**SI WORKSHEET 13**

1. What is the molar heat capacity of 50 ml of ethanol if 90O J are released from the reaction when the temperature changes from 20oC to 30oC? (density= 0.789g/ml)
2. A 20 gram sample of an element/compound heats up from 25oC-50oC and gives off 192.5J of energy. What compound is this?
3. 75 gram of water at 23oC reacts with 100 grams of gold at 200oC. What is the final temperature of both reactants? (c of gold=.129 J/g\*C)
4. When 100 g of silver at 200oC comes into contact with a certain amount of water at 23oC the final temperature is 150oC. How much water was present? (c of Ag= .233j/g\*C)
5. 100 ml of NaOH and HCl are mixed in a calorimeter with a heat capacity of 849 J/\*C. If the temperature of the solution rose from 23oC to 40oC
   1. How much energy was given off to the surroundings? Assume density of solution is 1.00g/ml
   2. Assuming that the heat capacity of the calorimeter is negligible, what is ⍙H and the thermochemical expression for this reaction
   3. Endothermic or exothermic?
6. H2O(g)🡪 H2O(s) ⍙H=?
   1. Is this process endo or exothermic?
   2. How much energy is released/absorbed if 50 g of water is originally at 130oC and cools at -20oC (⍙Hfusion = 333 J/g and ⍙Hvaporation =2260 J/g)
7. Food for thought: If an element/compound has a low specific heat capacity, what does that say about that compound?