Name ______________________

CHEM 4353
Homework #2
Fall 2009 (Buckley)

Show your work to receive credit. This homework is due on Wednesday, August 26, at class time.

1. (2 points each) From Barrante Chapter 4. Work problems:
   2c, 2d, 2e, 2i;
   3a, 3b, 3g, 3i
   4a, 4b
   9

2. (8 points)
   a. Find the molar thermal expansivity of an ideal gas at a temperature of 450 K.
   b. Assuming the molar thermal expansivity does not change over a small temperature change, by how much would the volume of 2.0-mol of an ideal gas at 1.5-atm change in going from 450 K to 451 K at constant pressure?

3. (8 points)
   a. Find the isothermal compressibility of an ideal gas at a pressure of 500 torr in units of atm.
   b. Assuming the isothermal compressibility does not change over a small pressure change, by how much would the volume of 2.0-mol of an ideal gas change with a molar volume of 10.0 L/mol change in going from 500 torr to 510 torr at constant temperature?