Chemistry Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Mrs. Pavlovich Mon/Thurs Period \_\_\_\_\_\_\_\_

**Extension extra credit assignments:**

Question 1 (1 EC point. Short one-page paper with list of sources on the following topic):  
Semi-metals: How is silicon used to make computer chips? What are n and p doping? Are any elements used in addition to silicon?

Question 2 (5 EC points):  
Explain the dips in the generally upward trend of ionization energy from left to right based on the filling of the s sub-level and the half-filling of the p sub-level.

1. Read textbook page 141 to 153.
2. Answer questions 1-4 on page 146.
3. Draw the orbital diagrams (see page 151) for Be and B.
4. Look up ionization energy of Be and B. Do they follow the expected trend? Explain in terms of the orbital diagram.
5. Draw the orbital diagrams (see page 151) for Be and B.
6. Look up ionization energy of N and O. Do they follow the expected trend? Explain in terms of the orbital diagram.