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## **5.4 QUANTUM NUMBER WORKSHEET**

*Answer the following questions*

1. Explain how Bohr's model of the atom was the result of his understanding about spectroscopy.
2. What happens when an electron in a higher energy level drops down to a lower level?
3. How does the quantum model of the atom differ from that of the Bohr model?
4. What are the allowable quantum numbers for an electron in the third energy level?
5. Which proposal of Bohr's concerning orbits was abandoned as quantum mechanics was developed?
6. Draw a diagram of the 1s orbital.

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7. Draw a diagram of the 2s orbital.

8. What is the difference between the 1s and the 2s orbitals? Explain.

9. Draw a diagram of the  $2p_x$ ,  $2p_y$ ,  $2p_z$  orbitals

10. When electrons in an atom are filling the energy level orbitals, which level (outermost/innermost) do they fill? Explain.