Checking a Shifted Chloride Detector

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

Checking a Shifted Chloride Detector

Question 1

Choice (1)

The bromine-79 reference appears at 80. Subtracting 1 recovers 79 and also gives the expected chlorine values of 35 and 37.

Question 2

A common shift adds the same amount to both numbers. The difference remains 38 − 36 = 2, the same as 37 − 35.

Question 3

Both have 17 protons and 18 electrons. The 35 ion has 18 neutrons; the 37 ion has 20.

Question 4

Peak counts show 75 ions for chlorine-35 and 25 for chlorine-37. The mass numbers identify the isotopes; their separation gives no abundance information.