Comparing Gas Tracers Through a Model Film

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

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Question 1

For P the fraction is 1.5/5.0 = 0.30. For Q it is 0.50/5.0 = 0.10.

Question 2

Choice (1)

P transfers 30% compared with 10% for Q over the same time. The measurements are already in moles.

Question 3

The film and pressure difference changed together. More Q might cross because the initial pressure difference was greater, because of the film, or because of both changes.

Question 4

Test both films with the same initial difference in Q’s partial pressure across them, along with equal film area, temperature, and duration. Compare the downstream amount or fraction of Q. A comparison with the same initial gas conditions on both sides also meets the requirement.