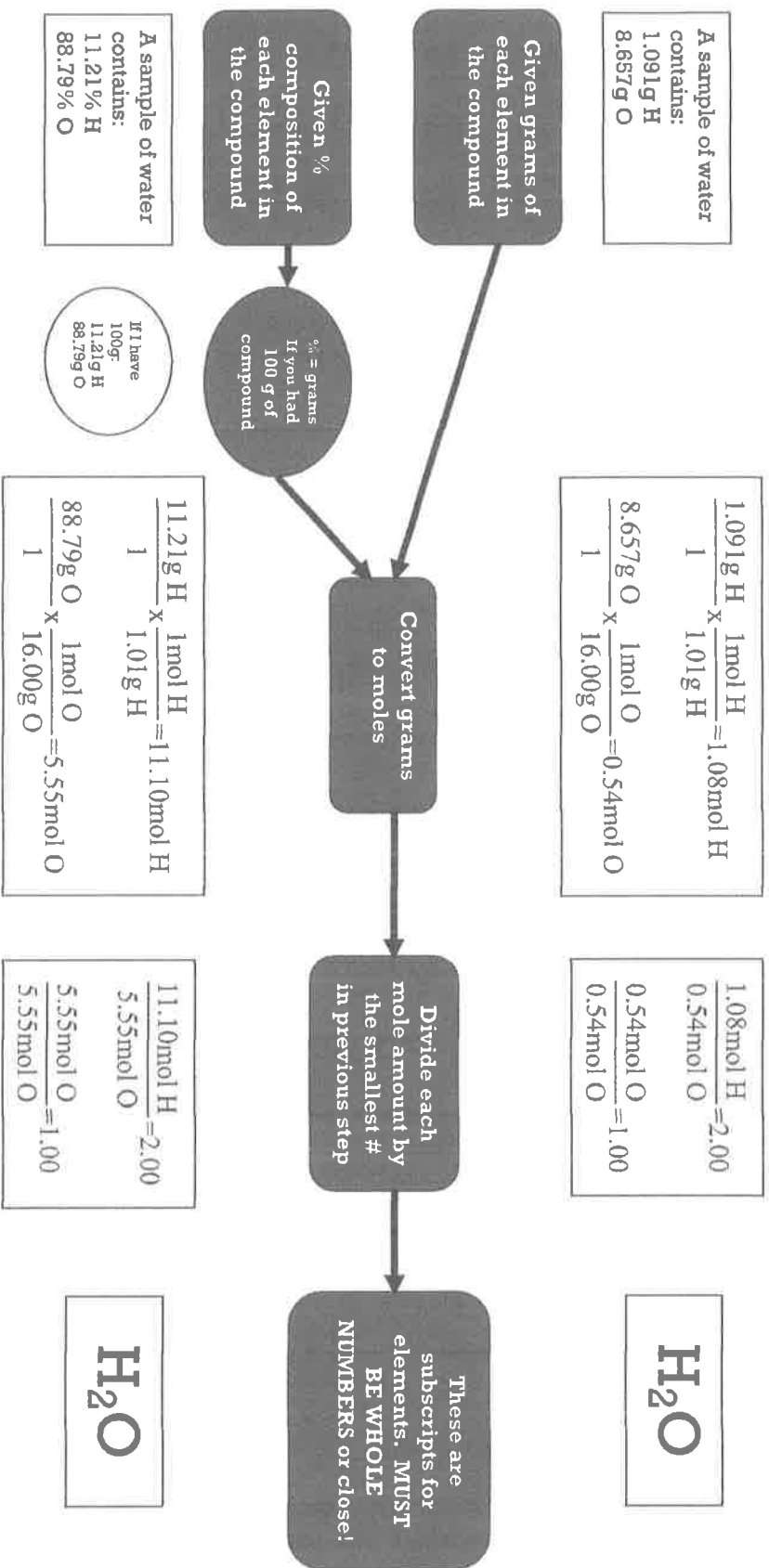


Empirical Formula vs. Molecular Formula Reference sheet

Use the following flowchart and apply it to any problem.



molar mass of the compound = factor by which you multiply all subscripts in empirical formula to get the molecular formula.
empirical formula mass

Example:

A compound with molar mass 180.18g/mol has an empirical formula of CH₂O



$$C \ 1 \times 12.01 = 12.01$$

$$H \ 2 \times 1.01 = 2.02$$

$$O \ 1 \times 16.00 = 16.00$$

$$30.03\text{g/mol}$$

$$\frac{180.18\text{ g/mol}}{30.03\text{ g/mol}} = 6.00$$

$$6(\text{CH}_2\text{O}) = \text{C}_6\text{H}_{12}\text{O}_6$$

Empirical formula

Molecular formula

