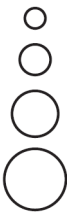
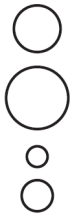
1. Which atom has the largest atomic radius?

   A) potassium B) rubidium
   C) francium D) cesium

2. Which grouping of circles, when considered in order from the top to the bottom, best represents the relative size of the atoms of Li, Na, K, and Rb, respectively?

   A)  B)  C)  D) 

3. Which ion has the largest radius?

   A) I^- B) Cl^- C) Br^- D) F^-

4. Which ion would have the *smallest* radius?

   A) Ba^{2+} B) Ca^{2+} C) Mg^{2+} D) Sr^{2+}

5. The amount of energy to remove its most loosely bound electron is the definition of:

   A) electronegativity B) ionization energy
   C) chemical bond D) radiation

6. Which of the following Group 2 elements has the *lowest* first ionization energy?

   A) Be B) Mg C) Ca D) Ba

7. Sodium atoms, potassium atoms, and cesium atoms have the same

   A) atomic radius
   B) first ionization energy
   C) total number of protons
   D) oxidation state

8. Which element is most chemically similar to chlorine?

   A) Ar B) F C) Fr D) S

9. When the elements in Group 1 are considered in order from top to bottom, each successive element at standard pressure has

   A) a higher melting point and a higher boiling point
   B) a higher melting point and a lower boiling point
   C) a lower melting point and a higher boiling point
   D) a lower melting point and a lower boiling point

10. Which element has chemical properties that are most similar to the chemical properties of sodium?

    A) Mg B) K C) Se D) Cl

11. As the atoms of the Group 17 elements in the ground state are considered from top to bottom, each successive element has

    A) the same number of valence electrons and similar chemical properties
    B) the same number of valence electrons and identical chemical properties
    C) an increasing number of valence electrons and similar chemical properties
    D) an increasing number of valence electrons and identical chemical properties

12. Which Group of the Periodic Table contains atoms with a stable outer electron configuration?

    A) 1 B) 8 C) 16 D) 18

13. Which electron configurations represent the first two elements in Group 17 (VII*A*) of the Periodic Table?

    A) 2-1 and 2-2 B) 2-2 and 2-3
    C) 2-7 and 2-8-7 D) 2-8 and 2-8-7

14. Which of the following Group 15 elements has the most metallic properties?

    A) Bi B) P C) Sb D) N

15. At which location in the Periodic Table would the most active metallic element be found?

    A) in Group 1 at the top
    B) in Group 1 at the bottom
    C) in Group 17 at the top
    D) in Group 17 at the bottom

16. Which of the following groups in the Periodic Table contain elements so highly reactive they are never found in the free state?

    A) 1 and 2 B) 1 and 11
    C) 2 and 15 D) 11 and 15

17. Which of these Group 14 elements has the most metallic properties?

    A) C B) Ge C) Si D) Sn

18. Which Group 2 element is most active?

A) Sr B) Mg C) Ca D) Ba

19. Which of the following electron configurations represents the least active metal?

A) 2-8-2 B) 2-8-8-2
C) 2-8-18-8-2 D) 2-8-18-18-8-2

20. Which group of elements occur only as compounds in nature because they are extremely reactive?

A) 1 B) 3 C) 16 D) 18