CHMY 361 Fall 2016 **Homework Set #1** **Handout #1A**
Tue., August 30, 2016
Due **Thursday September 15 in class.**

Chapter 2 problems: 1*, 3e**, 9***, 10b-e****, 15a,c, 16, 18, 19, 21#, 24, 28, 34c##

* Assume the hiker's clothing absorbed 1.50 L of water in the rainstorm, and weighs ***73 kg*** and the water evaporates at ***15º*** C instead of what the text uses. Suppose the hiker had eaten only ***lactose*** that day instead of sucrose for part (c).
** use ***50º C*** instead of 25º and expansion is from 2.0 L to 10.0 L
*** you will need to know that the molar C_v for an ideal diatomic gas = 2.5 R where R is the gas constant.
**** 10 **d.** you will need to remember what boiling means: **liquid water evaporating into bubbles of water vapor because the vapor pressure of the water = the applied pressure on the surface of the liquid.** (water will boil at exactly 298 K if in a partial vacuum such that the air pressure = 2536 Pa (from Table 2.2) (=.02536 bar =0.02569 atm.)

****** 10 e.** note "bomb" is short for bomb calorimeter, a steel container in which small amounts of explosive mixtures may be detonated safely to see how much heat is given off.
# Do this for ***lactose*** instead of glucose. (Table A.7)
Use ***acetaldehyde*** instead of formaldehyde.

<u>Comments and Advice</u>

1. *Note: The numbering of the problems does not necessarily follow the order of text material, e.g., information needed for problem 1 will come from Lectures 4 and 7. Part of the learning process is recognizing the information required to solve a particular problem.*

2. *While this may seem overwhelming at first, it is not as bad as it seems. It is much like learning a new game; considerable attention and time is required until the rules are familiar. Students typically find the following chapters to be* ***much*** *easier after they attain a grasp of the style of the problems in Chapter 2.*

3. Most importantly: *Start on this assignment* ***<u>early</u>!*** *It takes a while to get used to the style, and to find your way around the book. If you wait until the last two days, you may find yourself in panic mode.*

4. Office hours: *Typically by appointment (by email is ok) or drop in. Definite hours will be posted for the days before an exam or assignment due date. Email questions are also encouraged.*