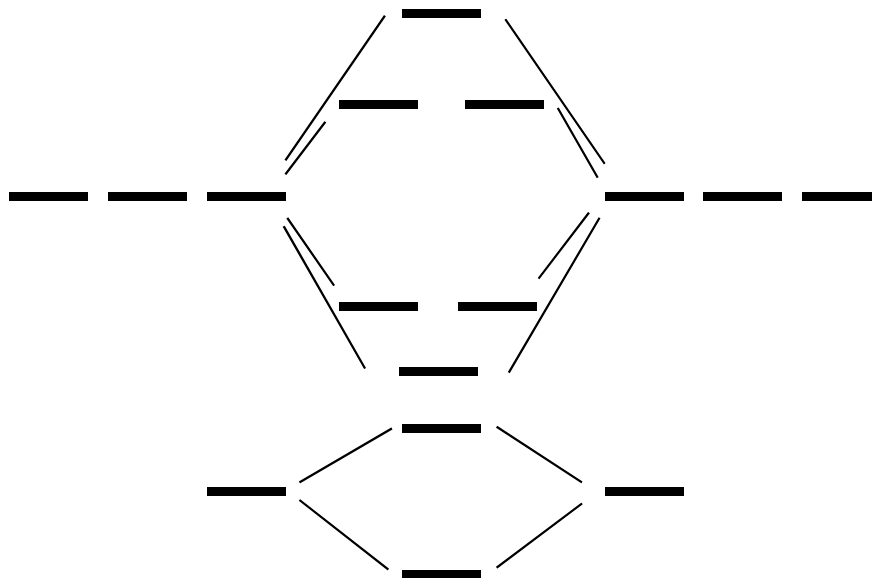


## Quiz 1

1. a Complete the following MO diagram for the molecule  $F_2$  by
- labeling the atomic orbitals (for example, 1s, 2s, 2p, etc.),
  - adding electrons to the appropriate orbitals, and
  - labeling the molecular orbitals (for example,  $\sigma$ ,  $\pi$ ,  $\sigma^*$ , etc.).



- b. Determine the bond order for the  $F_2$  molecule.
- c. Determine whether the bond becomes stronger or weaker when  $F_2$  is converted to  $F_2^+$ . Do not simply write stronger or weaker. You must support your response to receive credit.
3. Draw Lewis structures for the following molecules.
- $HCO_2H$
  - $CH_3CH_2C(OH)HCH_3$