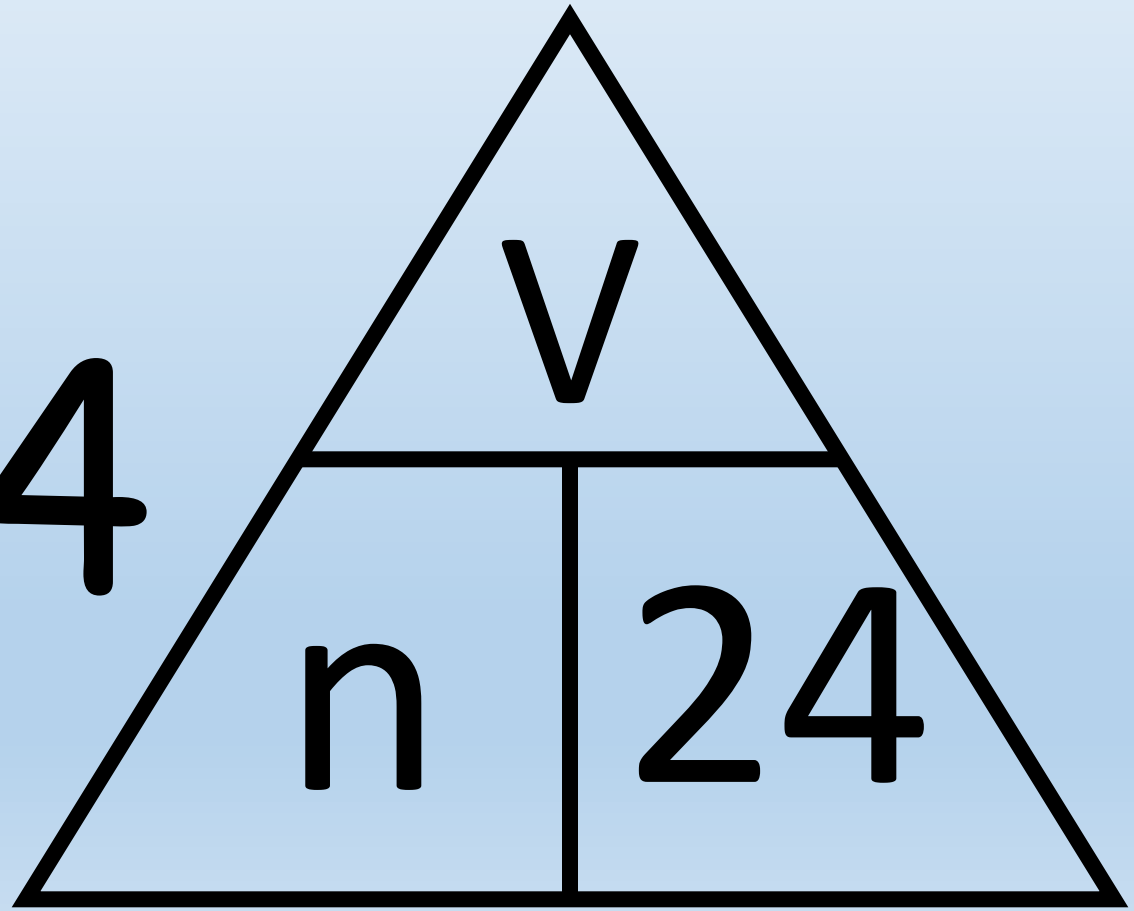
Volume of gas = Moles x 24 (dm^3)

(dm^3)

