

Name _____

Fill in the table

	# of protons (+) in nucleus	Total # of electrons (e ⁻)	charge	# of valence electrons	# of main energy levels (shells) occupied
1. Calcium atom					
2. Calcium ion					
3. Sulfur atom					
4. Sulfide ion					
5. Chlorine atom					
6. Chloride ion					
7. Rubidium atom					
8. Rubidium ion					
9. Aluminum atom					
10. Aluminum ion					

11. When a **sodium atom** becomes a **sodium ion** it will most likely:
- gain an electron so that it has more electrons than protons
 - lose an electron so it has more protons than electrons
 - lose a proton so it has fewer protons compared to electrons
 - gain an electron so it has the same number of electrons as protons

12. Fill in the orbital notation below for an **oxygen atom**

$\overline{1s}$ $\overline{2s}$ $\overline{2p}$ $\overline{3s}$ $\overline{3p}$ $\overline{3d}$ $\overline{4s}$

13. Fill in the orbital notation below for an **oxide ion**

$\overline{1s}$ $\overline{2s}$ $\overline{2p}$ $\overline{3s}$ $\overline{3p}$ $\overline{3d}$ $\overline{4s}$

14. When a **strontium atom** forms a **strontium ion** it will have the same electron configuration as which element?

Name key

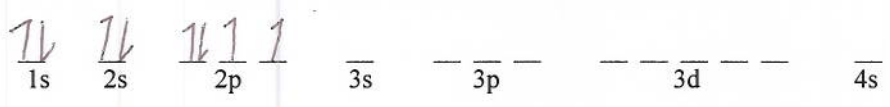
Fill in the table

	# of protons (+) in nucleus	Total # of electrons (e ⁻)	charge	# of valence electrons	# of main energy levels (shells) occupied
1. Calcium atom	20 p ⁺	20 e ⁻	0	2	4
2. Calcium ion	20 p ⁺	18 e ⁻	2 ⁺	8	3
3. Sulfur atom	16 p ⁺	16 e ⁻	0	6	3
4. Sulfide ion	16 p ⁺	18 e ⁻	2 ⁻	8	3
5. Chlorine atom	17 p ⁺	17 e ⁻	0	7	3
6. Chloride ion	17 p ⁺	18 e ⁻	1 ⁻	8	3
7. Rubidium atom	37 p ⁺	37 e ⁻	0	1	5
8. Rubidium ion	37 p ⁺	36 e ⁻	+1	8	4
9. Aluminum atom	13 p ⁺	13 e ⁻	0	3	3
10. Aluminum ion	13 p ⁺	10 e ⁻	+3	8	2

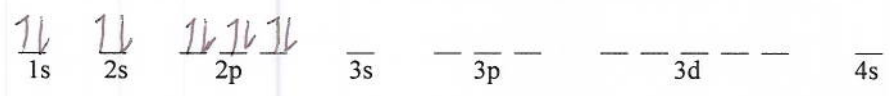
11. When a **sodium atom** becomes a **sodium ion** it will most likely:

- a. gain an electron so that it has more electrons than protons
- b. lose an electron so it has more protons than electrons
- c. lose a proton so it has fewer protons compared to electrons
- d. gain an electron so it has the same number of electrons as protons

12. Fill in the orbital notation below for an **oxygen atom**



13. Fill in the orbital notation below for an **oxide ion**



14. When a **strontium atom** forms a **strontium ion** it will have the same electron configuration as which element?

Kr