This homework is due on Wednesday, February 16, at class time. The assignment will be accepted up until the start of class on Thursday, February 17, with a 20% penalty. Assignments turned in after class that day will receive no credit, though I will look through them if you want me to.

1. (5 points) How many valence electrons are there in each of the following electron configurations?
   a. \(1s^22s^22p^5\) __________
   b. \(1s^22s^22p^63s^23p^64s^1\) __________
   c. \(1s^22s^22p^63s^23p^64s^23d^6\) __________
   d. \(1s^22s^22p^63s^1\) __________
   e. \(1s^22s^22p^63s^23p^64s^23d^{10}4p^65s^24d^{10}5p^66s^24f^3\) __________

2. (5 points) For each of the electron configurations in Question 1, state every one of the classifications that applies from the list: metal, nonmetal, alkali metal, alkaline earth metal, chalcogen, halogen, noble gas, main group element, transition element, inner transition element. Not all classifications will be used and some classifications may be used more than once.
   a. __________________________________________
   b. __________________________________________
   c. __________________________________________
   d. __________________________________________
   e. __________________________________________

3. (5 points) Draw the Lewis symbol for each of the following species.
   a. Sr
   b. Si
   c. B
   d. Br
   e. Se
4. (5 points) Write the formula expected for the formation of an ionic compound from each of the following.

   a. Na and O _____________________
   b. Ca and P _____________________
   c. Al and S _____________________
   d. Rb and Br _____________________
   e. Mg and O _____________________

5. (5 points) Name each of the compounds in Question 4.

   a. ________________________________
   b. ________________________________
   c. ________________________________
   d. ________________________________
   e. ________________________________