

% Concentration

Concentration (% m/v)

(% mass per volume)

$$C = 18\% \text{ m/v} \quad \Rightarrow \quad C = \frac{18 \text{ g}}{100 \text{ mL}}$$

↑
(Per 100) (Volume in mL)

Concentration (% m/v) (*% mass per volume*)

Example I: What amount of solute is required to make 350 mL of an 18% m/v solution?

$$C = \frac{m}{v}$$

Concentration (% m/v) (% mass per volume)

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$$\frac{18 \text{ g}}{100 \text{ mL}} = \frac{m}{v}$$

Concentration (% m/v) (% mass per volume)

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$$\frac{18 \text{ g}}{100 \text{ mL}} = \frac{m}{350 \text{ mL}}$$

$$100 m = 6300$$

$$m = 63 \text{ g of solute}$$

Concentration (% m/v) (*% mass per volume*)

Example II: What volume of solution will contain 60 g of solute, if the concentration is 15% m/v?

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

Concentration (% m/v) (% *mass per volume*)

Example II: What volume of solution will contain 60 g of solute, if the concentration is 15% m/v?

$$\frac{15 \text{ g}}{100 \text{ mL}} = \frac{m}{v}$$

Concentration (% m/v) (% *mass per volume*)

Example II: What volume of solution will contain 60 g of solute, if the concentration is 15% m/v?

$$\frac{15 \text{ g}}{100 \text{ mL}} = \frac{60 \text{ g}}{v}$$

$$15 v = 6000$$

$$v = 400 \text{ mL of solution}$$

Concentration (% v/v)

(% by volume)

$$C = 30\% \text{ v/v} \quad \Rightarrow \quad C = \frac{30 \text{ mL (solute)}}{100 \text{ mL (solution)}}$$

↑
(Per 100)

Concentration (% v/v) (% by volume)

Example III: What amount of solute is required to make 600 mL of a 30% (v/v) solution?

$$C = \frac{V_{\text{solute}}}{V_{\text{solution}}}$$

Concentration (% v/v) (% by volume)

Example III: What amount of solute is required to make 600 mL of a 30% (v/v) solution?

$$\frac{30 \text{ mL}}{100 \text{ mL}} = \frac{V_{\text{solute}}}{V_{\text{solution}}}$$

Concentration (% v/v) (% by volume)

Example III: What amount of solute is required to make 600 mL of a 30% (v/v) solution?

$$\frac{30 \text{ mL}}{100 \text{ mL}} = \frac{V_{\text{solute}}}{600 \text{ mL}}$$

$$100 V = 18000$$

$$V = 180 \text{ mL of solute}$$

Concentration (% m/m)

(% by mass)

$$C = 6\% \text{ m/m} \quad \Rightarrow \quad C = \frac{6 \text{ g (solute)}}{100 \text{ g (solution)}}$$

↑
(Per 100)

