

ME 201

Thermodynamics

Homework #7 Due Monday 2/6/06

1. Refrigerant -134a as saturated vapor at 0.5 MPa is isentropically compressed by a compressor in a refrigeration plant to 1.2 MPa. Determine the enthalpy change for the process and the final fluid phase.
2. What is the quality and internal energy of 0.1 lb_m of steam contained in a 1.3 ft³ container at a temperature of 233°F?
3. Air enters the combustion of a jet aircraft engine at 800 kPa and 600 K and exits at 2200 K. Since an ideal combustion chamber is isobaric, determine the entropy change and exit specific volume.