

## Answer on Question #42185 - Chemistry - Other

**Question:**

How many moles of nitrogen gas are in 78.4L at STP?

**Solution:**

At STP one mole of a gas occupies volume of 22.4L, which is called molar volume ( $V_m$ ).

Thus, number of moles of a gas ( $n$ ) in given volume ( $V$ ) equals

$$n = \frac{V}{V_m} = \frac{78.4L}{22.4 L/mol} = 3.5 \text{ moles}$$

**Answer: 3.5 moles**