Worksheet – Chapter 9 section 1

Name_____
Period _____
Date_____

1. **Read pages 241-247 (Chapter 9 section 1)**
2. **What is a covalent bond?**
3. **How does a covalent bond differ from an ionic bond?**
4. **What is the octet rule and how is it used in covalent bonding?**
5. **Define molecule**
6. **Describe the forces, both attractive and repulsive, that occur as two atoms come closer together.**
7. **Describe the formation of single, double, and triple covalent bonds**
8. **What is the difference between a bonding pair of electrons and a lone pair of electrons?**
9. **Define Lewis structure**

10. What is the difference between a sigma bond and a pi bond?

11. How many sigma bonds and pi bonds exist in a single covalent bond; in a double covalent bond; in a triple covalent bond?

12. Define bond length

13. Define bond dissociation energy

14. How is bond length related to bond dissociation energy?

15. Define endothermic

16. Define exothermic

17. Give the number of valence electrons in N, As, Br, and Se. Predict the number of covalent bonds needed for each of theses elements to satisfy the octet rule.

18. In each of the following molecules, label the sigma bonds and the pi bonds.