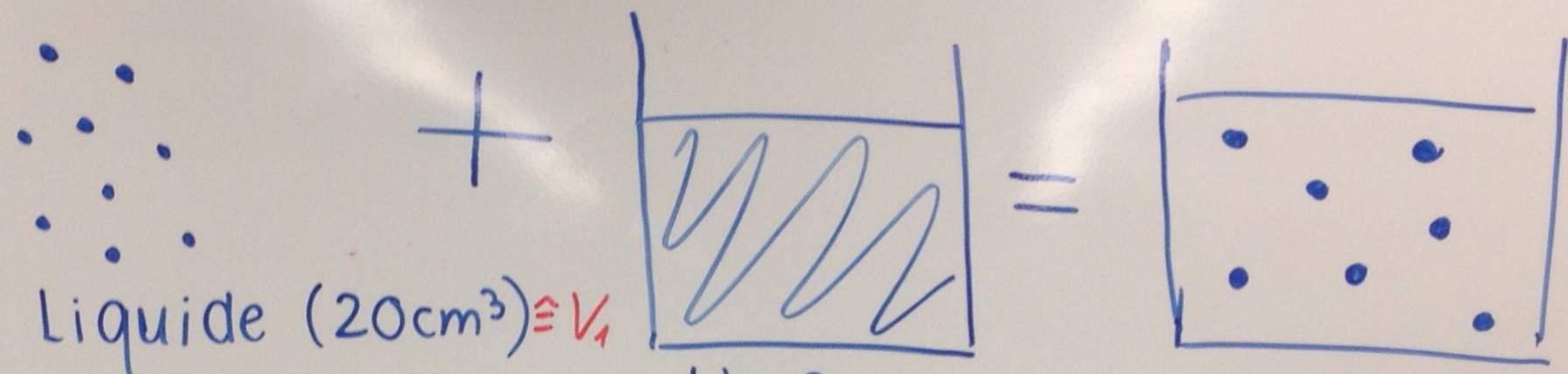


1


 $\text{C}_3\text{H}_6\text{O}$

$$\rho_1 = 0,7899 \text{ g/cm}^3$$

$$\rho_1(V_1) + \rho_2(V_2) = V_3$$

$$\rho_3 \leftarrow 0,9930$$

$$V_3(\rho_3) = m_3$$

$$415,078$$

 H_2O

$$(400 \text{ cm}^3) \hat{=} V_2$$

$$\rho_2 = 0,9982 \text{ g/cm}^3$$

$$\frac{m_3}{Mm(\text{C}_3\text{H}_6\text{O})} = n_{\text{soln.}}$$

$$(36,0321 + 6,64\dots + 15,9994)$$

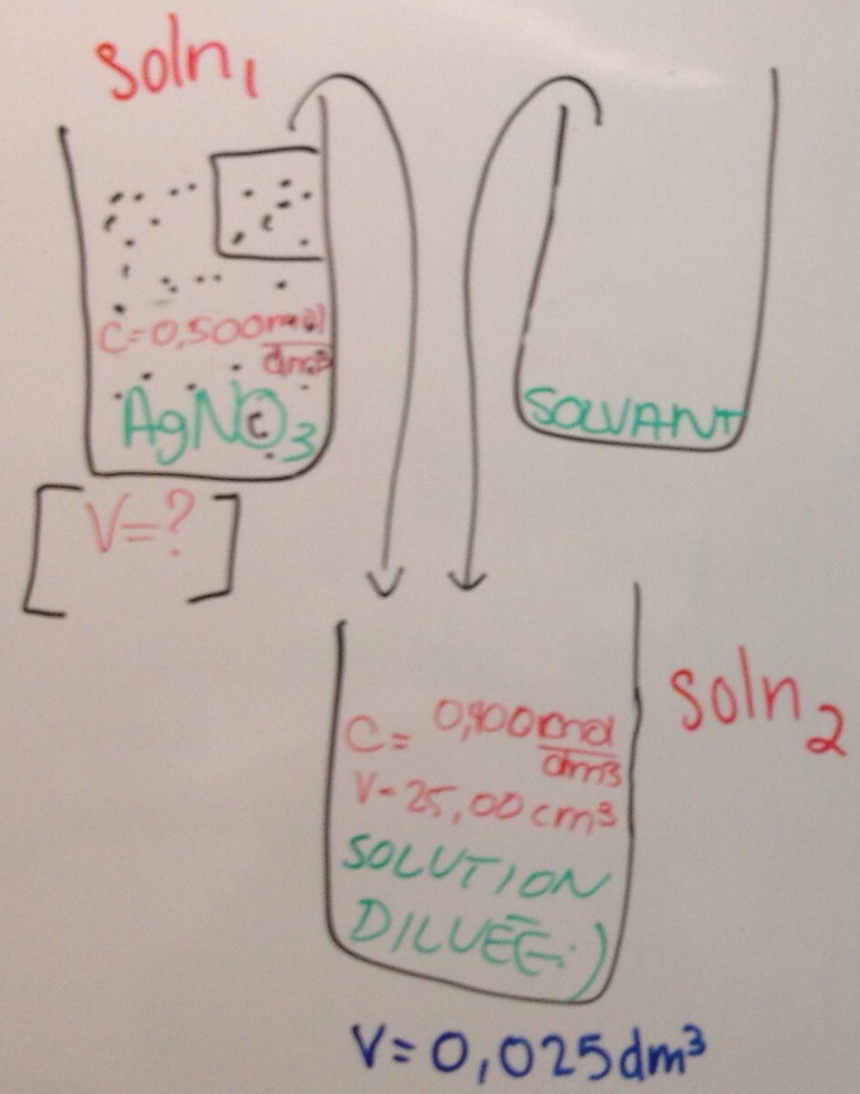
 $[\text{sol.}]?$

$$\rho_3 = 0,9930 \text{ g/cm}^3.$$

$$[\] = \frac{n_{\text{soln}}}{V_{\text{soln}}} \rightarrow 7,15 \text{ mol} / 418,00$$

2

2



$$n_{\text{soln}_1} = n_{\text{soln}_2 \text{ dans solution}_2}$$

