1. Atoms bond to each other using all of the following bonds except _____.

(A) ionic
(B) non-polar ionic
(C) non-polar covalent
(D) polar covalent
(E) metallic

2. Which of the following intramolecular bonds results in the strongest intermolecular bond?

(A) ionic
(B) non-polar ionic
(C) non-polar covalent
(D) polar covalent
(E) metallic

3. Which statement about molecules with ionic bonds is not true?

(A) One atom gave an electron to the other atom.
(B) They separate into ions when dissolved in oil.
(C) They form crystals.
(D) They conduct electricity well.

4. The intermolecular bond between polar covalent molecules is called a _____.

(A) van der Waals bond
(B) London dispersion bond
(C) hydrogen bond
(D) formula unit

5. The intermolecular bond between non-polar covalent molecules is called a(n) _____.

(A) London dispersion force
(B) formula unit bond
(C) hydrogen bond
(D) dipole-dipole bond

6. When carbon and hydrogen bond together, they form _____ bonds.

(A) ionic
(B) non-polar ionic
(C) non-polar covalent
(D) polar covalent
(E) metallic

7. Geckos are able to walk upside down on ceilings by relying on _____.

(A) London dispersion forces
(B) formula unit bonds
(C) hydrogen bonds
(D) dipole-dipole bonds

8. Long chain hydrocarbons stick together to form liquids and solids because of which intermolecular bond?

(A) London dispersion forces
(B) formula unit bonds
(C) hydrogen bonds
(D) dipole-dipole bonds

9. Oxygen has a very strong pull on electrons and when added to long-chain hydrocarbons, will make the hydrocarbons _____.

(A) more electronegative
(B) more electropositive
(C) more polar
(D) less polar

10. Which statement is not true? The electrons in metals _____

(A) are loosely attached to their nuclei
(B) conduct heat very well because they strongly repel each other
(C) conduct heat by speeding between rows of metal atoms
(D) conduct heat better in pure metals than in alloys

11. Which statement about pH is untrue?

(A)   Each pH unit changes the hydrogen ion concentration by 100 fold.
(B)   A pH of 7.5 indicates a basic solution.
(C)   pH is an exponent
(D) pH is a measure of hydrogen ions in a solution.

12. Which of the following molecules is least likely to be used primarily as a source of energy?

(A)   proteins
(B)   polysaccharides
(C)   long-chain hydrocarbons
(D)   adenosine triphosphate