

Gas Laws Posttest

Name:

- Make the following temperature conversion
 - $233 \text{ K} = \underline{\hspace{2cm}}^{\circ}\text{C}$
 - $125^{\circ}\text{C} = \underline{\hspace{2cm}}\text{K}$
 - $32 \text{ K} = \underline{\hspace{2cm}}^{\circ}\text{C}$
 - $-223^{\circ}\text{C} = \underline{\hspace{2cm}}\text{K}$
- A 1.00 L bottle full of ammonia gas (NH_3) is measured at 740.0 mm Hg and 24.0°C . Find the volume in liters at STP.
- If carbon dioxide (CO_2) at 750.0 mmHg is heated from -10°C to 100°C , what will be its new pressure in atmospheres 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 4 L of space; 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 you exhale 1.32 L of air into a garbage bag, that is at body temperature (37°C) and then put it into a freezer, what is the temperature of the freezer in $^{\circ}\text{C}$ if the volume of the air after it has been cooled is only 1.19 L ?
Assume air pressure remains constant. Is the freezer operating properly?
- A volume of gas is measured at 22.0°C . What temperature in $^{\circ}\text{C}$ will triple the volume assuming pressure is held constant?
- A gas occupies 1.25 L at 140.0 mmHg and 350.0°C . What will be its new pressure in mmHg if the temperature drops by 150.0°C and the volume decreases to 0.25 L?
- What is the affect of decreasing 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 decreasing temperature on the pressure of gas, if the volume remains constant?
 - It increases.
 - It decreases.
 - It stays the same.
- What is the affect of decreasing pressure on the volume of a gas, if the temperature remains constant?
 - It increases.
 - It decreases.
 - It stays the same.