Finding Isotope Patterns With the Same Mean

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

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Question 1

J gives (50 × 20 + 50 × 22)/100 = 21 u. K gives (25 × 20 + 50 × 21 + 25 × 22)/100 = 21 u.

Question 2

Choice (2)

Only K includes atoms at 21 u, so it is the only sample with a peak there.

Question 3

J has mean 21 u but contains no atoms of mass 21 u. Its lower and higher isotope masses balance in the average.

Question 4

The mean stays 21 u. Doubling all the isotope counts doubles both the weighted mass sum and the total count.