SAMPLE PROBLEM 01:
MOLARITY FROM MASS OF SOLUTE:
Determine the molarity of a solution prepared by dissolving 22 grams of NaOH in 750 mL of the solution.

Solute Molecular formula and Molar Mass	Mass of solute	'n' moles of solute $n = \dfrac{m}{Mm} mol$	Volume of solution in L	Molarity $M = \dfrac{n\,mol}{V\,L}$
Sodium hydroxide NaOH 40.01 g/mol	22 g	$n = \dfrac{22\,g}{40.01\,g/mol} = 0.54\,mol$	$V = 750\,mL \times \dfrac{1L}{1000\,mL}$ $= 0.75\,L$	$M = \dfrac{0.54\,mol}{0.75\,L} = 0.72\,\dfrac{mol}{L}$

Final answer: Molarity of the NaOH solution is 0.72 M or 0.72 $\dfrac{mol}{L}$

PROBLEM 02:
MOLARITY FROM MASS OF SOLUTE:
A 500 mL solution of glucose $C_6H_{12}O_6$ in water was prepared by dissolving 45.0 grams of glucose. What would be the molarity of the solution?

Substitute the appropriate values and determine the molarity with correct units.

Molecular formula and Molar Mass of the solute.	Mass of solute 'm'	'n' moles of solute $n = \dfrac{m}{Mm} mol$	Volume of solution in L	Molarity $M = \dfrac{n\,mol}{V\,L}$
$C_6H_{12}O_6$ 180. 18 $\dfrac{g}{mol}$				

Expected Result: 0.499 M   **Your answer:** _____