

Molar Volume of a Gas and Dalton's Law of Partial Pressures

1. What is the volume of 6.5 moles of Helium at STP?
2. What is the volume of 5.0 moles of O₂ at STP?
3. What is the mass of 7.9×10^{23} of O₂ at STP?
4. What is the volume of 43.7 g of Helium at STP?
5. What is the mass of 122.4 l of Neon at STP?
6. A large container of gas is filled with 5 mol of N₂ and has a pressure of 1.45 atm. Oxygen gas is pumped into the vessel with a pressure of 0.35 atm. If the volume of the container does not change, what is the total pressure of the container?
7. The total pressure of a mixture of gas is 205 kPa. If the gas is a mixture of Hydrogen and Helium and the partial pressure of Hydrogen is 167 kPa, what is the partial pressure of He?