Tracking Two Reactants in a Mixed Ore Model

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

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Question 1

Choice (3)

Each blue product accounts for two reagent units, so eight products use 16 units.

Question 2

Blue product uses 8 × 2 = 16 units. Green product uses 10 × 3 = 30 units. The amount remaining is 50 − 16 − 30 = 4 units.

Question 3

The two products require different amounts of reagent. The recorded eight blue and ten green use 46 units. A count of seven blue and 11 green also totals 18, but it uses 7 × 2 + 11 × 3 = 47 units. A total of 18 alone therefore leaves more than one possible reagent balance.

Question 4

The new counts are five blue and 13 green. They use 5 × 2 + 13 × 3 = 49 reagent units. That is the minimum under the model, and it is one less than the original supply of 50.