

Electron Notation WS 1

Name _____

PART A – ORBITAL DIAGRAMS & LONGHAND ELECTRON CONFIGURATION

Use the patterns within the periodic table to draw orbital diagrams and write longhand electron configurations for the following atoms.

	Symbol	# e ⁻	Orbital Diagram and Longhand Electron Configuration
1.	Mg		<div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;"> <hr style="width: 100%;"/> <p>1s 2s 2p 3s 3p 4s 3d</p> </div> <div style="border-top: 1px solid black; padding-top: 5px;"> <p>Electron configuration:</p> </div> </div>
2.	P		<div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;"> <hr style="width: 100%;"/> <p>1s 2s 2p 3s 3p 4s 3d</p> </div> <div style="border-top: 1px solid black; padding-top: 5px;"> <p>Electron configuration:</p> </div> </div>
3.	V		<div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;"> <hr style="width: 100%;"/> <p>1s 2s 2p 3s 3p 4s 3d</p> </div> <div style="border-top: 1px solid black; padding-top: 5px;"> <p>Electron configuration:</p> </div> </div>
4.	Cl		<div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;"> <hr style="width: 100%;"/> <p>1s 2s 2p 3s 3p 4s 3d</p> </div> <div style="border-top: 1px solid black; padding-top: 5px;"> <p>Electron configuration:</p> </div> </div>
5.	Cu		<div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;"> <hr style="width: 100%;"/> <p>1s 2s 2p 3s 3p 4s 3d</p> </div> <div style="border-top: 1px solid black; padding-top: 5px;"> <p>Electron configuration:</p> </div> </div>
6.	Al		<div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;"> <hr style="width: 100%;"/> <p>1s 2s 2p 3s 3p 4s 3d</p> </div> <div style="border-top: 1px solid black; padding-top: 5px;"> <p>Electron configuration:</p> </div> </div>

PART B

IDENTIFY THE ELEMENT DESCRIBED BELOW:

1. WHICH ELEMENT CONTAINS A FULL SECOND ENERGY LEVEL?
2. WHICH ELEMENT CONTAINS THREE UNPAIRED ELECTRONS IN ITS THIRD ENERGY LEVEL?
3. WHICH ELEMENT CONTAINS FIVE ELECTRONS IN ITS 3D ORBITAL?

PART C – RULES OF ELECTRON CONFIGURATIONS

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**

