PHY 410
HW#6
Assigned 4 March 09: Due 16 March 09

6.1   Problem 1 Chapter 4 of the Text
6.2   Problem 6 Chapter 4 of the Text
6.3   Problem 12 Chapter 4 of the Text
6.4   Using the fact that the total chemical potential must be constant show that
        the pressure of an ideal gas (particles of mass M) as a function of height h above
        the surface is given by

$$p(h) = p(0)e^{-Mgh/\tau}$$

        Where it is assumed that the temperature τ is constant (does not change with
        height)