$$1 \text{ dm}^3 \rightarrow 0,400 \text{ mol}$$

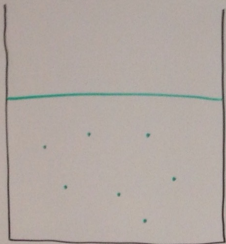
$$0,025 \text{ dm}^3 \rightarrow ? \text{ mol}$$

$$\rightarrow 0,01 \text{ mol}$$

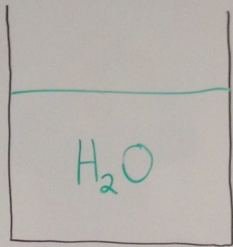
$$C = \frac{n}{V}$$

$$V = \frac{n}{C} = \frac{0,01 \text{ mol}}{0,5 \text{ mol/dm}^3} = \boxed{0,02 \text{ dm}^3 \text{ ou } 20 \text{ cm}^3}$$

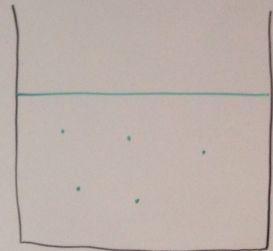
3



+



=



$V = 75,0 \text{ cm}^3$ de soln KCl
 $C_{\text{KCl}} = 0,350 \text{ mol/dm}^3$
 0,026 mol

$V = ?$

- ① trouver n_1 avec V_{KCl} et C_{KCl}
- ② $n_1 = c_1 V_1$ $n_2 = c_2 V_2$
 $c_1 V_1 = c_2 V_2$ $V_2 = \frac{c_1 V_1}{c_2}$

