

Atomic Theory 1.8
Electron Configuration and Orbital Diagrams
Worksheet

- 1) What is the electron configuration for nitrogen in its ground state? (long form)
- 2) What is the electron configuration for manganese in its ground state? (long form)
- 3) What is the ground state electron configuration of tin? (long form)
- 4) What is the electron configuration for copper in its ground state? (long form)
- 5) What is the ground state electron configuration of arsenic? (long form)
- 6) What is the ground state electron configuration of zirconium? (short form)
- 7) What is the ground state electron configuration of tungsten? (short form)
- 8) What is the ground state electron configuration of palladium? (short form)
- 9) What is the ground state electron configuration of lead? (short form)
- 10) What is the ground state electron configuration of rutherfordium? (short form)
- 11) What is the ground state electron configuration of plutonium? (short form)
- 12) Which of the following are isoelectronic:
 - a. Ne and F^-
 - b. Ca^{2+} and Se^{2-}
 - c. N and F^-
 - d. I and Ba^{2+}
 - e. K^+ and Ca^{2+}
 - f. Al and Ga
- 13) Which of the following are isoelectronic? Justify your choice.
 - a. Ne and O^{2-}
 - b. K^+ and Cl
- 14) Draw an orbital diagram for carbon in its ground state.
- 15) Draw an orbital diagram for sulfur in its ground state.
- 16) Draw an orbital diagram for iron in its ground state.
- 17) Draw the orbital diagram for silicon in its ground state.
- 18) Draw an orbital diagram for phosphorus in its ground state.
- 19) Draw an orbital diagram for selenium in its ground state.