Checking Film Overlap at a Leaking Seam

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

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Question 1

Choice (1)

P has less overlap, so more of the combined patch area protects distinct parts of the backing.

Question 2

P protects 8 + 8 − 2 = 14 cm² and leaves six uncovered. Q protects 8 + 8 − 5 = 11 cm² and leaves nine uncovered.

Question 3

Q leaves nine square centimeters uncovered compared with six for P. The model gives Q a rate 9/6 = 1.5 times as large even though the material amounts match.

Question 4

Only two square centimeters of the new patch protect previously uncovered backing. Q now leaves 9 − 2 = 7 cm² uncovered, which is still larger than P’s six.

Question 5

Seal the outside edge on both panels and hold the water pressure the same. Measure the water passing through each backing over the same short interval. Q should pass about 1.5 times as much water as P if the model applies.