Checking Two Carbonate Samples With Acid

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

Checking Two Carbonate Samples With Acid

Question 1

Choice (2)

The CO_2 amounts match but the hydrogen ion amounts differ.

Question 2

P uses two moles H^+ per mole of CO_2. This matches carbonate. Adding any hydrogen carbonate would reduce that ratio.

Question 3

There are 0.020 mol of reacting ions in all. If they were all hydrogen carbonate, they would use 0.020 mol H^+. The extra 0.010 mol H^+ comes from 0.010 mol carbonate, leaving 0.010 mol hydrogen carbonate.

Question 4

Select Refutes the claim. Each ion releases one CO_2, so the matching CO_2 amounts show equal total reacted ion amounts. P has only carbonate and Q has both types, as shown by the different H^+ amounts.