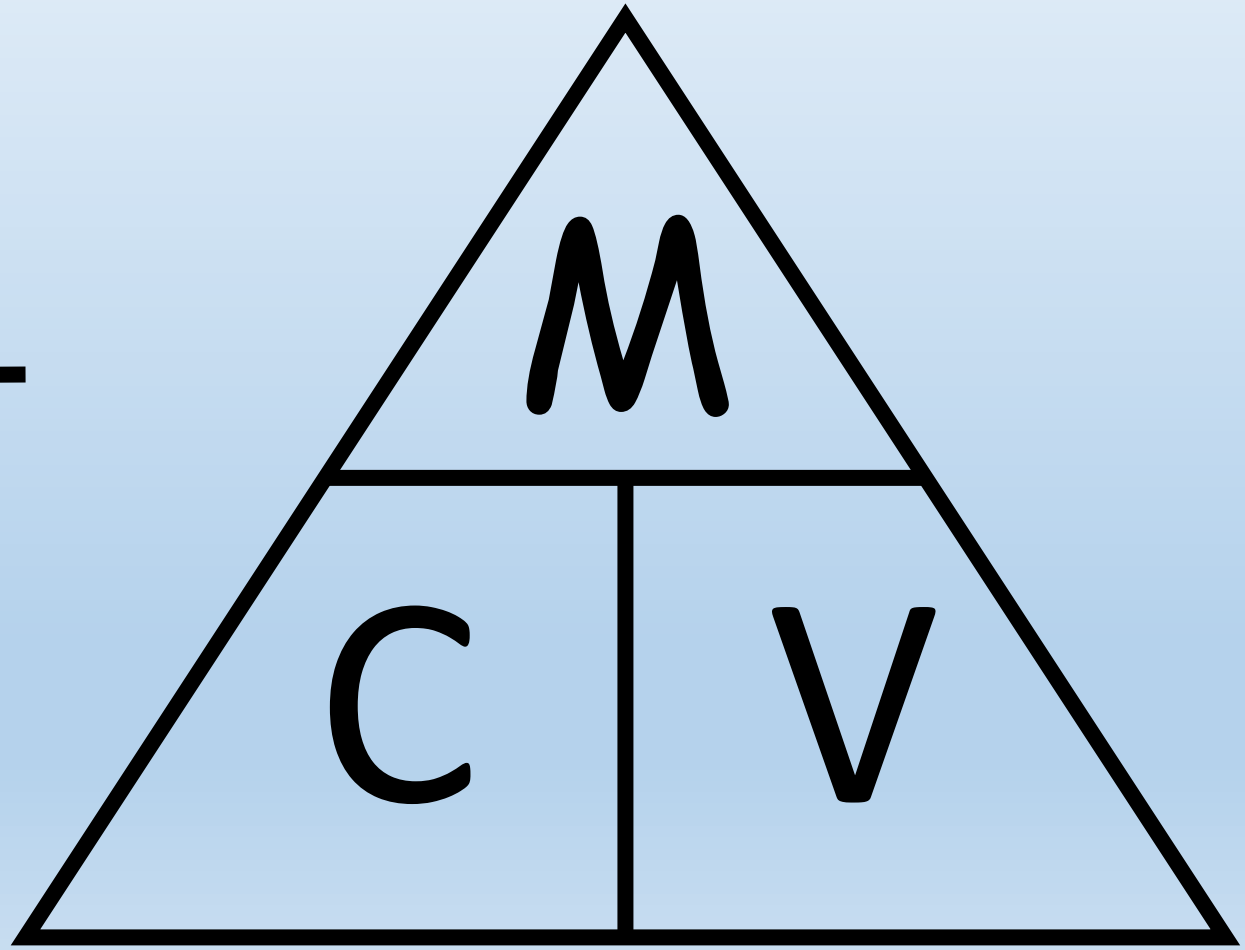
$V = n \times 24$



Concentration = $\frac{\text{Mass (g)}}{\text{Volume (dm}^3\text{)}}$

(g dm^{-3})

