Quizizz

NAME : _____

CLASS : _____

DATE : _____

Fall Final Practice Test
125 Questions

1. How many electrons should Oxygen have around its Lewis dot model?

A 8

B 5

C 7

D 6

2. Three pairs of electrons are shared in a

A Double bond

B Single bond

C Triple bond

3. tetra

A Four

B seven

C Five

D six

4. In CO_2, how many UNSHARED pairs of electrons does each oxygen have?

A 6

B 1

C 2

D 4

5. How strongly an atom attracts electrons is called.....

A Ionization energy

B Nuclear force

C Electricity

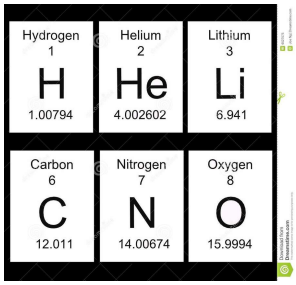
D Electronegativity

6. How did Mendeleev arrange the elements?

A density
B alphabetical
C atomic mass
D melting point

7. The horizontal row on the periodic table is called a

A group
B atomic number
C period
D family

8. 

The number at the bottom of each square on the periodic table is the ...

A chemical symbol
B atomic number
C atomic mass
D element name

9. The atoms along the staircase are called

A noble gases
B metalloids
C metals
D nonmetals

10. Which is a halogen?

A Neptune
B Oxygen
C Helium
D Chlorine

11. Which is an alkali metal?

A Sodium

B Iron

C Europium

D Magnesium

12. Elements in a .....have similar chemical properties.

A group

B period

C row

13. ammonium chloride

A NH_4ClO_3

B NH_4Cl

C NH_3Cl_2

D NH_4Cl_2

14. calcium phosphate

A $CaPO_4$

B $Ca_2(PO_4)_3$

C $Ca_3(PO_4)_2$

D Ca_3PO_4

15. phosphorus trichloride

A K_3Cl

B P_3Cl

C PCl_3

D KCl_3

16. barium hydroxide

A Ba_2OH

B Ba_2OH

C $Ba(OH)_2$

D $BaOH$

17. $CaCO_3$

A calcium monocarbon trioxide

B calcium carbide

C calcium carbonite

D calcium carbonate

18. $AlBr_3$

A monoaluminum tribromide

B aluminum tribromide

C aluminum bromine

D aluminum bromide

19. K_2SO_3

A potassium sulfate

B potassium sulfite

C potassium sulfide

D dipotassium monosulfur trioxide

20. $SiCl_4$

A silicon quadchloride

B silicon chloride

C silicon tetrachloride

D monosilicon tetrachloride

21. Carbon dioxide

A C_2O_2

B CO

C CO_2

D C_20

22. Bromine monoflouride

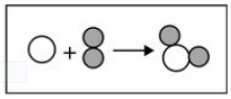
A BrF

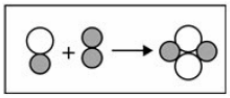
B Br_1F_1

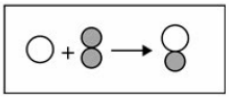
C BrF_2

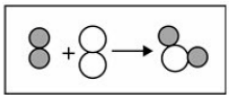
D Br_2F

23. Which of the following models best demonstrates a balanced chemical equation?

F 

G 

H 

J 

A J

B H

C G

D F

24. Which of these formulas contain equal numbers of nitrogen atoms?

I. $Co(NO_3)_2$
II. $(NH_4)_2CO_3$
III. $(NH_4)_3PO_4$
IV. $Al(NO_3)_3$
V. NH_4NO_3

A Formulas I and IV

B Formulas I and III

C Formulas I, II, and V

D Formulas II and III

25. All of the following reactions are correctly balanced except-

A $2C_2H_2 + 5O_2 \longrightarrow 4CO_2 + 2H_2O$

B $4Fe + 3O_2 \longrightarrow 2Fe_2O_3$