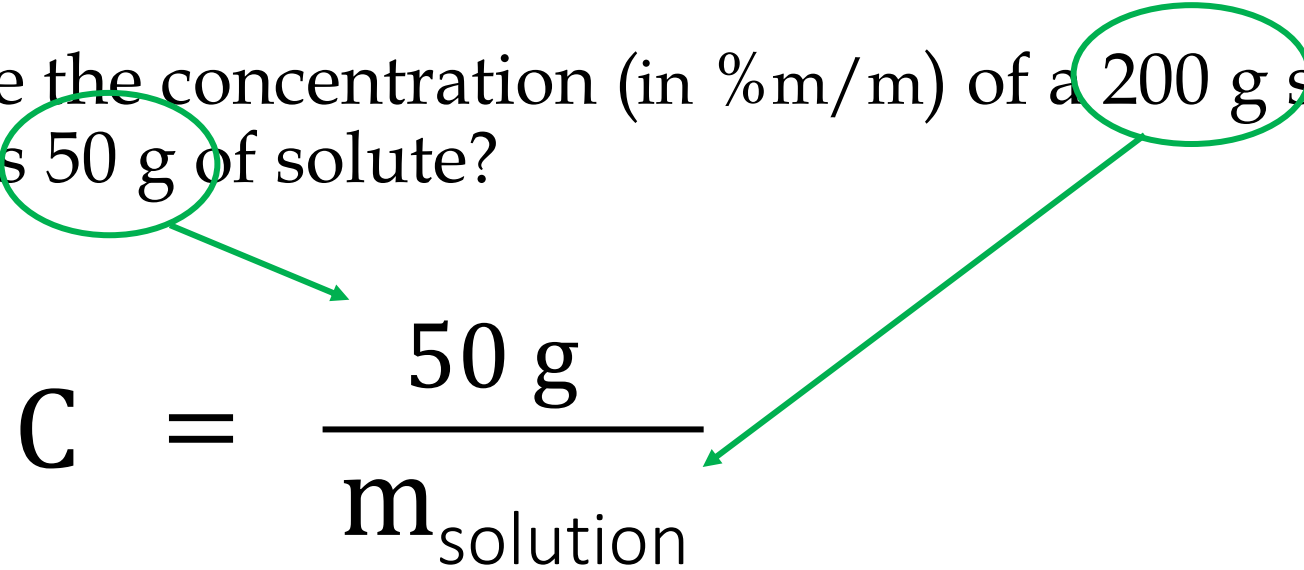
Concentration (% m/m) (% *by mass*)

Example IV: What will be the concentration (in %m/m) of a 200 g solution that contains 50 g of solute?

$$C = \frac{m_{\text{solute}}}{m_{\text{solution}}}$$

Concentration (% m/m) (% *by mass*)

Example IV: What will be the concentration (in %m/m) of a 200 g solution that contains 50 g of solute?

$$C = \frac{50 \text{ g}}{m_{\text{solution}}}$$


Concentration (% m/m) (% *by mass*)

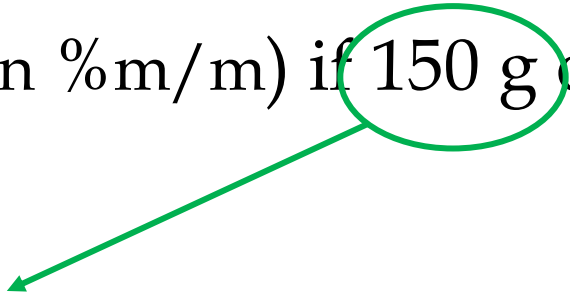
Example IV: What will be the concentration (in %m/m) of a 200 g solution that contains 50 g of solute?

$$C = \frac{50 \text{ g}}{200 \text{ g}}$$

$$C = 25 \% m/m$$

Concentration (% m/m) (% *by mass*)

Example V: What will be the concentration (in %m/m) if 150 g of solute is dissolved into 600 g of solvent?

$$C = \frac{m_{\text{solute}}}{m_{\text{solution}}}$$


Concentration (% m/m) (% *by mass*)

Example V: What will be the concentration (in %m/m) if 150 g of solute is dissolved into 600 g of solvent?

$$C = \frac{150 \text{ g}}{m_{\text{solution}}}$$



Need mass of **solution**

Solution = Solute + Solvent

Concentration (% m/m) (% *by mass*)

Example V: What will be the concentration (in %m/m) if 150 g of solute is dissolved into 600 g of solvent?

