

Solve for the following measurements. Be sure to show your work.

1. $4.58 \text{ atm} = \underline{\hspace{2cm}} \text{ Pa}$ 2. $96.01 \text{ }^{\circ}\text{F} = \underline{\hspace{2cm}} \text{ K}$ 3. $39.88 \text{ mmHg} = \underline{\hspace{2cm}} \text{ kPa}$

4. $2.38 \text{ mol H}_2 \text{ @STP} = \underline{\hspace{2cm}} \text{ L}$

5. $23.75 \text{ atm} = \underline{\hspace{2cm}} \text{ lbs/ft}^2$

Answer the following questions:

6. A sample of neon gas is heated from 25°C to 50°C . Show the kinetic energy change of the particles by using a Maxwell-Boltzman distribution graph.

7. A tank containing equal concentrations of argon and neon develops a small leak. What changes in gas concentration occurs in the tank over time. Explain thoroughly.

8. A vacuum is created when 5.40 moles of hydrogen, 2.90 moles of helium and 3.33 moles of argon gas are removed from a 4.5 L tank at a temperature of 24.6°C . What is the final pressure in the tank? Explain how you derived your answer.