$V = 0,006 \text{ dm}^3$

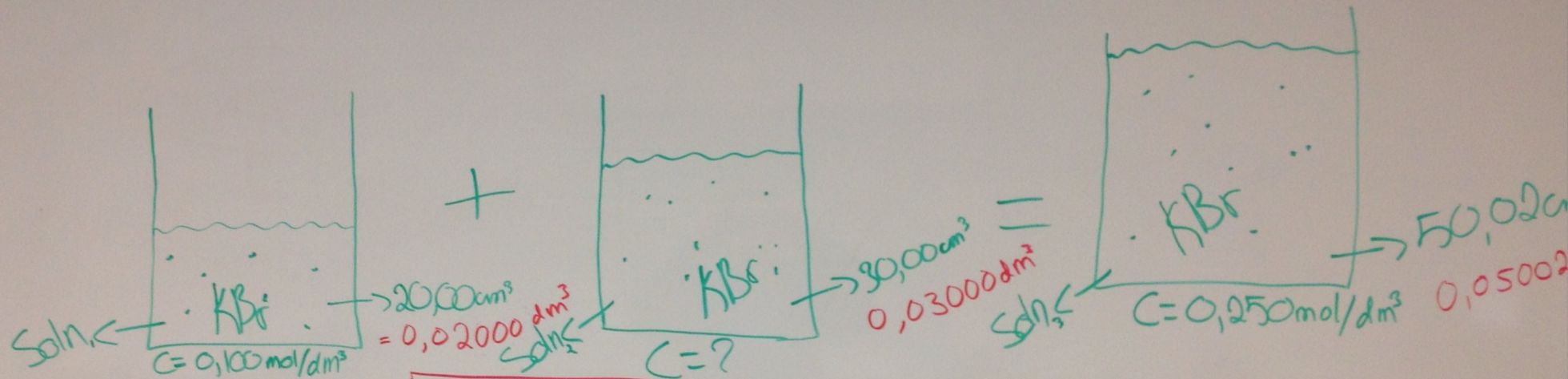
$C_{\text{KCl}} = 0,325 \text{ mol/dm}^3$

$c_1 = \frac{n_1}{V_1}$ $\frac{n}{V}$

msl =
 0,026 mol

$V = \frac{n}{C}$ $V = 0,081 \text{ dm}^3$

4



$$n_1 + n_2 = n_3$$

$$C_1 V_1 + C_2 V_2 = C_3 V_3$$

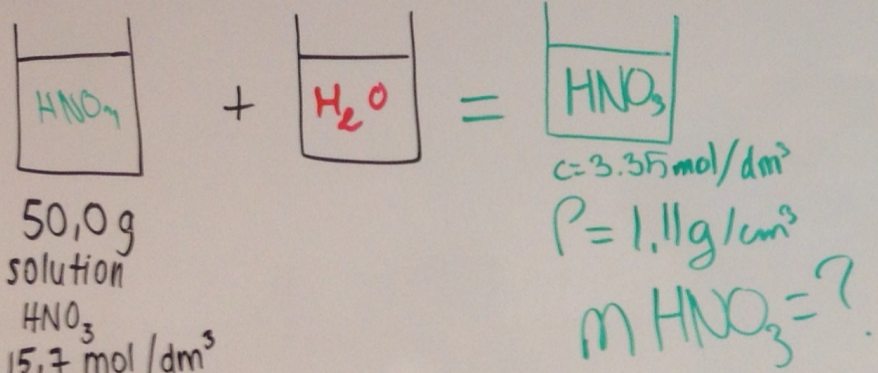
Bravo ! :)

$$0,100 \cdot 0,02000 + C_2 \cdot 0,03000 = 0,250 \cdot 0,05002$$

$$C_2 = \frac{0,250 \cdot 0,05002 - 0,100 \cdot 0,02000}{0,03000}$$

$$C_2 = 0,350 \text{ mol/dm}^3$$

5



50,0 g
 solution
 HNO_3
 $15,7 \text{ mol/dm}^3$
 $1,42 \text{ g/cm}^3$

① $n = \frac{m}{M}$

$V = \frac{n}{c}$

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

$\rightarrow PV = m$

(solt)

