

Name \_\_\_\_\_ Date \_\_\_\_\_ Period \_\_\_\_\_

### Molecular Structure and Bond Test

\_\_\_\_\_ 1. In order to be stable, the outer electron shell hydrogen should contain how many electrons?

- a. 2                      b. 4                      c. 8                      d. 10

\_\_\_\_\_ 2. In order to be stable, the outer electron shells of the elements in the main period table should contain how many electrons?

- a. 2                      b. 4                      c. 8                      d. 10

\_\_\_\_\_ 3. Ionic bonds are bonds between

- a. one atom that donates electrons and one that accepts them      d. a and c  
b. 2 atoms that share electrons      e. b and c  
c. at least one metal

\_\_\_\_\_ 4. Covalent bonds are bonds between

- a. one atom that donates electrons and one that accepts them      d. a and c  
b. 2 atoms that share electrons      e. b and c  
c. at least one metal

\_\_\_\_\_ 5. Polar bonds are formed

- a. when one atom donates electrons and the other accepts them  
b. when two atoms pull equally on shared electrons  
c. when two atoms pull unequally on shared electrons  
d. between two metals

\_\_\_\_\_ 6. Which of the following molecules is NOT organic?

- a.  $C_6H_{12}O_6$               b.  $CH_3CH_2OH$               c.  $NaCl$               d.  $CH_4$

\_\_\_\_\_ 7. How many valence electrons does Carbon have in its outer electron shell?

- a. 1                      b. 4                      c. 6                      d. 7

\_\_\_\_\_ 8. How many valence electrons does Hydrogen have in its outer electron shell?

- a. 1                      b. 2                      c. 4                      d. 7

\_\_\_\_\_ 9. Which would show more London Dispersion Forces?

- a.  $CH_4$               b.  $C_8H_{18}$               c.  $C_4H$               d.  $C_{25}H_{52}$

\_\_\_\_\_ 10. Which would most likely be a gas at room temperature?

- a.  $CH_4$               b.  $C_8H_{18}$               c.  $C_4H$               d.  $C_{25}H_{52}$

[illegible]