$$C = \frac{M}{V}$$



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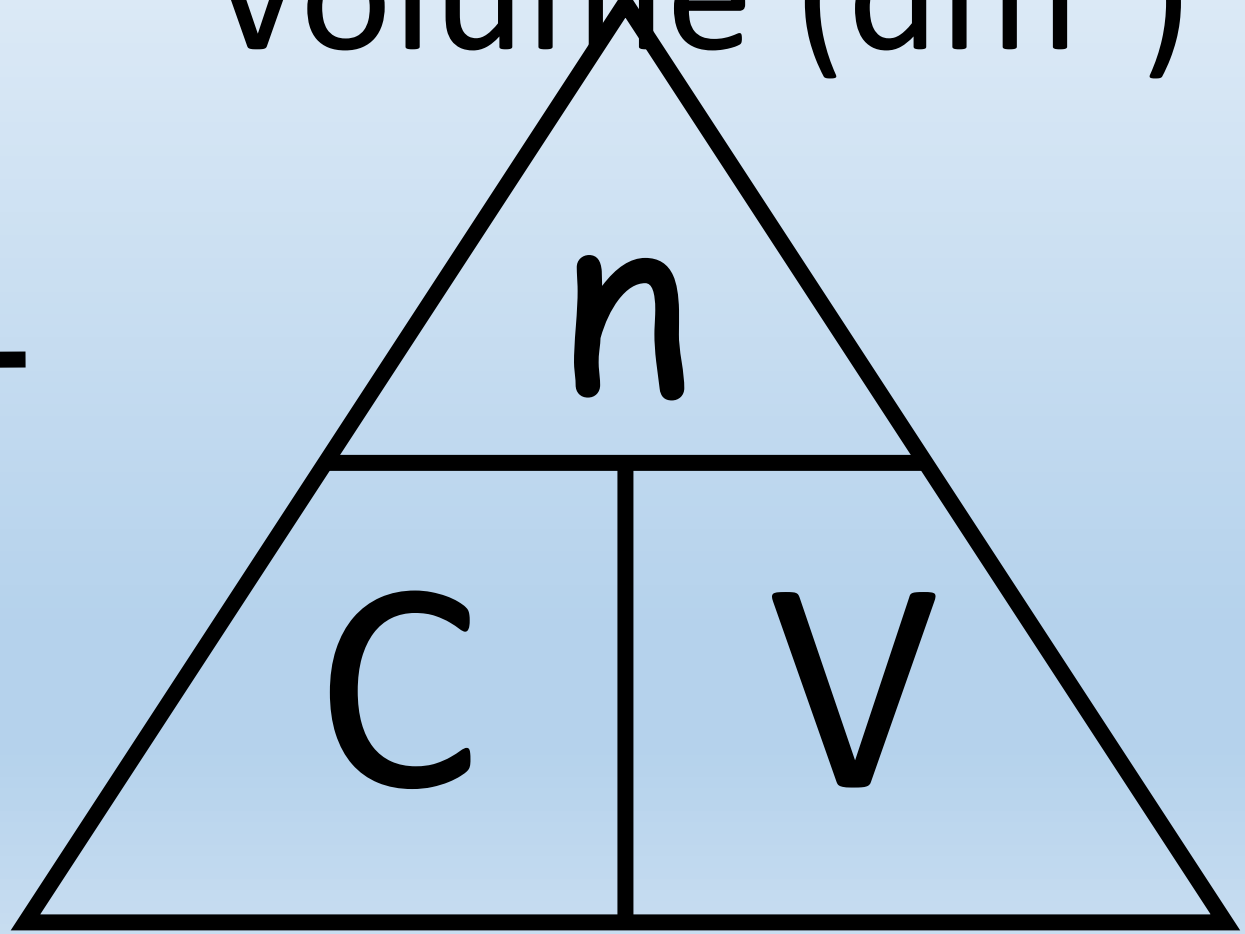
$$\text{Concentration} = \frac{\text{Moles}}{\text{Volume}}$$

