**CHE2060 Lewis structure & formal charge practice set**

This practice set allows you to test your skills and prepare for quizzes and exams. The key is posted as well.

*Suggestions: sum valence electrons & think about atomic bonding patterns!*

**Part A: Single bonded structures with no formal charges**

* Draw Lewis dot structures of these molecules and show all free (lone or unbonded) electron pairs.
*(Note: Many formulas are abbreviated structural formulas that group hydrogen atoms around carbon, nitrogen, oxygen or sulfur and suggest structural formulas.)*
* Circle the most polar bond.

NF3

H2O2

SO2

CH3CH2OH

CH3NHOH

CH3SCH3

**Part B: Single bonded structures with formal charges**

* Draw Lewis structures of these molecules, showing all unbounded (free) electron pairs.
* Calculate **formal charges** on all atoms.
* **Locate** the formal charge(s) on one or more atoms.

CH3OH2

CH3

NH3BF3

CH3NH3Cl

:CH3

:CH2

**Part C: Structures with double bonds**

* Draw Lewis structures of these molecules or ions, showing all unbounded (free) electron pairs.
* Calculate **formal charges** on all atoms.
* **Locate** the formal charge(s) on one or more atoms.
* *If* there is **resonance**, draw all resonance structures and the resonance hybrid.

HNO3

CH2CHO–1

CH3NO2

SO4-2

CH3NCO

CH3SOCH3