Bond Types from Property Evidence Worksheet

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

Bond Types from Property Evidence

Question 1

Choice (1)

The ions in the solid lattice cannot move freely enough to carry current.

Question 2

Mobile positive and negative ions carry charge in the melt. Mobile electrons carry charge through the solid metal.

Question 3

Choice (1)

Relatively weak attractions between neutral molecules can allow melting at a lower temperature, and few mobile charges give poor conductivity.

Question 4

A solid ionic lattice holds ions in place. A molecular solid may also have few mobile charge carriers. Both can give low readings.

Classifying Three Model Materials

Question 5

Choice (1)

P conducts well even as a solid, consistent with mobile electrons in a metal.

Question 6

Q has low conductivity in the solid, where ions are fixed, and high conductivity in the melt, where ions can move.

Question 7

800 °C − 45 °C = 755 °C.

Question 8

Choice (3)

The solid-state measurements separate P and Q even though both molten samples conduct.