C $NaHCO_3 \longrightarrow Na_2CO_3 + H_2O + CO_2$

D $2CH_3OH + 3O_2 \longrightarrow 2CO_2 + 4H_2O$

A B

B D

C C

D A

26. $4Si + S_8 \text{ --> } 2Si_2S_4$

A Decomposition

B Synthesis

C Single displacement

D Double displacement

27. $3Ca + 2AlCl_3 \rightarrow 3CaCl_2 + 2Al$

A Single diplacement
B Decomposition
C Synthesis
D Double displacement

28. $3KOH + H_3PO_4 \rightarrow K_3PO_4 + 3H_2O$

A Single displacement
B Synthesis
C Decomposition
D Double displacement

29. $2Pb(NO_3)_2 \rightarrow 2PbO + 4NO_2 + O_2$

A Synthesis
B Decomposition
C Combustion
D Single displacement

30. What type of chemical reaction is this one?
$C_2H_2 + O_2 \rightarrow CO_2 + H_2O$

A Decomposition
B Synthesis
C Combustion
D Single Replacement

31. What is the small number that you CANNOT CHANGE in a chemical equation?

A Reactant
B Subscript
C Coefficient
D Product

32. What is the "large" number that you CAN CHANGE in a chemical equation?

A Product
B Subscript
C Reactant
D Coefficient

33. Predict the products (right side) of this reaction reaction,
Ca + 2HCl --> ?

A $4CaCl_3 + H_2$

B $CaH_2 + Cl$

C $CaCl_2 + H_2$

D no reaction

34. Balance this equation
$Ca + H_2O \rightarrow CaO + H_2$

A Cannot be balanced

B $2Ca + H_2O \rightarrow CaO + H_2$

C It is already balanced

D $Ca + 2H_2O \rightarrow CaO + 2H_2$

35. Which coefficients balance this equation:
$\_Na + \_Cl_2 \rightarrow \_NaCl$

A 2,1,1

B 2,2,1

C 2,1,2

D 1,2,2

36. Balance this equation.
$\_CH_4 + \_O_2 \rightarrow \_CO_2 + \_H_2O$

A 2,1,2,1

B 0,2,0,2

C 1,2,1,2

D 1,2,1,1

37. $N_2 + 3H_2 \rightarrow 2NH_3$
How many moles of hydrogen are needed to react with 2 moles of nitrogen?

A 6

B 2

C 1

D 3

38. $2H_2 + O_2 \rightarrow 2H_2O$
How many moles of water can be produced if 8 moles H_2 are used?

A 8 moles

B 4 moles

C 2 moles

D 16 moles

39. $2NaClO_3\ (s) \rightarrow 2NaCl\ (s) + 3O_2\ (g)$
12.00 moles of $NaClO_3$ will produce how many grams of O_2?

A 256 g of O_2

B 288 g O_2

C 576 g of O_2

40. $Cl_2 + 2KBr \rightarrow Br_2 + 2KCl$
How many grams of potassium chloride (KCl) can be produced from 356 g of potassium bromide (KBr)?

A 749 g

B 223 g

C 479 g

D 814 g

41. How many grams are in 7.8 moles of NaCl?

A 452 grams

B 476grams

C 462 grams

D 460 grams

42. Theoretical yield = 73g
Actual yield = 62g
Calculate the percent yield.

A 116%

B 1.16%

C 85%

D 76%

43. If a chemist calculates the maximum amount of product that could be obtained in a chemical reaction, he or she is calculating the

A percentage yield

B mole ratio

C actual yield

D theoretical yield

44. $P_4 + 6Cl_2$ --> $4PCl_3$
The reaction of 75.0g P_4 with excess chlorine gas produces 110g PCl_3 in lab. Find the theoretical yield and calculate percent yield for the reaction.

