

- a. 9. b. 19. c. 20. d. 39.

_____ **8. An electron that is found in the outermost shell of an atom and determines the atom's chemical properties is called a(n)**

- a. valence electron. b. paired electron. c. p electron. d. octave electron.

_____ **9. A vertical column in the periodic table is called a(n)**

- a. family. b. group. c. octet. d. period.

_____ **10. Which of the following elements behaves similarly to calcium?**

- a. magnesium b. sodium c. sulfur d. chlorine

_____ **11. An octet is equal to**

- a. 2. b. 4. c. 5. d. 8.

_____ **12. What is the formula for the compound formed by aluminum, Al^{3+} , and the sulfate ion, SO_4^{2-} ?**

- a. AlSO_4 b. Al_3SO_4 c. $\text{Al}_2(\text{SO}_4)_3$ d. $\text{Al}(\text{SO}_4)_3$

_____ **13. Which of the following elements behaves similarly to potassium?**

- a. magnesium b. sodium c. sulfur d. chlorine

_____ **14. Ionic bonding always takes place between**

- a. ions of opposite electrical charge. b. ions of the same electrical charge.
c. ions of the same size. d. ions of the same size and opposite charge.

_____ **15. The melting points of ionic compounds are higher than the melting points of molecular (covalent) compounds because**

- a. ionic substances tend to vaporize at room temperature.
b. ionic substances are brittle.
c. attractive forces between ions are greater than the attractive forces between molecules.
d. None of the above