**Electron Configuration Practice**

Draw the Bohr diagram for each of the following:

**He Al3+**

**O Cl -**

**Sn Mg2+**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Longhand e- configuration** | **Shorthand** | **Orbital Diagram** |
| **Nitrogen** |  |  |  |
| **Nitrogen**  **Ion** |  |  |  |
| **Chlorine** |  |  |  |
| **Calcium**  **Ion** |  |  |  |
| **Tin** |  |  |  |
| **Radon** |  |  |  |
| **Gold** |  |  |  |

**Electron Configuration Practice Worksheet**

*In the space below, write the unabbreviated electron configurations of the following elements:*

1. sodium \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2) iron \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3) bromine \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4) barium \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5) neptunium \_\_**\_\_\_\_**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*In the space below, write the abbreviated electron configurations of the following elements:*

6) cobalt \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7) silver \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8) tellurium \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

9) radium \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

10) lead \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Determine what elements are denoted by the following electron configurations:

1. 1s22s22p63s23p4 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. 1s22s22p63s23p64s23d104p65s1 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. [Kr] 5s24d105p3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. [Xe] 6s24f145d6 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. [Rn] 7s25f11 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Determine which of the following electron configurations are not valid and fix them:

1. 1s22s22p63s23p64s24d104p5 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. 1s22s22p63s33d5 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. [Ra] 7s25f8 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. [Kr] 5s24d105p5 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. [Xe] \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_