

Name KEY Rec. Instr. _____

Two-Digit Section No. _____ Lab. Instr. _____

1. [18 points] Complete the following table:

symbol	atomic number	mass number	number of protons	number of electrons	number of neutrons	net charge
$^{90}\text{Sr}^{2+}$	38	90	38	36	52	+2
$^{23}\text{Na}^+$	11	23	11	10	12	+1
$^{82}\text{Br}^-$	35	82	35	36	47	-1
^{244}Pu	94	244	94	94	150	0

2. [4 points] Indicate whether each of following elements are metal, non-metal, or metalloid?

a) Y *metal* b) S *non-metal* c) Ag *metal* d) Xe *non-metal*

3. [4 points] Predict the charge found on the most stable ion formed by:

a) Li *+1* b) Br *-1*
c) Ca *+2* d) S *-2*

4. [4 points] Determine the charges of the ions in parentheses in the following formulas:

a) $\text{Na}_2(\text{MnO}_4)$ *-2* b) $\text{Ca}_3(\text{CoF}_6)_2$ *-3*
c) $\text{Mg}_3(\text{BO}_3)_2$ *-3* d) $(\text{UO}_2)\text{Cl}_2$ *+2*

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1. [18 points] Complete the following table:

symbol	atomic number	mass number	number of protons	number of electrons	number of neutrons	net charge
^{15}N	7	15	7	7	8	0
^{39}K	19	39	19	18	20	+1
$^3\text{H}^+$	1	3	1	0	2	+1
^{235}U	92	235	92	92	143	0

2. [4 points] Indicate whether each of following elements are metal, non-metal, or metalloid?

a) Ca *metal* b) N *non-metal* c) Br *non-metal* d) Se *non-metal*

3. [4 points] Predict the charge found on the most stable ion formed by:

a) K *+1* b) N *-3*c) Be *+2* d) Cl *-1*

4. [4 points] Determine the charges of the ions in parentheses in the following formulas:

a) $\text{KH}_2(\text{PO}_4)$ *-3* b) $\text{Na}_2(\text{B}_4\text{O}_7)$ *-2*c) $\text{Ca}(\text{C}_2\text{O}_4)$ *-2* d) $\text{Ca}(\text{C}_2\text{H}_3\text{O}_2)_2$ *-1*