

Chemical Bonding

SECTION 6:1

SHORT ANSWER Answer the following questions in the space provided.

1. _____ A chemical bond between atoms results from the attraction between the valence electrons and _____ of different atoms.
(a) nuclei (c) isotopes
(b) inner electrons (d) Lewis structures
2. _____ A covalent bond consists of
(a) a shared electron. (c) two different ions.
(b) a shared electron pair. (d) an octet of electrons.
3. _____ If two covalently bonded atoms are identical, the bond is identified as
(a) nonpolar covalent. (c) ionic.
(b) polar covalent. (d) dipolar.
4. _____ A covalent bond in which there is an unequal attraction for the shared electrons is
(a) nonpolar. (c) ionic.
(b) polar. (d) dipolar.
5. _____ Atoms with a strong attraction for electrons they share with another atom exhibit
(a) zero electronegativity. (c) high electronegativity.
(b) low electronegativity. (d) Lewis electronegativity.
6. _____ Bonds that possess between 5% and 50% ionic character are considered to be
(a) ionic. (c) polar covalent.
(b) pure covalent. (d) nonpolar covalent.
7. _____ The greater the electronegativity difference between two atoms bonded together, the _____ greater the bond's percentage of
(a) ionic character. (c) metallic character.
(b) nonpolar character. (d) electron sharing.
8. The electrons involved in the formation of a chemical bond are called _____.
9. A chemical bond that results from the electrostatic attraction between positive and ionic bond negative ions is called a(n) _____.

10. If electrons involved in bonding spend most of the time closer to one atom rather than the other, the bond is _____.
11. If a bond's character is more than 50% ionic, then the bond is called a(n) _____.
12. A bond's character is more than 50% ionic if the electronegativity difference between the two atoms is greater than _____.
13. Write a chemical formula for an example of each of the following compounds:

Answers will vary.

_____ a.nonpolar covalent compound

_____ b.polar covalent compound

_____ c.ionic compound

14. Describe how a covalent bond holds two atoms together.

15. What property of the two atoms in a covalent bond determines whether or not the bond will be polar?

16. How can electronegativity be used to distinguish between an ionic bond and a covalent bond?

17. Describe the electron distribution in a polar-covalent bond and its effect on the partial charges of the compound.