(mol dm^{-3}) (Volume (dm^3))

$$C = \frac{n}{V}$$



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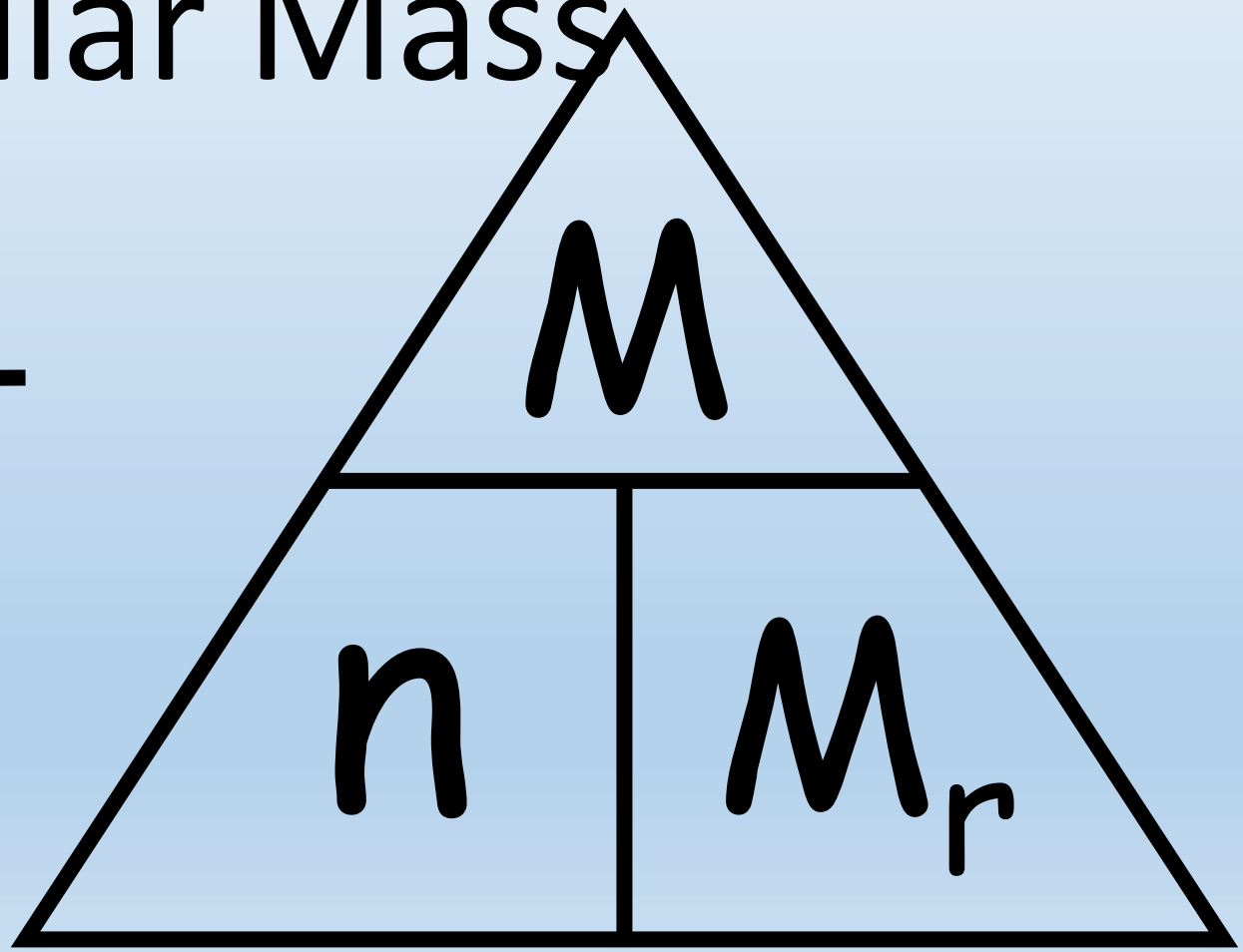
$$\text{Moles} = \frac{\text{Mass (g)}}{\text{Molecular Mass}}$$

