

Question 24 (Answer: **B**)

- Melting point *decreases* down Group I, as the metallic bonding weakens.
- Density generally increases down the group.
- Reactivity also increases down the group, so only the melting point decreases.

Question 23 (Answer: **A**)

- Group I metals react with water to give the metal hydroxide and hydrogen gas.
- Their ions carry a 1+ charge, since each atom loses one electron.
- Reactivity increases down the group, so potassium is more reactive than sodium.

Question 27 (Answer: **D**)

- Group VII elements exist as diatomic molecules, not single atoms.
- Reactivity increases down Group I, so caesium is far more reactive than lithium.
- Melting point *decreases* down Group I, while it increases down Group VII.

Question 22 (Answer: **D**)

- Sodium is a metal, so it conducts electricity and is malleable.
- But it is a *Group I* metal: soft, with a low melting point and a low density.
- Malleability is the only listed property that a Group I metal actually has.

Question 21 (Answer: **A**)

- Density increases *down* Group I, so potassium is denser than lithium.
- Density also increases down Group VII, so chlorine is less dense than iodine.
- Potassium with chlorine gives potassium chloride, KCl.

5(a)	I
5(b)(i)	lithium / Li
5(b)(ii)	francium / Fr
5(b)(iii)	lithium / Li
5(b)(iv)	potassium / K
5(b)(v)	potassium / K
5(c)	M1 8 dots in second shell of each Na M2 6 crosses and 2 dots in third shell of S M3 '+' charge on each Na ion on correct answer line and '2-' charge on S ion on correct answer line
5(d)(i)	isotopes
5(d)(ii)	mark by row p = 37 and 37 n = 48 and 50 e = 37 and 36
5(d)(iii)	75(%)