CHAPTER 1 HW
21, 43, 46, 64

<u>Additional</u>

1. At extreme temperatures, one of the van der waals constants can be ignored. Which one? Why? If we ignore this constant, what is the new form of the van der waals equation? Using this high-temperature form of the equation, develop an expression for Avogadro's law.

2. Use the value of b for ammonia to determine the volume, in cubic angstroms, of a single molecule of ammonia.

3. The density of a gas is equal to the ratio of the molar mass to the molar volume. Evaluate the change in density with respect to temperature for Helium at 1atm and 25°C. You may treat Helium as ideal.