Question #83793

A gas has a volume of 750 mL at a pressure of 2.15 atm. What will the pressure be if the volume becomes 1.25 L?

Solution:

According to the Boyle's law, the new pressure is:

$$P_1V_1 = P_2V_2$$

$$P_2 = \frac{P_1V_1}{V_2} = \frac{2.15 * 0.75}{1.25} = 1.29\ atm = 130.71\ kPa = 980.4\ torr$$

Answer:

The new pressure of the gas under the following conditions will be 1.29 atm.