**Electron Configurations** Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Per \_\_\_\_\_\_

**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** |
|  | Mg |  |  |
|  | P |  |  |
|  | V |  |  |
|  | Ge |  |  |
|  | Kr |  |  |
|  | O |  |  |

**Part B – Shorthand Electron Configuration**

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 |  |  |

**Part B – 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***

|  |  |
| --- | --- |
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|  | 🠅🠇 🠅🠇 🠅🠇 🠅🠇 🠅🠇 \_\_\_ 🠅🠇 🠅\_ 🠅\_  1s 2s 2p 3s 3p |
|  | 🠅🠇 🠅🠇 🠅🠇 🠅🠇 🠅🠇 🠅🠅 🠅🠇 🠅🠇 🠅\_  1s 2s 2p 3s 3p |
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