|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Compound** | **Compound Name** | **Show the Connections** | **Actual Structure Shape (3D)** | **Structure Name and Bond Angles** | **Resonance (if none, say none)** | **Sigma, Pi Bonds; Polar?** | **Bond Forces at Work** |
| **H2S** |  |  |  |  |  |  |  |
| **NH4+1** | AMMONIUM |  |  |  |  |  |  |
| **BF3** |  |  |  |  |  |  |  |
| **N2O** |  |  |  |  |  |  |  |
| **SO3** |  |  |  |  |  |  |  |
| **BeF2** |  |  |  |  |  |  |  |
| **SO4-2** |  |  |  |  |  |  |  |
| **PO4-3** |  |  |  |  |  |  |  |
| **O3** | OZONE |  |  |  |  |  |  |
| **CO3-2** |  |  |  |  |  |  |  |
| **NO3-1** |  |  |  |  |  |  |  |

**Other Test Review Questions (answer on a separate sheet of paper)**

1. An ionic bond is formed between a \_\_\_\_\_\_\_\_ and a \_\_\_\_\_\_\_. In this bond, what happens to the electrons? How does this differ from a covalent bond?
2. Write the compounds for the following. Some of these will be ionic, while others will be covalent: Potassium Hydroxide, Iron (II) Chloride, Oxygen difluoride, dihydrogen monoxide, Calcium sulfate, calcium sulfide, sulfur hexafluoride, diphosphorous octoxide, iodine heptahydride
3. What does the word diatomic mean? List ALL of the diatomic molecules discussed in class (remember the alcoholic expression)
4. Show the bonds that are formed between each of the diatomics. Label what type of bond (single, double or triple), and also the number of sigma and pi bonds each diatomic has.
5. In covalent bonding, what is special about phosphorus and sulfur? Give an example of each element showcasing its special abilities.
6. When making the three-dimensional structures, why are the angles of a trigonal planar structure (120o) very different from a trigonal pyramidal structure (107o)?
7. How is a bent molecular structure different from a linear one? How would one be able to tell which structure the molecule is?
8. How is polarity determined in a covalent bond? What is the range of polarity? What if the difference is less than the lowest, or more than the highest?
9. What are the three major bond forces discussed in class? What do each of them mean?
10. Define Electronegativity. How does it help label which element is slightly positive and slightly negative in a polar covalent bond?