

### 1.3 EXERCISE 3 - molecular shapes

Predict the shape of the following molecules, and suggest bond angles:

1.  $\text{BeCl}_2$
2.  $\text{BF}_3$
3.  $\text{CH}_4$
4.  $\text{PCl}_3$
5.  $\text{H}_2\text{S}$
6.  $\text{SnCl}_2$

Predict the shapes of the following molecules, and suggest bond angles:

7.  $\text{CO}_2$
8.  $\text{SO}_2$
9.  $\text{SO}_3$
10.  $\text{SF}_6$
11.  $\text{XeF}_4$
12.  $\text{PCl}_5$

Predict the shapes of the following ions, and suggest bond angles:

13.  $\text{PCl}_4^+$
14.  $\text{PCl}_6^-$
15.  $\text{SO}_4^{2-}$
16.  $\text{NO}_3^-$
17.  $\text{NO}_2^-$
18.  $\text{NH}_4^+$
19.  $\text{SO}_3^{2-}$
20.  $\text{CH}_3^+$
21.  $\text{CH}_3^-$