Atom/Periodic Table Test Review

1. **Decide which of the following elements has the larger atomic radius:**
   a. **As or Bi** ***Bi***
   b. **Cu or Se** ***Cu***
   c. **Al or Cl** ***Al***
   d. **Co or Ag** ***Ag***
2. **Decide which of the following has the lower ionization energy:**
   a. **S or Te** ***Te***
   b. **In or Sb** ***In***
   c. **Ca or Mo** ***Ca***
   d. **Be or Sr** ***Sr***
3. **Which metal is more reactive: Na or K?** ***K***
4. **Which nonmetal is more reactive: Br or Cl?** ***Cl***
5. **Which element has higher electron affinity: F or Mg?** ***F***

6. **Complete the table:**

Element/Ion	Atomic Number	Mass Number	Charge	Protons	Neutrons	Electrons
Al^{+3}	*13*	*27*	*+3*	*13*	*14*	*10*
I^{-1}	*53*	*127*	*-1*	*53*	*74*	*54*
Ca	*20*	*40*	*0*	*20*	*20*	*20*
N^{-3}	*7*	*14*	*-3*	*7*	*7*	*10*
N	*7*	*14*	*0*	*7*	*7*	*7*
Ne	*10*	*20*	*0*	*10*	*10*	*10*

7. **Calculate the atomic mass of the following elements' isotopes:**
   a. **80% $^{127}_{53}I$, 17% $^{126}_{53}I$, 3% $^{128}_{53}I$**

.80 X 127= 101.6
.17 X 126= 21.42
.003 X 128=+ .384
123.404 amu ~ 123 amu

8. **Magnesium has three naturally occuring isotopes. 78.70% of Magnesium atoms exist as Magnesium-24 (23.9850 g/mol), 10.03% exist as Magnesium-25 (24.9858 g/mol) and 11.17% exist as Magnesium-26 (25.9826 g/mol). What is the average atomic mass of Magnesium?**

.7870 X 23.9850= 18.876195
.1003 X 24.9858= 2.50607574
.1117 X 25.9826= +2.90225642
24.28452716 amu ~ 24.2845 amu

9. **Draw the Bohr diagram for potassium?** ***1st circle- 2 e-; 2nd circle- 8 e-; 3rd circle- 8 e-; 4th circle- 1 e-***