

# Electron Configurations

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 <sup>-</sup>	Orbital Diagram and Longhand Electron Configuration																								
1.	Mg		<table border="1"><tr><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td></tr><tr><td>1s</td><td>2s</td><td>2p</td><td>3s</td><td>3p</td><td>4s</td><td>3d</td><td></td></tr><tr><td colspan="8">Electron configuration:</td></tr></table>	—	—	—	—	—	—	—	—	1s	2s	2p	3s	3p	4s	3d		Electron configuration:							
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## 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**

