CHM 1046 - JOENS WORKSHEET #1 Due date: M,W,F Wednesday, August 31
T,R Thursday, September 1

* While I prefer you turn in a hard copy of the worksheet, I will accept scanned copies sent to my email address, joensj@fiu.edu

NAME _____ Panther ID _____

Section: (circle one) M,W,F Tu,Tr

For problems involving calculations you must show your work for credit.

1) What is the difference (if any) between a homogeneous mixture and a heterogeneous mixture)?

2) Consider an experiment where two liquids, A and B, are mixed. It is more likely a solution will form if
a) Forming the solution lowers the energy ($\Delta H < 0$)
b) Forming the solution raises the energy ($\Delta H > 0$)
c) Forming the solution decreases the randomness ($\Delta S < 0$)
d) Both a and c
e) Both b and c

3) A solution is formed by adding 3.826 g of carbon tetrachloride (CCl_4, MW = 153.82 g/mol) to liquid cyclohexane (C_6H_{12}, MW = 84.16 g/mol). The final volume of the solution is V = 250.0 mL. What is the molarity of carbon tetrachloride in the solution?

4) The mole fraction of toluene ($C_6H_5CH_3$, MW = 92.14 g/mol) in a solution of toluene and benzene (C_6H_6, MW = 78.11 g/mol) is $X_T = 0.1529$ Based on this information, find the molality of toluene and the percent by mass of toluene in the solution.