

Blitz Ch 10 & 11, Form A-C

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. Discuss and give examples of the two *Laws of Thermodynamics*.
2. Discuss and explain FIVE devices for measuring temperature.
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. 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 heat transfer.

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

6. A piece of Cu wire is 2.30 m long at 18.0°C. Find its increase in length at 59.2°C. $\alpha = 1.68 \times 10^{-5}$.
7. If 32.5 g of water at 22.1°C is mixed with 87.5 g of water at 79.2°C, find the final temperature.
8. Find the number of joules obtained by burning 8.00 liters of gasoline. Density of gasoline = 0.700 g/cm³, and it liberates 1.15×10^4 cal/g. 1 cal = 4.18 j. 1 L = 1000 cm³.
9. Find the total number of calories needed to change 12.0 g of ice at -22.3°C to steam at 252.0°C. Show all FIVE steps. [See sample problem](#).
10. A piece of tin massing 250.0 g at a temperature of 100.0°C is dropped into 100.0 g of water at 10.0°C. The final temperature of the mixture is 20.0°C. Find the specific heat of the tin.

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.