

STEPS FOR ASSIGNING FORMAL CHARGES

1. Write the electron dot structure (Lewis dot model) for the compound or complex ion.
2. Count electrons about each atom by the following method:
non-bonded pair (:) = 2
bonded pair (–) = 1
[Note: *This is not the same as the method used to determine octets in constructing Lewis dot models.*]
3. Compare the number of electrons counted in this manner with the number the isolated neutral atom would have.
4. If the count is higher than for the neutral atom, assign a negative formal charge equal to the difference. Write the formal charge inside a circle next to the atom (e.g., \ominus).
5. If the count is lower than for the neutral atom, assign a positive formal charge equal to the difference. Write the formal charge inside a circle next to the atom (e.g., \oplus).
6. The algebraic sum of all positive and negative formal charges for a neutral molecule should be zero. For a complex ion, it should equal the net charge on the ion.