Tracking Copper After the Current Reverses

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

Tracking Copper After the Current Reverses

Question 1

Choice (2)

Q gains copper metal. Copper ions gain electrons to form that metal.

Question 2

P changes by +0.006 − 0.004 = +0.002 mol. Q changes by −0.006 + 0.004 = −0.002 mol.

Question 3

The 0.002 mol is a net gain at P. In the first step 0.006 mol of ions are reduced at P, and in the second 0.004 mol are reduced at Q. The total reduced is 0.010 mol.

Question 4

The two steps reduce 0.010 mol of copper ions in all. Two moles of electrons are needed per mole of copper ions, so the total is 0.020 mol electrons.

Question 5

The three reductions add to 0.006 + 0.004 + 0.002 = 0.012 mol. Restoring the original electrode amounts makes the net change zero. It does not erase the copper transferred during the steps.