

Answer on Question #72058, Chemistry / General Chemistry

How many moles of CO₂ are contained in 6.51 L at 35 °C and 603 torr?

Solution

$PV = nRT$, where P – pressure, V – volume, R – gas constant, T – temperature, n – amount.

$$n = \frac{PV}{RT}$$

35°C = 308.15 K, R = 62.363 L×torr/K×mole.

$$n = \frac{603 \times 6.51}{308.15 \times 62.363} = \mathbf{0.204 \text{ mole}}$$

Answer

0.204 moles of CO₂ are contained in 6.51 L at 35 °C and 603 torr.

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