13.46 @ C_7H_8 $\frac{0.867\,g}{mL}$, C_4H_4S $\frac{1.065\,g}{mL}$

HAVE soln

$\frac{9.08\,g\ C_4H_4S}{250\,mL\ C_7H_8}$

@ $X_{C_4H_4S} = \frac{\text{mole } C_4H_4S}{\text{mole } C_4H_4S + \text{mole } C_7H_8}$

$\frac{9.08\,g\ C_4H_4S}{} \left| \frac{1\,\text{mole } C_4H_4S}{84\,g\ C_4H_4S} \right. = 0.108\,\text{mole } C_4H_4S$

$\frac{250\,mL\ C_7H_8}{} \left| \frac{0.867\,g}{1\,mL} \right| \frac{1\,\text{mole } C_7H_8}{92\,g\ C_7H_8} = 2.36\,\text{mole } C_7H_8$

$= \frac{0.108}{0.108 + 2.36}$

$= 0.04376$

$X_{C_4H_4S}$

Jan 7-7:38 AM

13.46 b C_4H_4S find $m = \frac{\text{mole } C_4H_4S}{Kg\ C_7H_8}$

$\frac{250\,mL\ C_7H_8}{} \left| \frac{0.867\,g\ C_7H_8}{1\,mL} \right| \frac{1\,Kg}{1000\,g} =$

