

Electron Configurations Practice #3: Noble Gas Notation

Name: _____

Part I: Write the *long-hand (standard)* electron configuration notation of the following elements, and **CIRCLE** the identity of the VALENCE ELECTRONS within the electron configuration.

1) Francium _____

2) Tin _____

3) Strontium _____

4) Phosphorus _____

5) Arsenic _____

Part II: Write the *orbital (diagram) notation* electron configuration of the following elements. Be sure to include the long-hand electron configuration notation underneath each orbital notation.

6) Nitrogen _____

7) Titanium _____

8) Rubidium _____

9) Chlorine _____

10) Aluminum _____

Part III: Write the *noble gas notation* of the following elements. Then indicate the number of valence electrons present, and write the identity of the valence electrons on the spaces provided.

11) Potassium _____ # val electrons: _____ Identity of val electrons: _____

12) Magnesium _____ # val electrons: _____ Identity of val electrons: _____

13) Iodine _____ # val electrons: _____ Identity of val electrons: _____

14) Gallium _____ # val electrons: _____ Identity of val electrons: _____

15) Bromine _____ # val electrons: _____ Identity of val electrons: _____

Part IV: Complete the following.

Principal Energy Level (n)	Max. # electrons in Energy Level = $2n^2$	# of Sublevels (l) in Energy Level	Type of Sublevel(s) in Energy Level	# of Orbitals in each Sublevel	Max. # electrons in each Orbital
n = 1	2 e ⁻				
n = 2		2			
n = 3			3s 3p 3d		3s (1) = 2e ⁻ 3p (3) = 2e ⁻ 3d (5) = 2e ⁻
n = 4				4s = 1 4p = 3 4d = 5 4f = 7	