**Ideal Gas Law Practice Problems**

1) A cow’s stomach can hold 0.30 moles of gas. If the temperature inside of a cow is 302 K and the pressure is 1.05 atm, what will the volume of the cow’s stomach be? R = 0.08206 Latm/molK. **7.08 L**

2) If the cow ate enough grass that the volume of the stomach was now 0.5 liters, with the temperature remaining 302 K and the pressure remaining 1.05 atm, how many moles of air would it now be able to hold? **0.021 mol**

3) My house can hold 450 moles of air. If the temperature of my house is 25 degrees Celsius and the pressure inside my house is 1.01 atm, how big is my house in liters? What does this say about the size of my house? **10,895 L**

4) If a balloon has a volume of 10.0 liters at a temperature of 298 K while the pressure is 0.80 atm, how many moles of helium will it contain? **0.33 mol**

5) How many moles of oxygen would the balloon in problem 4 have under an identical set of conditions?