

Chemistry 11

Electron Configuration Worksheet

Name:

Date:

Block:

What is the electron configuration for the following?

1. Sc _____
2. Ni _____
3. Fe _____
4. Xe _____
5. B _____
6. Na _____
7. K _____
8. Pd _____
9. I _____
10. F _____

Which element is represented by the following?

11. $1s^2 2s^2 2p^6 3s^2 3p^3$
12. $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^{10} 4p^6 5s^2 4d^{10} 5p^6 6s^2 4f^{14} 5d^{10} 6p^6 7s^2 5f^{14} 6d^{10} 7p^2$
13. $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^{10} 4p^6 5s^2 4d^{10} 5p^6 6s^2 4f^{14} 5d^6$
14. $1s^2 2s^1$
15. $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^{10} 4p^6 5s^1$
16. $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^{10} 4p^6 5s^2 4d^{10}$
17. $1s^2 2s^2 2p^6 3s^2 3p^2$
18. $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^{10} 4p^5$
19. $1s^2 2s^2 2p^6$
20. $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^2$

In the space below, write the electron configurations and orbital diagrams of the following elements/ions.

| Element | Electron Configuration | Orbital Diagram |
|------------------|------------------------|-----------------|
| Na ⁺ | | |
| Fe ²⁺ | | |
| Ar | | |
| Br ⁻ | | |
| Mg | | |
| Co | | |

Determine which of the following electron configurations are not valid? Explain:

