#### Class:

#### \_\_\_\_\_ Date: \_\_\_\_

ID: X

## **Spring Practice test**

#### **Multiple Choice**

Identify the choice that best completes the statement or answers the question. \*\*\*You will have 75 questions covering first and second semester on your final exam. \*\*\*You are responsible for all information in each of the chapters. \*\*\*Your final exam is 20% of your grade.

\*\*\*You must have your own calculator, pencil and your extra credit.

1. What is the volume of 63.8 g of Carbon Dioxide at a pressure of 75.0 kPa and a temperature of 345 K? 8.23 L 78.4 L a. c. 22.4 L 55.4 L b. d. 2. Which compound represents a molecular compound? a.  $S_2Br_6$ c. HBr b. KF d. NaNO<sub>3</sub> What is the correct noble gas electron configuration for a Chloride ion? 3. a. [Ne]3s<sup>2</sup>3p<sup>6</sup> c.  $[Ar]3s^23p^5$ b. [Ne]3s<sup>2</sup>3p<sup>5</sup> d.  $[Ar]3s^23p^6$ 4. Which statement *best* describes the density of an atom's nucleus? The nucleus occupies very little of the The nucleus occupies most of the atom's a. c. atom's volume and contains little of its volume but contains little of its mass. mass. b. The nucleus occupies very little of the d. The nucleus occupies most of the atom's atom's volume but contains most of its volume and contains most of its mass. mass. 5. The average kinetic energy of gas particles will be directly proportional to The number of moles of a gas. c. The Pressure of the gas. a. b. The Celsius temperature of the gas. d. The ideal gas constant. 6. The name for an alkyl group that contains two carbon atoms is \_\_\_\_\_ a. dimethyl c. diphenyl ethyl propyl b. d. 7. A cylinder with a tightly fitted piston is shown in the diagram below. Air at constant temperature As the piston moves downward, the pressure inside the cylinder... a. Increases Decreases C. b. Fluctuates Stays the same d. 8. How do the isotopes hydrogen-1 and hydrogen-2 differ? Hydrogen-1 has no protons; Hydrogen-2 Hydrogen-1 has one neutron; a. c. Hydrogen-2 has two protons.. has one. b. Hydrogen-1 has one protons; Hydrogen-2 d. Hydrogen-1 has one protons; Hydrogen-2 has two. has one protone and one neutron.

9.

# $Fe_2O_3 + 3CO \rightarrow 2Fe + 3CO_2$

In this reaction, how many grams of Fe<sub>2</sub>O<sub>3</sub> are required to completely react with 84 grams of CO?

- a.80c.64b.160d.1400
- 10. The volume of 400 mL of chlorine gas at 400 mm Hg is decreased to 200 mL at constant temperature. What is the new gas pressure?
  - a. 300 mm Hg
- c. 650 mm Hg
- b. 800 mm Hg d. 400 mm Hg



11.

Which substance has the highest density?

a.	А	c.	С
b.	В	d.	D

- 12. How many atoms are in a chromium sample with a mass of 13 grams? a.  $3.3 \times 10^{23}$  c.  $1.9 \times 10^{26}$ 
  - b.  $1.5 \times 10^{23}$  d.  $2.4 \times 10^{24}$
  - \_\_\_\_\_ 13. What type of shape is the second C creating?

- a. tetrahedral c. bent
- b. trigonal planar d. trigonal pyramidal
- \_\_\_\_\_ 14. Which group of elements will have the strongest attraction for electrons? a. Alkali Metals c. Noble Gases
  - b. Halogens d. Transition Metals

\_\_\_\_ 15.

# **Results of Firing Alpha Particles at Gold Foil**

Observation:	Proportion:
Alpha particles went straight through gold foil.	> 98%
Alpha particles went through gold foil but were deflected at large angles.	≈ 2%
Alpha particles bounced off gold foil.	≂ 0.01%

## What information do the experimental results above reveal about the nucleus of the gold atom?

	a.	The nucleus is small and is the densest part of the atom	c.	The nucleus contains less than half the mass of the atom
	b.	The nucleus is large and occupies most of the atom's space.	d.	The nucleus contains small positive and negative particles.
 16.	How	w many oxygen atoms are there in 4.75 mol	of C	alcium Dichromate?
	a.	52.5 oxygen atoms	c.	3.01 x 10 <sup>24</sup> oxygen atoms
	b.	$2.00 \ge 10^{25}$ oxygen atoms	d.	7 oxygen atoms
 17.	In v	which of the following is the number of	neut	rons correctly represented?
	a.	$^{24}_{12}$ Mg has 24 neutrons	d.	$^{19}_{9}$ F has 0 neutrons
	b. c.	$^{75}_{33}$ As has 108 neutrons $^{197}_{79}$ Au has 79 neutrons	e.	$^{238}_{92}$ U has 146 neutrons
 18.	List	t the following atoms in order of increas	ing	first ionization energy: B, Li, C, F, O.
	a.	B, Li, C, O, F	c.	F, O, C, B, Li
	b.	Li, B, F, O, C	d.	Li, B, C, O, F
 19.	Wh	ich of the following is a monatomic gas at S	TP?	
	a.	Nitrogen	c.	Florine
	b.	Chlorine	d.	Helium

	B C D E	
20.	Time	
 	According to the above figure, what is happening a	s a substance goes from point A to point B?
	a. A gas is condensing c. b. A gas is getting colder d.	A solid is getting warmer Ice is melting
 21.	Alkanes are hydrocarbons that contain what type o	f bonds?
	a. ionic bonds c.	single covalent bonds only
	b. at least one double bond d.	at least one triple bond
 22.	The temperature of a substance is 23 degrees Celsin	us. Convert these degrees to Kelvin.
	a. 500K C. b. 273K d.	-250K 296K
 23.	Standard temperature and pressure (STP) are define	ed as
	a. 0-K and 1-atm c.	0-K and 1-kPa
	b. $0^{\circ}C$ and $1^{\circ}KPa$ d.	0-°C and 101.3 kPa
 24.	The specific heat of copper is about 0.4 joules/gram of a 60 gram sample of copper from 20.0 $\%$ to 60.0	$n^{\circ}$ C. How much heat is needed to change the temperature
	a. 960 J c.	720 J
	b. 1200 J d.	480 J
 25.	How many valence electrons does a carbon atom h	ave?
	a. 1 c.	3
0.0	b. 2 d.	4
 26.	The splitting of a nucleus into smaller nuclei is known a Fusion	Wn as Fission
	b. Hydrolysis	1 1551011
 27.	Select the correct statement about subatomic partic	les.
	a. Electrons, protons, and neutrons all have c.	Electrons are negatively charged, occupy
	the same mass.	most of the volume and are the lightest subatomic particles
	b. Neutrons have no charge and are the d.	Protons are positively charged, found in
	lightest subatomic particles.	the nucleus and the lightest subatomic
•		particles.
 28.	The energy released by the sun is a result from nuclear	Fusion
	b. Fission	1 451011
 29.	What is the correct electron configuration for Gold	?
	a. $[Rn]6s^25d^9$ c.	[Xe]6s <sup>2</sup> 5d <sup>9</sup>
	b. [Xe] $6s^24f^{14}5d^9$ d.	$[Rn]6s^24f^{14}5d^9$
 30.	How many carbons are in a molecule of hexane?	2
	a. 5 C. b. 6 d	5 4

 31.	What must happen for liquid water to freeze?		
	a. The water must absorb kinetic energy	c.	The water must release energy to the
	from the surroundings.	_	surroundings.
	b. The water molecules must begin to move	d.	The water molecules must begin to move
	in random patterns.		taster
 32.	Under which of the following sets of condition:	s wil	1 a 0.50 mole sample of helium occupy a volume of 11.2
	liters? $273 K \text{ and } 1.0 \text{ atm}$	0	272 K and 0 50 atm
	a. $275$ K and $1.0$ atm b. $208$ K and $0.50$ atm	с. d	272 K and 1.50 atm
	0. 298 K and 0.50 atm	u.	
 33.	Which of the following elements will require th	ne m	ost energy to remove an electron from its outer energy
	level?	0	Cocium
	a. Chiofine b. Neon	c. d	Lantanum
24	Which of the following structures are poler?	u.	Lantanum
 54.	which of the following structures are polar?	C	PH.
	CH <sub>4</sub>	C.	1113
	h.	d.	
	НСР		C <sub>2</sub> H <sub>2</sub>
35	$C_0H_{10} + O_0> CO_0 + H_0$	)	
 55.	$\frac{1}{2} = \frac{1}{2} = \frac{1}$	telv	react to produce exactly 36 liters of $H_{\bullet}\Omega^{2}$ Balance
	the equation first!	ucry	react to produce exactly 50 mers of 1120? Datance
	201	C	27 I
	b $36L$	d.	4 L
36	What type of reaction is the reaction below	?	
 50.	what type of reaction is the reaction below	•	
	$Fe_2O_3 \rightarrow Fe_+O_2$		
	a. Synthesis/Combination	c.	Single Replacement
	b. Decomposition	d.	Combustion
 37.	$0_{3}1_{8} + 0_{2} - 0_{2} + 1_{2}0$		
	This chemical equation represents the combust	ion c	of propane. When correctly balanced, the coefficient for
	water is		
	a. 2	с.	4
• •	b. 8	d.	16
 38.	What is the density of 1 mole of NO <sub>2</sub> gas at <u>ST</u>	<u>P?</u>	
	a. $0.513 \text{ g/L}$	с.	1.34 g/L
• •	b. 1.03 g/L	a.	2.05 g/L
 39.	$(NH_4)_3PO_4 + FeSO_4> Fe_3(P)$	$(O_4)_2$	$_2 + \_ (NH_4)_2SO_4$
	How many grams of ammonium sulfate wi	ll be	produced when 100. g of ammonium phosphate react
	completely with iron (II) sulfate?		
	a. 100	с.	186.9
4.0	D. 132.9	a.	149.5
 40.	Theoretically, when an ideal gas in a closed con	ntain	er cools, the pressure will drop steadily until the pressure
	inside is essentially that of a vacuum. At what is $273 K$	lemp	O K
	a. $-2/3$ N	С. 1	
	D400 °C	a.	UC

