Part C: Electron Configuration

12. How many electrons can each level hold? 1st = **2** 2nd = **8** 3rd = **18**

13. What term is used for the electrons in the outermost shell or energy level? **VALENCE**

14. Scientists use two types of diagrams to show the electron configuration for atoms. Follow your teacher's directions to complete the diagrams.

Sulfur

Atomic # = 16

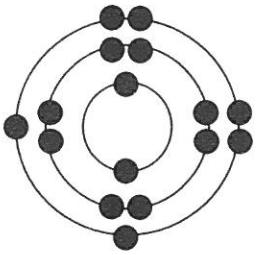
Atomic Mass = 32

Protons = **16**

Neutrons = **16**

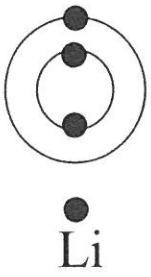
Electron = **16**

Bohr Diagram
Shows all electrons

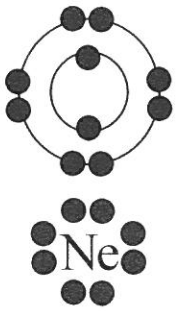


Lewis Structure
Shows valence electrons

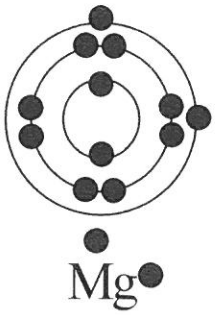
15. Calculate the missing information and then draw the Bohr Diagram and Lewis Structure for each element.



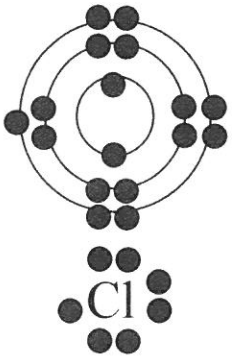
Atomic # = 3
Mass # = 7
# of P = **3**
# of N = **4**
# of E = **3**



Atomic # = 10
Mass # = 20
# of P = **10**
# of N = **10**
# of E = **10**

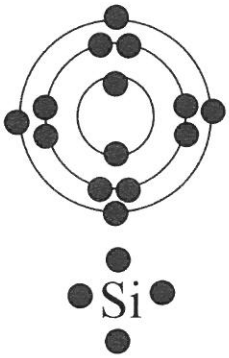


Atomic # = 12
Mass # = 24
# of P = **12**
# of N = **12**
# of E = **12**



Atomic # = 17
Mass # = 35
# of P = **17**
# of N = **18**
# of E = **17**

Atomic # = 2
Mass # = 4
# of P = **2**
# of N = **2**
# of E = **2**



Atomic # = 14
Mass # = 28
# of P = **14**
# of N = **14**
# of E = **14**

16. Answer the questions below based on the elements in question #15.

(1) Which elements had a filled outermost shell? **He & Ne**

(2) Which element would be most likely to lose electrons in a chemical bond? **Li (Only has 1 valence electron)**

(3) Which element would be most likely to gain electrons in a chemical bond? **Cl (Only needs 1 more electron to fill its outer shell)**

(4) Which elements are not likely to bond with other elements? **He & Ne** Why? **They have full outer shells.**