Tutorial

Question 12. The table below shows the elements **A** and **B** with their respective proton numbers.

Element	Proton Number
A	15
B	23

(a) Write the electronic configuration for elements **A** and **B**.

A: $1s^{\square}\ 2s^{\square}\ 2p^{\square}\ 3s^{\square}\ 3p^{\square}$

B: $1s^{\square}\ 2s^{\square}\ 2p^{\square}\ 3s^{\square}\ 3p^{\square}\ 4s^{\square}\ 3d^{\square}$

(b) State the number of unpaired electrons for elements **A** and **B**.

A:

B:

(c) State the number of valence e for A and B elements

A:

B:

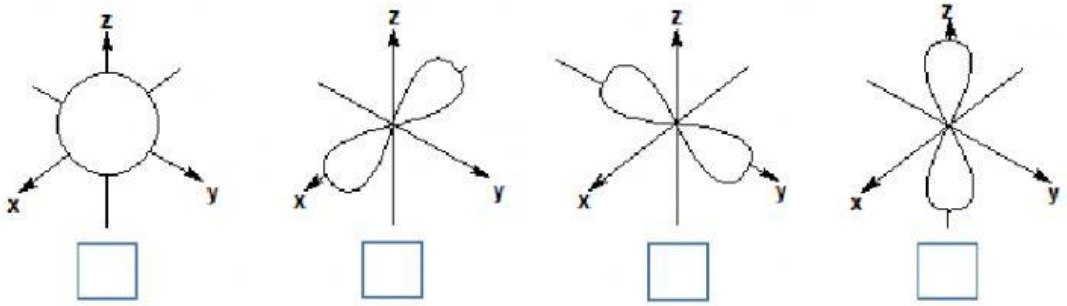
A is a non-metal from group 15, while B is Transition metal

(d) If A becomes ion, state the charge of the ion **A** $^{\square}$

If B becomes ion, state the charge of the ion **B** $^{\square}$

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(e) Label the shapes of the valence orbitals in element A



(d) Give sets of the four quantum numbers for each of the valence electrons in element **A**.

Valence e	n	l	m	s
1st		1		
2nd		1		
3rd		1		
4th		0		
5th		0		

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