① $\rho = \frac{m}{V}$

$1,42 = \frac{50,0}{V}$

$V = 35,2 \text{ cm}^3 (0,0352 \text{ dm}^3)$

② $C = \frac{n}{V}$

$15,7 = \frac{n}{0,0352}$

$n = 0,553 \text{ mol}$

③ $C = \frac{n}{V}$

$3,352 = \frac{0,553}{V}$

$V = 0,165 \text{ dm}^3$
(165 cm³)

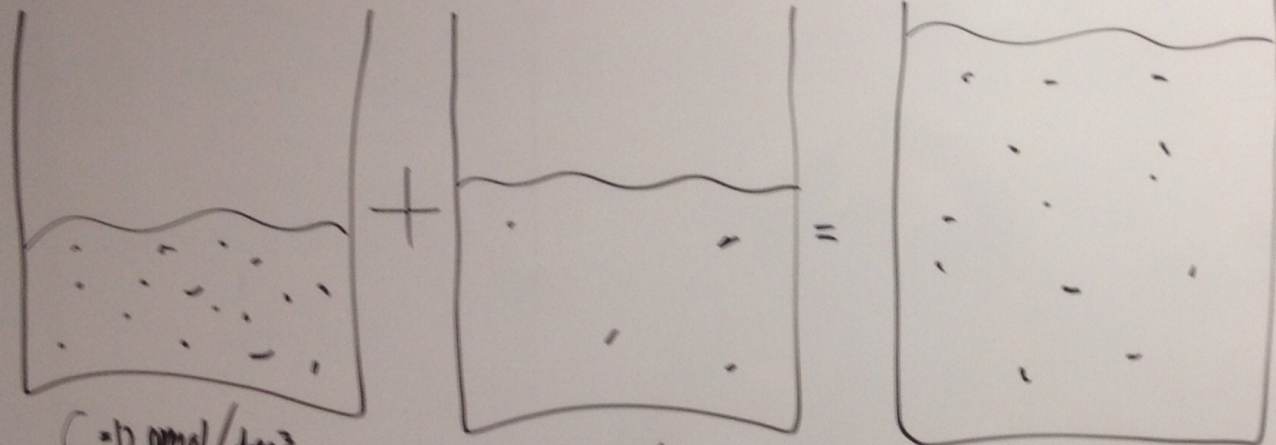
④ $\rho = \frac{m}{V}$

$1,11 = \frac{m}{165}$

$m = 183 \text{ g}$



6



$$C = 12.0 \text{ mol/dm}^3$$

$$V = ?$$

$$C = 3.0 \text{ mol/dm}^3$$

$$V = ?$$

$$V = 1.0 \text{ dm}^3$$

$$C = 6.00 \text{ mol/dm}^3$$

$$n = 6.00 \text{ mol}$$

$$n_1 + n_2 = 6.00 \text{ mol}$$

$$n_1 = 6.00 - n_2$$

$$V_1 + V_2 = 1.0 \text{ dm}^3$$

$$\frac{n_1 M}{C_1} + \frac{n_2 M}{C_2} = 1.0 \text{ dm}^3$$

$$\frac{(6.00 - n_2) M}{C_1} + \frac{n_2 M}{C_2} = 1.0 \text{ dm}^3$$

$$\textcircled{1} \frac{n_1}{C_1} + \frac{n_2}{C_2} = 1.00 \text{ dm}^3$$

$$\frac{n_1}{C_1} + \frac{6.00 - n_1}{C_2} = 1.00 \text{ dm}^3$$

$$\frac{n_1}{12.0} + \frac{6.00 - n_1}{3} = 1.00 \text{ dm}^3$$

$$\frac{n_1 + 24 - 4n_1}{12} = 1.00 \rightarrow n_1 = 4 \text{ mol}$$

$$\textcircled{2} n_2 = 6.00 - n_1$$

$$n_2 = 6.00 - 4.00$$

$$n_2 = 2.00 \text{ mol}$$

$$\textcircled{3} V = n/c$$

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

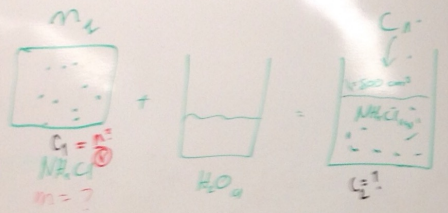
$$V = \frac{m}{\rho}$$

