**Chapter 1.**

**2021. 03. 02.**

**Problem 1-47**

Allene, H2C=C=CH2, is somewhat unusual in that it has two adjacent double bonds. Draw a picture showing the orbitals involved in the σ and π bonds of allene. Is the central carbon atom *sp2*- or *sp-* hybridized? What about the hybridization of the terminal carbon? What shape do you predict for allene?

**Problem 1-48**

Allene is structurally related to carbon dioxide, CO2. Draw a picture showing the orbitals involved in the σ and π bonds of CO2, and identify the likely hybridization of carbon.