Counting Recovered Product After a Recycle

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

Counting Recovered Product After a Recycle

Question 1

The first pass converts 0.60 × 0.100 = 0.0600 mol of A and makes 0.0600 mol B. The collection step saves 0.80 × 0.0600 = 0.0480 mol of B.

Question 2

Choice (2)

Subtract the 0.060 mol converted from the 0.100 mol fed in, leaving 0.040 mol of unreacted A.

Question 3

The second pass makes 0.60 × 0.040 = 0.0240 mol B and collects 0.80 × 0.0240 = 0.0192 mol. Both passes collect 0.0480 + 0.0192 = 0.0672 mol B.

Question 4

The two passes form 0.0600 + 0.0240 = 0.0840 mol B, one per mole A reacted. Only 0.0672 mol is collected. The rest of the B formed was not saved by the collection steps.