Reading Outer Electrons From Two Bands

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

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Question 1

Choice (2)

Both atoms contribute ten inner electrons. Sodium contributes one outer electron, while magnesium contributes two.

Question 2

P fits sodium and Q fits magnesium because their outer counts are one and two. Both have the same 2, 8 inner-shell pattern, so the inner count alone fits either.

Question 3

Forty inner counts at ten per atom give four atoms. Four sodium atoms would give four outer counts. Replacing two with magnesium adds two outer counts. The mixture has two sodium and two magnesium atoms.

Question 4

Six neutral sodium atoms would give 60 inner counts, but the measured inner count is 40. Two sodium and two magnesium atoms fit both readings.