

3 mole CO<sub>2</sub> at STP

?  
~~3~~ moles of at STP

AT STP

1 Mole <sup>any</sup> gas  
 22.4 l

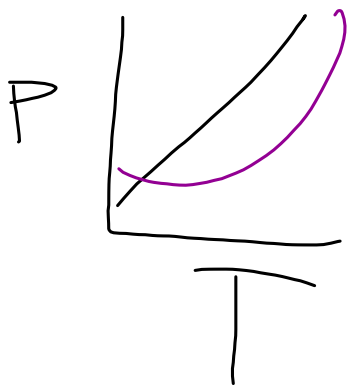
~~$PV = nRT$~~   
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 Vol. must be =

~~$PV = nRT$~~

Mar 8-8:31 AM

$\frac{P}{T}$

Division  $\Rightarrow$  Direct



$\oplus$  Slope

Mar 8-8:52 AM

$$\textcircled{28} \quad V_1 = 900 \text{ mL} \quad T_1 = 27^\circ\text{C}$$

$$V_2 = \text{---} \quad T_2 = 177^\circ\text{C}$$

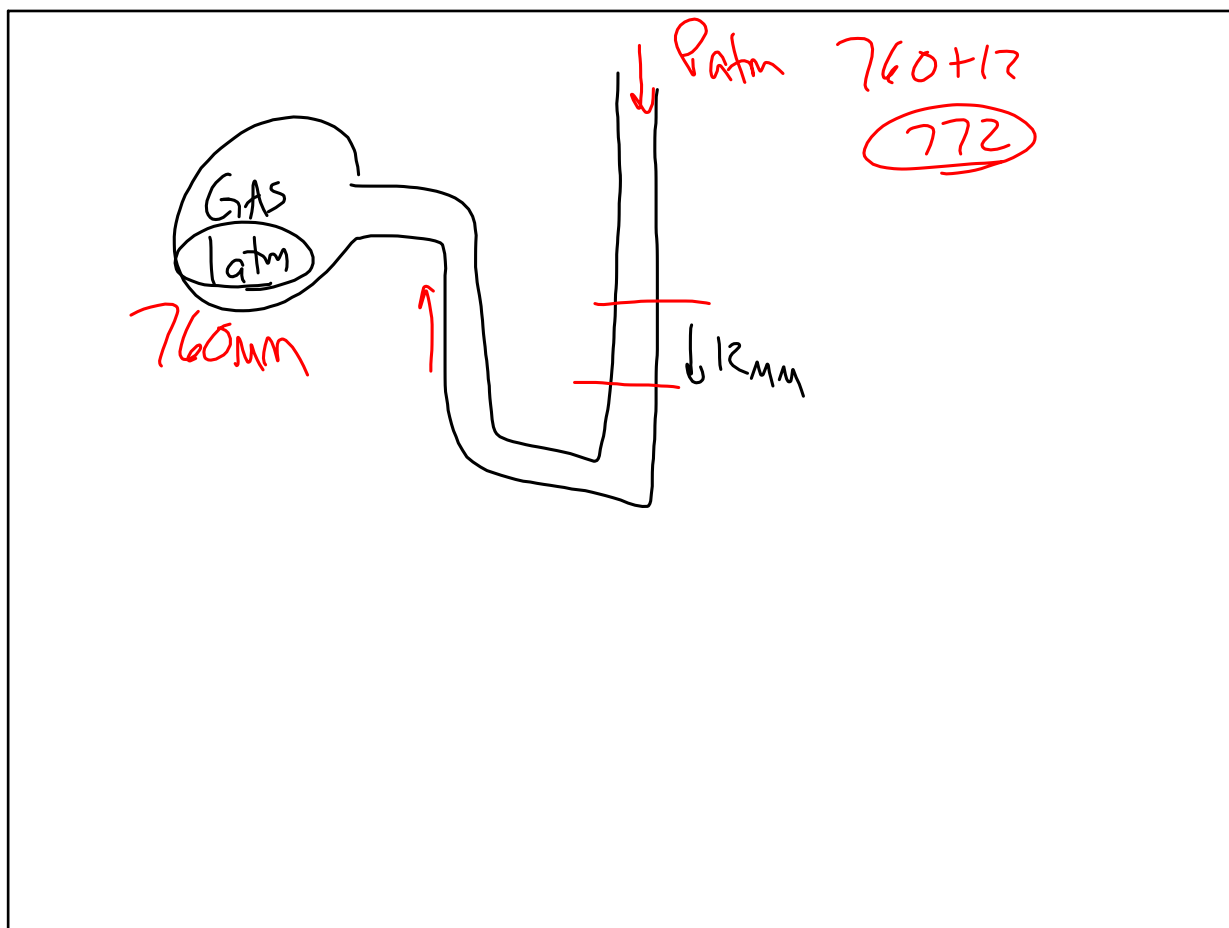
$$\frac{V_1}{T_1} = \frac{V_2}{T_2} \quad \frac{(417)900}{300} = \frac{V_2}{450} \quad \text{450}$$

