Ions in Aqueous Solutions Worksheet

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

Ions in Aqueous Solutions

Question 1

Choice (1)

Each formula unit gives one sodium ion and one chloride ion.

Question 2

Each mole of $CaCl_2$ gives two moles of Cl^-. Multiply 0.200 mol by 2 to get 0.400 mol Cl^-.

Question 3

Choice (3)

Dissolved ions can move in an electric field and carry current.

Question 4

Glucose can dissolve as neutral molecules. It does not supply many mobile ions to carry charge.

Reading a Dissolved-Particle Model

Question 5

Choice (2)

Q has 6 + 12 = 18 counters, compared with 12 in P and 6 in R.

Question 6

Six Ca^{2+} counters contribute +12 charge units. Twelve Cl^- counters contribute −12 units, so their sum is zero.

Question 7

Choice (2)

P has a 6:6 count and R has a 3:3 count. Q has a 6:12 count.

Question 8

Q has 12 chloride counters and R has 3. With equal sample volumes, the concentration ratio is 12/3 = 4.