Accounting for Gas in a Two-Solid Model

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

Accounting for Gas in a Two-Solid Model

Question 1

Choice (3)

42 is between the all-P and all-Q counts. Equal counts of P and Q would give 15 + 30 = 45.

Question 2

If all 30 were P there would be 30 gas molecules. Each Q in place of a P adds one more gas molecule, so 42 − 30 = 12 units are Q. The other 18 are P.

Question 3

Each unreacted P accounts for one missing gas molecule and each unreacted Q accounts for two. Several combinations can produce a difference of five.

Question 4

For example, three P and one Q would account for 3 × 1 + 1 × 2 = 5. Five P or one P and two Q also account for five.