Ch.11-Q1+Q2 Revisin Sheet

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

____ 1. The most unreactive group of elements is the _____.
a. halogens
b. alkali metals
c. transition elements
d. noble gases

____ 2. According to the law of conservation of matter, if 4.0 g of hydrogen react with chlorine to produce 146 g of hydrogen chloride, how many grams of chlorine reacted?
a. 142 g
b. 150 g
c. 4.0 g
d. 146 g

____ 3. Compare the maximum number of electrons possible in sublevel 3*d* with the maximum number that could be in sublevel 4*d*.
a. They are the same.
b. They are impossible to compare.
c. There are more in 3*d*.
d. There are more in 4*d*.

____ 4. Water and hydrogen peroxide are both composed of atoms of hydrogen and oxygen. The differences lie in the _____ arrangement of the atoms.
a. composed
b. behavioral
c. macroscopic
d. submicroscopic

____ 5. A certain element is a gas and does not conduct electricity or heat. Which of the following is a possible number of valence electrons for the atoms of this element?
a. 2
b. 1
c. 3
d. 6

____ 6. A colorless, odorless gas combines with a magnetic, metallic element. What can you predict about the product?
a. It will also be magnetic.
b. The compound will be shiny and odorless.
c. A gas and a solid produce a liquid.
d. It is impossible to predict its specific properties.

____ 7. The inner transition elements are found in the _____ block of the periodic table.
a. *d*
b. *s*
c. *p*
d. *f*

____ 8. Light is released when an electron moves from higher energy levels to a lower energy level. The resulting spectrum is a(n) _____ spectrum.
a. excitation
b. absorption
c. lower energy
d. emission

____ 9. Lithium has much less attraction for any valence electrons than does fluorine. Atoms of these two elements would form _____ bonds.
a. crystal
b. covalent
c. ionic
d. molecular

____ 10. A physical property of zinc metal is _____.
a. whether it burns
b. how it reacts with nitrogen gas
c. its color
d. whether it changes when placed into acid

____ 11. An example of a chemical formula is _____.
a. *d* = 13.6 g/L
b. Na
c. 4.5 g/mL
d. H_2SO_4

____ 12. Horizontal rows of the periodic table are known as _____.
a. periods
b. columns
c. groups
d. families

____ 13. Noble gases _____.
a. form compounds easily
b. form no compounds that occur naturally in the environment
c. do not obey the octet rule
d. form no compounds

____ 14. In going from left to right in any given row in the periodic table, the size of atoms generally _____.
a. changes randomly
b. stays the same
c. increases
d. decreases

____ 15. Which of the following liquids is most volatile?
a. alcohol
b. cooking oil
c. water
d. motor oil

____ 16. If an atom contains six energy levels, how many sublevels does it contain?
a. one
b. six
c. four
d. two

____ 17. An example of a pure substance in everyday life is _____.
a. pond water
b. sugar
c. concrete
d. a cola drink

____ 18. Matter that is large enough to be seen is _____.
a. macroscopic
b. submicroscopic
c. massive
d. a scientific model

____ 19. The correct way to arrange the three forms of electromagnetic radiation listed below, from highest to lowest frequency, is _____.
a. visible > ultraviolet > infrared
b. infrared > visible > ultraviolet
c. ultraviolet > visible > infrared
d. infrared > ultraviolet > visible

____ 20. When reacting with an atom of fluorine, an atom of lithium will lose an electron and become a lithium _____.
a. molecule
b. crystal
c. ion
d. compound

____ 21. Active metals are in the _____ region of the periodic table.
a. *p*
b. *d*
c. *s*
d. *f*

____ 22. Which of the following are definitely in atoms of the same element?
a. 3 protons, 4 neutrons and 4 protons, 3 neutrons
b. 3 protons, 3 neutrons and 3 protons, 4 neutrons
c. 3 protons, 3 neutrons and 4 protons, 4 neutrons
d. 4 protons, 4 neutrons and 3 protons, 4 neutrons

____ 23. Classification based on measurements is said to be _____.
a. composed
b. quantitative
c. observed
d. qualitative

____ 24. The most important alloy of zinc contains copper and is called _____.
a. steel
b. zinc oxide
c. slag
d. brass

____ 25. If 14 atoms of carbon react with 28 atoms of oxygen to form carbon dioxide, how many atoms are contained in the carbon dioxide that is produced?
a. 42
b. 14
c. 21
d. 28

____ 26. Which of the following materials cannot be broken down into a simpler form?
a. element
b. solution
c. mixture
d. compound

____ 27. Most transition metals have _____ oxidation state(s).
a. no
b. only one
c. multiple
d. two

____ 28. Transition metals have multiple oxidation states because of the involvement of the _____ electrons in chemical bonding.
a. *d*
b. *p*
c. *f*
d. *s*

____ 29. When ice melts and becomes liquid water, it has undergone a _____.
a. physical change
b. chemical change
c. chemical property
d. physical property

____ 30. Bromine is a typical nonmetal. A bromide ion is _____ a bromine atom.
a. the same size as
b. smaller than
c. impossible to compare with
d. larger than

____ 31. Which of the following formulas is incorrect?
a. $Ca(OH)_2$
b. $(NH_4)_2S$
c. $Al_2(SO_4)_3$
d. $AlOH_3$

____ 32. The _____ is where the electron is most likely to be found.
a. electron cloud
b. electron orbit
c. energy level
d. orbit

____ 33. A 26.0-g sample of a liquid was found to have a volume of 13.0 mL. What is the density of the liquid?
a. 2.00 g/mL
b. 338 g/mL
c. 39.0 g/mL
d. 0.500 g/mL

____ 34. The only subatomic particle that does not carry an electric charge is the _____.
a. proton
b. nucleus
c. electron
d. neutron

____ 35. Almost all of Earth's atmosphere is made up of _____.
a. metals
b. synthetics
c. metalloids
d. nonmetals

____ 36. In a list of the densities of common materials, the one density that might not seem reasonable is _____.
a. 2.54 g/mL
b. 0.45 g/mL
c. 1.000 g/mL
d. 35 885 g/mL

____ 37. Which of the following compounds can be used as a drying agent?
a. calcium chloride dihydrate
b. hygroscopic alum
c. the dihydrate of calcium sulfate
d. $CuSO_4 \cdot 5H_2O$

____ 38. The properties of a compound are _____ the properties of the elements that form it.
a. derived from
b. identical to
c. different from
d. similar to

____ 39. The atomic number of chlorine is 17. How many valence electrons does an atom of chlorine have?
a. 7
b. 17
c. 8
d. 2

____ 40. Which is a possible last sublevel for an element found in Group 18?
a. $4s^2$
b. $3p^6$
c. $4p^3$
d. $4d^8$

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