

Solutions

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

2.1

- tetrahedral; 109.5°

2.2

- pyramidal (trigonal pyramidal)

3.1 D

- CO_2 is linear, 180°

3.2 B

- Oxygen's two lone pairs repel more, squeezing the angle

3.3

(a)

- boron has 3 bonding pairs and no lone pairs; they repel equally to a trigonal planar shape, 120°

(b)

- tetrahedral; 109.5° (4 bonding pairs, no lone pairs)

3.4

- ammonia has one lone pair on nitrogen; the lone pair repels the bonding pairs more strongly, squeezing the angle from 109.5° to 107°