

Gas Laws Pretest

Name:

- Make the following temperature conversion
 - 25 K = _____ °C
 - 15 °C = _____ K
 - 300 K = _____ °C
 - 23 °C = _____ K
- A 2.00 L bottle full of H₂ is measured at 740.0 mm Hg and 24.0 °C. Find the volume at STP.
- If carbon dioxide (CO₂) is heated from STP values to 100 °C, what will be its new pressure in kPa if the volume is held constant?
- James has five two liter bottles full of nitrogen gas, if all of the gas is squeezed into just a single 2 L bottle; by what factor will the pressure of the gas be change if temperature does not change? (Also state whether it will increase or decrease if it changes at all.)
- If a garbage bag is partially filled with 3.00 L Of air at room temperature (20 °C) and is placed into a freezer in which the volume of the air in the bag drops to 2.65 L, what is the temperature of the freezer in °C? Assume air pressure remains constant.
- A volume of gas is measured at 25.0 °C. What temperature will double the volume assuming pressure is held constant?
- A gas occupies 125 ml at 140.0 kPa and 35.0 °C. What will be its new pressure if the temperature drops by 15.0 °C and the volume increases to 1.25 L?
- What is the affect of increasing temperature on the volume of a gas, if the pressure remains constant?
 - It increases.
 - It decreases.
 - It stays the same.
- What is the affect of increasing temperature on the pressure of gas, if the volume remains constant?
 - It increases.
 - It decreases.
 - It stays the same.
- What is the affect of increasing pressure on the volume of a gas, if the temperature remains constant?
 - It increases.
 - It decreases.
 - It stays the same.