

Electrons Configurations Homework

Name: _____

A. Use the patterns within the periodic table to draw orbital diagrams (with arrows) and write longhand electron configurations for the following atoms.

Symbol	# e ⁻	Orbital Diagram (use arrows) and Longhand Electron Configuration
Mg		
P		
V		
Ge		
Kr		
O		

B. Use the patterns within the periodic table to write the shorthand electron configurations for the following elements.

Symbol	# e ⁻	Shorthand Electron Configuration
Ca		
Pb		
F		
U		

Electrons Configurations Homework

Name: _____

C. Which of the following "rules" is being violated in each electron configuration below? Explain your answer for each. **Hund's Rule, Pauli Exclusion Principle, Aufbau Principle**

1.	$\uparrow\downarrow$	$\uparrow\downarrow$	$\uparrow\downarrow$	__	__	
	1s	2s	2p			
2.	$\uparrow\downarrow$	$\uparrow\downarrow$	$\uparrow\downarrow\uparrow\downarrow\uparrow\downarrow$	__	$\uparrow\downarrow\uparrow\uparrow$	
	1s	2s	2p	3s	3p	
3.	$\uparrow\downarrow$	$\uparrow\downarrow$	$\uparrow\downarrow\uparrow\downarrow\uparrow\downarrow$	$\uparrow\uparrow$	$\uparrow\downarrow\uparrow\downarrow\uparrow$	
	1s	2s	2p	3s	3p	
4.	$\uparrow\downarrow$	$\uparrow\downarrow$	$\uparrow\downarrow\uparrow\downarrow\uparrow\downarrow$	$\uparrow\downarrow$	$\uparrow\downarrow\uparrow\downarrow\uparrow\downarrow$	$\uparrow\downarrow\uparrow\downarrow\uparrow\downarrow\uparrow\downarrow$
	1s	2s	2p	3s	3p	3d