A 27%
B 64%
C 78%
D 33%

45. What are the spectator ions in the reaction of sodium chloride with silver nitrate?

A silver and chloride
B silver and nitrate
C sodium and chloride
D sodium and nitrate

46. Which is the correct net ionic equation for the reaction of $AgNO_3$ and $CaCl_2$?

A $Ag^+ + Ca^{2+} \rightarrow Ag_2Ca\ (s)$
B $Ag + Cl \rightarrow AgCl$
C $Ag^+(aq) + Cl^-(aq) \rightarrow AgCl(s)$
D $Ca^{2+}(aq) + 2Cl^-(aq) \rightarrow CaCl(s)$

47. In this equation,
$ZnCl_2 + LiOH \rightarrow Zn(OH)_2 + LiCl$
Which product is insoluble?

A zinc chloride
B lithium hydroxide
C zinc hydroxide
D lithium chloride

48. Three samples of 1.12 g, 1.8 g, and 1.562 g are mixed together. The combined mass of the three samples, expressed to the correct number of significant figures, would be recorded as

A 4.5 g
B 4.48 g
C 4.482 g
D 4.4 g

49. How many significant figures: 0.010 L

A 3
B 1
C 4
D 2

50. How would you write 564,000,000 in scientific notation?

A 5.64×10^{8}

B 5.64×10^{6}

C 5.64×10^{-7}

D 56.4×10^{7}

51. How would you write 0.0005 in scientific notation?

A 50×10^{5}

B 5×10^{3}

C 5×10^{-4}

D 0.5×10^{3}

52. 0.05 cm is the same as

A 0.005 mm

B 0.05 m

C 0.00005 m

D 0.5 mm

53. When 6.02×10^{23} is multiplied by 7.1×10^{-31}, the product is

A 4.3×10^{-53}

B 4.3×10^{54}

C 4.3×10^{-7}

D 4.3×10^{-8}

54. How many gallons are in a pool that holds 758,000 Liters?
(1 gallon = 3.79 Liters)

A 20,000

B 2,000,000

C 200

D 200,000

55. How many kilograms of calcium are there in 173 pounds of calcium? (1 pound = 454 grams; 1 kg = 1000 g)

A 110 kg

B 1.10 kg

C 78.5 kg

D 78500 kg

56. Jackrabbits are capable of reaching speeds up to 40 miles per hour. How fast is this in feet per second? (Round to the nearest whole number.)
[5,280 feet = 1 mile]

A 95 feet per second

B 0.45 feet per second

C 59 feet per second

D 40 feet per second

57. Round the following number off to the number of sig figs shown in parentheses:
529.78 (3)

A 5.30×10^2

B 5.3×10^2

C 529

D 530

58. Express the following number in decimal notation:
4.96×10^{-3}

A 0.000496

B 0.00496

C 4,960

D 496

59. A student drew a dot cross diagram with 7 valence electrons. Which of the following elements might have the student drawn?

A Li (Lithium)

B Ne (Neon)

C N (Nitrogen)

D Cl (Chlorine)

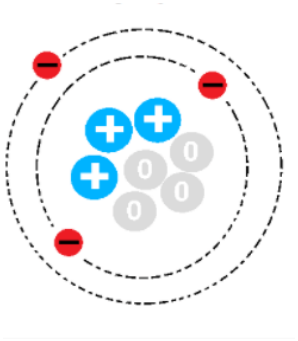
60. Which statement is accurate regarding subatomic particles?

A electrons are neutral with the least mass

B electrons are the heaviest particle, with a positive charge

C protons and electrons are equal in mass with positive charges

D protons have a positive charge with a mass of 1 amu and neutrons are neutral with the same mass as a proton

61. 

The mass number and atomic number of the atom shown are ___ and ____?

A 7; 3

B 3; 7

C 3; 3

D 3; 4

62. In order for an atom to be neutral what has to be true?

A The atom has more protons than neutrons

B The atom has more neutrons than protons

C The atom has the same number of protons and neutrons

D The atom has the same number of protons and electrons

63. How is the number of neutrons in the nucleus of an atom calculated?

A Subtract the number of e- from p+

B Add the mass number to the number of e-

C Subtract the number of p+ from the mass number

D Add the number of e- and p+ together

64. An atom has 10 protons, 15 neutrons and 10 electrons what is its mass number.

A 35

B 20

C 25

D 10

65. If an atom has 12 positively charged subatomic particles, which of the following must it also have to be considered a neutral atom?

