Ionic Bonding and Charge Balance Worksheet

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

Ionic Bonding and Charge Balance

Question 1

Choice (3)

One Mg^{2+} contributes +2 and two Cl^{-} contribute −2.

Question 2

Al_2O_3. Two Al^{3+} ions give +6 and three O^{2-} ions give −6.

Question 3

Choice (1)

Electrostatic attraction between oppositely charged ions holds the crystal together.

Question 4

The atom loses two electrons. It then has two more protons than electrons, giving the ion a charge of +2.

Road Salt Labels

Question 5

Choice (3)

One Ca^{2+} requires two Cl^{-} ions to balance its charge.

Question 6

NaCl has one Cl^{-} per Na^{+} because +1 balances −1. $CaCl_2$ has two Cl^{-} per Ca^{2+} because +2 requires a total of −2.

Question 7

12 Cl^{-} ions. Twelve K^{+} ions give +12 and twelve Cl^{-} ions give −12, so the total charge is zero.

Question 8

Choice (1)

The ratio 4:4 reduces to 1:1.