Solutions

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

2.1

- any **one** of: high density / high melting point / coloured compounds / variable oxidation states / catalytic activity

2.2

- **iron(II)** and **iron(III)**

3.1 A

- Group I: white compounds, one oxidation state; transition: **coloured compounds**, several states
- B swaps the two; C and D reverse density/catalysis

3.2

(a)

- transition metals have **higher density**
- and **higher melting points** than Group I

(b)

- used as **catalysts** (e.g. iron in the Haber process)

3.3

- they have **variable oxidation numbers**