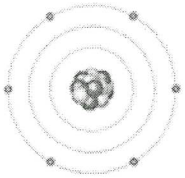
31

Name _____ Class Period _____

Quiz: Ionic Compounds
December 17, 2019

Directions: Choose the letter of the word or words that best answers the question or completes the statement.

1. What ion will be formed by the selenium atom shown below when it has a stable set of valence electrons?

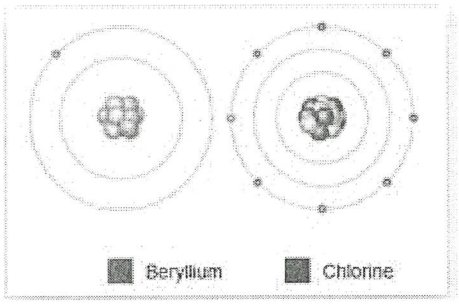


A. Se6+ B. Se2+ C. Se6− D. Se2−

2. Which of the following is the best description of how electrons are transferred in an ionic bond?
   A. A metal atom loses electrons and a nonmetal atom gains electrons.
   B. A metal atom gains electrons and a nonmetal atom loses electrons.
   C. A metal and a nonmetal atom lose electrons.
   D. A metal and a nonmetal atom gain electrons.

3. Zinc phosphide, Zn_3P_2, is often used as a rat poison. Phosphorus has 5 valence electrons. How many valence electrons does *each* zinc atom lose?
   A. 1 B. 2 C. 3 D. 4

4. A user is constructing an ionic bond between beryllium and chlorine and has reached the stage below. What should the user do next?



   a. Transfer an electron from the beryllium atom to the chlorine atom.
   b. Transfer an electron from the chlorine atom to the beryllium atom.
   c. Add another beryllium atom.
   d. Add another chlorine atom.

5. Lithium nitride has the chemical formula Li_3N. Rubidium is in the same chemical family as lithium. What is the formula of rubidium nitride?
   a. RbN
   b. RbN_3
   c. Rb_3N
   d. Rb_2N_3

6. What type of a bond is found in a piece of pure gold?
   a. metallic
   b. ionic
   c. covalent
   d. diatomic

7. Because electrons move freely in metals, which property describes metals?
   a. brittle
   b. hard
   c. dull
   d. conductors

1

Directions: For each of the following elements, draw Lewis dot diagrams and arrows to show the transfer of electrons. Then, write the chemical formula and name for the

8) Sodium + Chlorine

Formula: NaCl

Name: Sodium chloride

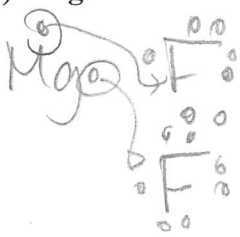
9) Potassium + Iodine

Formula: KI

Name: Potassium iodide

12

10) Magnesium and Fluorine



Formula: MgF_2

Name: Magnesium fluoride

11) Potassium and Oxygen

Formula: K_2O

Name: Potassium oxide

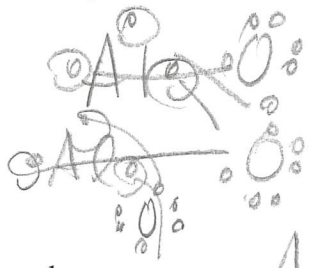
19

12) Aluminum and Nitrogen

Formula: AlN

Name: Aluminum Oxide

13) Aluminum and Oxygen



Formula: Al_2O_3

Name: Aluminum oxide 18

14. Write the formulas for the following ionic compounds made up of transition elements

a. Iron III Oxide $Fe^{+3}O^{-2}$ Fe_2O_3

b. Chromium II Bromide $Cr^{+2}Br^{-1}$ $CrBr_2$ 3

c. Manganese IV Nitride $Mn^{+4}N^{-3}$ Mn_3N_4

15. Write the name of the ionic compounds made up of transition elements.

a. Au_2S Gold (I) Sulfide

b. Ni_2O_3 Nickle (III) oxide 3

c. Sc_2S_3 Scandium (III) Sulfide

EXTRA CREDIT: VS_2

Vanadium (IV) Sulfide

(42) $V^{+4}S^{-2}$

S^{-2}

+4 −4

31

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