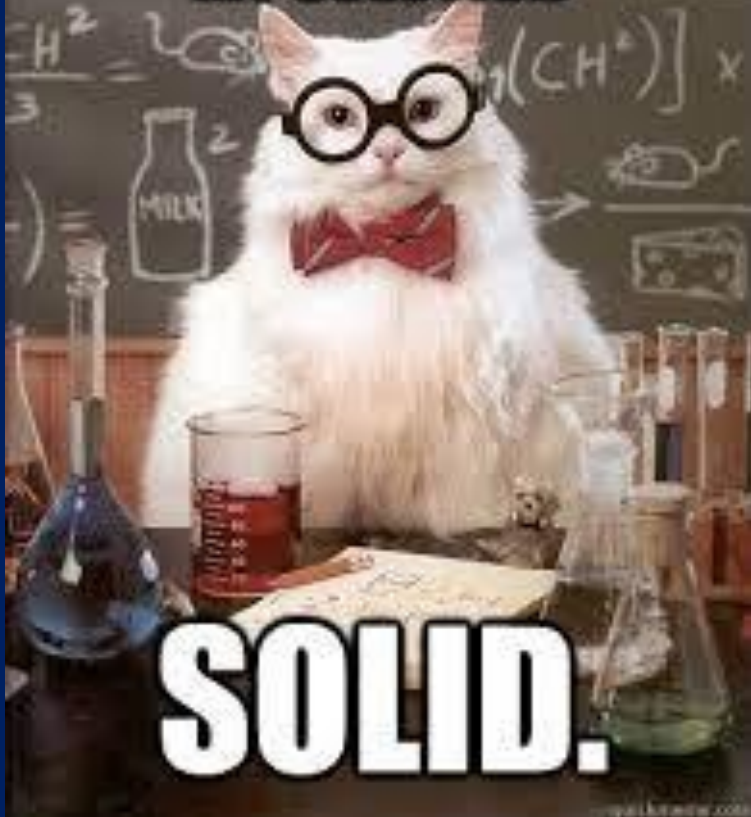
$$C = \frac{150 \text{ g}}{750 \text{ g}}$$

$$C = 20 \% m/m$$



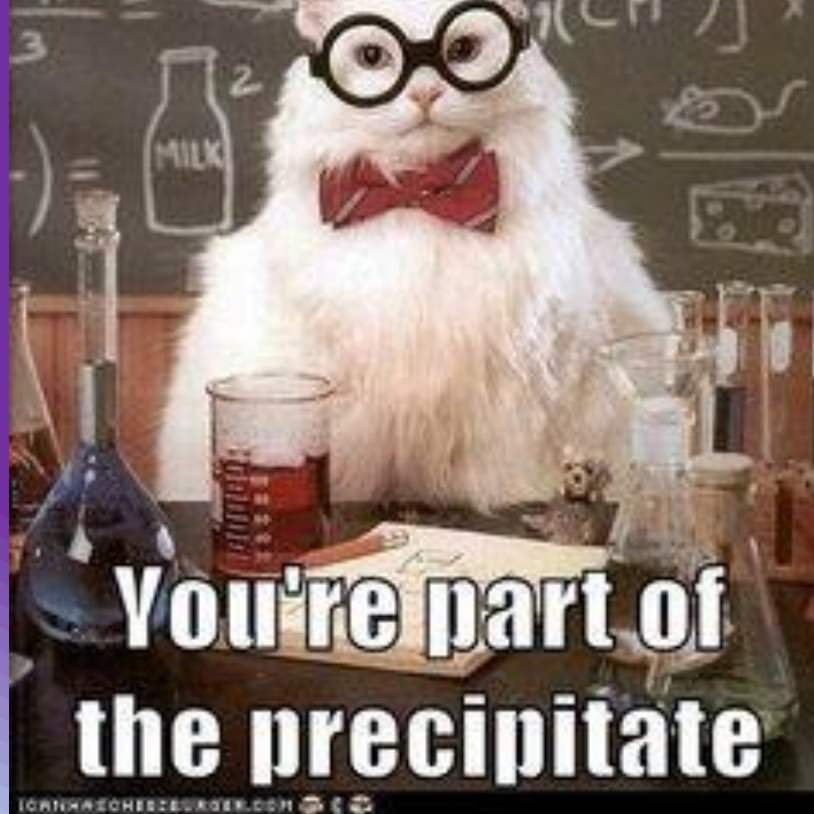
Need mass
of **solution**

**A PRECIPITATE FORMED IN
MY SOLUTION**



SOLID.

**If you're not part
of the solution**



**You're part of
the precipitate**