

5 Which statement explains why sodium and potassium have different melting points?

- A** The attraction between cations and delocalised electrons is stronger in sodium.
B The attraction between cations and anions is stronger in sodium.
C The attraction between atoms is stronger in sodium.
D The attraction between nuclei and shared electron pairs is stronger in sodium.

6 NH_3 and HCN react together to form NH_4CN , an ionic compound.

Which row states the number of coordinate bonds and the number of π bonds in one formula unit of NH_4CN ?

	number of coordinate bonds	number of π bonds
A	0	2
B	1	2
C	0	3
D	1	3

24 When dry ammonia and hydrogen chloride gases are mixed, a solid white ionic compound is formed.

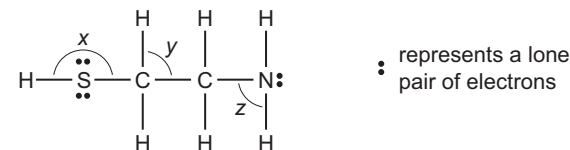
Two statements are listed.

- 1 The formation of the ionic compound is a redox reaction.
- 2 During the formation of the ionic compound, the $\text{H}-\text{N}-\text{H}$ bond angle increases.

Which statements are correct?

- A** both 1 and 2
B 1 only
C 2 only
D neither 1 nor 2

6 Three bond angles are labelled on the molecule shown.



What is the order of **decreasing** size of the bond angles x, y and z?

	largest	→	smallest
A	x	y	z
B	x	z	y
C	y	z	x
D	z	y	x

5 In which set do all the molecules have all their atoms arranged in one plane?

- A** AlCl_3 , BF_3 , PH_3
B AlCl_3 , CO_2 , NH_3
C BF_3 , C_2H_4 , C_3H_6
D C_2H_4 , CO_2 , H_2O

7 The boiling point of water, H_2O , is higher than that of hydrogen sulfide, H_2S .

Which statement explains this difference in boiling points?

- A** The bond energy of $\text{O}-\text{H}$ is greater than the bond energy of $\text{S}-\text{H}$.
B The intermolecular forces in H_2O are weaker than the intermolecular forces in H_2S .
C The $\text{S}-\text{H}$ bond in H_2S is longer than the $\text{O}-\text{H}$ bond in H_2O .
D There is significant intermolecular hydrogen bonding in H_2O but **not** in H_2S .