Checking Two Sources of an Emitted Electron

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

Checking Two Sources of an Emitted Electron

Question 1

Choice (2)

Q changes the proton and neutron counts. P changes only the number of bound electrons.

Question 2

P has mass number 6 + 8 = 14 and charge 6 − 5 = +1. Q has mass number 7 + 7 = 14 and charge 7 − 6 = +1.

Question 3

The two remaining charges and mass numbers match, but P loses a bound electron and keeps its nucleus unchanged. In Q the nucleus changes a neutron into a proton and emits an electron. The separate counts distinguish the sources.

Question 4

P is neutral with six protons. Q is neutral with seven. Giving each an electron changes charge while leaving the proton counts different, so they are different elements.