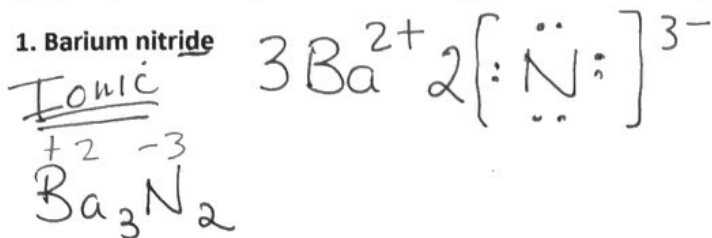


Lewis Structures

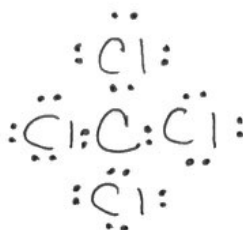
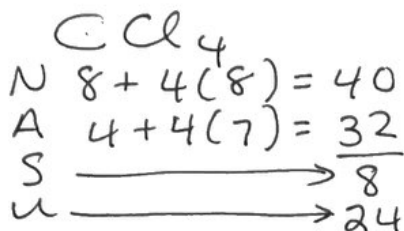
Name KEY Date 11/11 Period

Draw Lewis structures for the following compounds. Some of the compounds are ionic and some are covalent. If the compound is covalent, you must do Needs, Available, Shared, Unshared.

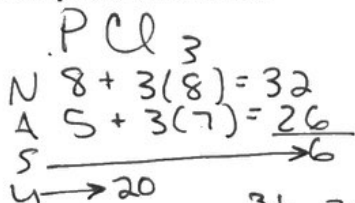
1. Barium nitride



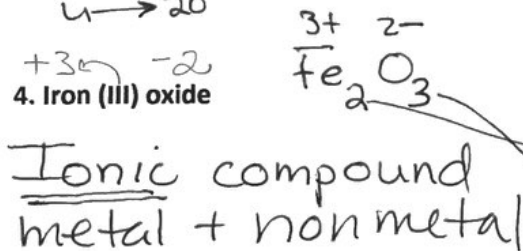
2. Carbon tetrachloride



3. Phosphorus tribromide

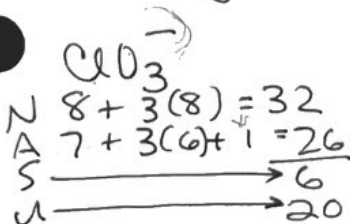
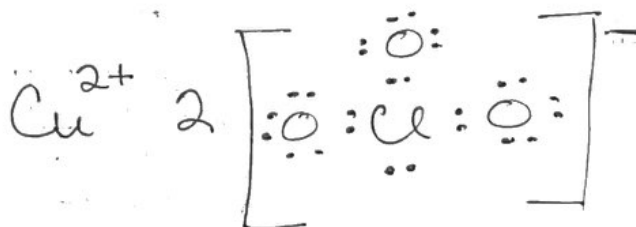
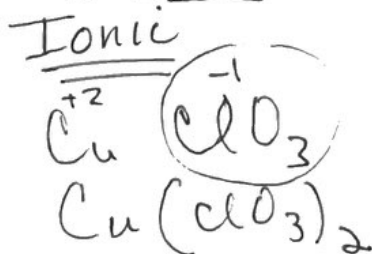


4. Iron (III) oxide



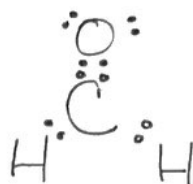
↑
anion → brackets!
→ octet!

5. Copper (II) chlorate



6. CH₂O (formaldehyde)

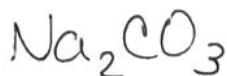
$$\begin{array}{l} N \quad 8 + 2(2) + 8 = 20 \\ A \quad 4 + 2(1) + 6 = 12 \\ S \quad \longrightarrow \quad 8 \\ U \quad \longrightarrow \quad 4 \end{array}$$



+1 -2

7. Sodium carbonate (do N,A,S,U for the polyatomic ion)

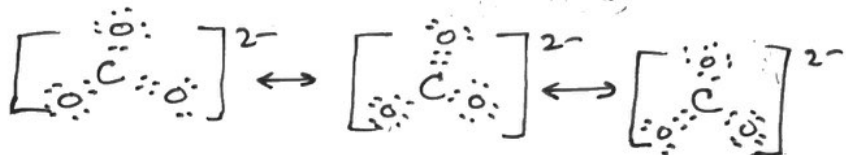
Ionic



$$\begin{array}{l} \text{CO}_3^{2-} \\ N \quad 8 + 3(8) = 32 \\ A \quad 4 + 3(6) + 2 = 24 \\ S \quad \longrightarrow \quad 8 \\ U \quad \longrightarrow \quad 16 \end{array}$$

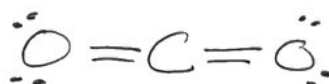
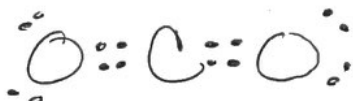


↗ resonance structure



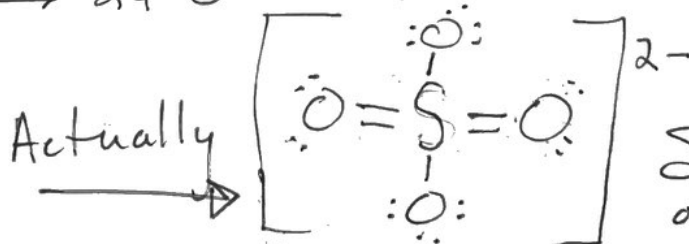
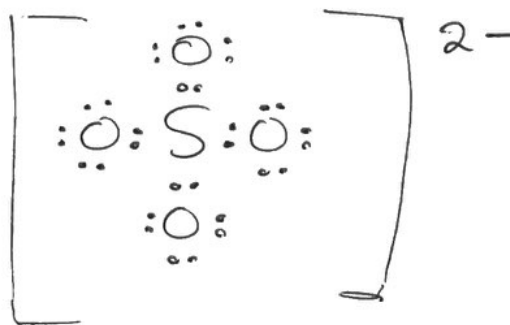
8. carbon dioxide

$$\begin{array}{l} \text{CO}_2 \\ N \quad 8 + 2(8) = 24 \\ A \quad 4 + 2(6) = 16 \\ S \quad \longrightarrow \quad 8 \\ U \quad \longrightarrow \quad 8 \end{array}$$



9. sulfate ion

$$\begin{array}{l} \text{SO}_4^{2-} \\ N \quad 8 + 4(8) = 40 \\ A \quad 6 + 4(6) + 2 = 32 \\ S \quad \longrightarrow \quad 8 \\ U \quad \longrightarrow \quad 24 \end{array}$$



Sulfur breaks octet rule!