

CHAPTER 14 THE PERIODIC TABLE

Answer Key

Properties of Metals and Nonmetals, p. 14-4

Metals—low ionization energy

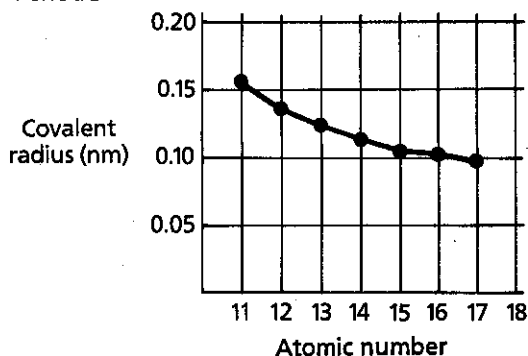
Nonmetals—high ionization energy

Metals—solid except for mercury

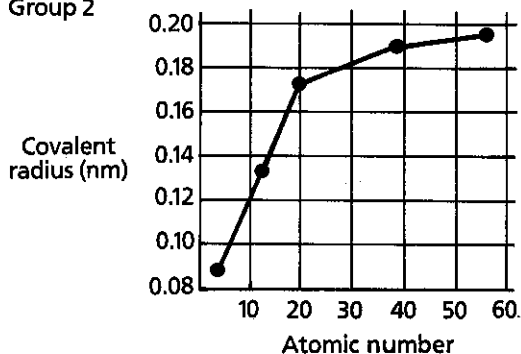
Nonmetals—gas or solid except for bromine

Graphing Covalent Atomic Radii, p. 14-5

Period 3



Group 2



1. a. Atomic radius decreases as atomic number increases.
b. Elements in this period all have the same valence shell. Total proton and electron charge is increasing. Nucleus-electron attraction is increasing, pulling shells inward.
2. a. Atomic radius increases as atomic number increases.
b. The number of shells increases with atomic number. The valence shell is therefore farther from the nucleus and is more shielded.

The Periodic Table, p. 14-7

1. periodic table
2. atomic mass
3. periodic law
4. atomic number
5. period
6. group
7. family
8. transition element
9. lanthanoid series
10. actinoid series
11. metal
12. nonmetal
13. semimetal
14. alkali metal
15. alkaline earth metal
16. halogen
17. noble gas

Characteristics of Elements, p. 14-8

1. a. 35
b. 17
c. halogen
d. 7
e. nonmetal
f. larger
g. smaller
h. Br^-
2. a. 12
b. 2
c. alkaline earth metal
d. 2
e. metal
f. smaller
g. larger
h. Mg^{2+}
3. a. 19
b. 1
c. alkali metal
d. 1
e. metal
f. larger
g. larger
h. K^+