28788, Chemistry, Other

A gas tank holds 2785 L of propane, C3H8, at 830mm Hg. What is the volume of the propane at standard pressure?

Solution:

From Boyle's law a mathematical equation $P_1V_1=P_2V_2$ we can calculate the volume of the propane at standard pressure: $2785 \cdot 830=760 \cdot V$, where 760 mm Hg is the standard pressure.

So, the volume is: $V = \frac{2785 \cdot 830}{760} = 3041.5 \text{L}.$

Answer: The volume of the propane at standard pressure is 3041.5 L.