AE 360
Homework 6
Due: Thursday, 27 February 1997, in class
Read: Anderson, Chapter 3

1. Exam 1, problem 1
2. Exam 1, problem 2
3. Exam 1, problem 3; Use $q_w = 3\ \frac{MW}{m^2}$ instead of that given in the exam.
4. Exam 1, problem 4
5. Anderson, 3.4, p. 98; Make calculations with a) calorically perfect ideal gas assumption and b) ideal gas with

$$e(T) = -19546\ \frac{J}{kg} + 731.33\ \frac{J}{kg\ K}\ T + 0.055648\ \frac{J}{kg\ K^2}\ T^2$$

   I recommend using mathematica to generate either an exact or numerical solution to the calorically imperfect problem.
6. Anderson, 3.6, p. 98; make a computer generated plot
7. Anderson, 3.7, p. 98; perform the calorically imperfect calculations using the above model for internal energy.
8. Anderson, 3.8, p. 98; use your mathematica code for this problem