

Combined Gas Law Practice Problems

1. What volume will be occupied by 0.875 L of gas at 19°C after its temperature is changed to 83°C at constant pressure?
2. What volume will be occupied by 152 mL of gas at 812 torr and 33°C if its temperature is changed to 66°C at constant pressure?
3. A sample of gas is moved at constant temperature from a 1.05-L vessel at 820.5 torr to a 872-mL vessel. What is its new pressure?
4. A 1.75-L sample of Helium at 71°C and 1.39 atm was compressed to 1.12 L at 3.02 atm. What is its new temperature?
5. A 1.73-L sample of H₂ at 67°C and 1.41 atm is compressed to 1.48 L at 1.99 atm. What is its new temperature?
6. A 10.6-L sample of gas at 666 torr and 25°C is changed to 118°C and 789 torr. What is its final volume?
7. A 1.75-L sample of gas at 2.10 atm and 41°C is changed to 2.13 L at 2°C. What is its final pressure?
8. Calculate the final volume after 52.0 mL of gas at 1.50 atm and 44°C is changed to 841 torr and 36°C.
9. Calculate the temperature at which 0.337 mol of hydrogen occupies 5.11 L at 1.09 atm.
10. Calculate the pressure at which 0.212 mol of carbon dioxide occupies 4.13 L at 14°C.

Answers

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| 1. 1.07 L | 2. 168 mL | 3. 988 torr | 4. 478 K | 5. 411 K | 6. 11.7 L | 7. 1.51 atm |
| 8. 68.7 mL | 9. 201 K | 10. 1.21 atm | | | | |