

$$\frac{M}{l} = \frac{\text{moles}}{l} = \frac{\frac{g}{mw}}{l_{\text{soln}}}$$

$$\frac{m}{l} = \frac{\text{Moles Solute}}{\text{Kg Solvent}} = \frac{\frac{g}{mw}}{\text{Kg Solvent}}$$

$\text{Mass Solute} + \text{Mass Solvent} = \text{Mass Soln}$

Volume of soln

Use density to convert Volume \downarrow Mass

Mass of Solution

Jan 9-7:48 AM

PS
 18 — g CaCl_2 , 100g H_2O , 1.8 molal

$$M = \frac{\text{moles}}{\text{Kg}} = \frac{\frac{g \text{ CaCl}_2}{mw}}{\text{Kg H}_2\text{O}}$$

$$\frac{1.8}{l} = \frac{\frac{g}{110}}{0.1}$$

1.8 mole CaCl_2	100g H_2O	110g CaCl_2	19.8g CaCl_2
1 Kg H_2O 1000g		1 mole CaCl_2	$\frac{19.8}{3} = 6.66$

$\text{CaCl}_2 \rightarrow \text{Ca}^{+2} + 2\text{Cl}^-$
1 \rightarrow 1 + 2 3

Jan 9-8:23 AM

(20) VP_{Mix} = Bz + Tol

$X_{Bz} = 0.65$ $X_{Tol} = 0.35$

$P_{Bz}^{\circ} = 94.6 \text{ Torr}$ $P_{Tol}^{\circ} = 29.1 \text{ Torr}$

$VP = X_{Bz} P_{Bz}^{\circ} = 0.65(94.6) = 61.5 \text{ Torr}$

$VP = X_{Tol} P_{Tol}^{\circ} = 0.35(29.1) = 10.2 \text{ Torr}$

71.7 Torr

Jan 9-8:29 AM

(21) 6m C6H12O6 (aq) Find X_{H_2O}

6m
 6 mole C6H12O6
 1 kg H2O

$X_{H_2O} = \frac{\text{Mole } H_2O}{\text{Mole } H_2O + \text{Mole glucose}}$

$= \frac{55.6}{55.6 + 6}$

$\frac{1000g H_2O}{18g H_2O} = 55.6 \text{ Mole } H_2O$

Jan 9-8:33 AM

Exam 4

15

1.12g/ml

molar cholesterol

$$M = \frac{\text{moles}}{\text{kg} = -}$$

Jan 9-8:46 AM