$$n = \frac{m}{M}$$

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

$$\frac{n}{C}$$

7

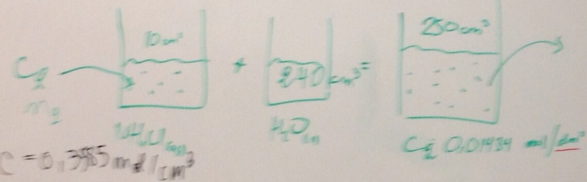


$$V_1 = 500 \text{ cm}^3$$

$$C_1 = C_2$$

$$C_1 = \frac{n_{\text{SOL}}}{V_{\text{SOLN}}}$$

$$C_2 = \frac{n_2}{V_2}$$



$$n_2 = C_2 \cdot V_2$$

$$\frac{m_1}{V_1} = \frac{m_2}{V_2}$$

$$m_1 = \frac{V_1 \cdot m_2}{V_2}$$

$$m_1 = \frac{V_1 \cdot C_2 \cdot V_2}{V_2}$$

$$m_1 = V_1 \cdot C_2$$

$$C = 0,3585 \text{ mol/dm}^3$$

$$M_{\text{NH}_4\text{Cl}} = 52,5 \text{ mol/dm}^3$$

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

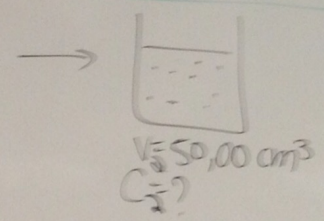
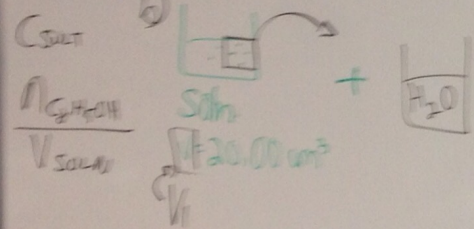
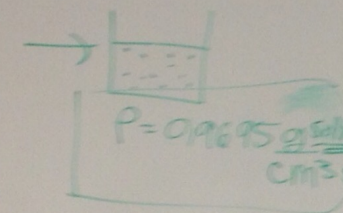
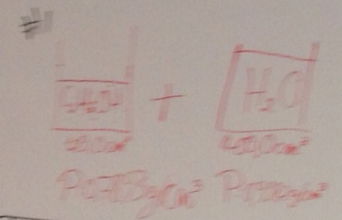
$$0,01434 = \frac{n}{250,0}$$

$$n = 0,01434 \cdot 250,0$$

$$n = 3,585 \text{ mol}$$

XC

8



$m_{\text{C}_2\text{H}_5\text{OH}} = \rho V$
 $m_{\text{H}_2\text{O}} = \rho V$
 $m_{\text{C}_2\text{H}_5\text{OH}} + m_{\text{H}_2\text{O}} = m_{\text{soln}}$
 $\frac{m_{\text{soln}}}{\rho} = V_{\text{soln}}$

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

$n = \frac{m_{\text{C}_2\text{H}_5\text{OH}}}{M_{\text{C}_2\text{H}_5\text{OH}}}$
 $C_1 = \frac{n_{\text{C}_2\text{H}_5\text{OH}}}{V_{\text{soln}}}$
 $C_1 V_1 = C_2 V_2$