Chemistry G11-Q2W2- H.W.-Periodic properties of elements

Matching

Match each item with the correct statement below.

a. alkali metal
b. alkaline earth metal
c. halogen

____ 1. Fluorine, bromine, or iodine
____ 2. Is denser and harder than its alkali neighbor
____ 3. An element found in Group 17
____ 4. Magnesium or barium
____ 5. Astatine is the largest of this family
____ 6. An element found in Group 1 of the periodic table
____ 7. In compounds, has an oxidation number of 1+
____ 8. In compounds, has an oxidation number of 2+
____ 9. Strontium, which is identified by the red color of fireworks
____ 10. Sodium or cesium

True/False

Indicate whether the statement is true or false.

____ 11. Iron, in an ionic form, is in the center of the hemoglobin molecule.

Multiple Choice

Identify the choice that best completes the statement or answers the question.

____ 12. What is the trend in the melting point of d-block elements across a period?
a. The melting point increases from left to right.
b. The melting point decreases from left to right.
c. The melting point remains the same.
d. The melting point first increases and then decreases from left to right.

____ 13. Plants need the alkaline earth element _____ in photosynthesis.
a. magnesium
b. calcium
c. strontium
d. barium

____ 14. Bromine is a typical nonmetal. A bromide ion is _____ a bromine atom.
a. larger than
b. impossible to compare with
c. the same size as
d. smaller than

____ 15. Compared to the neutral atom from which it is derived, a negative ion is _____.
a. the same size
b. larger in some cases and smaller in others
c. always larger
d. always smaller

____ 16. Why does glass in welder's goggles contain neodymium and praseodymium?
a. Neodymium and praseodymium add to the thickness of glass.
b. Neodymium and praseodymium absorb high-energy radiation that can damage the eyes.

c. Neodymium and praseodymium decrease the temperature of the glass and keep the surface of the goggles cool.
d. Neodymium and praseodymium make glass more durable.

____ 17. The most important alloy of zinc contains copper and is called _____.
a. brass
b. zinc oxide
c. slag
d. steel

____ 18. Group 13 elements tend to form _____.
a. metalloids
b. ionic compounds
c. covalent compounds
d. alloys

____ 19. The most important use of lead is in _____.
a. pewter
b. paint pigment
c. batteries
d. solder

____ 20. Which of the following is an alkaline earth metal?
a. Sodium
b. Beryllium
c. Iron
d. Potassium

____ 21. Transition metals have multiple oxidation states because of the involvement of the _____ electrons in chemical bonding.
a. *s*
b. *f*
c. *p*
d. *d*

____ 22. Because of its ability to bond with oxygen, _____ is an essential element in the hemoglobin in blood.
a. iron
b. manganese
c. tin
d. copper

____ 23. Where does the final electron enter in an inner transition metal?
a. f sublevel
b. d sublevel
c. s sublevel
d. p sublevel

____ 24. When compared to the main group metals, transition metals have melting and boiling points that are _____.
a. about the same
b. always lower
c. usually lower
d. usually higher

____ 25. In general, main group elements have _____ melting points and boiling points when compared with transition metals.
a. higher
b. much lower
c. the same
d. slightly lower

____ 26. Transition elements, such as chromium, are likely to have _____.
a. an oxidation number of 2+
b. an oxidation number of 1+
c. multiple oxidation numbers
d. a negative oxidation number

____ 27. Which of the following elements is not in the iron triad?
a. cobalt
b. nickel
c. iron
d. copper

____ 28. At what sublevel does the final electron enter a transition metal?
a. p sublevel
b. f sublevel
c. d sublevel
d. s sublevel

____ 29. Alloys of magnesium are commonly used because they are _____.
a. strong and rigid
b. lightweight and strong
c. heavy and strong
d. reactive

____ 30. A metallic ion is _____ its corresponding atom.
a. impossible to compare with
b. smaller than
c. larger than
d. the same size as

____ 31. Each row in the periodic table ends with a _____.
a. nonmetal
b. noble gas
c. metalloid
d. metal

____ 32. Ionic radii _____ down a group in the periodic table.
a. follow no pattern
b. increase
c. stay the same
d. decrease

____ 33. Active metals are in the _____ region of the periodic table.
a. *p*
b. *s*
c. *d*
d. *f*

____ 34. The inner transition elements are found in the _____ block of the periodic table.
a. *d*
b. *p*
c. *s*
d. *f*

____ 35. What ions present in hard water interfere with the action of soaps and detergents, making it difficult to wash grease and oil from utensils and clothes?
a. Hydrogen
b. Sodium
c. Calcium
d. Potassium

____ 36. The atoms of an element in Group 2 are _____ atoms of a Group 13 element in the same period.
a. smaller than
b. the same size as
c. impossible to compare with
d. larger than

____ 37. The valence configuration shared by carbon, silicon, and germanium is _____.
a. s^2p^4
b. $1s^22s^22p^2$
c. s^2p^2
d. $2s^22p^6$

____ 38. Because transition metals have similar atomic radii, transition metals have _____ chemical properties.
a. no
b. similar
c. identical
d. definitely different

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