Approaching the Same Mixture From Two Sides

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

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Question 1

Choice (3)

Both runs reach a stable count of 60 S. With 100 total particles, both also have 40 R.

Question 2

S increases by 35 in P, showing net R to S. S decreases by 22 in Q, showing net S to R.

Question 3

The catalyzed run is already at 60 S at 20 s, while Q still has 78 S then and 66 S at 40 s. The catalyzed run approaches the stable composition faster.

Question 4

Over the same interval, as many particles change from R to S as from S to R. Each change adds one S or removes one S, so the net change is zero while both processes continue.