A 12 protons

B 24 protons and neutrons

C 12 electrons

D 12 neutrons

66. How many moles are in 3.01×10^{22} atoms of magnesium?

A 0.05 moles

B 5 moles

C 1.81×10^{46} moles

D 5.00×10^{21} moles

67. What is the mass of 0.89 mol of $CaCl_2$?

A 111 grams

B none of the choices

C 0.008 grams

D 98.9 grams

68. Convert 86.235 g of diphosphorus pentoxide to moles.

A .60755 moles

B .608 moles

C 12240 moles

D 1.8747 moles

69. Calculate the molar mass of $Ca_3(PO_4)_2$?

A 196.3 g/mol

B 215.18 g/mol

C 300.18 g/mol

D 310.18 g/mol

70. How many electrons can the d sublevel (the d orbitals) hold?

A 6

B 14

C 10

D 2

71. What atom matches this electron configuration?
$1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^{10}$

A Zinc

B Germanium

C Copper

D Nickel

72. What atom matches this electron configuration?
$1s^2 2s^2 2p^6 3s^2$

A Aluminum

B Magnesium

C Potassium

D Neon

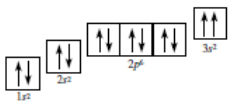
73. An element with the electron configuration [He]$2s^2 2p^4$ needs ____ more electrons to complete its outer energy level.

A 4

B none

C 1

D 2

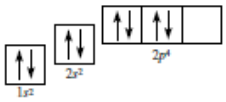
74.  Which guideline, Hund's rule or the Pauli exclusion principle, is violated in the following orbital diagrams?

A Hund's rule

B Pauli's Exclusion principle

C None of the rules is violated

D Aufbau's principle

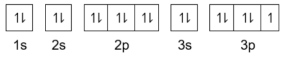
75.  Which guideline, Hund's rule or the Pauli exclusion principle, is violated in the following orbital diagrams?

A None of the rules is violated

B Aufbau's principle

C Hund's rule

D Pauli Exclusion principle

76. 

What element is depicted by the given orbital diagram?

A phosphorus

B silicon

C chlorine

D sulfur

77. Which group of elements needs to gain two electrons to achieve octet?

A group 14, the carbon group

B group 17, the halogens

C group 18, the noble gases

D group 16, the oxygen group

78. In **1**s^2, the 1 means

A there is a -1 charge

B there is 1 electron

C the electrons are in the 1st energy level

D the shape is circular

79. Ions have the same number of protons but different number of _____

A neutrons

B toes

C protons

D electrons

80. Isotopes have the same number of protons but different number of _____

A eyes

B electrons

C neutrons

D protons

81. Atoms in Group 13 will _____ 3 electrons to form a +3 charge

A lose

B gain

C lose or gain

D share

82. Zinc _____ electrons to form _____ ion.

A loses 2; Zn^{2-}

B gains 1; Zn^{+}

C loses 2; Zn^{2+}

D gains 2; Zn^{2+}

83. Nitrogen _____ electrons to form _____ ion.

A gains 3 ; N^{3+}

B loses 3 ; N^{3+}

C gains 3 ; N^{3-}

D loses 3 ; N^{3-}

84. Which ions have the same number of electrons as Neon, Ne?

A P^{3-}

B N^{3-}

C Ca^{2+}

D S^{2-}

85. What is the noble gas configuration for phosphorus?

A [Na] $3s^2\ 3p^5$

B [He] $3s^2 3p^5$

C [Ne] $3s^2 3p^3$

D [Ar] $3p^5$

86. [Kr] $5s^2 4d^{10} 5p^2$ is the noble gas configuration for which element?

A Germanium

B Bromine

C Silicon

D Tin

87. An atom in which the outermost energy level is more than half full tends to form which of the following ions?

A positive ions

B neither positive nor negative ions

C negative ions

D both positive and negative ions

88. [He]$2s^2 2p^4$ is the noble gas configuration for which element?

A oxygen

B phosphorus

C fluorine

D sulfur

89. Which of the following will have a larger radius than Zinc?

A Gallium

B Magnesium

C Aluminum

D Strontium

90. As you move down a group, atomic radius increases because -

A you add more and more neutrons

B you add more atomic mass

C you add more and more protons

D you add more and more shells (energy levels)

91. Francium (Fr) has the lowest ionization energy in Group 1 because -

A it has the smallest number of valence electrons

B it has the greatest atomic mass

C its 1 valence electron is very far from the nucleus, so little energy is needed to remove it

D it has the greatest number of protons, so it attracts its electrons the strongest

92. Electronegativity is...

A the energy required to remove an electron from a specific atom

B the ability of an atom to lose electrons

C the ability of an atom to attract/ accept electrons

D how easy it is to make friends.

