

Q2W7-Quarter 2-Summary-Test

Multiple Choice

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

- ____ 1. The most important use of lead is in ____.
- pewter
 - solder
 - paint pigment
 - batteries
- ____ 2. If an atom contains six energy levels, how many sublevels does it contain?
- six
 - four
 - one
 - two
- ____ 3. What are the valence electrons in the electron configuration of tin, $[\text{Kr}]4d^{10}5s^25p^2$?
- $5s^25p^2$
 - $4d^{10}$
 - $5p^2$
 - $[\text{Kr}]$
- ____ 4. An element is most likely to have properties similar to those of ____.
- another element in the same group
 - a noble gas
 - a transition element
 - another element in the same period
- ____ 5. Which is a possible last sublevel for an element found in Group 18?
- $3p^6$
 - $4p^3$
 - $4d^8$
 - $4s^2$
- ____ 6. Which of the following orbitals is closest to the nucleus?
- 1s
 - 3d
 - 2p
 - 4s
- ____ 7. The most unreactive group of elements is the ____.
- transition elements
 - halogens
 - alkali metals
 - noble gases
- ____ 8. Alkaline earth metals lose ____ electrons to achieve the electron configuration of the noble gas in the preceding period.
- seven
 - one
 - six
 - two
- ____ 9. Each row in the periodic table ends with a ____.
- noble gas
 - metal
 - metalloid
 - nonmetal
- ____ 10. What is the highest occupied sublevel in the structure of an atom of arsenic?
- 4p
 - 3p
 - 3s
 - 3d
- ____ 11. Electron 1 falls from energy level four to energy level two. Electron 2 falls from energy level three to energy level two. Which electron is more likely to emit red light?
- Neither electron could emit red light.
 - 1
 - Both electrons emit red light.
 - 2
- ____ 12. Bromine is a typical nonmetal. A bromide ion is ____ a bromine atom.
- larger than
 - the same size as
 - impossible to compare with
 - smaller than
- ____ 13. An atom is in Group 2, Period 3. How many electrons does the atom contain?
- 3
 - 12
 - 6
 - 2

- ___ 14. Which of the following is the best evidence for the existence of sublevels?
a. closely spaced lines in a spectrum c. only four lines in a spectrum
b. all colors of light in a spectrum d. large gaps in a spectrum
- ___ 15. A p orbital has a ____ shape.
a. circular c. dumbbell
b. doughnut d. spherical
- ___ 16. Group 13 elements tend to form _____.
a. covalent compounds c. metalloids
b. alloys d. ionic compounds
- ___ 17. Alloys of magnesium are commonly used because they are _____.
a. strong and rigid c. heavy and strong
b. lightweight and strong d. reactive
- ___ 18. Transition metals have multiple oxidation states because of the involvement of the ____ electrons in chemical bonding.
a. d c. s
b. p d. f
- ___ 19. Plants need the alkaline earth element ____ in photosynthesis.
a. calcium c. barium
b. magnesium d. strontium
- ___ 20. If a wave has a high frequency, it also has _____.
a. high wavelength and low energy c. low wavelength and high energy
b. high wavelength and high energy d. low wavelength and low energy
- ___ 21. Most transition metals have ____ oxidation state(s).
a. multiple c. two
b. only one d. no
- ___ 22. In going from left to right in any given row in the periodic table, the size of atoms generally _____.
a. increases c. changes randomly
b. decreases d. stays the same
- ___ 23. In general, main group elements have ____ melting points and boiling points when compared with transition metals.
a. slightly lower c. the same
b. higher d. much lower
- ___ 24. The valence configuration shared by carbon, silicon, and germanium is _____.
a. s^2p^4 c. s^2p^2
b. $1s^22s^22p^2$ d. $2s^22p^6$
- ___ 25. When compared to the main group metals, transition metals have melting and boiling points that are _____.
a. usually higher c. about the same
b. always lower d. usually lower
- ___ 26. Light is released when an electron moves from higher energy levels to a lower energy level. The resulting spectrum is a(n) ____ spectrum.
a. absorption c. excitation
b. emission d. lower energy
- ___ 27. Transition elements have final electrons in the ____ sublevel.
a. p c. d
b. s d. f

- ___ 28. The most important alloy of zinc contains copper and is called ____.
- a. brass
 - b. slag
 - c. steel
 - d. zinc oxide
- ___ 29. Because transition metals have similar atomic radii, transition metals have ____ chemical properties.
- a. similar
 - b. definitely different
 - c. no
 - d. identical
- ___ 30. Transition elements, such as chromium, are likely to have ____.
- a. multiple oxidation numbers
 - b. an oxidation number of 2+
 - c. a negative oxidation number
 - d. an oxidation number of 1+
- ___ 31. Compare the maximum number of electrons possible in sublevel 3d with the maximum number that could be in sublevel 4d.
- a. There are more in 3d.
 - b. They are impossible to compare.
 - c. There are more in 4d.
 - d. They are the same.
- ___ 32. Compared to the neutral atom from which it is derived, a negative ion is ____.
- a. the same size
 - b. always smaller
 - c. larger in some cases and smaller in others
 - d. always larger
- ___ 33. A metallic ion is ____ its corresponding atom.
- a. smaller than
 - b. impossible to compare with
 - c. larger than
 - d. the same size as
- ___ 34. Which of the following elements is not in the iron triad?
- a. cobalt
 - b. nickel
 - c. copper
 - d. iron
- ___ 35. Which of the following elements is not a coinage metal?
- a. gold
 - b. copper
 - c. silver
 - d. platinum
- ___ 36. The conclusion that it's impossible to measure accurately both the position and the energy of an electron at the same time was made by ____.
- a. Proust
 - b. Dalton
 - c. Heisenberg
 - d. Bohr
- ___ 37. Ionic radii ____ down a group in the periodic table.
- a. decrease
 - b. increase
 - c. stay the same
 - d. follow no pattern
- ___ 38. Because of its ability to bond with oxygen, ____ is an essential element in the hemoglobin in blood.
- a. iron
 - b. tin
 - c. copper
 - d. manganese
- ___ 39. Active metals are in the ____ region of the periodic table.
- a. d
 - b. s
 - c. p
 - d. f
- ___ 40. The inner transition elements are found in the ____ block of the periodic table.
- a. f
 - b. s
 - c. d
 - d. p

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