

Participation Assignment

CHEM 1090-General Chemistry I

Name:

#21

Section: 32, MWF

Due Date: Monday 3/12/2018

1. A typical propane gas cylinder used in outdoor grills has a volume of approximately 17.8 L. Assume there are 5.60 mol of propane vapor and calculate the temperature in degrees Celsius that is needed to reach 21.0 atm.

2. Calculate the density of ammonia gas, NH_3 , in grams/liter at $-33.33\text{ }^\circ\text{C}$ and 1.013 bar.

3. What is the mole fraction of each component in a gas mixture of 2.55 g of NH_3 , 52.00 g of N_2 , and 13.35 g of H_2 ?

4. What is the total pressure and the pressure of each component (in atm) in a gas mixture of 2.55 g of NH_3 , 52.00 g of N_2 , and 13.35 g of H_2 in a 10.00 L rigid container at 85 °C?