Molecular Formula: The actual number of atoms in a compound (whole number multiple of empirical formula).

molecular formula	empirical formula	n
C_2H_2	CH	2
C_6H_6	CH	6
H_2O	H_2O	1
$C_6H_{12}O_6$	CH_2O	6

$$\frac{\text{molar mass of molecular formula}}{\text{molar mass of empirical formula}} = n$$

Always a whole number!

$$n(\text{empirical formula}) = \text{molecular formula}$$

Molecular Formula Practice

The <u>empirical formula</u> of a compound is $C_3H_4N_2$.
What is its <u>molecular formula</u> if the molar mass has been determined to be 204.2 g/mol?

To be completed in class!
(leave 2-4 lines below)

Molecular Formula Practice

The <u>empirical formula</u> of a compound is CH_2O.
What is its <u>molecular formula</u> if the molar mass has been determined to be 180.16 g/mol?

To be completed in class!
(leave 2-4 lines below)