ASSIGNMENT 2

CHEMISTRY 305

Due: 4:30 pm Tuesday 20 January 2009

1. Derive the following:

   (a)
   $$\left(\frac{\partial^2 U}{\partial S^2}\right)_{V,n} = \frac{T}{C_V}$$

   (b)
   $$\left(\frac{\partial^2 U}{\partial V^2}\right)_{S,n} = \frac{C_p}{V\kappa_T C_V}$$

   (c)
   $$\left(\frac{\partial}{\partial V}\left(\frac{\partial U}{\partial S}\right)_{V,n}\right)_{S,n} = -\frac{\alpha T}{\kappa_T C_V}$$

2. Do question 22 on page 487 of your text.

3. Do question 24 on page 487 of your text.