1. Sketch how C_v of xenon, carbon monoxide, and water behave as a function of temperature at low densities. Carefully note the limits as T goes to 0 K and as T gets large (but less than the first electronic excited state).

2. Using MatLab, Excel, or a similar software program, determine the value of N where the error in the Stirling approximation becomes less than 0.1%.

3. Problem 10.1

4. Problems 10.4 and 10.5

5. Problem 10.8 (parts a and b only)

Be sure to state and justify all assumptions made