

1. Why is an atom electrically neutral?  
 A. the number of electrons equals the number of neutrons.  
 B. the number of electrons equals the number of protons.  
 C. the number of protons equals the number of neutrons.  
 D. none of the above
2. The elements in the periodic table which form very few compounds because they have full outer shells, and are therefore stable, are members of group...  
 A. 17 (halogens)  
 B. 18 (noble gases)  
 C. 2 (alkaline earth metals)  
 D. 1 (alkali metals)
3. What is the atomic number of an element?  
 A. the number of protons in an atom  
 B. the number of protons + electrons in an atom  
 C. the number of neutrons in an atom  
 D. none of the above
4. What is the mass number of an atom?  
 A. the number of protons in the nucleus  
 B. the number of protons and neutrons in the nucleus  
 C. the number of electrons and protons in the nucleus  
 D. the number of protons in the orbits and the number of protons in the nucleus
5. Which of the following describes a proton?  
 A. Negative charge and significant mass  
 B. Neutral charge and located in the nucleus  
 C. Negative charge and located in the nucleus  
 D. Positive charge and located in the nucleus
6. Which of the following describes an electron?  
 A. Negative charge and significant mass  
 B. Positive charge and very small mass  
 C. Negative charge and found outside the nucleus  
 D. Neutral charge and located outside the nucleus

7. For the following elements, complete the following chart.

Element Name	Element Symbol	Atomic number	Atomic Mass number	No. of protons	No. of electrons	No. of neutrons
Potassium	K	19	39	19	19	20
Boron	B	5	11	5	5	6
Argon	Ar	18	40	18	18	22

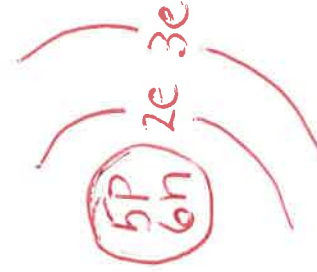
8. For each of the 3 elements in question 7,

- a) draw a complete Bohr-Rutherford diagram and below each diagram,  
 b) draw the Lewis dot diagram (electron dot diagram) for each.

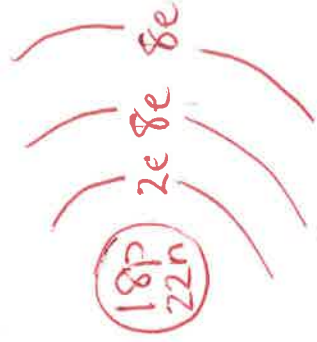
Potassium (K)



Boron (B)



Argon (Ar)



K.



9. Complete the following chart by referring to the diagrams in question 8.

Element Name	No. of electron shells	No. of valence (outer shell) electrons
Potassium	4	1
Boron	2	3
Argon	3	8