Checking Vapor Readings for Two Molecule Shapes

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

Checking Vapor Readings for Two Molecule Shapes

Question 1

Choice (3)

The model says both molecules have the same formula and mass. Their equilibrium vapor pressures and shapes differ.

Question 2

At 40 °C P gives 20 kPa and Q gives 34 kPa. The long molecules of P can make more close surface contacts. Stronger attractions favor the liquid phase at that same temperature and give a lower equilibrium vapor pressure.

Question 3

Neither one-minute reading equals Q’s 34 kPa equilibrium value at 40 °C. The exposed area can affect how quickly vapor forms. At the same temperature, both vessels should approach the same 34 kPa while liquid remains.

Question 4

Record both pressures at repeated times while keeping both samples at 40 °C and leaving liquid in both. Compare the time each takes to level off and its final value. Different times with a common plateau near 34 kPa would support the idea.