41.	Why is boiling a cooling process?		
	a. The particles with less potential energy	c.	The particles with more potential energy
	leave the liquid first, leaving the		leave the liquid first, leaving the
	remaining particles with more potential		remaining particles with less potential
	h The particles with less kinetic energy	d	The particles with more kinetic energy
	leave the liquid first, leaving the	u.	leave the liquid first, leaving the
	remaining particles with more kinetic		remaining particles with less kinetic
	energy.		energy.
 42.	How do the isotopes carbon-12 and carbon-14	diffe	r?
	a. Carbon-12 has no neutrons; Carbon-14	c.	Carbon-12 has no protons; Carbon-14 has
	has two	4	SIX. Combon 12 has six neutrons: Carbon 14
	Carbon-12 has two more electrons than Carbon-14.	a.	has eight neutrons.
 43.	Substance X a molecular compound that is a lie	quid	at room temperature. Substance Z is a molecular
	compound that is a solid at room temperature.	Whi	The intermolecular forces are stronger in
	randomly compared to substance X	ι.	substance Z
	b. The intermolecular forces are stronger in	d.	Substance X most likely has a higher
	substance X.		molecular mass than substance Z.
 44.	Which of the following is <b>not</b> an example of	of an	emulsion?
	a. A cloudy layer formed when a	c.	Mayonnaise
	mixture of biodiesel and water is		
	shaken		1 1
	b. Oil and water that is clearly separated	d.	pancake batter
 45.	Select the set of coefficients that properly b	balar	nce the equation below.
	$Fe_2O_2 \rightarrow Fe_2 + O_2$		
	a. 1, 2, 3	c.	2, 2, 3
	b. 2, 4, 3	d.	3, 4, 4
 46.	What is the correct name for this compound: H	NO <sub>3</sub>	?
	a. Nitrous Acid	c.	Nitric Acid
	b. Hydronitrous Acid	d.	Hydronitric Acid
 47.	What is the volume of a 200-gram sample of ni	itroge	en gas at STP?
	a. 125-L b. 250 L	c. d	320-L 160 I
18	U. 250-L How many moles of carbon-12 are contained it	u. neva	ctly 6 grams of carbon-122
 40.	a. 2.0 moles	с.	$6.02 \times 10^{23}$ moles
	b. 0.5 moles	d.	$3.01 \times 10^{23}$ moles
 49.	Which of the following ions should have the la	rgest	ionic radius?
	a. Iron II ion	c.	Potassium Ion
	b. Bromide ion	d.	Selenide ion
 50.	Which of these is an example of an exothermic	chei	mical process?
	a. evaporation of water	с.	combustion of gasoline
	b. photosynthesis of glucose	d.	melting ice

51.	Which of the f	following are nonpolar?		
	a.		c.	SiO <sub>2</sub>
	$NH_3$			
	b.		d.	CH <sub>3</sub> F
	$H_2CO$			
 52.	A 25.0 g samp	ble of water at 100°C has an er	nergy ch	nange of -1670 J. What is the new temperature of the
	water?			04.02
	a. 116°C		с. d	84.0°C
	0. 104.18°C	2AI > 2AICI.	u.	38.5°C
 53.	500012 -		T 30	d
	A mass of 5.4	grams of aluminum (Al) reac	ts with a	an excess of copper (II) chloride ( $CuCl_2$ ) in solution, as
	shown above.	What mass of solid copper (	Cu) is pi	roduced?
	a. 8.5 grams		с. d	19 grams
~ ^	D. 58 grains		u.	28 grans
 54.	How many mo	plecules of nitrogen gas are in	a 5.50 I	L at 75.0 kPa and 125 °C?
	a. $7.51 \times 10^{-1}$	23	С. Л	$3.50 \times 10^{23}$
	D. 0.02 X 10		d.	4.55 X 10 <sup>19</sup>
 55.	Why is cobalt	(Co) placed before nickel (Ni	() on the	periodic table of the elements even though it has a higher
	average atom	c mass than nickel?		
	a. Codalt wa	as discovered first.	с. d	Nickel has one more proton
	D. INICKEI IIA	s lewel electrons.	u.	
 56.	The products	created from the reactants	below	would be:
	NaF +	$AgNO_3 \rightarrow ?$		
	NT NT 4			
	a. $Na_3N, A_3$	$gF, O_2$	с.	Nano, Agf, $O_2$
	b. NaNO <sub>3</sub> ,	AgF	d.	FNO <sub>3</sub> , NaAg
 57.	What is the ne	w volume when 10.0 L of Ne	on gas a	at 10°C is heated to 100°C without changing the pressure.
	a. 22.0 L		c.	13.2 L
	b. 7.6 L		d.	100. L
 58.	Table 1			
	Substance	Density		
	Iridium	22.4 g/ml		
	Gold	19.3 g/mL		
	Mercury	13.5 g/mL		
	Lead	11.3 g/mL		
	Aluminum	2.7 g/mL		
	Water	1 g/mL		
	Based on the	e data in the table above,	which s	substances, excluding water, would float in
	mercury?			
	a. Lead and	Aluminum	с.	Aluminum only
	b. Lead and	Gold	d.	Gold and Iridium
 59.	How many pro	otons and electrons are in a Ca	alcium <u>i</u>	<u>on</u> ?
	a. 18, 18		c.	20, 18
	b. 18, 20		d.	20, 20