Mar 8-8:54 AM

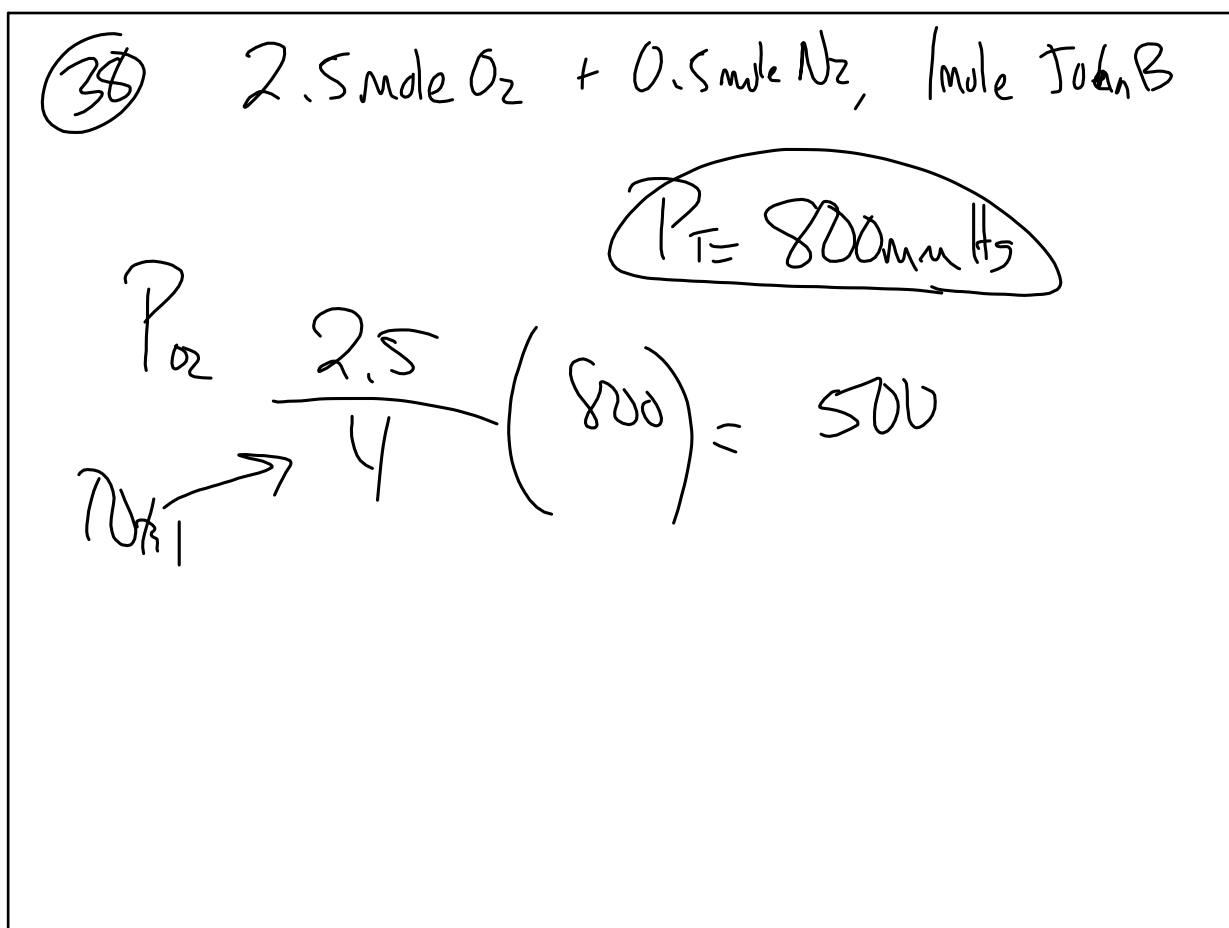
$$\textcircled{29} \quad 70 \text{ kPa} \quad \textcircled{H}$$

$$\frac{70 \text{ kPa}}{101.3 \text{ kPa}} = \frac{760 \text{ torr}}{525.17 \text{ torr}}$$

