**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 new 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 an initial temperature of 290 K and at an initial pressure of 5.4 atm, what will the pressure of the gas in the can be immediately before the can explodes at a final temp 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 final temperature of 65 degrees Celsius, what will its final volume be?
6. I have a second balloon with a volume of 40 L at a temperature of 285 K. If there are 0.50 moles of gas in the balloon, what is its pressure? (R = 0.08206 Latm/mol K)

**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:

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

**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 0.500 L water bottle in my office. If the initial pressure of the bottle is 1.0 atm, what will the final 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 0.030 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 initial gas in the can is at a temperature of 290 K and at an initial pressure of 4.5 atm, what will the pressure of the gas in the can be immediately before the can explodes at a final temp of 325 K?
4. What is the volume of my office if it holds 50 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 final temperature of 45 degrees Celsius, what will its final volume be?
6. I have a second balloon with a volume of 400 L at a temperature of 285 K. If there are 5.0 moles of gas in the balloon, what is its pressure? (R = 0.08206 Latm/mol K)

**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:

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

**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 0.500 L water bottle in my office. If the initial pressure of the bottle is 1.0 atm, what will the final volume of the bottle be if I step on it and increase the pressure to 3.5 atm?
2. A hollow clown’s nose has a volume of 0.060 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 an initial temperature of 275 K and at an initial pressure of 4.5 atm, what will the pressure of the gas in the can be immediately before the can explodes at a final temp of 325 K?
4. What is the volume of my office if it holds 55 moles of air at a pressure of 1.15 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 35 degrees Celsius. If I heat the balloon to a temperature of 45 degrees Celsius, what will the volume of the balloon be?
6. I have a second balloon with a volume of 45 L at a temperature of 295 K. If there are 0.50 moles of gas in the balloon, what is its pressure? (R = 0.08206 Latm/mol K)

**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:

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