7

60. Which equation correctly represents the alpha decay of Polonium-214



61.

According to the above figure, what happens when a substance moves from point D to point E?

- a. A gas is condensing
- b. A liquid is freezing

- c. A liquid is cooling downd. A solid is melting
- Table of Common MoleculesNameHydrogenChlorineAmmoniaMethaneMolecular<br/>FormulaH2Cl2NH3CH4

62.

What type of bond to all of these compounds have in common?

- a. hydrogen c. Covalent
- b. metallic d. ionic
- 63. Lead nitrate can be decomposed by heating. What is the percent yield of the decomposition reaction if 9.9 g  $Pb(NO_3)_2$  are heated to give 5.5 g of PbO?

 $2Pb(NO_3)_2(s) \rightarrow 2PbO(s) + 4NO_2(g) + O_2(g)$ 

a.44%c.67%b.56%d.82%

64. Which of these expressions is a correct interpretation of the balanced equation?

$$2S + 3O_2 -> 2SO_3$$

- a. 2 moles of S + 3 moles of oxygen c. 2 g of S + 3 g of  $O_2$  --> 2 g of S $O_3$  --> 2 moles of S $O_3$
- b. 2 atoms of S + 6 molecules of d. None of the above oxygen --> 2 molecules of SO<sub>3</sub>

 65.	Which expression proves the law of conserv	vatio	on of mass for the following equation.
	2K	+ 2	$2 H_2 O \rightarrow 2 KOH + H_2$
	a. $164.2$ g of reactants = $82.1$ g of	c.	114.2 g of reactants = $114.2$ g of
	products		products
	b. $57.1$ g of reactants = $57.1$ g of	d.	57.1  g ot reactants = 58.1  g ot
	products		reactants
 66.	$H_2O_2$ , hydrogen peroxide, naturally breaks down	n int	to $H_2O$ over time. MnO <sub>2</sub> , manganese dioxide, can be used
	to lower the energy of activation needed for this	s rea	action to take place and, thus, increase the rate of reaction.
	What type of substance is MnO2?		a mua durat
	a. an inhibitor	c.	a product
$\overline{a}$	$\mathbf{W}$	u.	a reactain
 67.	• Which of the following compounds is an acid?	0	H 50
	a. $\Pi_2 O$	с. а	
60		u.	LIN
 68.	What is the correct name for the following $N_2O$	4?	
	a. nitrogen (IV) oxide	С.	nitrogen tetraoxide
	b. dinitrogen oxide	a.	dinitrogen tetroxide
 69.	How do the isotopes hydrogen-1 and hydro	gen	-2 differ?
	a. Hydrogen-1 has no protons; Hydrogen-2	c.	Hydrogen-1 has one protons; Hydrogen-2
	has one.		has one protone and one neutron.
	b. Hydrogen-1 has one protons; Hydrogen-2	d.	Hydrogen-1 has one neutron;
	has two.		Hydrogen-2 has two protons
 70.	$H_{4}O_{10} + H_{2}O - H_{3}PO_{4}$		
	Choose the correct type of reaction.		
	a. decomposition	c.	combustion
	b. combination	d.	single replacement
 71.	$LiOH + \H_3PO_4 \rightarrow ? + ? +$		
	The above reaction represents a special (ex	cep	tional) case of a reaction, which is the:
	a. Formation of an Acid	d.	Formation of Hydrogen Gas
	b. Formation of a Base	e.	Not a special (exceptional) case.
	c. Acid-Base Neutralization		
72	In a combustion reaction where hydrocarbo	ns (	e a propane) or carbohydrates (e a glucose) are
 12.	burned in the air, which of the following is	alse	the other reactant?
	a Carbon dioxide	d	Oxygen
	h Water	u. е	Heat
	c. Light	0.	Trout
73	A sample of a gas with a volume of $3.9 \text{ L}_{-}$ at $27$	°C	and 1.00 atm is cooled at a constant pressure until the
 75.	temperature is 11°C. Calculate the new volume		and 1.00 and is cooled at a constant pressure until the
	a 51L	с	4 0 L
	b. 3.7 L	d.	1.4 L
74	What is the element with the lowest electrones	ntivi	ty value?
 	a. calcium	с.	cesium
	1	1	Class of the s

b. oxygen d. fluorine

 75.	Which of the following elements has the small	est <u>ic</u>	onic radius?
	a. Oxide ion	c.	Sulfide ion
	b. Lithium ion	d.	Potassium ion
 76.	Barium is a larger atom than Calcium. Which	of th	e following is the <i>BEST</i> explanation why this occurs?
	a. Barium only has two valence electrons	c.	Barium has more electrons than calcium
	b. Barium more electrons and protons and	d.	Barium has two more energy levels than
	more attraction		calcium
 77.	Which element has the configuration of [Rn] 7	's <sup>2</sup> 5f	<sup>3</sup> 6d <sup>1</sup>
	a. Th		
	b. Nd		
	c. Ac		
	d. U		
 78.	Choose the correct electron configuration for I	<b>D</b> 3-	
	a. $1s^2 2s^2 2p^6 3s^2$	c.	$1s^2 \ 2s^2 \ 2p^6 \ 3s^2 \ 3p^3$
	b. $1s^2 2s^2 2p^6 3s^2 3p^6$	d.	$1s^2 \ 2s^2 \ 2p^6 \ 3s^2 \ 3p^6 \ 4s^2$
 79.	Who arranged the elements according to atomic	ic ma	ass and used the arrangement to predict the properties of
	missing elements?		
	a. Dmitri Mendeleev	c.	John Dalton
	b. Antoine Lavoisier	d.	Henry Moseley
 80.	What is the number of moles of solute in 250 r	nL o	f a 0.4 <i>M</i> solution?
	a. 0.16 mol	c.	0.1 mol
	b. 1.6 mol	d.	0.62 mol
 81.	The noble gas configuration for Uranium i	s:	
	a. [Xe] $7s^2 5f^3$	c.	[Xe] $7s^2 5f^2 5d^1$
	b. [Rn] $7s^2 5f^3$	d.	[Rn] $7s^2 5f^3 6d^1$
82.	What is the correct formula for barium chlorate	e?	
	a. $Ba(ClO)_2$	c.	$Ba(ClO_3)_2$
	$h = Ba(C O_{1})$	d	BaCl
	$b. bu(cro_2)_2$	u.	
 83.	If a balloon is squeezed, what happens to the p	ressu	are of the gas inside the balloon?
	a. The pressure depends on the type of gas in	n the	balloon.
	b. It decreases.		
	c. It stays the same.		
	d. It increases.		
 84.	What is the volume of 63.8 g of Carbon Dioxid	de at	a pressure of 75.0 kPa and a temperature of 345 K?
	a. 78.4 L	с.	55.4 L
	b. 8.23 L	d.	22.4 L
 85.	A 25.0 g sample of water at 100°C has an ener	gy cl	hange of -1670 J. What is the new temperature of the
	water?		10.1.10.2
	a. 116°C	с.	104.18°C
	b. 84.0°C	d.	38.3°U

86. The graph below represents the uniform cooling (freezing) of a substance, starting with the substance as a gas above its boiling point.



Choose the answers that describe the change in enthalpy between C and D

- a.  $\Delta H$  and Endothermic d.  $-\Delta H$  and Exothermic
- b.  $\Delta H$  and Exothermic e.  $\Delta H_{vap}$  and Exothermic
- c.  $-\Delta H$  and Endothermic

\_\_\_\_\_ 87. What is the molarity of 200 mL of solution in which 2.0 moles of sodium bromide is dissolved?

- a. 2.0*M* c. 0.40*M*
- b. 4.0*M* d. 10*M*
- 88. What is the molality of a solution containing 8.0 grams of solute in 0.50 kg of solvent? (molar mass of solute = 24 g)
  - a. 0.17*m* c. 4*m* b. 0.67*m* d. 1.67*m*
- \_ 89. How many valence electrons does an atom of any halogen group have?
  - a. 4 c. 7 b. 5 d. 8
- 90. An analysis of the equilibrium mixture in a 1-L flask gives the following results:  $[HC1] = .30 \text{ mol}, [O_2] = .20 \text{ mol}, [H_2O] = 1.2 \text{ mol}, \text{ and } [Cl_2] = .60$

### $4HCl(g) + O_2(g) < ---> 2H_2O(g) + 2Cl_2(g) + 10kJ$

Based on your answer for  $K_{eq}$  are the reactants or products favored?

- a. products c. reactants
- b. heat d. Both a and B

91. Isotopes of the same element will have different... (Choose all that apply)

- a. numbers of protons d. numbers of electrons
- b. chemical propertiesc. numbers of neutronse. masses
- c. numbers of neutrons

92.

# $NH_4CI(s) + heat \implies NH_3(g) + HCI(g)$

- What kind of change will shift the reaction above to the right to form more products?
- a. a decrease in total pressureb. an increase in the pressure of NH3c. a decrease in temperatured. an increase in the concentration of HCl

		0	f four different laboratory solution	s, th	ie
		<b>S</b> 0	lution with the highest acidity has :	a pł	I of
	93.				
		a.	11	c.	3
		b.	7	d.	5
	94.	Ch	oose the correct molecular shape for am	mon	ia, NH3.
		a.	trigonal planar	c.	trigonal pyramidal
		b.	linear	d.	bent
	95.	Wh imr	en a reaction is at equilibrium and more rea nediate result?	ictan	t is added, which of the following changes is the
		a.	The forward reaction rate increases.	c.	The forward reaction rate remains the same.
		b.	The reverse reaction rate decreases.	d.	The reverse reaction rate remains the same.
			$2CO + O_2 \longrightarrow 2CO_2$		
	96	If se pr re	the above reaction takes place insid aled reaction chamber, then which ocedures will cause a decrease in th action?	le a of ti ne ra	hese ate of
	<i>J</i> 0.	a. b.	removing the CO <sub>2</sub> as it is formed raising the temperature of the reaction chamber	c. d.	adding more CO to the reaction chamber increasing the volume inside the reaction chamber
	97.	De	termine the shape of SCl <sub>2</sub> :		
		a.	bent	c.	trigonal pyramidal
		b.	tetrahedral	d.	linear
		4	$HCI_{(g)} + O_{2(g)} \rightleftarrows 2H_2O_{(l)} + 2CI_{2(g)}$	g) +	113 kJ
	98.		Which action will drive the rearing the re	acti	on to the
		a. b.	increasing the system's pressure heating the equilibrium mixture	c. d.	decreasing the oxygen concentration adding water to the system
	99.	Wł	hich of the following covalent bonds is t	he m	nost polar?
		a.	СС	с.	СН
		b.	CBr	d.	CCl
1	00.	In	which of the following reactions involving	g gas	es would the forward reaction be favored by an
		inc	rease in pressure?	50	
		a.	$A + B \rightleftharpoons AB$	c.	$AC \rightleftharpoons A + C$
		b.	$A + B \rightleftharpoons C + D$	d.	$2A + B \rightleftharpoons C + 2D$

101.	. Why do atoms share electrons in covalent bonds?				
	a. to attain a noble-gas electron configuration	c.	to become ions and attract each other		
	b. to increase their atomic numbers	d.	to become more polar		
102.	Equal volumes of 1 molar hydroch (HCl) and 1 molar sodium hydroxi (NaOH) are mixed. After mixing, t will be	loric a de ba he sol	ncid se ution		
	a. weakly basic	с.	nearly neutral		
	b. strongly acidic	d.	weakly acidic		
	Which would be <i>most</i> appropriate	for co	llecting		
103.	data during a neutralization reacti	on?			
103.	data during a neutralization reacti a. a statistics program	on? c.	a pH probe		
103.	data during a neutralization reacti a. a statistics program b. a thermometer	on? c. d.	a pH probe a graphing program		
103. 104.	<ul> <li>data during a neutralization reacti</li> <li>a. a statistics program</li> <li>b. a thermometer</li> <li>Which intermolecular force is present in the strongest force present.</li> </ul>	on? c. d. compo	a pH probe a graphing program und $CH_3NH_2$ between the N and H? Choose only the		
103. 104.	<ul> <li>data during a neutralization reacti</li> <li>a. a statistics program</li> <li>b. a thermometer</li> <li>Which intermolecular force is present in the strongest force present.</li> <li>a. dipole-dipole</li> </ul>	on? c. d. compo c.	a pH probe a graphing program und CH <sub>3</sub> NH <sub>2</sub> between the N and H? Choose only the dispersion		
103. 104.	<ul> <li>data during a neutralization reacti</li> <li>a. a statistics program</li> <li>b. a thermometer</li> <li>Which intermolecular force is present in the strongest force present.</li> <li>a. dipole-dipole</li> <li>b. electrostatic</li> </ul>	on? c. d. compo c. d.	a pH probe a graphing program und CH <sub>3</sub> NH <sub>2</sub> between the N and H? Choose only the dispersion hydrogen bonding		
103. 104. 105.	<ul> <li>data during a neutralization reacti</li> <li>a. a statistics program</li> <li>b. a thermometer</li> <li>Which intermolecular force is present in the strongest force present.</li> <li>a. dipole-dipole</li> <li>b. electrostatic</li> <li>Which structural formula represents a normalization reaction.</li> </ul>	c. d. compo c. d. npolar	a pH probe a graphing program und CH <sub>3</sub> NH <sub>2</sub> between the N and H? Choose only the dispersion hydrogen bonding molecule?		

