Separating Two Solids Without Breaking Bonds

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

Separating Two Solids Without Breaking Bonds

Question 1

Choice (1)

The setting separates molecules without breaking bonds. P gives six intact units, showing that the original solid contained separate molecules.

Question 2

P has six units of three atoms, giving 18 atoms. Q contains six X plus 12 Y, also 18 atoms.

Question 3

Q is the network solid. It stays as a connected piece when only attractions between separate molecules are disrupted. P gives six separate intact XY_2 units, as expected for a molecular solid.

Question 4

It can restore the molecular solid P by attracting the intact XY_2 molecules to one another. It cannot rebuild Q's extended network because that requires forming X–Y bonds between the pieces.