

CP Chem329 Finding M With Mole Solute And Volume Of Solution - Example Of Work

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CP Example of Work - Finding M with mole solute, volume solution

Answer the following question using appropriate work.

What is the Molarity of a solution that contains 0.741 mole solute and has a solution volume of 425mL?

$$V = (425 \text{ mL}) \left(\frac{1 \text{ L}}{1000 \text{ mL}} \right) = 0.425 \text{ L solution}$$

$$n = 0.741 \text{ mole solute}$$

$$M = \frac{\text{mole solute}}{\text{L solution}} = \frac{n_{\text{solute}}}{V_{\text{solution}}}$$

$$M = \frac{0.741 \text{ mole solute}}{0.425 \text{ L solution}}$$

$$= \frac{1.743 \text{ mole solute}}{1 \text{ L solution}} = 1.743 \text{ M}$$

$$= 1.74 \text{ M}$$