**Directions: Solve the following problems showing ALL work. You MUST identify what variable that each number goes with.**

1) 2.00 L of a gas at 1 atmosphere of pressure is compressed to 0.645 L. What is the new pressure of the gas?

2) In a thermonuclear device, the pressure of 0.050 liters of gas within the bomb casing reaches 1,286 atm. When the bomb casing is destroyed by the explosion, the gas is released into the atmosphere where it reaches a pressure of 1.00 atm. What is the volume of the gas after the explosion?

3) If we took 2.00 liters of gas at 1.00 atm and compressed it to a pressure of 6.00 atm, what would the volume of that gas be?

4) The temperature inside my refrigerator is about 10.00 Celsius. If I place a balloon in my fridge that initially has a temperature of 250 C and a volume of 0.50 liters, what will be the volume of the balloon when it is fully cooled by my refrigerator?

5) A man heats a balloon in the oven. If the balloon initially has a volume of 0.20 liters and a temperature of 150C, what will the volume of the balloon be after he heats it to a temperature of 250 0C?

6) On hot days, you may have noticed that potato chip bags seem to “inflate”, even though they have not been opened. If I have a .250 L bag at a temperature of 23 0C, and I leave it in my car which has a temperature of 60.00 C, what will the new volume of the bag be?

7) If I have a 100 liter container that holds 45 moles of gas at a temperature of 2000 C, what is the pressure inside the container?

8) I have a balloon that can hold 200 liters of air. If I blow up this balloon with 6 moles of oxygen gas at a pressure of 2 atmosphere, what is the temperature of the balloon?

9) How many moles of gas are in a 20 liter scuba canister if the temperature of the canister is 400 K and the pressure is 100 atmospheres?

10) If my unit of pressure is in atmospheres (atm), what R constant would I need to use for the Ideal Gas Law?