$= \frac{0.108\,\text{mol}}{0.217\,Kg}$

$= 0.498\,m\ C_4H_4S$

Jan 7-8:03 AM

13.46c Find M of C_4H_4S

$$\frac{9.08\,g\,C_4H_4S}{1.065\,g} \left|\frac{1\,mL}{}\right. = 8.53\,mL$$

$$8.53\,mL = 0.00853\,L$$

$$= \frac{\text{mole } C_4H_4S}{L \text{ of solution}}$$

$$= \frac{0.108}{(0.25\,L\ C_7H_8 + 0.00853\,L\ C_4H_4S)}$$

$$= 0.4177\,M\ C_4H_4S$$

Jan 7-8:09 AM

Colligative Prop

① MP/FP ↓

② BP ↑

③ ↑ Π

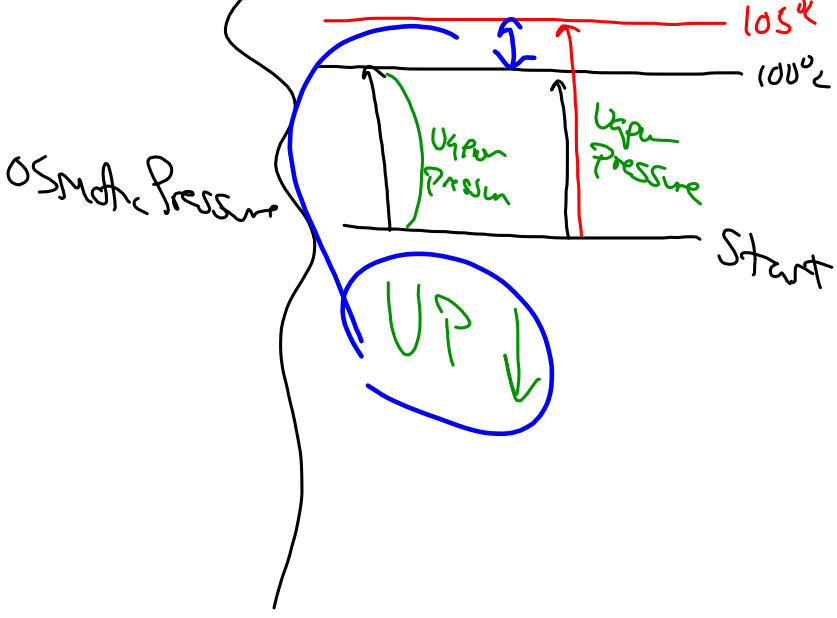
$PV = nRT$

$P = \frac{n}{V}RT$

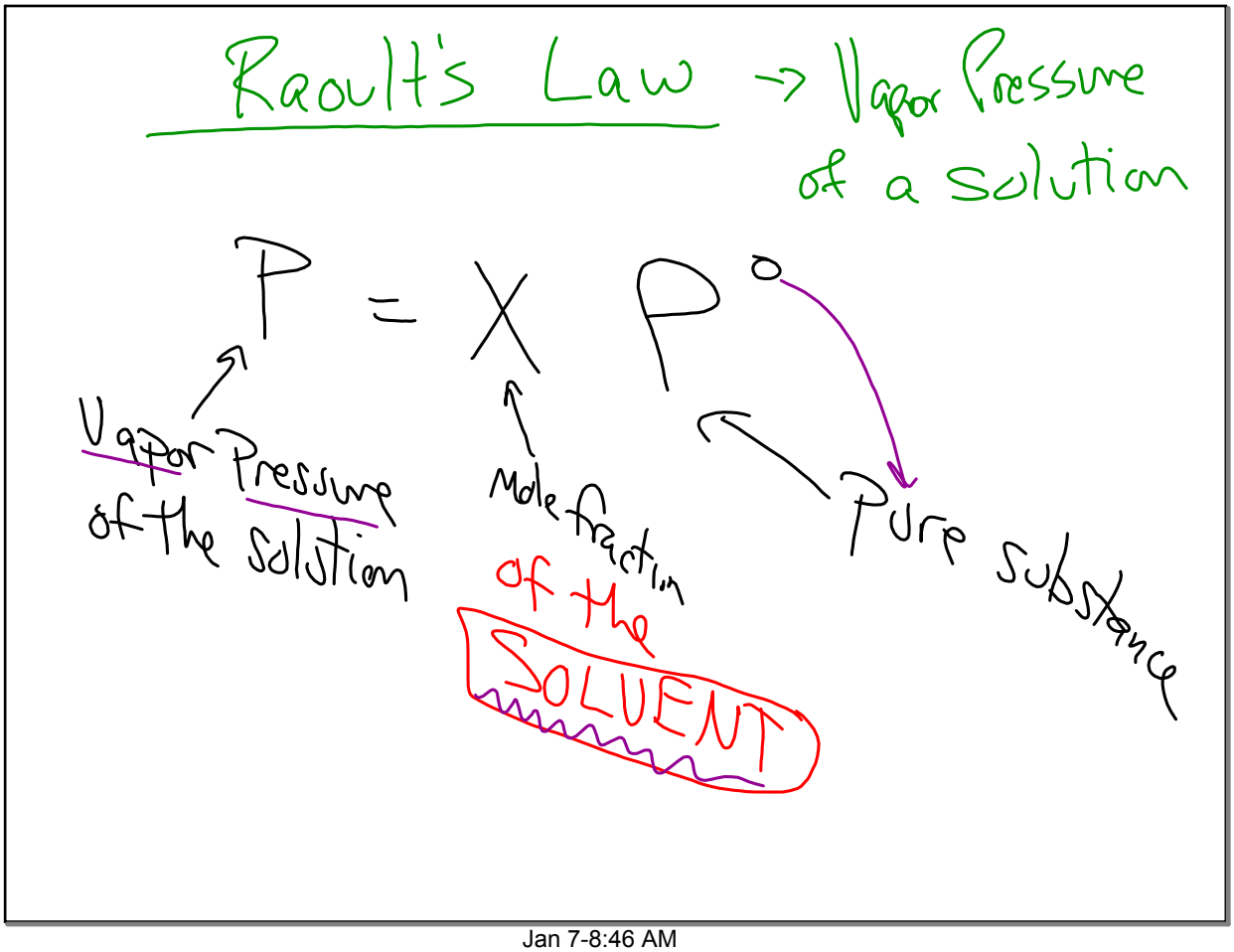
$P = MRT$

$\Pi = MRT$

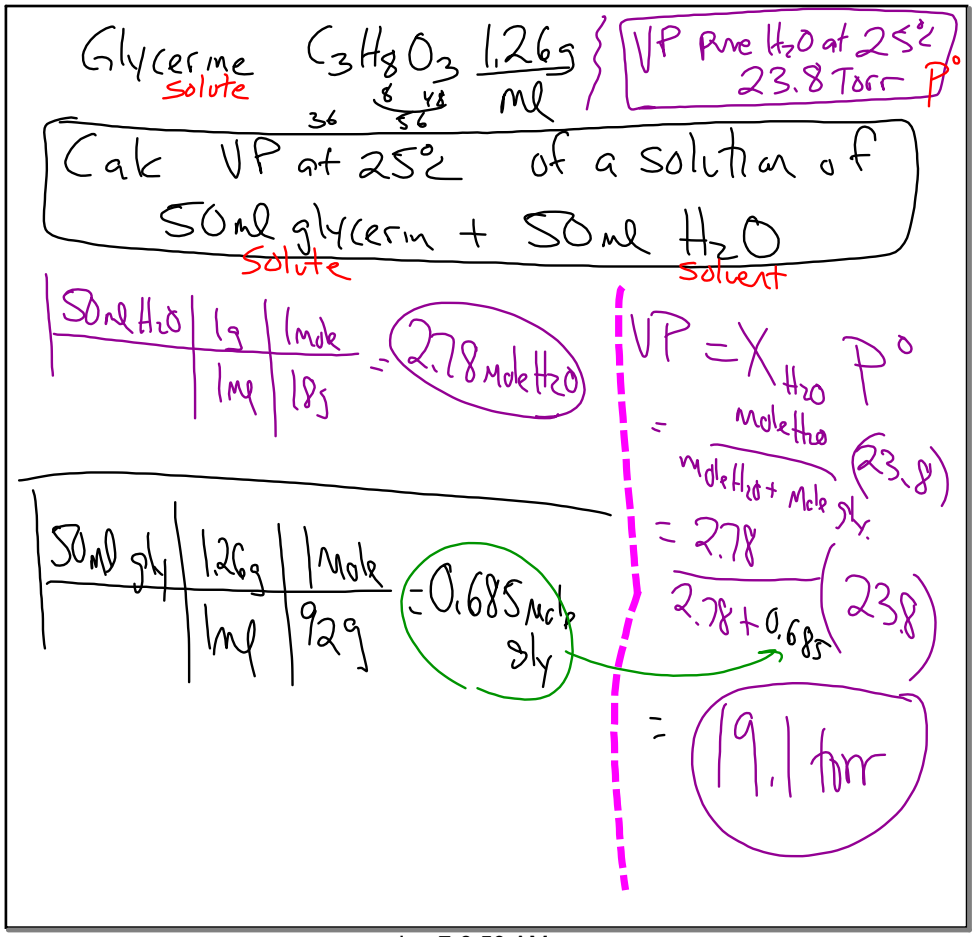
④ Vapor Pressure



