me:	Date:			Block:			
		Atomic Structure R					
1)	Rank these from heaviest to lightest:	electron, ${}_{2}^{4}He$ neutr	ron, proton, ${}^1_1 H$				
	heaviest:	,	:lightest				
2)	Determine the number of each subat	comic particle.					
	a) $^{25}_{12}Mg^{2+}$ p	nº	e				
	b) Ca-42p <sup>+</sup>		e				
	c) $Ag^{1+}$ $p^+$		 e <sup>-</sup>				
	Р	<del></del>					
3)	What is the mass number of Cs-130?						
4)	Changing the number of electrons ch						
5)	Changing the number of protons cha						
6)	Changing the number of neutrons ch						
7)	What is the name of the element wit	h an electron configura	ation of 1s <sup>2</sup> 2s <sup>2</sup> 2p <sup>6</sup> 3	3s <sup>2</sup> 3p <sup>6</sup> 4s <sup>2</sup> 3d <sup>8</sup> ?			
8)	What were Rutherford's 2 discoverie	s? 1)	2)				
_,							
9)	Who discovered the electron?						
	What piece of equipment did he use	to discover it?					
10\	\ Fundain why these two statements by	, Daltan ara INCORDEC	<b>-</b>				
10)	<ul><li>) Explain why these two statements by</li><li>1) Atoms are indivisible and indestr</li></ul>		1.				
	This is not true because						
	2) All atoms of the same element a						
	This is not true because						
				<del></del>			
11)	) What 2 conclusions did Bohr come to	about the organizatio	n of electrons in t	he atom?			
	1)		_ Still correct? Y	es / No			
	2)		_ Still correct? Y	es / No			
12)	) What is the maximum number of ele	ctrons that can be held					
	1) 2s		3) 4p _				
	2) 3d		4) 4f _				
13)	) Write the electron configuration for	Bismuth:					
	) Use the diagram in your reference ta						
	1) What wavelength of light is e	emitted when an electr	on falls from n=4	to n=3?			
	What type of light is this?						
	2) What transition does an electron make if violet light is emitted?						
	n= to n=						
15)	) Circle the <u>two</u> atoms that are isotope	es: $\frac{20}{8}X$ $\frac{20}{7}Z$	$X \qquad {}^{21}_{6}X \qquad {}^{22}_{8}X$				

e:						Block:
				Atomic Struct		
16) Ra	ank tl	nese from hea	aviest to lightest: e	electron, ${}_{2}^{4}He$ ,	neutron, protor	$h_{1}^{-1}H$
he	eavie	st:			:lighte	est
17) D	etern	nine the numl	ber of each subato	mic particle.		
	d)	$_{12}^{25}Mg^{2+}$	p <sup>+</sup>	n°	e	
	e)	Ca-42		nº	e	
	f)	Ag <sup>1+</sup>	P <sup>+</sup>		e	
			Р		c	
18) W	/hat i	s the mass nu	imber of Cs-130? _			
19) Cl	hangi	ng the numbe	er of electrons chai	nges the	of the at	om.
	_	_	er of protons chang			
			er of neutrons char			
22) W	/hat i	s the name of	the element with	an electron con	figuration of 1s <sup>2</sup>	2s <sup>2</sup> 2p <sup>6</sup> 3s <sup>2</sup> 3p <sup>6</sup> 4s <sup>2</sup> 3d <sup>8</sup> ?
23) W	/hat v	were Rutherfo	ord's 2 discoveries ?	? 1)		2)
24\ \4	ام ما ا	:	ala atta a 2			
			electron?			
VV	viiat ķ	nece of equip	ment did he use to	discover it: _	<del></del>	
25) E>	xplain	why these tw	wo statements by [	Dalton are INCO	RRECT.	
-	•	•	isible and indestrud			
	Thi	is is not true b	oecause			
4)	) All	atoms of the	same element are	identical.		
	Thi	is is not true b	oecause			
			did Bohr come to a			
3) 4)						
4)	)				3011 0011	ect: <u>res / No</u>
27) W	/hat i	s the maximu	m number of elect	rons that can be	e held by each su	ublevel below?
	1)	2s			3)	) 4p
	2)	3d			4)	) 4f
			_			
29) U			our reference tabl		alastran falls fra	m n=4 to n=22
	1)		of light is this?		electron rails fro	m n=4 to n=3?
	2)	What transi	tion does an electr	on make if viole	et light is emitted	1?
		n= to	n=			
				20	20 ** 21 *-	22 🕶
30) Ci	ırcle t	:ne <u>two</u> atom:	s that are isotopes:	$\frac{20}{8}X$	$^{20}_{7}X$ $^{21}_{6}X$	$\frac{^{22}}{^{8}}X$