Orbital Diagrams & Electron Configurations

Practice Worksheet III

Learning Target
Explain how sublevels of principal energy levels differ.
List the three rules for writing the electron configurations of elements

For each of the elements below:

- ❑ **Write the element symbol**
- ❑ **Number of electrons**
- ❑ **Orbital Diagram**
- ❑ **Electron configuration**

1. Nitrogen **element symbol (N)** **# of electrons 7**

$1s^2\ 2s^2\ 2p^3$

2. Radon **element symbol (Rn)** **# of electrons 88**

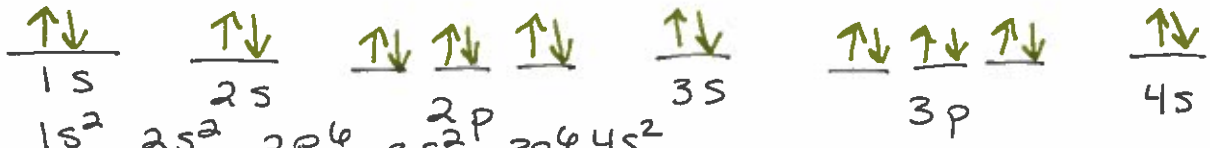
SKip for Thursday

$1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 3d^{10}\ 4s^2\ 4p^6\ 4d^{10}\ 4f^{14}\ 5s^2\ 5p^6\ 5d^{10}\ 6s^2\ 6p^6$

3. Iron **element symbol (Fe)** **# of electrons 26**

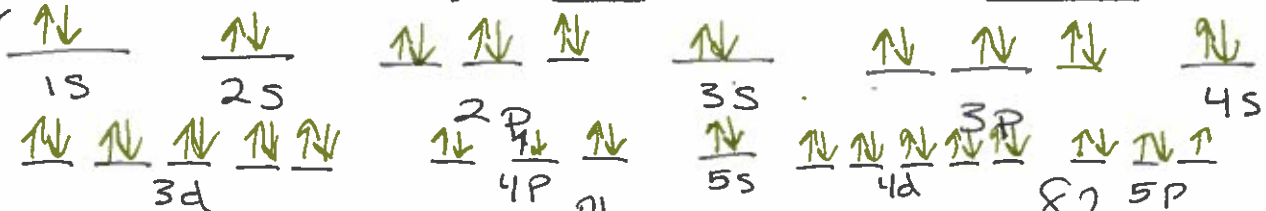
$1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 4s^2\ 3d^6$

4. Calcium **element symbol (Ca)** **# of electrons 20**



$1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 4s^2$

5. Iodine **element symbol (I)** **# of electrons 53**



6. Lead **element symbol (Pb)** **# of electrons 82**

SKip for Thursday

$1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 4s^2\ 3d^{10}\ 4p^6\ 5s^2\ 4d^{10}\ 5p^5$

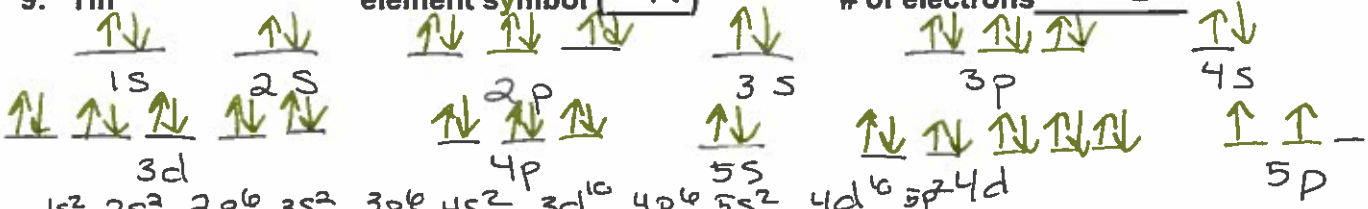
7. Uranium element symbol (U) # of electrons 92

Skip for Thursday [redacted]

8. Lithium element symbol (Li) # of electrons 3

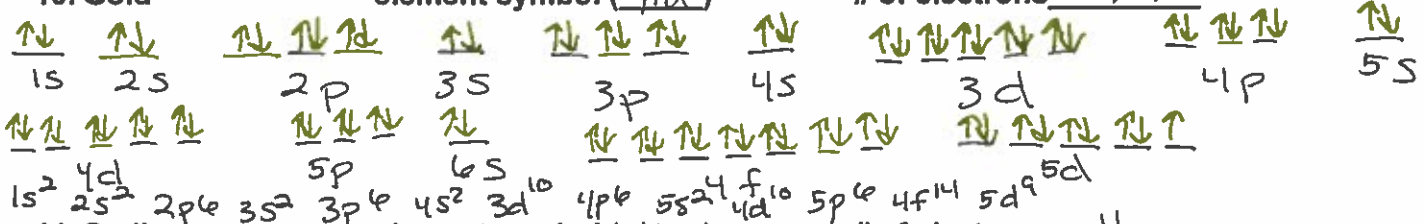
$1s^2\ 2s^1$

9. Tin element symbol (Sn) # of electrons 50



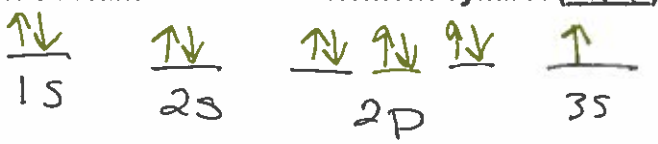
$1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 4s^2\ 3d^{10}\ 4p^6\ 5s^2\ 4d^6\ 5p^2\ 4d$

10. Gold element symbol (Au) # of electrons 79



$1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 4s^2\ 3d^{10}\ 4p^6\ 5s^2\ 4d^{10}\ 5p^6\ 4f^{14}\ 5d^9$

11. Sodium element symbol (Na) # of electrons 11

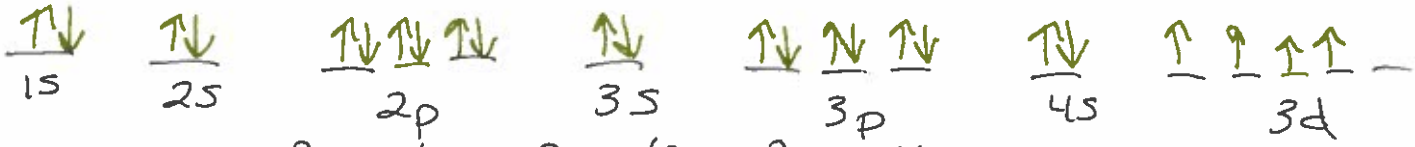


$1s^2\ 2s^2\ 2p^6\ 3s^2$

12. Hydrogen element symbol (H) # of electrons 1

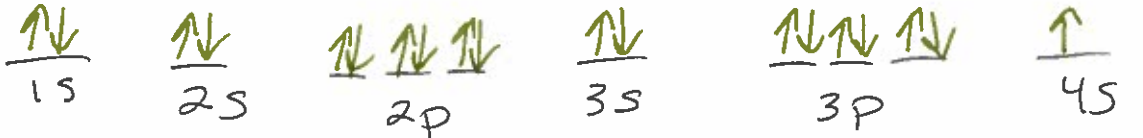
$1s^1$

13. Chromium element symbol (Cr) # of electrons 24



$1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 4s^2\ 3d^4$

14. Potassium element symbol (K) # of electrons 19



$1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 4s^1$