

HW 4 October 18

- What elements have the following electron configurations: a)  $1s^2 2s^2 2p^4$ ; b)  $1s^2 2s^2 2p^6 3s^2 3p^1$ , c)  $1s^2 2s^2 2p^6 3s^2 3p^6 3d^6 4s^2$ ?
- What element has the outer most orbital  $\dots 3p^3$ ?
- Fill out the tables:

Symbol	$^{16}_8\text{O}$	$^2_1\text{D}^+$			
Number of protons	8			14	16
Number of neutrons	8		14	14	18
Number of electrons	8	0	10		18
Charge	0	+1	+3	0	

Symbol	$^{14}_7\text{N}$	$^{35}_{17}\text{Cl}^-$			
Number of protons	7		18		17
Number of neutrons	7		22	20	20
Number of electrons	7	18		18	18
Charge	0	-1	0	+2	

- Write down an electron configuration of an element with the nucleus charge = 12.
- Which of the following atoms and ions have the same electron configuration as  $^{18}\text{Ar}$ :  $\text{Ca}^{2+}$ ,  $\text{Cl}^-$ ,  $\text{K}$ ,  $\text{Na}^+$ ,  $\text{S}^{2-}$ ,  $\text{As}^{3-}$ ,  $\text{Al}^{3+}$ ?