Name _____ **Date** _____

1) The bonds in BaO are best described as

A) covalent, because valence electrons are shared
B) covalent, because valence electrons are transferred
C) ionic, because valence electrons are shared
D) ionic, because valence electrons are transferred

2) Which element forms an ionic compound when it reacts with lithium?

A) K B) Fe C) Kr D) Br

3) Which substance contains bonds that involved the transfer of electrons from one atom to another?

A) CO_2 B) NH_3 C) KBr D) Cl_2

4) Which compound contains both ionic and covalent bonds?

A) $CaCO_3$ B) PCl_3 C) MgF_2 D) CH_2O

5) Which compound contains ionic bonds?

A) NO B) NO_2 C) CaO D) CO_2

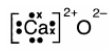
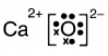
6) Which statement best describes the substance that results when electrons are transferred from a metal to a nonmetal?

A) It contains ionic bonds and has a low melting point.
B) It contains ionic bonds and has a high melting point.
C) It contains covalent bonds and has a low melting point.
D) It contains covalent bonds and has a high melting point.

7) Element *X* is in Group 2 and element *Y* is in Group 17. What happens when a compound is formed between these two atoms?

A) *X* loses electrons to *Y* to form an ionic bond.
B) *X* loses electrons to *Y* to form a covalent bond.
C) *X* gains electrons from *Y* to form an ionic bond.
D) *X* gains electrons from *Y* to form a covalent bond.

8) Which electron dot diagram correctly represents a compound that has ionic bonding?

A)  B)  C)  D) 

9) When a potassium atom reacts with bromine, the potassium atom will

A) lose only 1 electron B) lose 2 electrons
C) gain only 1 electron D) gain 2 electrons

10) When ionic bonds are formed, metallic atoms tend to

A) lose electrons and become negative ions
B) lose electrons and become positive ions
C) gain electrons and become negative ions
D) gain electrons and become positive ions

11) When an atom of chlorine forms an ionic bond with an atom of sodium, the atom of chlorine

A) loses an electron
B) loses a proton
C) becomes an ion with a smaller radius than the atom of chlorine
D) becomes an ion with a larger radius than the atom of chlorine

12) When a metal atom combines with a nonmetal atom, the nonmetal atom will

A) lose electrons and decrease in size
B) lose electrons and increase in size
C) gain electrons and decrease in size
D) gain electrons and increase in size

13) Which type of substance can conduct electricity in the liquid phase but *not* in the solid phase?

A) ionic compound B) molecular compound
C) metallic element D) nonmetallic element

14) Based on bond type, which compound has the highest melting point?

A) CH_3OH B) C_6H_{14}
C) $CaCl_2$ D) CCl_4

15) Which of the following solids has the highest melting point?

A) $H_2O(s)$ B) $Na_2O(s)$
C) $SO_2(s)$ D) $CO_2(s)$

16) A hard substance that has a high melting point and is a poor conductor of electricity in the solid phase could be

A) CO_2 B) Mg C) NaCl D) CCl_4

17) The water solution of which of the following substances is the best conductor of electricity?

A) KCl B) $C_6H_{12}O_6$
C) CO_2 D) CO