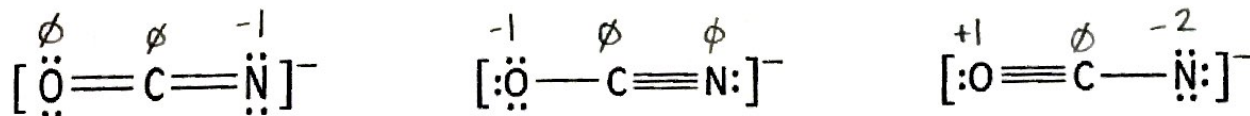


Let's Practice!

1. The ion OCN^- has three resonance structures.

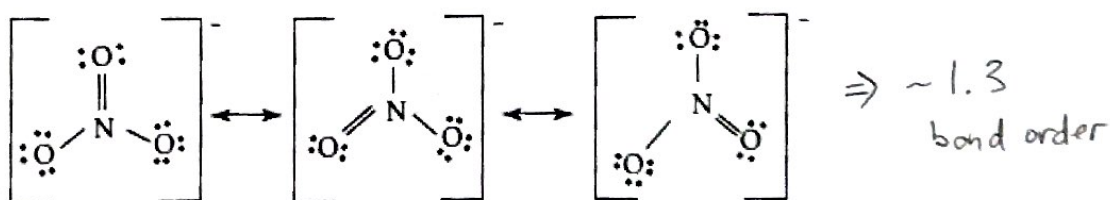
a. Identify the formal charge on each atom, for each resonance structure.



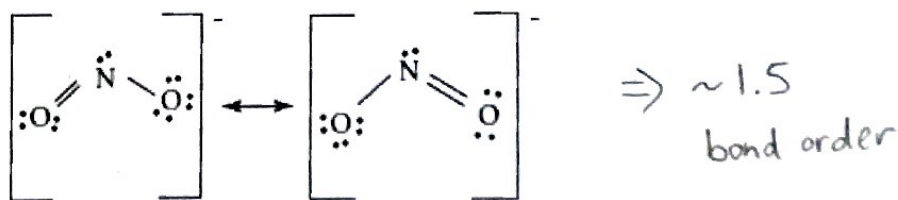
b. Which resonance form is likely to contribute the most to the correct structure of OCN^- and why? Justify your answer in terms of formal charge.

The second structure, $[\text{:}\ddot{\text{O}}-\text{C}\equiv\text{N}\text{}]^-$, will contribute the most, b/c it has the smallest formal charge and the -1 is on the most EN atom.

2. Lewis diagrams for the nitrate and nitrite ions are shown below. Choose the statement that correctly describes the relationship between the two ions in terms of bond length and bond energy.



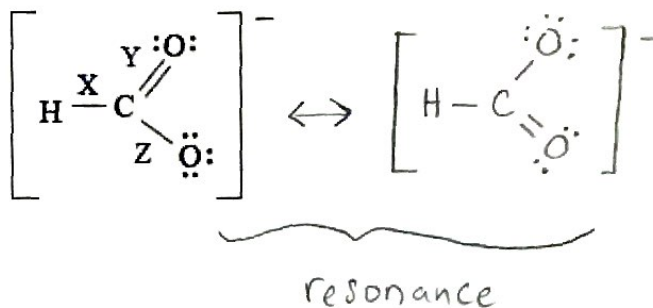
Nitrate



Nitrite

- Nitrite has longer and stronger bonds than nitrate.
- Nitrite has longer and weaker bonds than nitrate.
- Nitrite has shorter and stronger bonds than nitrate.
- Nitrite has shorter and weaker bonds than nitrate.

3. The formate ion, HCO_2^- , is best represented by the Lewis diagram below. Each bond is labeled with a different letter.



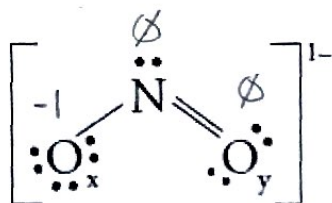
What is the bond order for each bond?

	X	Y	Z
(A)	1	1	2
(B)	2	2	1
(C)	1	1.5	1.5
(D)	1.33	1.33	1.33

4. Atoms of which element are most likely to form a structure with the formula XF_6 (where X is one of the four atoms)?

- a. Carbon c. Nitrogen
b. Neon d. Sulfur

expanded octet!
⇒ row 3 or higher



5. One of the resonance structures for the nitrite ion is shown above. What is the formal charge on each atom?

	O_x	N	O_y
(A)	-1	+1	-1
(B)	+1	-1	0
(C)	0	0	-1
(D)	-1	0	0