**CHEM 131**                                    **Name** _____
**Quiz 6 – October 16, 2019**

Complete the following problems.  Write your final answers in the blanks provided.  You must show your work to receive full credit.  Show your answers to the correct number of significant figures with the correct units.

1.  What is the *molality* of para-dichlorobenzene ($C_6H_4Cl_2$) in a solution prepared by dissolving 2.65 g $C_6H_4Cl_2$ in 50.0 mL benzene?  (molar mass of $C_6H_4Cl_2$ = 147.0 g/mol, molar mass of benzene = 78.11 g/mol, density of benzene = 0.879 g/mL)  (8 points)

**Answer**_____

2.  A water sample is found to have 9.4 ppb of chloroform ($CHCl_3$, molar mass 119.38 g/mol).  How many 250 mL glasses of water must you drink to consume 2.00 grams of chloroform?  You may assume a solution density of 1.00 g/mL.  (8 points)

**Answer**_____

3. A 10.00% by mass aqueous solution of sucrose ($C_{12}H_{22}O_{11}$, molar mass 342.30 g/mol) has a density of 1.040 g/mL. What is the mole fraction of sucrose in this solution? Molar mass of water = 18.02 g/mol (8 points)

Answer_____

**+1 free point to make 25**

**Periodic Table of the Elements**