

Solutions

Each answer shows the steps, then the **result**.

2.1

- elements are arranged in order of **increasing proton number**

2.2

- Group II atoms lose two electrons
- the ion has charge +2

3.1 B

- same **number of outer-shell electrons** gives similar properties
- A is period; C and D do not control chemistry

3.2

(a)

- Group VII means **7** outer-shell electrons

(b)

- it gains one electron, so the ion is -1

3.3

- elements in the same group have **similar properties**
- from its position you can **predict** how it reacts and trends in its group