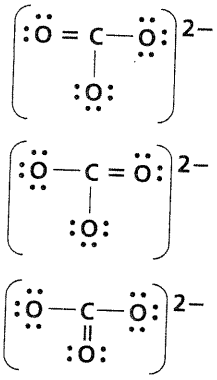
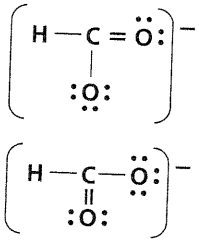
102. Draw three resonance structures for the polyatomic ion CO_3^{2-}.

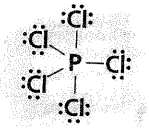


103. Draw two resonance structures for the polyatomic ion CHO_2^-.

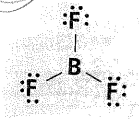


104. Draw the Lewis structure for each of the following molecules that have central atoms that do not obey the octet rule.

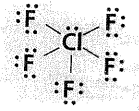
a. PCl_5



b. BF_3



c. ClF_5



d. BeH_2

H—Be—H

Molecular Shape (9.4)

105. Predict the molecular shape and bond angle, and identify the hybrid orbitals for each of the following. Drawing the Lewis structure may help you.

a. SCl_2

bent, 104.5°, sp^3

b. NH_2Cl

trigonal pyramidal, 107°, sp^3

c. HOF

bent, 104.5°, sp^3

d. BF_3

trigonal planar, 120°, sp^2

106. For each of the following, predict the molecular shape.

a. COS

linear

b. CF_2Cl_2

tetrahedral

107. Identify the expected hybrid on the central atom for each of the following. Drawing the Lewis structure may help you.

a. XeF_4

sp^3d^2

b. TeF_4

sp^3d

c. KrF_2

sp^3d

d. OF_2

sp^3