**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 | # ofLone Pairs | # Valence electrons | # of Triple Bonds | # ofLone Pairs |
| 1. **C2N2**
 |  | # of Single Bonds | # of Double Bonds | 1. **OCN-**
 |  | # of Single Bonds | # of Double Bonds |
| # Valence electrons | # of Triple Bonds | # ofLone Pairs | # Valence electrons | # of Triple Bonds | # ofLone Pairs |
| 1. **NO2-**
 |  | # of Single Bonds | # of Double Bonds | 1. **N2H2**
 |  | # of Single Bonds | # of Double Bonds |
| # Valence electrons | # of Triple Bonds | # ofLone Pairs | # Valence electrons | # of Triple Bonds | # ofLone Pairs |
| 1. **C2H4**
 |  | # of Single Bonds | # of Double Bonds | 1. **F3NO**
 |  | # of Single Bonds | # of Double Bonds |
| # Valence electrons | # of Triple Bonds | # ofLone Pairs | # Valence electrons | # of Triple Bonds | # ofLone Pairs |
| 1. **H2CO**
 |  | # of Single Bonds | # of Double Bonds | 1. **Phosphate Ion**
 |  | # of Single Bonds | # of Double Bonds |
| # Valence electrons | # of Triple Bonds | # ofLone Pairs | # Valence electrons | # of Triple Bonds | # ofLone Pairs |
| 1. **ClO3-**
 |  | # of Single Bonds | # of Double Bonds | 1. **HBr**
 |  | # of Single Bonds | # of Double Bonds |
| # Valence electrons | # of Triple Bonds | # ofLone Pairs | # Valence electrons | # of Triple Bonds | # ofLone Pairs |
| 1. **CO**
 |  | # of Single Bonds | # of Double Bonds | 1. **NO3-**
 |  | # of Single Bonds | # of Double Bonds |
| # Valence electrons | # of Triple Bonds | # ofLone Pairs | # Valence electrons | # of Triple Bonds | # ofLone Pairs |
| 1. **SO2**
 |  | # of Single Bonds | # of Double Bonds | 1. **CF4**
 |  | # of Single Bonds | # of Double Bonds |
| # Valence electrons | # of Triple Bonds | # ofLone Pairs | # Valence electrons | # of Triple Bonds | # ofLone Pairs |