Answer on Question #76773, Chemistry / General Chemistry

You have a 3.50 liter container of krypton gas under 215 KPa pressure that is heated to 335K. How many moles of krypton atoms are in the container?

Solution

$v = \dfrac{PV}{RT}$, where P = 215 × 10^3 Pa, V = 3.5 × 10^{-3} m^3, T = 335 K, R = 8.314 Pa × m^3 × K^{-1} × mol^{-1}

$v = \dfrac{215 \times 10^3 \times 3.5 \times 10^{-3}}{335 \times 8.314}$ = **0.27 (mol)**

Answer

0.27 mol of krypton atoms are in the container.