Checking Solubility When Two Solvents Change

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

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Question 1

P has 80 mL of liquid. Its maximum dissolved amount is 80 × 0.050 = 4.0 g, leaving 2.0 g of solid.

Question 2

Choice (2)

Q has 50 mL of liquid and can dissolve 50 × 0.140 = 7.0 g. The other capacities are 4.0 g and 3.0 g.

Question 3

The treated mixture has 40 mL of water and 10 mL of the second solvent, matching Q. It can dissolve 7.0 g and contains only 6.0 g. No solid dye remains.

Question 4

Q has less liquid than R, 50 mL compared with 60 mL, but a larger maximum concentration. The capacities are 7.0 g in Q and 3.0 g in R. Both volume and solvent composition affect the amount that can dissolve.