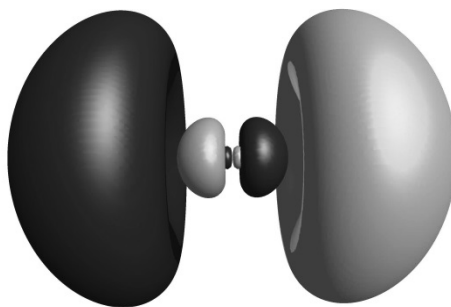


- Consider the $4p$ orbital shown below. Note that, for clarity, the nucleus of the atom is not shown.

Marks
3

How many spherical and planar nodes does this orbital have?

Number of spherical nodes: **2**

Number of planar nodes: **1**

Complete the following table to give a set of quantum numbers that describes an electron in a $4p$ orbital.

Quantum number	n	l	m_l	m_s
Value	4	1	-1, 0 or +1	$\frac{1}{2}$ or $-\frac{1}{2}$