Show your work on all problems.

1. A gas is initially in a volume of 32.5-L at a pressure of 3.5-atm. If the volume is changed to 50.0-L and the temperature remains constant, what is the new pressure of the gas?

2. If the container in problem 1 contains 2.5-mol of gas, what is the temperature of the gas?

3. A sample of gas is initially confined to a volume of 10.0-L at a temperature of 25 °C. The temperature is raised to 100 °C. What volume is required to ensure the gas remains at the same pressure it had initially?

4. 3.5-mol of a gas are confined to a volume of 35.0-L at a temperature of 300 K. What is the pressure of the gas?

5. What is the density of argon at a pressure of 1.0-atm and a temperature of 50 °C?