

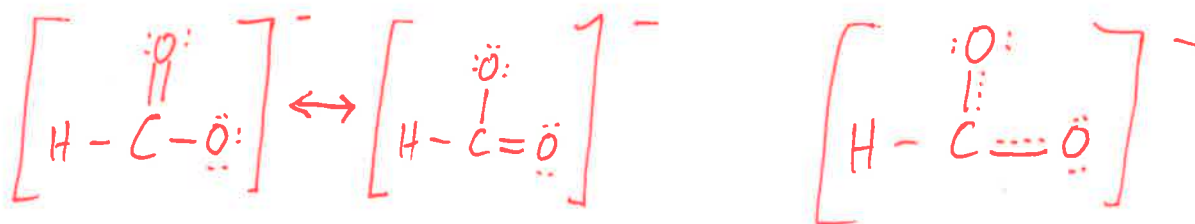
## Quiz 10.2 – Resonance and Formal Charges

Name: Key

## Problem 1 (2 points)

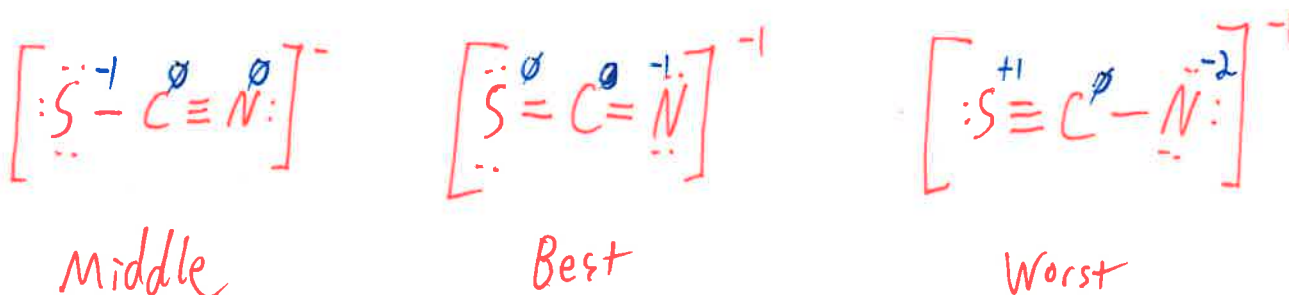
The strength of formic acid  $\text{CHOOH}$  comes from the stability of the formate ion  $\text{CHO}_2^-$ , which exhibits *resonance* in its double-bond.

Draw all the appropriate resonance structures, as well as the hybrid structure for the formate ion



## Question 2 (2 points)

Thiocyanate ion,  $\text{SCN}^-$ , has C as the central atom. Give three guesses for the Lewis structure for  $\text{SCN}^-$ , and list the formal charges for all three atoms in the structures.



## Question 3 (1 point)

Which of the three structures above is the *best*, and why

Electronegativity:  $\text{S} = 2.5$   
 $\text{N} = 3.0$