Checking a Parent and Daughter Age Model

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

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Question 1

Each of the 72 daughters accounts for one parent that decayed. The original parent count was 24 + 72 = 96.

Question 2

Choice (2)

The parent count is one quarter of its original amount. Two successive halvings reduce 96 to 48 and then to 24.

Question 3

Only 72 − 48 = 24 daughters came from decay. The original parent count was 24 remaining plus 24 decayed, or 48. The remaining 24 is half of 48, so one half-life has elapsed.

Question 4

It would attribute daughters that were already present to additional parent decay. It would overstate the original parent count, making the surviving fraction appear smaller and the inferred age larger.