

1. If I have a 2.5 liter sample of a gas at 225 torr of pressure and I increase the volume of the container to 8.9 liters, what is the pressure of my gas at this new volume?
2. If I have a 3.9 liter sample of gas at 35 psi and I increase the pressure to 45 psi what is the new volume of the gas?
3. A sample of gas takes up 5.6 liters at a temperature of  $15^{\circ}\text{C}$ , at what temperature will the gas occupy 25 liters of space?
4. A sample of gas takes up 25 liters of space at  $35^{\circ}\text{C}$ , if the temperature is changed to  $15^{\circ}\text{C}$ , what will be the volume of the gas?
5. If I have a sample of gas with 2.8 moles of nitrogen gas that takes up 19 liters of space, how many moles are in my sample that takes up 3 liters of space at the same temperature and pressure?
6. If I have a sample of gas with 3.9 moles of oxygen that takes up 23 liters of space, how many liters of space will be take up by 5 moles of oxygen at the same temperature and pressure?

7. How many moles of gas do I have if I have a 25 liter sample of argon gas at 1.08 atm of pressure and 35°C?
8. If I have 2.5 moles of gas in a 25 liter container at 1.5 atm of pressure, what is the temperature of the gas?
9. If 3.8 moles of gas are at 25°C and 1.9 atm of pressure, what volume does the gas occupy?
10. If there are 2.9 moles of gas in a 13 liter container at 35°C, what is the pressure in the container?
11. What will the new volume of my 0.04 mole sample be if I cool 1.25 liters of Helium at 100°C at 0.981 atm of pressure to 25°C and 0.513 atm of pressure? During the cooling process, 0.01 moles of helium escapes the container.
12. How many moles of helium escaped from the container if a 3 mole sample of the gas at 1.5 atm of pressure and 25°C suddenly drops to 1.0 atm and 15°C?
13. What is the pressure if 4.25 liters of Helium at 10°C and 1.98 atm of pressure is heated to 45°C and released into a 15 liter container?
14. What is the temperature of a gas sample that began as a 13 liter sample of oxygen at 15°C and 1.5 atm of pressure if it has been condensed into a 5 liter container at a pressure of 4.5 atm?