Atomic Radius (for help, see pp. 187 to 189 in the textbook)

1. What is meant by the term atomic radius?
   ____________________________________________________________
   ____________________________________________________________

2. What is the trend across a row for atomic radius?
   ____________________________________________________________
   ____________________________________________________________

3. What is the trend down a column for atomic radius?
   ____________________________________________________________
   ____________________________________________________________

4. Predict which atom has a **smaller** atomic radius.
   (a) magnesium or chlorine (circle one)
       _____ same column or _____ same row (check one)
   (b) strontium or barium (circle one)
       _____ same column or _____ same row (check one)
   (c) vanadium or niobium (circle one)
       _____ same column or _____ same row (check one)

5. Predict which atom has a **larger** atomic radius.
   (a) potassium or calcium (circle one)
       _____ same column or _____ same row (check one)
   (b) neon or argon (circle one)
       _____ same column or _____ same row (check one)
   (c) cesium or polonium (circle one)
       _____ same column or _____ same row (check one)

6. Put the following elements in order from **largest** atom to **smallest** atom: carbon, fluorine, beryllium, and lithium
   ____________________________________________________________

7. Put the following elements in order from **smallest** to **largest**: aluminum, indium, boron
   ____________________________________________________________
8. What is an ion? __________________________________________________________
________________________________________________________________________

9. A positive ion has ____________ an electron. It is also called a ________________.

10. A negative ion has ____________ an electron. It is also called an ________________.

11. When an atom forms a positive ion, it gets ____________________________.

12. When an atom forms a negative ion, it gets ____________________________.

13. Metals tend to ________________ electrons and form ________________ ions.

14. Nonmetals tend to ________________ electrons and form ________________ ions.

15. Predict which particle is larger:
   (a) Rb or Rb\(^+\) (circle one)
       \(p^+ \_ \_ \_ \_ e^- \_ \_ \_ \_\)
       \(p^+ \_ \_ \_ \_ e^- \_ \_ \_ \_\)
   (b) I or I\(^-\) (circle one)
       \(p^+ \_ \_ \_ \_ e^- \_ \_ \_ \_\)
       \(p^+ \_ \_ \_ \_ e^- \_ \_ \_ \_\)

16. Predict which particle is smaller:
   (a) Al or Al\(^{3+}\) (circle one)
       \(p^+ \_ \_ \_ \_ e^- \_ \_ \_ \_\)
       \(p^+ \_ \_ \_ \_ e^- \_ \_ \_ \_\)
   (b) S or S\(^2-\) (circle one)
       \(p^+ \_ \_ \_ \_ e^- \_ \_ \_ \_\)
       \(p^+ \_ \_ \_ \_ e^- \_ \_ \_ \_\)

Review

17. Rows on the periodic table are also called ____________________ or ________________
    ____________________ or ____________________.

18. Columns on the periodic table are also called ____________________ or ________________
    ____________________.

19. There are ________________ rows and ________________ columns on the periodic table.

20. (a) The most stable electron configurations are ____________________________.
    (b) The second most stable electron configurations are ________________________.
    (c) The third most stable electron configurations are ________________________.