

Writing Abbreviated Electron Configurations

(Honors Chemistry)

1. P [Ne] $3s^2 3p^3$
2. Zn [Ar] $4s^2 3d^{10}$
3. K [Ar] $4s^1$
4. Rb [Kr] $5s^1$
5. Mg [Ne] $3s^2$
6. Ca [Ar] $4s^2$
7. Sr [Kr] $5s^2$
8. Cd [Kr] $5s^2 4d^{10}$
9. S [Ne] $3s^2 3p^4$
10. Zr [Kr] $5s^2 4d^2$
11. Pd [Kr] $5s^2 4d^8$
12. Ba [Xe] $6s^2$
13. I [Kr] $5s^2 4d^{10} 5p^5$
14. Ne [He] $2s^2 2p^6$
15. Ar [Ne] $3s^2 3p^6$
16. Kr [Ar] $4s^2 3d^{10} 4p^6$
17. Fe [Ar] $4s^2 3d^6$
18. Mn [Ar] $4s^2 3d^5$
19. Y [Kr] $5s^2 4d^1$
20. V [Ar] $4s^2 3d^3$

More about Electron Configurations

(Honors Chemistry)

(s, p, d, f)

1. How many sub levels does the fourth energy level have? 4

2. How many electrons does each sub level hold?

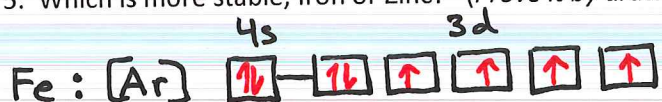
s = 2, p = 6, d = 10, f = 14

3. How many electrons must be in the 4th energy level before the 3rd energy level can be filled? 2 (4s)

4. How many electrons are in the 5th and 6th energy levels before the 4th energy level is full?

5 = 8 6 = 2

5. Which is more stable, Iron or Zinc? (Prove it by drawing the orbital diagrams and explain your answer)



Zinc because it has no empty orbitals and iron has 4 unpaired electrons

6. How many electrons will the p sublevel hold? 6

7. Which sub level is filled after the 6s² sublevel has been filled? 4f

8. How many sublevels does the 3rd energy level contain? 3 (s, p, d)

9. How many electrons are in the 5th energy level when the 4th energy level becomes full? 8

10. Write out the electron configuration for Zirconium and answer the following questions:

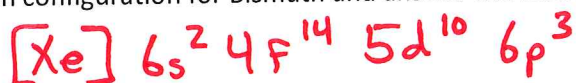


a. What is the highest occupied energy level? 5

b. What is the highest full energy level? 3

c. How many unpaired electrons are there? 2

11. Write out the electron configuration for Bismuth and answer the following questions:



a. What is the highest occupied energy level? 6

b. What is the highest full energy level? 4

c. How many unpaired electrons are there? 3