Oxidation and Reduction Worksheet

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

Oxidation and Reduction

Question 1

Choice (1)

Zinc loses two electrons, shown on the product side.

Question 2

The copper ion gains two electrons. Its oxidation number decreases from +2 to 0.

Question 3

Each atom loses two electrons. Three atoms lose 3 × 2 = 6 electrons.

Question 4

Choice (1)

Reduction consumes electrons, so they appear as reactants.

Combining Half Reactions

Question 5

Choice (2)

One Zn releases two electrons, and each Ag^{+} needs one.

Question 6

$Zn + 2Ag^{+} \rightarrow Zn^{2+} + 2Ag$. Doubling the silver half reaction consumes the two electrons released by zinc, so the electrons cancel.

Question 7

Choice (1)

Zn starts as neutral metal and loses electrons to form Zn^{2+}.

Question 8

The reactants have 0 + 2(+1) = +2 total charge. The products have +2 + 2(0) = +2, so charge is conserved.