

Chemistry
Chemical Bonding Review Sheet

1. Which type of bond (ionic, covalent, or metallic) goes with each of the following?
A. losing electrons _____ C. sharing electrons _____
B. gaining electrons _____ D. sea of mobile electrons _____
2. _____ N_2 with a triple bond has a _____ bond length & is _____ than NH_3 containing single bonds.
A. Shorter, stronger C. longer, stronger
B. Shorter, weaker D. longer, weaker
3. _____ The substance whose electron dot formula indicates 3 covalent bonds is
A. HCl B. H_2O C. NH_3 D. CH_4
4. _____ In a polar covalent bond, electrons are
A. shared equally by 2 atoms C. transferred from 1 atom to another
B. shared unequally by 2 atoms D. located in a mobile "sea" of electrons
5. _____ The total number of pairs of shared electrons in an O_2 molecule is
A. 1 B. 2 C. 3 D. 4
6. _____ How many valence electrons are there in an atom of sulfur?
7. _____ How does Calcium obey the octet rule when bonding to form compounds?
A. it gains one electron B. it loses two electrons C. it shares electrons D. it splits electrons
8. _____ Which of the following compounds contains a polyatomic ion?
A. NaCl ; B. Ca_3N_2 ; C. K_3PO_4 ; D. $\text{Ca}(\text{C}_2\text{H}_3\text{O}_2)$; E. Both C and D; F. None of these.
9. Draw in the space provided PH_3
A.) Count Valence electrons
B.) Lewis Structure
C.) VSEPR shape
D.) IMF
10. Draw in the space provided SeO_2
A.) Count Valence electrons
B.) Lewis Structure
C.) VSEPR shape
D.) IMF
11. NaCl most likely has what type of bond? _____
12. Sugar ($\text{C}_6\text{H}_{12}\text{O}_6$) most likely has what type of bond? _____
13. A mixture of Ni , Ag , and Sn will have what type of bond? _____
14. The molecule SiO_2 would have which shape according to VSEPR? _____
15. Complete the following for CCl_4
A. Bond type (Intramolecular force) D. Determine the IMF for the molecule
B. Draw the Lewis structure E. Name the VSEPR shape of the molecule.
C. Determine the overall polarity of the molecule.