Blitz Ch 10 & 11, Form M-R

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. Describe the TWO Laws of Thermodynamics, and give an example of each. and what are *Maxwell's Demon* and *Boltzman's Statistics*.

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

3. Discuss and explain FIVE devices for measuring temperature.

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

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

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

6. A piece of Cu wire is 5.23 m long at 28.2^{o}C. Find its increase in length at 34.5^{o}C. α = 1.68 X 10^{-5}.

7. If 18.5 g of water at 14.1^{o}C is mixed with 78.5 g of water at 67.89^{o}C, find the final temperature.

8. Find the number of joules obtained by burning 15.00 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 34.0 g of ice at -26.1^{o}C to steam at 345.0^{o}C. Show all FIVE steps. See sample problem.

10. A piece of metal massing 135.0 g at a temperature of 100.0^{o}C is dropped into 69.5 g of water at 19.2^{o}C. The final temperature of the mixture is 28.0^{o}C. Find the specific heat of the metal.

STUFF:

Heat Lost = Heat Gained	sp.ht. ice = 0.530 cal/g.C^o
$\Delta l = \alpha l \Delta t$	sp.ht. water = 1.00 cal/g.C^o
Q = mcΔt	sp.ht. steam = 0.481 cal/g.C^o
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.