93. As atoms of elements in group 16 are considered in order from top to bottom, the electronegativity of each successive element....

A none of the above

B increases

C decreases

D remains the same

94. Elements in the same column of the periodic table always have the same # of _____ as one another.

A Valence Electrons

B Protons

C Neutrons

D Electrons

95. As you move across the periodic table from left to right, the atomic radius decreases. This is because -

A the number of electrons increases

B the number of protons increases, so attraction to electrons increases

C the atomic mass increases

D the number of energy levels increases

96. Which of the following pairs has the highest ionization energy?

A N and O

B Li and Na

C P and S

D Fe and Co

97. Which of the following elements has the smallest radius?

A Al

B Mg

C Si

D K

98. Which of the following sets of elements are arranged in order of INCREASING metallic radii?

A Al < Si < P < S < Cl

B Rb < K < Na < Li < H

C Cs < Ba < La < Hf < Ta

D Be < Mg < Ca < Sr < Ba

99. Coulomb's law states that the force between two charged objects will _____ when the magnitude of the object's charge increases.
Coulomb's law also states that the force between two charged objects will _____ when the distance between objects increases.

A increase; increase

B decrease; decrease

C increase; decrease

D decrease; increase

100. Which statement correctly and completely identifies a trend?

A Atomic radius decreases across a period and increases down a group.

B Ionization energy increases across a period and increases down a group.

C Electronegativity decreases across a period and decreases down a group.

D Ionic radius increases across a period and increases down a group.

101. The element with the lowest electronegativity in Period 3 is -

A Ar

B Na

C Mg

D Cl

102. What elements generally make a covalent bond?

A metal

B metal and nonmetal

C 2 nonmetals

D none of the above

103. In chemical compounds, covalent bonds form when

A pairs of electrons are shared between two nonmetal atoms.

B two nonmetal atoms are attracted to each other by opposite charges.

C electrons are completely transferred between two metals.

D the electronegativity difference between two atoms is very large.

