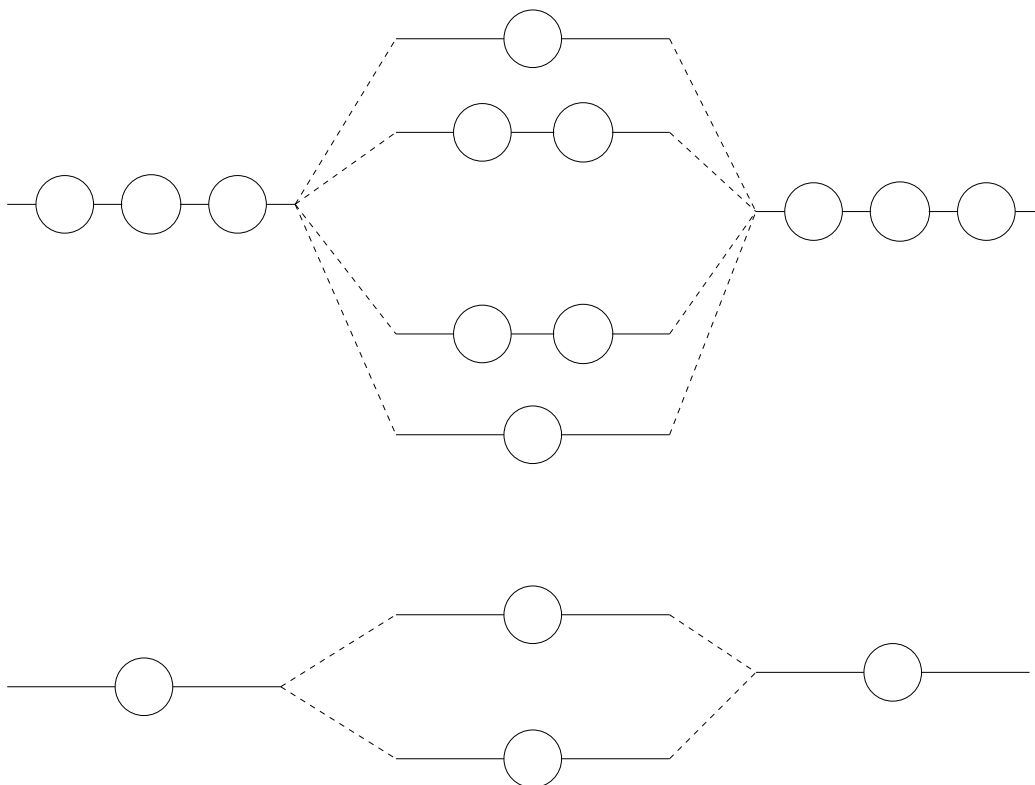


17. The following figure is the skeletal structure of a molecular orbital correlation diagram for the interaction of the *valence* electrons (*s* and *p*) of fluorine and fluorine to form the F_2 molecule. Use it to help you answer the following questions.



18. Is the F_2 molecule paramagnetic: yes or no (circle one) (3 pts.)
19. What is the bond order for the F_2 molecule? $\frac{1}{2}$, 1, $\frac{3}{2}$, 2, $\frac{5}{2}$, 3 (circle one) (3 pts.)
20. What is the bond order for the F_2^+ ion? $\frac{1}{2}$, 1, $\frac{3}{2}$, 2, $\frac{5}{2}$, 3 (circle one) (3 pts.)