Reading a Vapor Signal After Expansion

Scoring guide · one credit per question · review written work against each rubric

Reading a Vapor Signal After Expansion

Question 1

Choice (2)

The before and final readings both show 12 kPa. The intermediate reading is lower.

Question 2

The starting product is 12 × 1.0 = 12 kPa·L. The final product is 12 × 2.0 = 24 kPa·L. The final vapor amount is twice the starting amount.

Question 3

Some molecules moved from the liquid into the vapor. At the new steady pressure, evaporation and condensation occur at equal rates in the model, so both phases can remain present.

Question 4

The final vapor occupies twice the volume at the same pressure and temperature, so it contains more molecules. In the sealed vessel the additional vapor came from the liquid, so the liquid amount fell.