Mar 8-8:59 AM



Mar 8-9:02 AM



Mar 8-9:05 AM

(39)  $15\text{L}$   $\longrightarrow$   $V_2$   
 $303\text{K}$   $30^\circ\text{C}$   $\longrightarrow$   $273\text{K}$   
 $575\text{mmHg}$   $\longrightarrow$   $760\text{mmHg}$

$$\frac{P_1 V_1}{T_1} = \frac{P_2 V_2}{T_2}$$

$$\frac{273(575)(15)}{760 \cdot 303} = \frac{760(V_2)}{273} \cdot \frac{273}{760}$$

~~$V = 0.22\text{L}$~~

Mar 8-9:06 AM

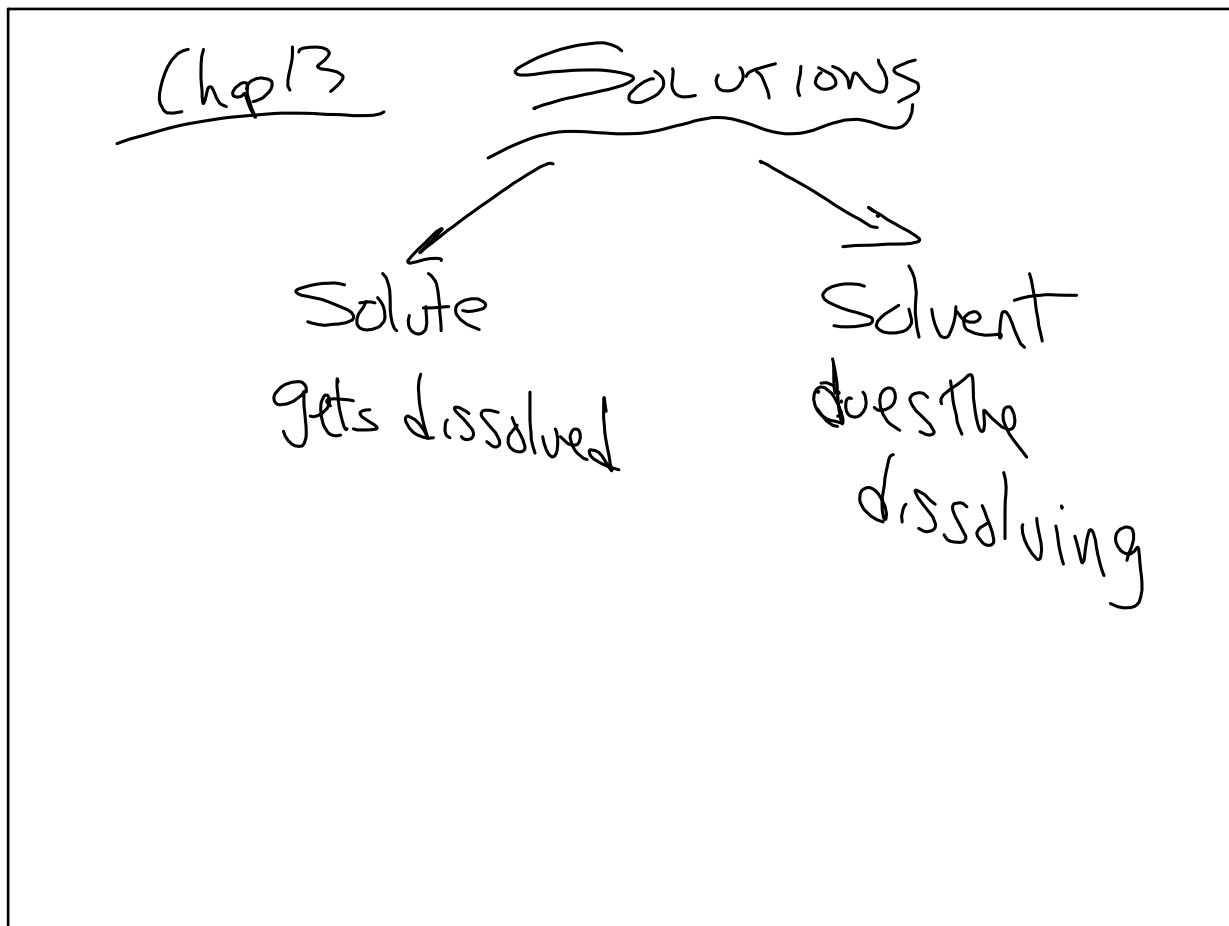
(40)  $P = ?$ ,  $15\text{L}$ ,  $6\text{gO}_2$ ,  $0^\circ\text{C}$

