AP Chemistry

Dr. Wilhelm

**Chapter Nine Reading Guide: Covalent Bonding: Orbitals**

*On a separate piece of paper, write a response to the following reading prompts while reviewing chapter eight of your textbook.*

Chapter Nine: Reading guide

9.2: Valence Bond Theory

1. What is valence bond theory? What are the primary points (3) of this theory?
2. What does a sigma (σ) bond represent?
3. What are hybrid orbitals and how do they describe the overlap of s,p,d orbitals?
4. Review carefully – Figure 9.3
5. How do pi (π) bonds help to represent the overlap of multiple bonds?
6. Distinguish between *cis* and *trans* bonds and the term isomers.