

Quiz #1 Ch 1-3 Fall 03 (20 questions for 20 points)

Name _____

If you do not want your graded quiz placed in the box outside my office, then please tick here _____

(1-10) Are True or False.

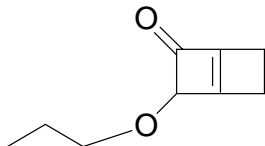
- 1) The Periodic Table has the elements arranged alphabetically
- 2) A σ bond involves the sharing of two electrons
- 3) A π bond involves the sharing of two electrons
- 4) Carbon is more electronegative than chlorine
- 5) For substituted cyclohexanes, the bulkiest substituent prefers to go axial to minimize steric interactions
- 6) The electron configuration of Nitrogen is $1s^2 2s^2 2p^1$
- 7) Boron has 5 electrons but only 3 valence electrons
- 8) sp hybrid orbitals give rise to bond angles of 109.5°
- 9) An sp^3 hybridized atom has an unhybridized p orbital, which lies at right angles to the plane of the hybrid orbitals
- 10) Cyclohexane in a chair conformation has zero ring strain

11-15) Draw Lewis structures (lines for bonds, dots for lone pairs of electrons) for:





14)



16) Which element has the electronic configuration $1s^2 2s^2 2p^6 3s^1$?

17) Circle the more stable anion.

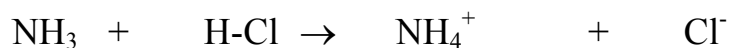


18-20) For the below reaction of ammonia with hydrogen chloride:

18) Label the acid and base.

19) Circle the conjugate acid of the base.

20) Draw in the TWO curly arrows which describe the electron movement involved.



BONUS QUESTION for 1 extra point

Explain the main difference between a proton (found in a nucleus) and a proton (described as H^+).

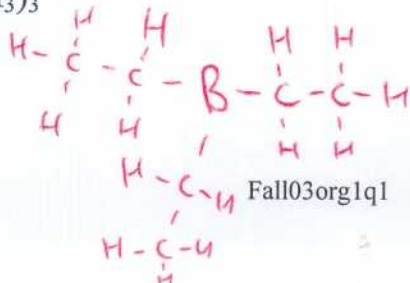
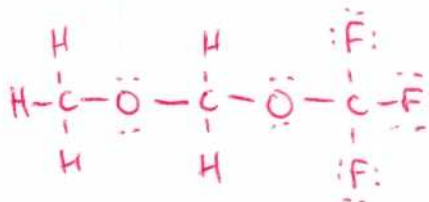
Name EVELYN TENTIONS

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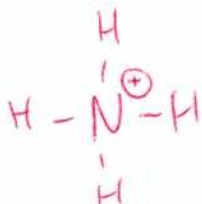
(1-10) Are True or False.

- 1) **F** The Periodic Table has the elements arranged alphabetically
- 2) **T** A σ bond involves the sharing of two electrons
- 3) **T** A π bond involves the sharing of two electrons
- 4) **F** Carbon is more electronegative than chlorine
- 5) **F** For substituted cyclohexanes, the bulkiest substituent prefers to go axial to minimize steric interactions
- 6) **F** The electron configuration of Nitrogen is $1s^2 2s^2 2p^1$
- 7) **T** Boron has 5 electrons but only 3 valence electrons
- 8) **F** sp hybrid orbitals give rise to bond angles of 109.5°
- 9) **F** An sp^3 hybridized atom has an unhybridized p orbital, which lies at right angles to the plane of the hybrid orbitals
- 10) **T** Cyclohexane in a chair conformation has zero ring strain

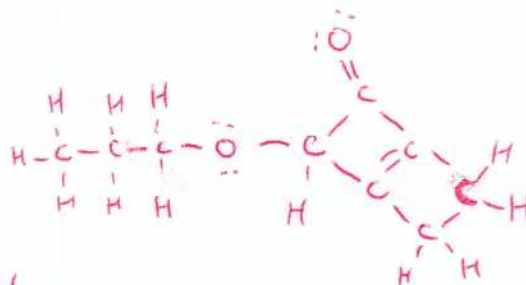
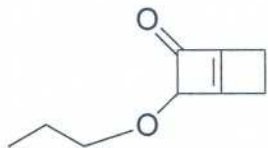
11-15) Draw Lewis structures (lines for bonds, dots for lone pairs of electrons) for:



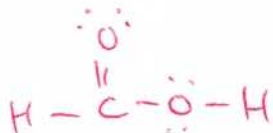
13) NH_4^+



14)



15) HCO_2H



16) Which element has the electronic configuration $1s^2 2s^2 2p^6 3s^1$?

Sodium

17) Circle the more stable anion.

$-\text{CH}_3$

or

$-\text{OH}$

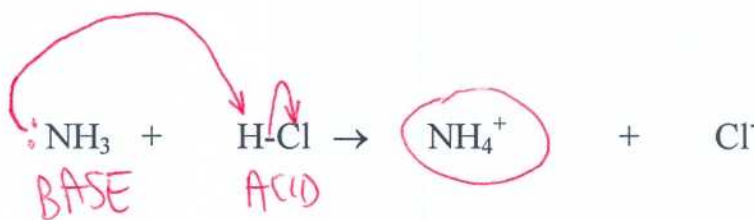
(O more electronegative)

18-20) For the below reaction of ammonia with hydrogen chloride:

18) Label the acid and base.

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20) Draw in the TWO curly arrows which describe the electron movement involved.



BONUS QUESTION for 1 extra point

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No Difference