$$PV = nRT$$

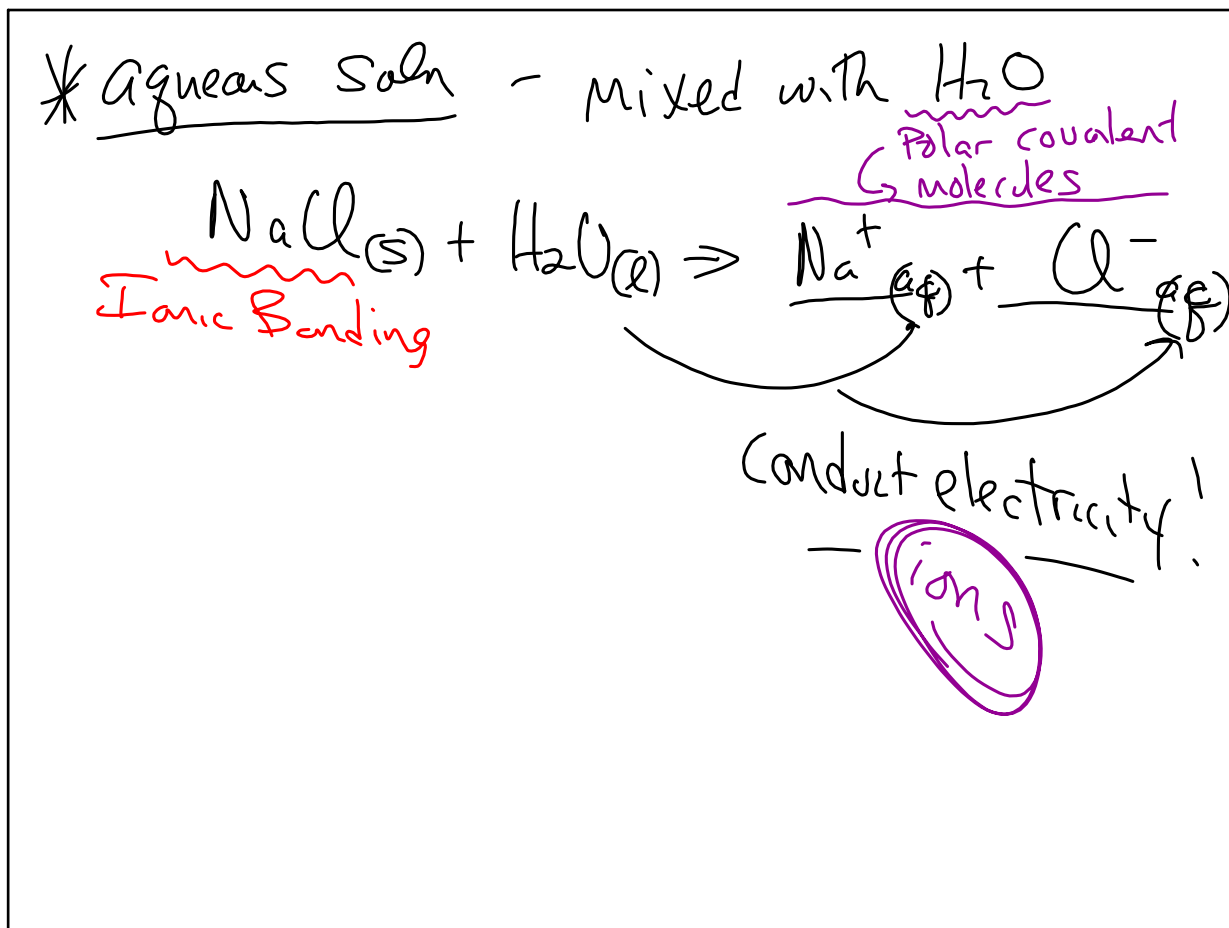
$$P(15) = \left(\frac{6}{32}\right)(0.08206)(273)$$

