Finding a Particle Deficit in a Solution

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

Finding a Particle Deficit in a Solution

Question 1

Choice (4)

Complete independent separation gives 0.030 mol of particles. This is three times the amount that gives 0.10 °C.

Question 2

Each 0.10 °C corresponds to 0.010 mol. The result is 0.24/0.10 × 0.010 = 0.024 mol.

Question 3

The shortfall is 0.030 − 0.024 = 0.006 mol of independently moving particles. Each pair replaces two independently moving ions with one group, so 0.006 mol of pairs accounts for the shortfall.

Question 4

Incomplete dissolution could also leave fewer dissolved particles than expected. The separate test shows that this particular explanation does not account for the deficit in the model.