

Z_{eff} @ Effective nuclear charge



Example Element N
has electronic configuration
 ${}_{11}\text{N} = 1s^2 2s^2 2p^6 3s^1$

Quick note:

$$\begin{aligned} Z_{\text{eff}} &= \text{proton number} - \text{inner shell electron} \\ &= 11 - 10 \\ &= +1 \end{aligned}$$

Question 2:

Fill in the blank:

ELEMENT	ELECTRONIC CONFIGURATION	GROUP	PERIOD	BLOCK	Valence e	Z_{eff}
F	$1s^2 2s^2 2p^5$					
G	$1s^2 2s^2 2p^6 3s^2$					
H	$1s^2 2s^2 2p^6 3s^2 3p^6 4s^2$					
I		13	4	p		
J		3	4	d		
K		17	3	p		

- (a) State how the elements **F** to **K** are arranged in the periodic table?
The elements are arranged in the order of _____
- (b) State the elements that are in the same group?
 ____ and ____.
- (c) Why are elements **G** and **K** are in the same period?
Both elements have the same _____.

- (d) Between F and K, which is one of the elements is more electronegative?
_____.

Remember!

size of atom $\propto \frac{1}{\text{electronegativity}}$

- (e) Between G and H, which is one of the elements is more electronegative?
_____.

- (f) Between F and K, which elements has higher first ionization energy (IE1)?

_____.

Remember!

size of atom $\propto \frac{1}{\text{IE}_1}$

- (g) Between G and H, which elements has higher first ionization energy (IE1)?
_____.