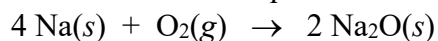


Gas Laws Practice Problems

1. Calculate the density of chlorine gas at STP.
2. What is the molar volume of a gas at 78°C and 1.20 atm?
3. A gas occupies 6.66 liters at STP. What is its volume at 546°C and 684 torr?
4. How many grams of carbon dioxide are in a 5.60 liter container at 0°C and 2.00 atmospheres pressure?
5. A sample of N₂ is collected by bubbling over water at 21 °C. If the total pressure of the gas is 1.02 atmospheres. What is the partial pressure of dry N₂?

6. A mixture of gases contains nitrogen at a partial pressure of 0.50 atmospheres and oxygen at a partial pressure of 0.30 atmospheres. If mixture contains 28.0 grams of nitrogen gas, what is the total number of moles in the mixture.

7. Use the following balanced chemical equation to answer the questions below:



a) How many grams of sodium are needed to completely react with 2.80 liters of O_2 at STP?

b) What volume of O_2 at 25°C and 2.00 atm is needed to completely react with 4.60 grams of sodium?

8. What is the density of ethane gas at 78°C and 1.20 atm?

Vapor Pressure of Water

Temp ($^\circ\text{C}$)	15	16	17	18	19	20	21	22	23	24	25
$P_{\text{H}_2\text{O}}$ (mm Hg)	13	14	15	15	16	18	19	20	21	22	24