**Name: Period: Seat#:**

**Worksheet #6**

**Answer the following questions:**

|  |  |  |
| --- | --- | --- |
| 1. What are the common elements that can break the octet rule? List them as well as indicate how many e- each can be satisfied with. | | 1. What is an expanded Octet? |
| 1. How many electrons are being shared in a single bond? In a double bond? In a triple bond? | 1. What are the steps you need to follow in order to draw a Lewis Structure? Make sure you explain how we go about doing double or triple bonds. | |

**Draw the Lewis Structure for the following molecules:**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Molecule** | **Lewis Structure** | **Description** | | **Molecule** | **Lewis Structure** | **Description** | |
| 1. **HCN** |  | # of Single Bonds | # of Double Bonds | 1. **Carbonate Ion** |  | # of Single Bonds | # of Double Bonds |
| # Valence electrons | # of Triple Bonds | # of  Lone Pairs | # Valence electrons | # of Triple Bonds | # of  Lone Pairs |
| 1. **C2N2** |  | # of Single Bonds | # of Double Bonds | 1. **OCN-** |  | # of Single Bonds | # of Double Bonds |
| # Valence electrons | # of Triple Bonds | # of  Lone Pairs | # Valence electrons | # of Triple Bonds | # of  Lone Pairs |
| 1. **NO2-** |  | # of Single Bonds | # of Double Bonds | 1. **N2H2** |  | # of Single Bonds | # of Double Bonds |
| # Valence electrons | # of Triple Bonds | # of  Lone Pairs | # Valence electrons | # of Triple Bonds | # of  Lone Pairs |
| 1. **C2H4** |  | # of Single Bonds | # of Double Bonds | 1. **F3NO** |  | # of Single Bonds | # of Double Bonds |
| # Valence electrons | # of Triple Bonds | # of  Lone Pairs | # Valence electrons | # of Triple Bonds | # of  Lone Pairs |
| 1. **H2CO** |  | # of Single Bonds | # of Double Bonds | 1. **Phosphate Ion** |  | # of Single Bonds | # of Double Bonds |
| # Valence electrons | # of Triple Bonds | # of  Lone Pairs | # Valence electrons | # of Triple Bonds | # of  Lone Pairs |
| 1. **ClO3-** |  | # of Single Bonds | # of Double Bonds | 1. **HBr** |  | # of Single Bonds | # of Double Bonds |
| # Valence electrons | # of Triple Bonds | # of  Lone Pairs | # Valence electrons | # of Triple Bonds | # of  Lone Pairs |
| 1. **CO** |  | # of Single Bonds | # of Double Bonds | 1. **NO3-** |  | # of Single Bonds | # of Double Bonds |
| # Valence electrons | # of Triple Bonds | # of  Lone Pairs | # Valence electrons | # of Triple Bonds | # of  Lone Pairs |
| 1. **SO2** |  | # of Single Bonds | # of Double Bonds | 1. **CF4** |  | # of Single Bonds | # of Double Bonds |
| # Valence electrons | # of Triple Bonds | # of  Lone Pairs | # Valence electrons | # of Triple Bonds | # of  Lone Pairs |