

Answer on Question #62612 - Chemistry - General Chemistry

Question

A sample of ideal gas at room temperature occupies a volume of 36.0 L at a pressure of 622 torr. If the pressure changes to 3110 torr, with no change in the temperature or moles of gas, what is the new volume, V_2 ?

Solution:

$$\frac{P_1}{P_2} = \frac{V_1}{V_2}$$
$$V_2 = \frac{V_1 \cdot P_2}{P_1} = \frac{36 \cdot 3110}{622} = 180 \text{ (L)}$$

Answer: $V_2 = 180 \text{ L}$