Problem set 10

1) The pressure within a 23.3 m$^3$ tank should not exceed 105 bar. Check the pressure within the tank if filled with 1000 kg of water vapor maintained at 360°C using the
   a) Ideal gas equation of state.
   b) Van der Waals equation.
   c) Redlich-Kwong equation.
   d) Compressibility chart.
   e) Steam tables.

2) Determine the enthalpy and entropy change of CO2 per unit mass as it undergoes a change from 250 K and 7 MPa to 280 K and 12 MPa by assuming
   a) Ideal gas behavior.
   b) Deviation from ideal gas behavior.