

HW 3. Due Tue 5 Feb at 4 p.m. in my mailbox

Problem 1 = Problem 4.9 except the proof of the last equation (4-25)

a) Prove Eq. (4-22) $\left(\frac{\partial u}{\partial P}\right)_v = c_v \left(\frac{\partial T}{\partial P}\right)_v$

b) Prove Eq. (4-23) $\left(\frac{\partial h}{\partial v}\right)_P = c_P \left(\frac{\partial T}{\partial v}\right)_P$

c) Prove Eq. (4-24) $\delta q_T = c_P \left(\frac{\partial T}{\partial v}\right)_P dv_T + c_v \left(\frac{\partial T}{\partial P}\right)_v dP_T$