**Gas Law Surprise Pop Quiz**

This quiz was not announced. It is a surprise. It will replace a prior quiz grade, but only if it increases your grade. If it does not, it will not count against you. Only the answers for this quiz will be graded – write them on the opposite side of the paper. This side of the paper is for you to work on the questions.

1. I’ve got an empty 0.250 L water bottle in my office. If the initial pressure of the bottle is 1.0 atm, what will the volume of the bottle be if I step on it and increase the pressure to 3.0 atm?
2. A hollow clown’s nose has a volume of 0.050 L, a temperature of 295 K, and a pressure of 1.0 atm. Given this information, how many moles of gas can the clown nose hold? R = 0.08206 L atm/mol K.
3. A can of hairspray will rupture when heated in a car trunk. If the gas in the can is at a temperature of 290 K and at a pressure of 5.4 atm, what will the pressure of the gas in the can be immediately before the can explodes at a temperature of 325 K?
4. What is the volume of my office if it holds 40 moles of air at a pressure of 1.05 atm at a temperature of 299 K? R = 0.08206 L atm/mol K.
5. A balloon has a volume of 40 L at a temperature of 25 degrees Celsius. If I heat the balloon to a temperature of 65 degrees Celsius, what will the volume of the balloon be?
6. I have a second balloon with a volume of 40 L at a temperature of 285 K. If I heat the balloon to a temperature of 395 K and the internal pressure is 1.15 atm, how many moles of gas does the balloon hold? R = 0.08206 Latm/molK

**Answers to the Surprise Quiz:**

Your name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Note: Do not show your work. Simply provide the answers for each question in the appropriate space below.

Your answers:

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2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_