Blitz Ch 10 & 11, Form D-H

Name _____ Period ____

This is a Take Home Exam. You may use your notes but you may NOT use help from human beings.

EXPLAIN IN COMPLETE SENTENCES AND GIVE EXAMPLES:

You MUST HAND WRITE THIS EXAM!! NO TYPED PAPERS WILL BE ACCEPTED!

1. Explain the THREE methods of heat transfer and explain how a *Thermos Bottle* reduces these THREE methods of transfer.

2. Draw the warming curve for water, label its parts, and tell what is happening at each of the FIVE positions.

3. Discuss **Capacity of Air**, **Absolute Humidity**, and **Relative Humidity** and how to make a cloud in a 4-Liter jug using **adiabatic** action.

4. Explain why a very hot glass beaker breaks when water is added, but a quartz beaker can survive.

5. Discuss **TEN** of the fifteen shocks of *Vapor Pressure and Boiling Point* and give an example of each.

***** SHOW METHOD OF SOLUTION FOR ALL PROBLEMS (The 1,2,3,4!)**

6. A piece of Cu wire is 3.58 m long at 22.0°C. Find its increase in length at 34.7°C. $\alpha = 1.68 \times 10^{-5}$.

7. If 22.6 g of water at 32.4°C is mixed with 56.9 g of water at 62.6°C, find the final temperature.

8. Find the number of joules obtained by burning 10.0 liters of gasoline. Density of gasoline = 0.700 g/cm^3, and it liberates 1.15 X 10^4 cal/g. 1cal = 4.18 j. 1 L =1000 cm^3.

9. Find the total number of calories needed to change 18.5 g of ice at -31.2°C to steam at 127.0°C. Show all FIVE steps. See sample problem.

10. A piece of metal massing 150.0 g at a temperature of 100.0°C is dropped into 80.0 g of water at 15.0°C. The final temperature of the mixture is 22.0°C. Find the specific heat of the metal.

STUFF:

Heat Lost = Heat Gained	sp.ht. ice = 0.530 cal/g.C°
$\Delta l = \alpha l \Delta t$	sp.ht. water = 1.00 cal/g.C°
$Q = mc\Delta t$	sp.ht. steam = 0.481 cal/g.C°
ht.fus. ice = 80.0 cal/g	ht.vap. water = 538 cal/g

When finished, please STAPLE this exam onto your papers and turn in on due date.