

Answer on Question #80336, Chemistry / Organic Chemistry

what is the lewis dot structure for N₂?

Solution

Number of valence electrons of N is 5 (N is in the 5A group).

Total number of electrons for two nitrogen atoms is 10.

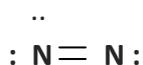
We put two nitrogen atoms next to each other and put two valence electrons between them to form a chemical bond:



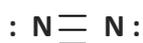
Now we put the other electrons (8 electrons) around nitrogen atoms to form an octet:



We can see that the first atom of nitrogen has full octet whereas the second one does not (it has only four electrons). We should form a double bond between atoms of nitrogen (atoms of nitrogen share one more electron pair) and check up each atom for octet rule:



We can see that the first atom of nitrogen has full octet whereas the second one does not (it has only six electrons). We should form a triple bond between atoms of nitrogen (atoms of nitrogen share one more electron pair) and check up each atom for octet rule:



Now we can see that both atoms of nitrogen have full octets.

Answer:

