Quiz V General Chemistry I Lecture Fall 13 Dr	. Hahn 20 pts 11/1 F 9:30 am Form A quiz #
Name Key	Name
(print name)	(sign name)
Please show all work for full credit & for partial credit	edit for all questions.
1. Given the following balanced reaction, if yo gas NH ₃ is produced at STP? [22.4 Liters = 1 mo	ou start with 1.78 moles of N_2 (g), how many liters of the de of gas at STP] (show work) (6 pts)
$N_2(g) + 3 H_2(g) \rightarrow 2 NH_3(g)$	
1.78 notes x 2mal NH3	x 22.42 N43 = 79.72 I mel NA3 MA3
NZ	Mas MA3
3. Give the electron configuration for the elem This is not me giving the start of your electron con (5 pts) 52	That is the valence electron configuration for the element
<u>Sb</u> ? Give the valence electron configuration in the vour electron configuration but just telling you the	he form of $(1s^2, 2s^2)$ etc. This is not me giving the start of format for your answer) (4 pts)

Sign of the valence electron configuration in the form of (1s², 2s² etc. This is not me giving the state our electron configuration but just telling you the format for your answer) (4 pts)

Sign of the valence electron configuration but just telling you the format for your answer) (4 pts)

Sign of the valence electron configuration in the form of (1s², 2s² etc. This is not me giving the state our electron configuration but just telling you the format for your answer) (4 pts)

			\mathcal{G}	ireer
Quiz V General Che	emistry I Lecture Fall	13 Dr. Hahn 20 pts 1	1/1 F 9:30 am Form B	quiz #
	100,			
Name	rey	Name (sign name)		
(print name)	•	(sign name)		
Please show all work	for full credit & for par	rtial credit for all questi	ons.	
	lowing balanced reaction at STP? [22.4 Liters =		2 moles of O_2 (g), how n (show work) (6,45)	nany liters of the
$2H_2(g) + O_2(g) \rightarrow$	-			
6,552 mal Or	x 2 moltro 0 L	-x 22,4) 1 mol 420	24.7 x	tho (g)
2. Are the follo	wing quantum numbers	allowed for an electron	? (yes, no) (circle one)	Explain. (4 pts)
$n=3, \ell=2, m_{\ell}=-3, m_{\ell$	$m_s = -\frac{1}{2}$ $m_l = -\frac{2}{15}$,-1,0,+1,+2)	should use the format of	
J. GIVE the Cice	aton configuration for the	ic cicincia <u>be</u> . Tou	should use the formut of	(13, 23, 000
This is not me giving $(5 \text{ pts}) + 2 = 2$	g the start of your electron	on configuration but jus	t telling you the format f	or your answer.)
(5 pts) (5 2) Z	77 CP1 756	181 457	3 d 10, 404 integ elen	,
(9) 15 M-	- count ?	e by con	inting elem	rests
A Cirro an ambie	U(V) 55	Periodia	ie element P using the	format Vou
			nighest energy at the top	
			f typing, you should show	
	g lines on different level			(5 pts)
P 1.5 ² , 2.5	² , ² , ⁶ , ⁵ , ⁵ , 36	p ³	2p 1 1 1 3v 3v 3v 1 1 1 1 1	
		1 2 a4	20	
			e electron configuration	
			$2s^2$ etc. This is not me g	giving the start of
2	uration but just telling y	on the format for your A	roly 3—has	3 voleros
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		m v mg	0	

Quiz V General Chemistry I Lecture Fall 13 Dr. Hahn 20 pts 11/1 F 10:30 am Form A quiz #
Name Name (sign name)
Please show all work for full credit & for partial credit for all questions.
1. Given the following balanced reaction, if you start with 15.7 moles of Na (s), how many liters of the gas H_2 (g) is produced at STP? [22.4 Liters = 1 mole of gas at STP] (show work)
$2 \text{ Na (s)} + 2 \text{ H}_2\text{O (l)} \rightarrow 2 \text{ Na OH (aq)} + \text{H}_2 \text{ (g)}$
$2 \text{ Na (s)} + 2 \text{ H}_2\text{O (l)} \rightarrow 2 \text{ Na OH (aq)} + \text{H}_2\text{(g)}$ $-15 \text{ 17 mol} \times \underline{\text{1 mol bl}} \times \underline{\text{22.41 bb}} = 175 \text{ J}$ $Na \text{ (s)} 2 \text{ mol} \text{which is signeral.}$ $Na \text{ Na (s)} 2 \text{ mol bl} \text{which is signeral.}$ 176 Lb
2. a. If principal quantum number n = 3 what are the possible (4 pts)
angular momentum quantum numbers (1) $= 0$, $\frac{1}{2}$ (or $1 - 1 = 3 - 1 = 2$)
Give the electron configuration for the element $\underline{\mathbf{Br}}$. You should use the format of $(1s^2, 2s^2, \text{ etc})$. This is not me giving the start of your electron configuration but just telling you the format for your answer. (5 pts) $(5^2, 2s^2, 2s^2$
Give an orbital diagram for the electron configuration for the element \underline{F} using the format. You should show the lowest energy at the bottom of this space and the highest energy at the top of this space. (I typed the orbitals so that I can draw the thing on one line for ease of typing, you should show any difference in energy by drawing lines on different levels.) Use the format. $\underline{1}\underline{\nu}$ $\underline{1}$ $$
Extra Credit: (stuff gone over in today's lecture) (4 pts) What is the valence electron configuration for the element <u>Cl</u> ? Give the valence electron configuration in the form of (1s ² , 2s ² etc. This is not me giving the start of your electron configuration but just telling you the format for your answer)
(352, 385) - (note (l'ingrayo)) has 7 volonce e

Quiz V General Cher	mistry I Lecture Fall	13 Dr. Hahn 20 pts 11/1 F 10:30 a	green am Form B quiz#
	₽	•	
Name(print name)	Key	Name (sign name)	Model -
		artial credit for all questions.	
		on, if you start with 0.772 moles of Na s = 1 mole of gas at STP] (show work)	
$2NaN_3(s) \rightarrow 2Na(s)$	$+3 N_2(g)$		
0.772 ro	1 × 3 nd 2 md NaNz	$\frac{N_2}{l} \times \frac{22.4 l N_2}{l mol}$	= 25.91 Kz
2. If angular moment	um quantum number i	s /= 2(nickname d) 1 (nickname p), v	what are the possible (4 pts)
magnetic quantum nu	mbers (m/)	2, -1, 0, +1, +2	
3. Give the electrons is not me giving	on configuration for the	the element Ga . You should use the conconfiguration but just telling you the S^2 , S^2 , S^2 , S^3 , S^4 ,	ne format for your answer.)
lowest energy at the b so that I can draw the	ottom of this space and thing on one line for e rent levels.) Use the	ron configuration for the element Ald the highest energy at the top of this state of typing, you should show any different. 12 1 2 2 5 9 5 9 5 9 5 9 5 9 5 9 5 9 5 9 5 9	space. (I typed the orbitals
Extra Credit: (stuff go	ne over in today's lect	ure) What is the valence electron conf	iguration for the element
Bi ? Give the valence	e electron configuration	on in the form of $(1s^2, 2s^2)$ etc. This is ou the format for your answer) (4 pts)	not me giving the start of
(6 5 ² ,	A 9 1 1	Bi Ingroup I, 5	The state of the s

Extra Credit: (stuff gone over in today's lecture) What is the valence electron configuration for the element \underline{Sb} ? Give the valence electron configuration in the form of $(1s^2, 2s^2)$ etc. This is not me giving the start of your electron configuration but just telling you the format for your answer) (4 pts)

Extra Credit: (stuff gone over in today's lecture) What is the valence electron configuration for the element \underline{Ga} ? Give the valence electron configuration in the form of $(1s^2, 2s^2)$ etc. This is not me giving the start of your electron configuration but just telling you the format for your answer) (4 pts)

Quiz V General Chemistry I Lect	ure Fall 13 Dr. Hahn 20 pts 11/1 F 10:30 am Form A quiz #
Name(print name)	Name (sign name)
Please show all work for full credit	& for partial credit for all questions.
	ed reaction, if you start with 15.7 moles of Na (s), how many liters of [22.4 Liters = 1 mole of gas at STP] (show work)
2 Na (s) + 2 H ₂ O (l) \rightarrow 2 Na OH	$I(aq) + H_2(g)$
2. a. If principal quantum number	what are the possible (4 pts)
angular momentum quantum n	umbers (/)
	ion for the element $\underline{\mathbf{Br}}$. You should use the format of $(1s^2, 2s^2, \text{ etc})$ are electron configuration but just telling you the format for your answer.
should show the lowest energy at the typed the orbitals so that I can draw	the electron configuration for the element \underline{F} using the format. You se bottom of this space and the highest energy at the top of this space. (I the thing on one line for ease of typing, you should show any difference rent levels.) Use the format. $\underline{1}\underline{\nu}$ $\underline{1}$ $\underline{1}$ (5 pts)
element <u>CI</u> ? Give the valence el	ay's lecture) (4 pts) What is the valence electron configuration for the lectron configuration in the form of (1s ² , 2s ² etc. This is not me giving on but just telling you the format for your answer)

Name	Name
(print name)	Name (sign name)
Please show all work for full credit	& for partial credit for all questions.
	ed reaction, if you start with 0.772 moles of NaN ₃ (s), how many liters of 2.4 Liters = 1 mole of gas at STP] (show work) (6 pts)
$2\text{NaN}_3(s) \rightarrow 2\text{Na}(s) + 3\text{N}_2(g)$	
2. If angular momentum quantum	number is $\ell=2$ (nickname d) [VineRname p), what are the possible (4 pt
	number is $\ell=2$ (nickname d) V (xickname p), what are the possible (4 pt
magnetic quantum numbers (m _e) 3. Give the electron configuration	
magnetic quantum numbers (m _e) 3. Give the electron configurate This is not me giving the start of you	tion for the element Ga . You should use the format of $(1s^2, 2s^2, etc)$

Extra Credit: (stuff gone over in today's lecture) What is the valence electron configuration for the element $\underline{\mathbf{Bi}}$? Give the valence electron configuration in the form of $(1s^2, 2s^2)$ etc. This is not me giving the start of your electron configuration but just telling you the format for your answer) (4 pts)