Participation Assignment
CHEM 1090-General Chemistry I

Name: **#19**

Section: 33, TR **Due Date: Tuesday 3/12/2019**

1. A weather balloon is filled with helium to a volume of 960.0 L at 15.00 °C and 1.000 atm. The balloon ascends to approximately 5000 m (16404 ft) where the balloon's volume changes to 1597.0 L at a temperature of -17.47 °C. What is the helium gas pressure, in atm, in the balloon at this altitude?

2. Calculate the volume, in liters, of 1.0000 mol of an ideal gas at 273.15 K and 1.0000 atm. Use $0.082057 \frac{L\ atm}{mol\ K}$ as your value of the ideal gas constant, R.

3. Calculate the density of ammonia gas, NH_3, in grams/liter at −33.33 ºC and 1.013 bar.