

Worksheet 3 – Concentration scales

Date: _____

Person 1: _____ Person 3: _____

Person 2: _____

- 1) A solution contains 1 mol of water and 0.5 mol of ethanol. Compute for each species the
 - a. Mole fraction
 - b. % by weight

At this weight percent, then total density is 0.91g/ml. Use this to compute:

 - c. Molarity
 - d. Partial density

- 2) Pure water at room temperature and pressure has a density of 1g/ml
 - a. What is the molarity of pure water?
 - b. What is the molality of pure water? (Consider having 1 liter)

- 3) Ideal gasses:
 - a. What is the concentration (in moles/liter) of an ideal gas at 1 atm and $T = 298.15\text{ K}$?
 - b. What is the volume occupied by one mole of gas?
 - c. If CO_2 acts as an ideal gas, what is the mass of CO_2 in 1 liter balloon at 1 atm and 298.15 K