$$n = \frac{M}{M_r}$$



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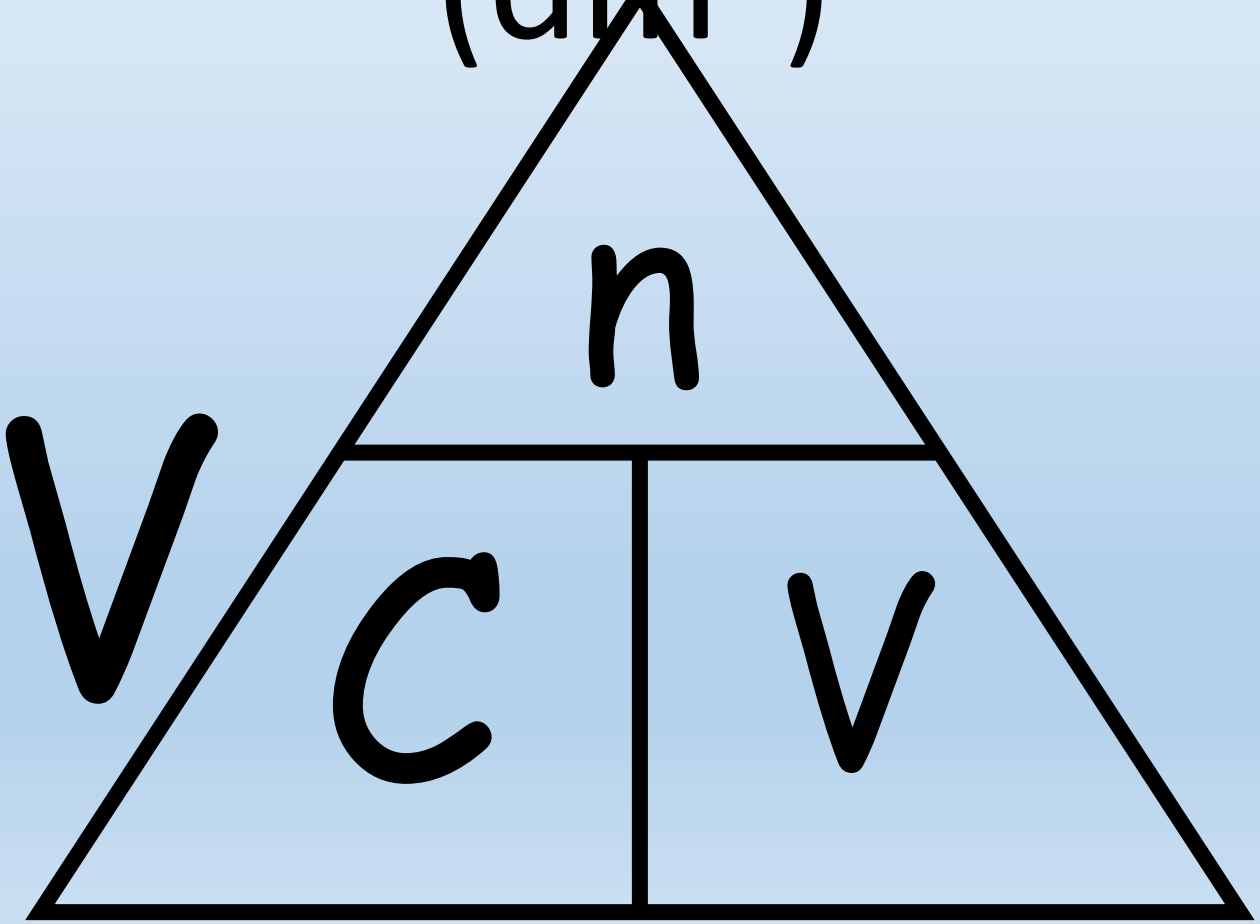
Moles (aq) = Conc. X Volume

(dm^3)

$n = C \times V$



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$$\% \text{ Yield} = \frac{\text{Actual Yield}}{\text{Theoretical Yield}} \times 100$$

$$\text{Atom Economy} = \frac{M_r \text{ of useful products}}{\text{Sum of } M_r \text{ for all products}} \times 100$$

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1 Mole = 6.02×10^{23} molecules