a.	н—н	с.	H-N-H   H
b.	н— 0   Н	d.	H — CI

## Spring Practice test Answer Section

## MULTIPLE CHOICE

1.	ANS: D Stt. 4h			
2.	PTS: 1 ANS: A ST 2A, 2B	STA: 4h		
3. 4.	PTS: 1 ANS: A ANS: B ST. 1.E	PTS: 1		
5.	PTS: 1 ANS: C St. 4c,g			
6. 7.	PTS: 1 ANS: B OBJ: 22.1.2 ANS: A St. 4c	STA: 4c,g PTS: 1 STA: Ch.10.d	DIF: L1	REF: p. 698
8.	PTS: 1 ANS: D ST. 1 ST. 11.C			
9. 10.	PTS: 1 ANS: B ANS: B St. 4c	PTS: 1	STA: 3e	
<ol> <li>11.</li> <li>12.</li> <li>13.</li> <li>14.</li> </ol>	PTS: 1 ANS: A ANS: B ANS: B OBJ: 23.1.1 ANS: B Standard 1c	STA: 4c         PTS: 1         PTS: 1         PTS: 1         STA: Ch.10.e	STA: 3d DIF: L1	KEY: Mass to Representative Particles REF: p. 726

**PTS**: 1

15.	ANS: St. 1.E ST. 1.I	A H						
16.	PTS: ANS: KEY:	1 B Moles to Repr	PTS: esentati	1 ive Particles wi	STA: thin for	3d rmula		
17. 18.	ANS: ANS: St. 1c	E D	PTS:	1				
19.	PTS: ANS: ST 1B	1 D	STA:	1c				
20	PTS:	1 B	ρτς.	1				
20. 21	ANS.	C	PTS.	1	DIF∙	L1	REF	n 694
	OBJ:	22.1.2	STA:	Ch.10.d	2			F. 07.
22.	ANS: ST 4E	D						
	PTS:	1						
23.	ANS:	D	PTS:	1	STA:	4d		
24.	ANS: St. 7d	A						
	PTS:	1						
25.	ANS:	D	PTS:	1	DIF:	L1	REF:	p. 694
	OBJ:	22.1.1	STA:	Ch.1.g   Ch.10	.b			-
26.	ANS:	С	PTS:	1				
27.	ANS: ST. 1.	C A						
	PTS:	1						
28.	ANS:	С	PTS:	1				
29.	ANS:	В	PTS:	1				
30.	ANS:	B	PTS:	1	DIF:	L1	REF:	p. 695
21	OBJ:	22.1.2	STA:	Ch.10.d				
51.	ANS: St. 7c	C						
	PTS:	1						
32.	ANS:	А	PTS:	1	STA:	3d	KEY:	Molar Volume of a gas at STP

33. ANS: B St. 1c

PTS: 1

34.	ANS: B	PTS: 1	DIF: L1	REF: p. 737
	OBJ: 23.3.1	STA: Ch.10.e		
35.	ANS: D			
	ST 3			
26	PIS: I	DTC 1	ОТА. 2.	VEV To f De dia De dia
36. 27	ANS: B	PIS: 1	SIA: 3a	KEY: Types of Reactions; Decomposition
37.	ANS: C	PIS: 1		
38.	ANS: D	PIS: 1	STA: 3d	
20	KEY: density of a ga	as at STP; motar mass;	, motar volume	
39.	ANS: B			
	51 5			
	PTS· 1			
40.	ANS: C			
	St. 4d, 4e, 4f, 4c			
	, , ,			
	PTS: 1	STA: 4c,d,e,f		
41.	ANS: D			
	St. 7a			
	PTS: 1	STA: 7a		
42.	ANS: D			
	ST.11.c			
	ρτς. 1			
13	ANS: C			
45.	St 2d			
	51. 24			
	PTS: 1			
44.	ANS: B	PTS: 1		
45.	ANS: B	PTS: 1	STA: 3a	KEY: Balancing Equations
46.	ANS: C			
	ST 2A, 2B			
	PTS: 1			
47.	ANS: D	PTS: 1	STA: 3d	KEY: Molar Volume of a Gas
48.	ANS: B	PTS: 1	STA: 3b	KEY: Mass to Moles
49.	ANS: D			
	Standard 1c			
	DTC. 1	СТА. 1 <sub>0</sub>		
50	PIS: I	STA: IC		
50.	ANS: C St 7b			
	SI. /U			
	PTS: 1			
51.	ANS: C	PTS: 1	DIF: L1	REF: p. 740
	OBJ: 23.3.2	STA: Ch.10.e		P

