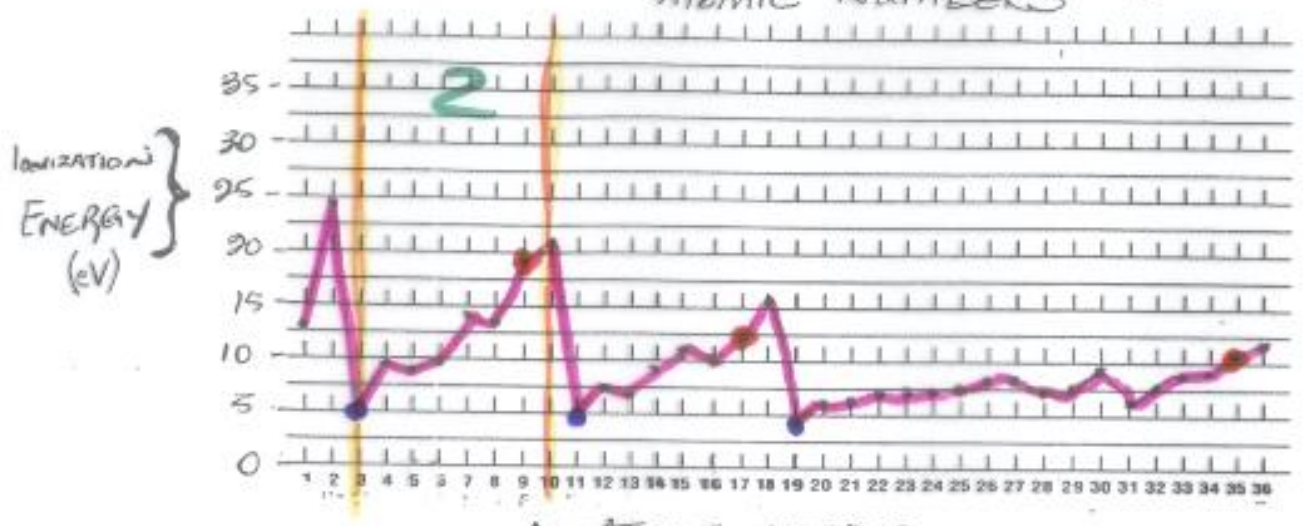
PERIODIC INDICATION OF ELEMENTS PROPERTIES ON BASIS OF THEIR ATOMIC NUMBER

436 – IONIZATION ENERGIES AS A FUNCTION OF ELEMENTS' ATOMIC NUMBERS



H	13.00
He	24.00
Li	5.00
Be	9.00
B	8.00
C	9.00
N	14.00
O	13.00
F	18.00
Ne	21.00
Na	5.00
Mg	7.00
Al	6.00
Si	8.00
P	11.00
S	10.00
Cl	12.00
Ar	16.00
K	4.00
Ca	6.00
Sc	6.50
Ti	7.00
V	7.00
Cr	7.00
Mn	7.50
Fe	8.00
Co	8.00

b) Analysis of the trend of the property in Period 2. Explain what happens within this period. Is there an increase in the ionization energy? Is there a decrease?

Ionization increases from left to right within period 2 on the Periodic table.

c) Analysis of the trend of the property within

the alkali metal group: Ionization decreases down the Alkali family.

the halogen group: Ionization decreases down the halogen family

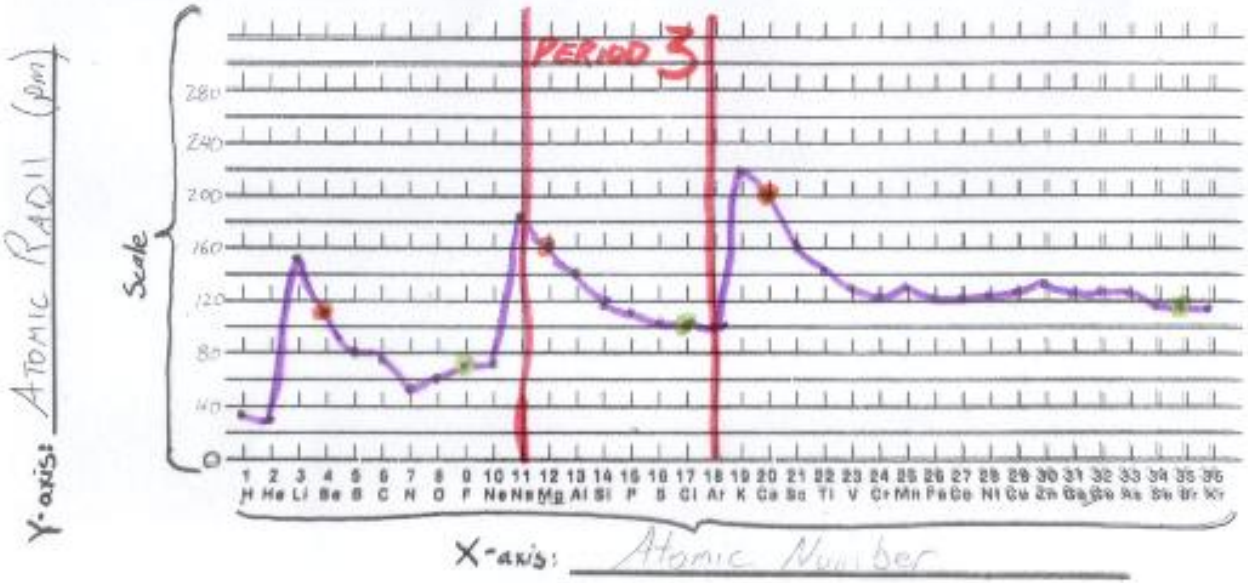
You must refer to all the alkalis and to all the halogens in the graph.

GRAPH: Progression of Elements' Properties on the Basis of their Atomic Number.

NAME: _____

(436)

TITLE: Atomic Number VS Atomic Radii



a) Label and Fill in the graph using the following data:

Atomic Radii (pm) (picometers)			
H	37	K	227
He	31	Ca	197
Li	152	Sc	160
Be	111	Ti	145
B	80	V	131
C	77	Cr	125
N	55	Mn	129
O	60	Fe	124
F	71	Co	125
Ne	70	Ni	125
Na	186	Cu	128
Mg	160	Zn	134
Al	143	Ga	122
Si	118	Ge	122
P	110	As	124
S	104	Se	116
Cl	99	Br	114
Ar	97	Kr	112

Be SPECIFIC

b) Analysis of the trend of the property in Period 3.

Atomic Radii Decreases from LEFT to RIGHT within period 3

c) Analysis of the trend of the property (look at Periodic table) within:

- all the alkaline Earth family: Increase from Top to Bottom.
- all the halogen group: Increase from Top to Bottom.