Ions and Electron Counts Worksheet

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

Ions and Electron Counts

Question 1

Choice (4)

The net charge is +11 − 10 = +1.

Question 2

It has 18 electrons. Net charge is +16 − 18 = −2.

Question 3

Choice (4)

Losing two negatively charged electrons makes the charge +2.

Question 4

The nucleus retains the same protons and neutrons. Proton count defines the element, and protons plus neutrons give mass number.

Particle Detector Records

Question 5

Choice (3)

Record R has 17 protons and 18 electrons, so the net charge is −1.

Question 6

Both have 17 protons and are chlorine. P has 18 neutrons and Q has 20, so their mass numbers are 35 and 37.

Question 7

Choice (4)

Both R and S have 18 electrons. R has 17 protons, and S has 18.

Question 8

R has atomic number 17 and one extra electron, so it is Cl^-. S has atomic number 18 and equal proton and electron counts, so it is Ar.