

Name : _____ Date : _____

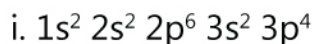
Score : _____

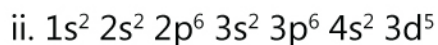


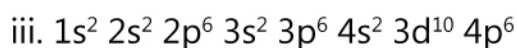
Electron Configuration

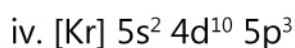


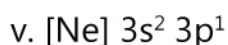
1. Determine what elements are denoted by the following configurations.











2. Write the full electron configuration (ex., $1s^2 2s^1$) of the following elements?

i. Nitrogen

ii. Silicon

iii. Calcium

iv. Strontium

v. Bismuth

3. Write the abbreviated electron configuration (ex., $[\text{He}] 2s^1$) of the following element?

i. Fluorine

ii. Magnesium

iii. Selenium

iv. Rubidium

v. Lead

4. If each orbital can hold a maximum of two electrons, how many can each of the following hold?

i. $2s$ _____ ii. $5p$ _____ iii. $4f$ _____ iv. $3d$ _____ v. $4d$ _____

5. What is the shape of an s orbital? _____

6. What is the shape of a p orbital? _____

Name : _____ Date : _____

Score : _____



Electron Configuration



Answers

1. Determine what elements are denoted by the following configurations.

- i. $1s^2 2s^2 2p^6 3s^2 3p^4$ Sulfur
- ii. $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^5$ Manganese
- iii. $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^{10} 4p^6$ Krypton
- iv. $[\text{Kr}] 5s^2 4d^{10} 5p^3$ Antimony
- v. $[\text{Ne}] 3s^2 3p^1$ Aluminum

2. Write the full electron configuration (ex., $1s^2 2s^1$) of the following elements?

- i. Nitrogen $1s^2 2s^2 2p^3$
- ii. Silicon $1s^2 2s^2 2p^6 3s^2 3p^2$
- iii. Calcium $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2$
- iv. Strontium $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^{10} 4p^6 5s^2$
- v. Bismuth $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^{10} 4p^6 5s^2 4d^{10} 5p^6 6s^2 4f^{14} 5d^{10} 6p^3$

3. Write the abbreviated electron configuration (ex., $[\text{He}] 2s^1$) of the following element?

- i. Fluorine $[\text{He}] 2s^2 2p^5$
- ii. Magnesium $[\text{Ne}] 3s^2$
- iii. Selenium $[\text{Ar}] 4s^2 3d^{10} 4p^4$
- iv. Rubidium $[\text{Kr}] 5s^1$
- v. Lead $[\text{Xe}] 6s^2 4f^{14} 5d^{10} 6p^2$

4. If each orbital can hold a maximum of two electrons, how many can each of the following hold?

- i. 2s 2 ii. 5p 6 iii. 4f 14 iv. 3d 10 v. 4d 10

5. What is the shape of an s orbital? Spherical

6. What is the shape of a p orbital? Dumb-bell shaped