$P = 0.28\text{atm}$

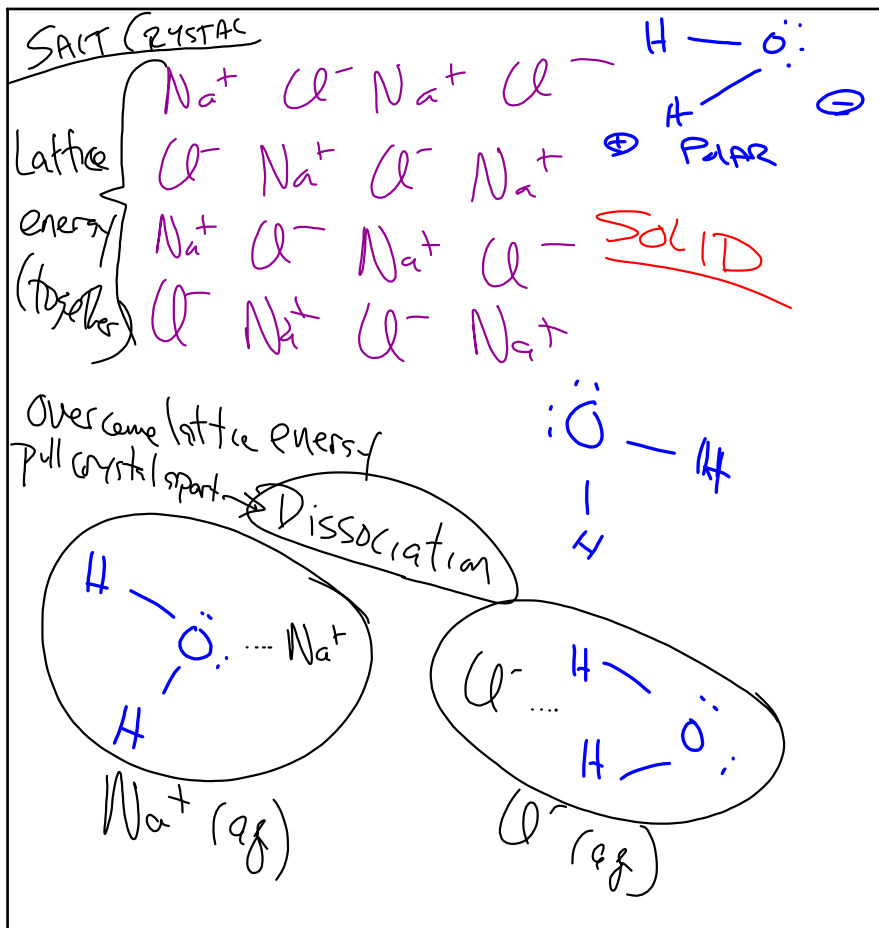
Mar 8-9:09 AM



Mar 8-9:13 AM



Mar 8-9:25 AM



Mar 8-9:38 AM

Miscible → dissolves.  
 immiscible

Mar 8-9:49 AM

Strength of a soln

Concentration  $\Rightarrow$  MOLARITY

$$\frac{\text{Molarity}}{1} = \frac{\text{moles solute}}{\text{l of soln}}$$

(\*)  
Solute + Solvent

Mar 8-9:50 AM

50g NaCl in 200ml H<sub>2</sub>O

M = ?

$\frac{\text{moles}}{\text{l}}$

$$\frac{50\text{g NaCl}}{0.2\text{l}} \Bigg| \frac{1\text{mole NaCl}}{58.5\text{NaCl}} = \frac{4.3\text{Mole}}{\text{l}} = M$$

Mar 8-9:56 AM

~~2.5 M NaCl~~ } some } — g  
 M =  $\frac{2.5 \text{ mole NaCl}}{1 \text{ L}}$

$\frac{2.5 \text{ mole NaCl}}{1 \text{ L}} \times 0.5 \times \frac{58.5 \text{ g NaCl}}{\text{mole NaCl}} = 72.5 \text{ g NaCl}$

Mar 8-10:00 AM