

Concepts & Keys to Study

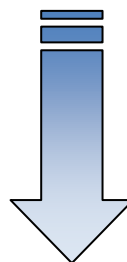
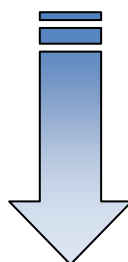
(FOR MOLECULES WITH MULTIPLE BONDS)

* Sometimes you'll find that, there are not enough electrons for the central atom to attain octet. This means that a multiple bond (double bond @ triple bond) is present. So in this case, make a double bond/triple bond by changing a lone pair from the terminal atoms (surrounding atoms) into a bonding pair to the central atom.

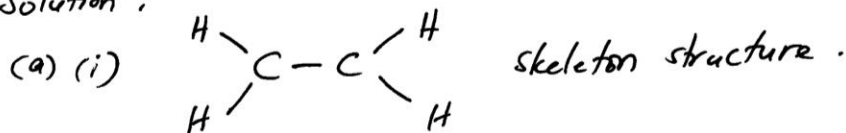
Problem-solving Examples 11

Draw a Lewis structure for (a) C_2H_4 (ethylene)
(b) N_2 (nitrogen)

Solution

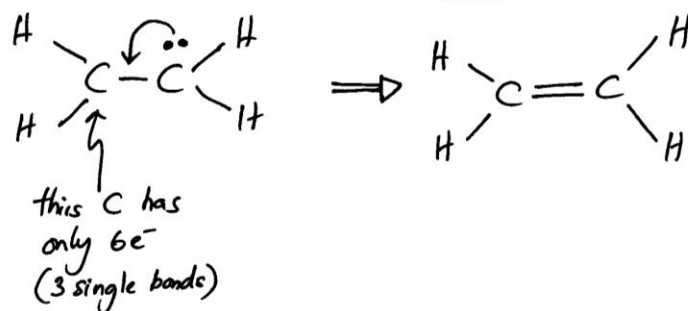


Solution :



(ii) Total no. of valens e's
 $= [4 \times H(1e^-)] + [2 \times C(4e^-)]$
 $= 4 + 8 = 12e^-$

(iii) Remaining e's = $12e^- - 5(2e^-) = (12 - 10)e^- = 2e^-$
5 single bonds

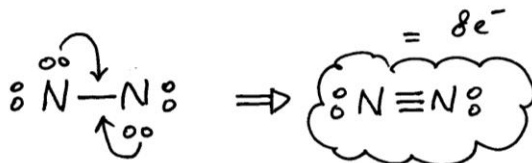


(b) N_2

(i) skeleton structure: $N-N$

(ii) Total no. of valence e's = $[2 \times N(5e^-)]$
 $= 10e^-$

(iii) Balance/Remaining e's = $10e^- - 1(2e^-)$
one single bond
 $= 8e^-$



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