CHEM 3410, Spring
Homework Assignment #2: Gases (Ch. 1) Name: _____
Due date: See schedule (Print and Pledged)

Purpose for homework: To learn some practical applications of gas law equations for both ideal and real gases

Instructions:

- Work the following problems **using the homework format in your syllabus**. (*Show all work and circle answers.* Showing all work means that you should write the formulas that you're using as you work the problem. This will help you later when you review your homework when studying for tests.)
- Feel free to work together but turn in your own work. Feel free to come ask me questions. Please do not wait until the night before to start your homework.
- The questions at the ends of the chapters have both "Exercises" and "Problems." The questions for the homework assignments are noted as such.
- Exercises are denoted as "Exercise # a" and "Exercise #b" meaning that there are two questions for each number. The "a"s are worked out in the Student Solutions manual usually.

Exercises from the text book:
1.4b
1.11a

Word problems:

1) (a) Answer the first question from Exercise 1.3a (only the first question, not the second question about complications. (b) If we fill our tires to 32 psi on a warm Mississippi day (90 °F) and if 5 psi leaks out over two months, what's the pressure on day number 63 when the temperature drops to freezing?
2) Derivation: Starting with pV=nRT, show how Equation 1.17 is obtained.
3) (a) Could 25 g of argon gas in a vessel of volume 1.5 L exert a pressure of 2.0 bar at 30 °C if it behaved as a perfect gas If not, what pressure would it exert? (b) What pressure would it exert if it behaved as a van der Waals gas?
4) Problem 1.28 from the text.