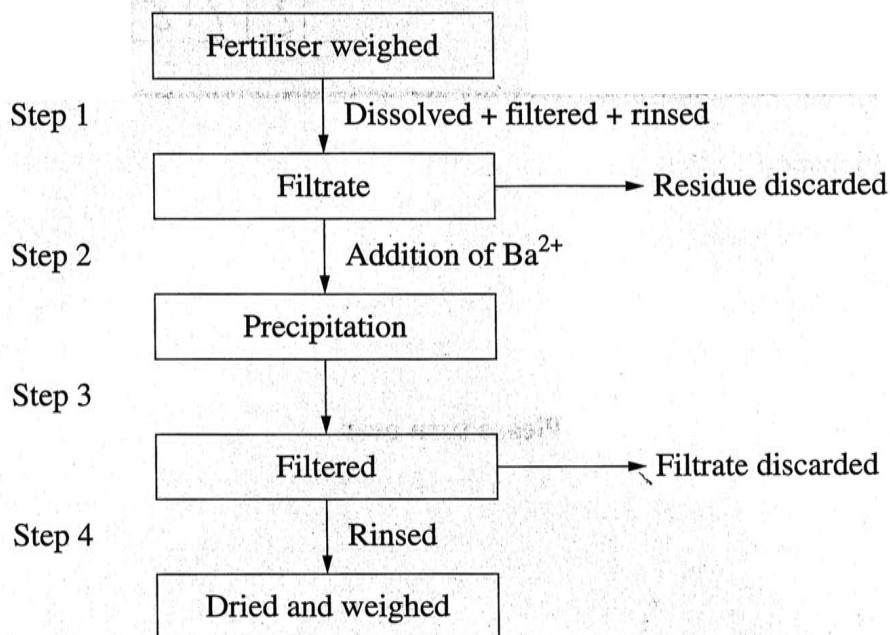


Question 29 (6 marks)

The flowchart shown outlines the process used to determine the amount of sulfate present in a sample of lawn fertiliser.



- (a) What assumptions were made and how do these affect the validity of this process? 3

Assumptions: 1) No sulfate was present in the residue discarded in step 1. 2) All sulfate was precipitated completely by Ba²⁺. 3) In step 3, when the filtrate was discarded, it is assumed that there is no sulfate present in the filtrate.
~~These~~ *may* affect the validity of the experiment ~~as~~ *as* ~~clearly may~~ *clearly may* achieve a result that states the sulfate content is lower than the actual amount in the soil.

- (b) It was found that 4.25 g had a sulfate content of 35%. 3

What is the mass of the dried precipitate at Step 4? Include a chemical equation in your answer.

