Comparing Charge Over Two Cell Tests

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

Comparing Charge Over Two Cell Tests

Question 1

Choice (1)

The time is the same, so 0.40 A transfers more than 0.30 A in the first interval.

Question 2

P transfers 0.40 × 10 + 0.10 × 10 = 5.0 C. Q transfers 0.30 × 10 + 0.30 × 10 = 6.0 C.

Question 3

Q transfers more total charge, so more electrons are released. Each atom releases two electrons in either test. The first interval favors P, but Q transfers enough charge later to have the larger total.

Question 4

The repeated P transfers 0.40 × 10 + 0.10 × 20 = 6.0 C, the same as Q. Equal charge corresponds to the same number of electrons, and each atom releases two in either test.