

Physics 450: Problem Set #3

Department of Physics and Astronomy
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Due Wednesday, September 22, 2010, 12:00 pm (in class)

- All problems are from the text: Daniel V. Schroeder, An Introduction to Thermal Physics, Addison Wesley Longman, 1999;
 - Please read 1.6 up to "Enthalpy" on page 33;
1. Page 23, 1.33 (You can create a table to summarize all those signs for the changes of work, heat, and energy during each process and for the whole cycle);
 2. Page 23, 1.34 (Notice that this is an ideal gas so the total energy only depends on T. What is f , the degrees of freedom, in this case?);
 3. Problem 1.36; Note $P_i V_i^\gamma = P_f V_f^\gamma$, and $f = 5$ for air at ordinary temperatures.
 4. Problem 1.41;
 5. Problem 1.47;