Comparing Two Paths to One Gas State

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

Comparing Two Paths to One Gas State

Question 1

Choice (2)

Q warms at the stated pressure of 100 kPa. P compresses at a fixed temperature.

Question 2

P halves the volume at fixed temperature, so its pressure doubles to 200 kPa. Q keeps pressure fixed, so its volume becomes 4.0 × 360/300 = 4.8 L.

Question 3

Select Refutes the claim. Both finish with the same gas amount, temperature, and volume. Their final pressures are both 100 × (4.0/2.0) × (360/300) = 240 kPa.

Question 4

At the same final volume and temperature, pressure scales with amount. The reported 216 kPa compared with 240 kPa gives 216/240 = 0.90 of the original gas amount.