Checking Capillary Rise With Two Liquid Densities

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

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Question 1

Choice (2)

Both columns rise 4 mm in tubes of the same width, so their volumes match. Q is denser and has more mass.

Question 2

P gives 1.0 × 4 = 4 and Q gives 1.5 × 4 = 6. The same geometry makes those values proportional to the upward effects. Q has the larger effect.

Question 3

The equal 4 mm rises give equal raised volumes. Q has density 1.5 compared with 1.0 for P, so its raised column weighs 1.5 times as much. The upward effect on Q is therefore 1.5 times as large in the model.

Question 4

Its density times height is 6, so the height is 6/1.2 = 5 mm.