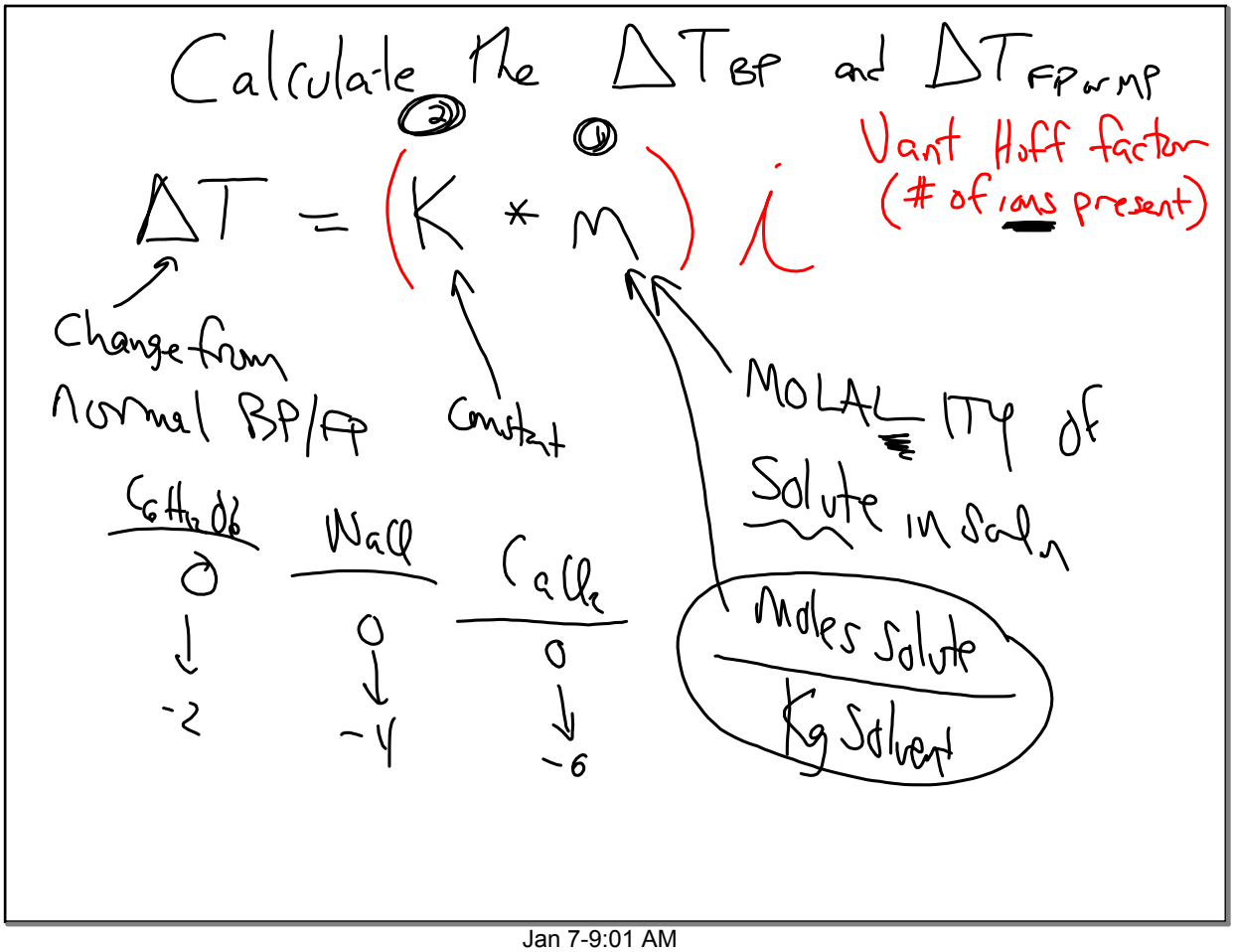
Jan 7-8:42 AM



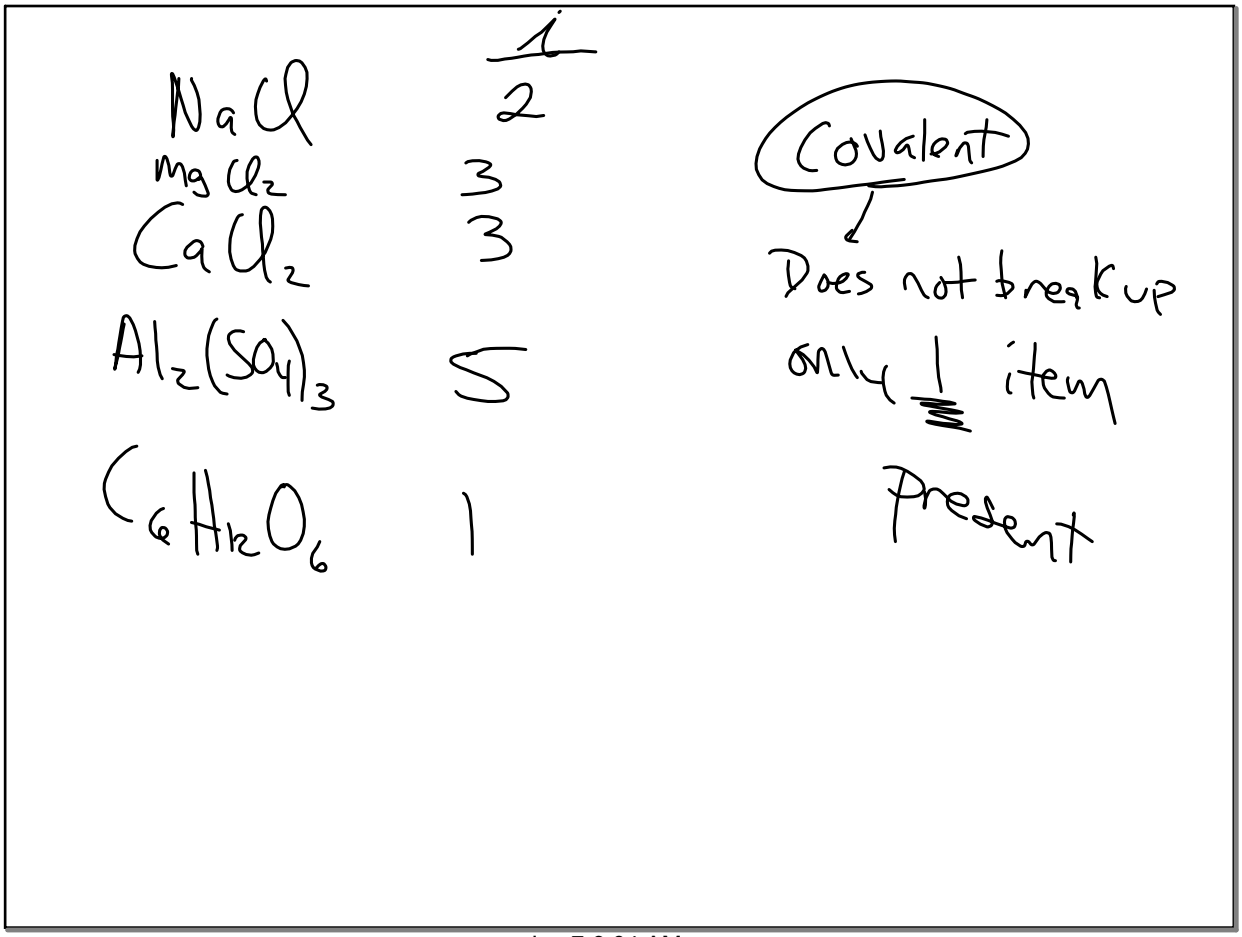
Jan 7-8:46 AM



Jan 7-8:50 AM



Jan 7-9:01 AM



Jan 7-9:04 AM

$\Delta T = (K * m)\, i$

$m = \dfrac{\text{Moles Solute}}{\text{Kg Solvent}} = \dfrac{\frac{g}{MW}}{\text{Kg Solvent}}$

Jan 7-9:13 AM

13/ 70, 73, 78

Jan 7-9:14 AM