52.	ANS: C	PTS:	1				
53.	ANS: C	PTS:	1	STA:	3e		
54.	ANS: A						
	St. 4h						
	DTC. 1	<b>ст</b> л.	46				
55	PIS: I	51A:	411				
55.	AINS. $D$ St 1 $\Delta$						
	St. 1.A						
	PTS: 1						
56.	ANS: B	PTS:	1	STA:	3a	KEY:	Predicting Products
57.	ANS: C	PTS:	1				
58.	ANS: A						
	ST. 1						
	PTS: 1						
59.	ANS: C						
• • •	ST. 1A, ST 2.A						
	PTS: 1						
60.	ANS: D	PTS:	1				
61.	ANS: B	PTS:	1				
62.	ANS: C						
	ST 2B						
	PTS: 1						
63.	ANS: D	PTS:	1	DIF:	L2	REF:	p. 375
	OBJ: 12.3.2	STA:	Ch.3.f				•
64.	ANS: A	PTS:	1				
65.	ANS: C						
	3						
	$PTS \cdot 1$						
66	ANS: B	PTS.	1	STA	8c		
67	ANS: C	PTS.	1	DIF.	2	STA	2a
07.	TOP: Acid Identific	ation	1	DII.	2	5111.	24
68.	ANS: D	PTS:	1	DIF:	2	STA:	2a
	TOP: Molecular Na	ming					
69.	ANS: C	U					
	ST. 1						
	ST. 11.C						
	PTS· 1						
70	ANS B	<b>PTS</b> ·	1				
70. 71	ANS: C	PTS.	1				
72	ANS: D	PTS.	1				
· •		~ .	-				

73. ANS: B

St. 4c

	PTS:	1	STA:	4c				
74.	ANS:	С	PTS:	1	DIF:	L1	REF:	p. 177
	OBJ:	6.3.3	STA:	Ch.1.c				•
75.	ANS:	В	PTS:	1	DIF:	L2	REF:	p. 175
	OBJ:	6.3.3	STA:	Ch.1.c				-
76.	ANS:	D	PTS:	1				
77.	ANS:	D	PTS:	1	DIF:	L2	REF:	p. 133
	OBJ:	5.2.1	STA:	Ch.1.i				
78.	ANS:	В	PTS:	1				
79.	ANS:	А	PTS:	1	DIF:	L1	REF:	p. 156
	OBJ:	6.1.2	STA:	Ch.1				
80.	ANS:	С	PTS:	1	DIF:	L2	REF:	p. 480   p. 482
	OBJ:	16.2.1	STA:	Ch.6.d				
81.	ANS:	D	PTS:	1	DIF:	L2	REF:	p. 164
	OBJ:	6.2.2	STA:	Ch.1.g				
82.	ANS:	С	PTS:	1	DIF:	L3	REF:	p. 257   p. 264
	OBJ:	9.2.2   9.5.2	STA:	Ch.5				
83.	ANS:	D	PTS:	1	DIF:	L1	REF:	p. 416
	OBJ:	14.1.2	STA:	Ch.4.c				
84.	ANS:	С						
	Stt. 4h	l						
	ρτς.	1	STA	4h				
85	ANS.	B	PTS.	1				
86 86	ANS.	D	PTS.	1				
80. 87	ANS.	D	DTS.	1	DIE	1.2	DEE	n 183   n 181
07.	ORI	1622	STA	r Ch 6 d	DIF.	L/4	NEF.	p. 403   p. 404
88	ΔNS·	R	PTS.	1	DIE	12	<b>R</b> FE·	n 491
00.	ORI.	1641	STA.	r Ch 6 d			KLI',	P. 471
	ODJ.	10.7.1	DIT.	C11.0.u				

## MULTIPLE RESPONSE

89.	ANS: 2a	С		
90.	PTS: ANS: 9b	1 A		
91. 92.	PTS: ANS: ANS: 9a	1 C, E A	PTS:	1
	PTS:	1		

93.	ANS: 5d	C
94.	PTS: ANS: 2f	1 C
95.	PTS: ANS: 9a	1 A
96.	PTS: ANS: 8a	1 D
97.	PTS: ANS: 2f	1 A
98.	PTS: ANS: 9b	1 A
99.	PTS: ANS: 2f	1 D
100.	PTS: ANS: 9a	1 A
101.	PTS: ANS: 2a	1 A
102.	PTS: ANS: 5a	1 C
103.	PTS: ANS: 5a	1 C
104.	PTS: ANS: 2h	1 D
	PTS:	1

105. ANS: A 2f

PTS: 1