ME 201
Thermodynamics

Homework #5 Due Wednesday, February 1, 2006

1. Calculate the entropy change for N_2 as it goes from 250 K and 1000 kPa to 1300 K and 60 kPa.

2. For the two processes given below, determine the final temperature, pressure, specific volume, and the changes in internal energy, enthalpy, and entropy.

    a. Air at 8400 R and 66 psia goes isothermally to 1.7 psia.
    b. Helium at 3200°F and 1.3 atm goes isentropically to 435°F.

3. Calculate the final temperature and change in specific internal energy as magnesium at 30 psia and 500°F goes insenthalpically to 90 psia.

4. Determine the changes in internal energy, enthalpy, and entropy as liquid petroleum at 70 kPa and 300 K goes to 100 kPa and 430 K.