Physics 5D   Homework Set #1   Fall 2013

DUE at the beginning of class Monday October 7

To earn full credit on homework problems, you must exhibit the steps that lead to your final result. The homework grades will be based on the clarity of your method of solution as well as on your final answer.

Problems:

1. Giancoli, Chapter 17, problem 21.

2. Giancoli, Chapter 17, problem 28.

3. Giancoli, Chapter 17, problem 32. (Assume that air is an ideal gas.)

4. Giancoli, Chapter 17, problem 54.

5. Giancoli, Chapter 17, problem 56. (Note: ℓ_0 is the diameter of the molecules.)

General Problems:

6. Giancoli, Chapter 17, problem 62.

7. Giancoli, Chapter 17, problem 73. (The force = pressure x area of the air is equal to its weight $\approx Mg$, where M is the mass of all the air and $g \approx 9.8$ m/s^2. Assume that air is about 80% nitrogen molecules and 20% oxygen molecules.)

8. Giancoli, Chapter 17, problem 80. (Assume that helium is an ideal gas.)