

Name : \_\_\_\_\_

## Electron Configuration Worksheet

1. Name the elements that have the following electron configurations.

i.  $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^5$  \_\_\_\_\_

ii.  $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^{10} 4p^4$  \_\_\_\_\_

2. Write the ground state electron configuration for a neutral atom of the following elements.

i. Oxygen \_\_\_\_\_

ii. Krypton \_\_\_\_\_

iii. Chromium \_\_\_\_\_

3. Using the long method, give the electron configuration of

i. Magnesium (Mg) \_\_\_\_\_

ii. Potassium (K) \_\_\_\_\_

iii. Lithium (Li) \_\_\_\_\_

iv. Nickel (Ni) \_\_\_\_\_

v. Sulfur (S) \_\_\_\_\_

4. Identify the following elements.

i.  $1s^2 2s^2 2p^2$  \_\_\_\_\_

ii.  $1s^2 2s^2 2p^6$  \_\_\_\_\_

iii.  $[\text{Ar}] 4s^2 3d^{10} 4p^5$  \_\_\_\_\_

iv.  $[\text{Kr}] 5s^2 4d^1$  \_\_\_\_\_

v.  $[\text{Ne}] 3s^2 3p^3$  \_\_\_\_\_

5. Determine the electron configuration using the short method.

i. Strontium \_\_\_\_\_

ii. Bromine \_\_\_\_\_

iii. Zirconium \_\_\_\_\_

iv. Molybdenum \_\_\_\_\_

v. Silver \_\_\_\_\_

Name : \_\_\_\_\_

## Electron Configuration Worksheet

### Answers

1. Name the elements that have the following electron configurations.

i.  $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^5$  Manganese

ii.  $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^{10} 4p^4$  Selenium

2. Write the ground state electron configuration for a neutral atom of the following elements.

i. Oxygen  $1s^2 2s^2 2p^4$

ii. Krypton  $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^{10} 4p^6$

iii. Chromium  $1s^2 2s^2 2p^6 3s^2 3p^6 4s^1 3d^5$

3. Using the long method, give the electron configuration of

i. Magnesium (Mg)  $1s^2 2s^2 2p^6 3s^2$

ii. Potassium (K)  $1s^2 2s^2 2p^6 3s^2 3p^6 4s^1$

iii. Lithium (Li)  $1s^2 2s^1$

iv. Nickel (Ni)  $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^8$

v. Sulfur (S)  $1s^2 2s^2 2p^6 3s^2 3p^4$

4. Identify the following elements.

i.  $1s^2 2s^2 2p^2$  C

ii.  $1s^2 2s^2 2p^6$  Ne

iii.  $[\text{Ar}] 4s^2 3d^{10} 4p^5$  Br

iv.  $[\text{Kr}] 5s^2 4d^1$  Y

v.  $[\text{Ne}] 3s^2 3p^3$  P

5. Determine the electron configuration using the short method.

i. Strontium  $[\text{Kr}] 5s^2$

ii. Bromine  $[\text{Ar}] 4s^2 3d^{10} 3p^5$

iii. Zirconium  $[\text{Kr}] 5s^2 4d^2$

iv. Molybdenum  $[\text{Kr}] 5s^1 4d^5$

v. Silver  $[\text{Kr}] 5s^1 4d^{10}$