Answer on Question # 72885 - Chemistry - Physical Chemistry

At room temperature and pressure, a sample of a gas has a volume of 2.4 L. The pressure decreases, and the volume of the gas doubles. What is its new volume in milliliters? Do not use scientific notation in your answer.

Solution

Since it has been said that the volume doubles, it means that the final volume is two times greater than the original volume, or 2.4·2 = 4.8 L. The next step is to convert 4.8 L to mL using 1L = 1000 mL:

$4.8 \text{ L } (1000\text{mL}/1\text{L}) = 4800 \text{ mL}.$

Answer: 4800 mL.