

Form P

3. An ideal gas is in a cylinder with a volume of 500.0 mL at a temperature of 30.0° Celsius and a pressure of 710 torr. The gas is compressed to a volume of 25 mL and the temperature is raised to 820.° Celsius. What is the new pressure?

4. A container is filled with an ideal gas to a pressure of 40.0 atm and standard temperature. What will the pressure be if the container is heated to 45° Celsius?

5. Three gases, He, Ne, and Ar, are held in a container at a total pressure of 15 atm. If the Helium is at 10 atm and the Argon is at 0.5 atm what is the pressure of the Neon in the container?

6. A compound containing 37.5% carbon, 49.9% oxygen, and 12.6% hydrogen was vaporized. What is the empirical formula of the gas?

The gas is found to exert 740 torr at 95° Celsius in a 270 mL vessel. If the mass of the gas was 0.276 g what is the molar mass and molecular formula of the compound?

7. Magnesium carbonate reacts with HCl. How many liters of water at STP are formed by the reaction of 100.0 g of MgCO_3 with excess HCl?