

Covalent Bonding Review

1. What is a covalent bond? _____
2. What is a molecule? _____
3. Explain 3 ways that covalent compounds differ from ionic compounds. _____

4. Classify the following compounds as ionic or covalent
 - a. MgCl_2 _____
 - b. CO_2 _____
 - c. Na_2O _____
 - d. SCl_2 _____
5. In an ionic bond electrons are _____. In a covalent bond electrons are _____. _____
6. How many pairs of electrons are shared in a single covalent bond? _____. In a double bond? _____. In a triple bond? _____. _____
7. What is a diatomic molecule? What are the 7 elements that exist as diatomic molecules?

8. Define the Octet Rule. _____
9. A _____ covalent bond results when electrons are shared equally. A _____ covalent bond results when electrons are shared unequally. _____
10. _____ pairs are pairs of electrons that are involved in a covalent bond. _____ pairs are pairs of valence electrons that are not involved bonding, but are held exclusively by one atom. _____
11. What determines the polarity of a bond? _____
12. Define electronegativity. _____
13. Not every molecule with polar bonds is polar. Explain this statement. Use CCl_4 as an example.

14. Explain how the VSEPR theory can be used to predict the shapes of molecules. _____