

Name : _____ Date : _____

Score : _____



Electron Configuration

1. What are the possible numerical values for the number of electrons in one orbital? _____

2. What is the maximum number of electrons in the s, p, d, and f sublevels?

3. What maximum number of electrons may be on the following sublevels?

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

4. Which has higher energy, an electron in the 1s or 2p sublevel? _____

5. What is the highest energy sublevel in the principal energy level for which n is

i. 1 _____ ii. 3 _____

7. What is the total capacity for electrons in:

i. an orbital _____ ii. a d sublevel _____ iii. the 3rd principal energy level _____

8. Write the complete electron configuration for the following elements:

i. carbon _____ ii. nitrogen _____

iii. neon _____ iv. lithium _____

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

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

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Electron Configuration

Answers

1. What are the possible numerical values for the number of electrons in one orbital? 0, 1 or, 2

2. What is the maximum number of electrons in the s, p, d, and f sublevels?

s: 2 p: 6 d: 10 f: 14

3. What maximum number of electrons may be on the following sublevels?

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

4. Which has higher energy, an electron in the 1s or 2p sublevel? 2p

5. What is the highest energy sublevel in the principal energy level for which n is

i. 1 s ii. 3 d

7. What is the total capacity for electrons in:

i. an orbital 2 ii. a d sublevel 10 iii. the 3rd principal energy level 18

8. Write the complete electron configuration for the following elements:

i. carbon $1s^2 2s^2 2p^2$ ii. nitrogen $1s^2 2s^2 2p^3$

iii. neon $1s^2 2s^2 2p^6$ iv. lithium $1s^2 2s^1$

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

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