

QUANTUM NUMBERS

ENHANCEMENT QUESTION

1. Give the n and ℓ values for the following orbitals

Orbital	Value	
1s	$n =$	$\ell =$
3s	$n =$	$\ell =$
2p	$n =$	$\ell =$
3d	$n =$	$\ell =$
4p	$n =$	$\ell =$

2. Which of the following quantum numbers are **allowed** or **not allowed**?

(answer "1" if Allowed and "2" if Not Allowed)

Set quantum number				Answer
n	ℓ	m	s	
1	0	0	$+\frac{1}{2}$	
1	1	0	$-\frac{1}{2}$	
2	1	-2	$+\frac{1}{2}$	
2	0	+1	$-\frac{1}{2}$	
3	2	-1	$+\frac{1}{2}$	
3	1	0	-1	
3	0	+1	$-\frac{1}{2}$	

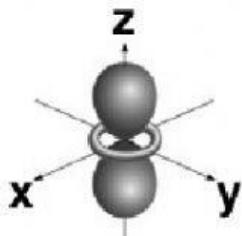
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3. State the maximum electrons that occupied by an orbital with the following quantum numbers:

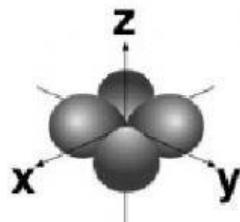
Quantum Number	Number Of Electrons
$n=2, l=0, s = -1/2$	
$n=3, l=2$	
$n=5, l=1$	

4. State the orientation of each orbitals below

i.



ii.



iii.