104. Which of the following compounds is formed by ionic bonding?

A CH_4

B PCl_5

C $MgCl_2$

D HF

105. When forming an ionic bond, a metal atom

A Gains electrons to form a cation

B Loses electrons to form a cation

C Gains electrons to form an anion

D Loses electrons to form an anion

106. Name the following covalent compound: SO_3

A monosulfur troxide

B sulfur trioxide

C monosulfur trioxide

D sulfur oxide

107. What is the formula of the ionic compound formed by the ions: Ca^{+2} and O^{-2} ?

A Ca_2O

B Ca_2O_2

C $Ca_{-2}O_{+2}$

D CaO

108. The correct name of Cu_3N_2 is

A copper (II) nitride

B copper nitride

C tricopper dinitride

D copper (III) nitride

109. What is the charge on the Magnesium atom in $MgSO_4$?

A -1

B +1

C +4

D +2

110. Name the following ionic compound: $Cr(NO_2)_3$

A chromium (III) nitrate

B chromium (III) nitrite

C chromium (III) nitride

D chromium nitrate

111. Write the formula for the compound formed by barium + nitrogen

A BaN_3

B Ba_2N_3

C BaN

D Ba_3N_2

112. What is the formula of the ionic compound formed by the ions: Al^{3+} and O^{2-}

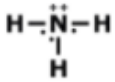
A Al_2O_3

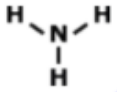
B Al_3O_6

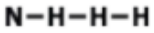
C Al_3O_2

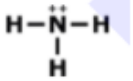
D AlO

113. What is the correct Lewis Dot Structure for ammonia NH_3?

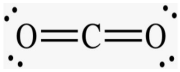
A 

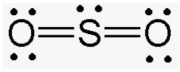
B 

C 

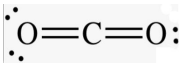
D 

114. Which is the correct Lewis dot structure for carbon dioxide?

A 

B 

C 

D 

115. What is the 3D shape of H_2O molecule as predicted by VSEPR?

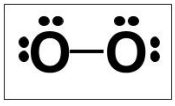
A trigonal pyramidal

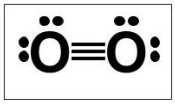
B tetrahedral

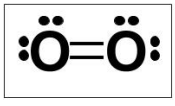
C bent

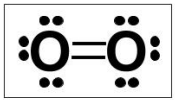
D linear

116. Which Lewis Dot Model drawing correctly shows an O_2 molecule?

A 

B 

C 

D 

117. What is the 3D molecular shape of BCl_3 molecule?

A trigonal pyramidal

B tetrahedral

C trigonal planar

D linear

118. How many total valence electrons are available for bonding in the sulfate ion (SO_4^{-2})?

A 32 electrons

B 30 electrons

C 28 electrons

D impossible to tell

119. What is the molecular geometry of PH_3?

A linear

B bent

C trigonal pyramidal

D tetrahedral

120. 490,000 g =____ kg

A 490

B 0.49

C 49

D 4,900

121. Matter can not be created nor destroyed: it can only be

A Destroyed a little bit

B Transformed, changed

C None of the above

D Invisible

122. Students react baking soda & vinegar.
Which of the following would provide the evidence that the number of atoms present before a chemical reaction is equal to the number of atoms present after the chemical reaction?

A. Bubbles were produced during the reaction, which meant that a gas was being produced.

B. The mass of the plastic bag, baking soda, and vinegar before the reaction was equal to the mass after the reaction.

C. The mass of the baking soda was exactly equal to the mass of the vinegar used to create the chemical reaction.

D. The plastic bag did not change in any way, indicating that it was not involved in the reaction.

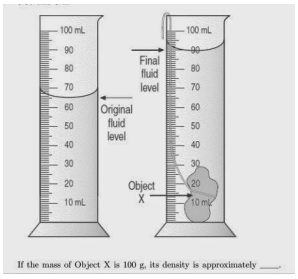
123. Suppose a reaction were to happen in an open container in a lab. During the reaction, the scientist observes the chemicals bubble, and produce a gas. During the analysis the scientist notices that the reactants weighed 20 g when he started, and the product weighed 18 g. Explain what happened.

A. The reactants created matter during the reaction

B. The gas that was produced was not able to be weighed since the container was open.

C. His chemical reaction defied the law of conservation of mass

D. The product destroyed mass during the reaction

124. 

What is the volume of Object X?

A. 15.0 cm^3

B. 25.0 cm^3

C. 20.0 cm^3

D. 10.0 cm^3

125. What is the volume of 150 grams of lead if it has a density of 11.3 g/cm^3?

A. .075 g

B. 1695 cm^3

C. 13.3 cm^3

D. 13.3 g

Answer Key

1.d	2.c	3.a	4.c
5.d	6.c	7.c	8.c
9.b	10.d	11.a	12.a
13.b	14.c	15.c	16.c
17.d	18.d	19.b	20.c
21.c	22.a	23.d	24.c
25.c	26.b	27.a	28.d
29.b	30.c	31.b	32.d
33.c	34.c	35.c	36.c
37.a	38.a	39.c	40.b
41.a	42.c	43.d	44.d
45.d	46.c	47.c	48.a
49.d	50.a	51.c	52.d
53.c	54.d	55.c	56.c
57.a	58.b	59.d	60.d
61.a	62.d	63.c	64.c
65.c	66.a	67.d	68.a
69.d	70.c	71.a	72.b
73.d	74.b	75.c	76.c
77.d	78.c	79.d	80.c
81.a	82.c	83.c	84.b
85.c	86.d	87.c	88.a
89.d	90.d	91.c	92.c
93.c	94.a	95.b	96.a

97.c	98.d	99.c	100.a
101.b	102.c	103.a	104.c
105.b	106.b	107.d	108.a
109.d	110.b	111.d	112.a
113.d	114.a	115.c	116.c
117.c	118.a	119.c	120.a
121.b	122.b	123.b	124.b
125.c			