2p orbitals

$\Rightarrow l \neq 0 \therefore l = 1 \quad n = 2$

$l = n - 1 -]$

$1 = n - 1 - 0$

$1 = n - 1$

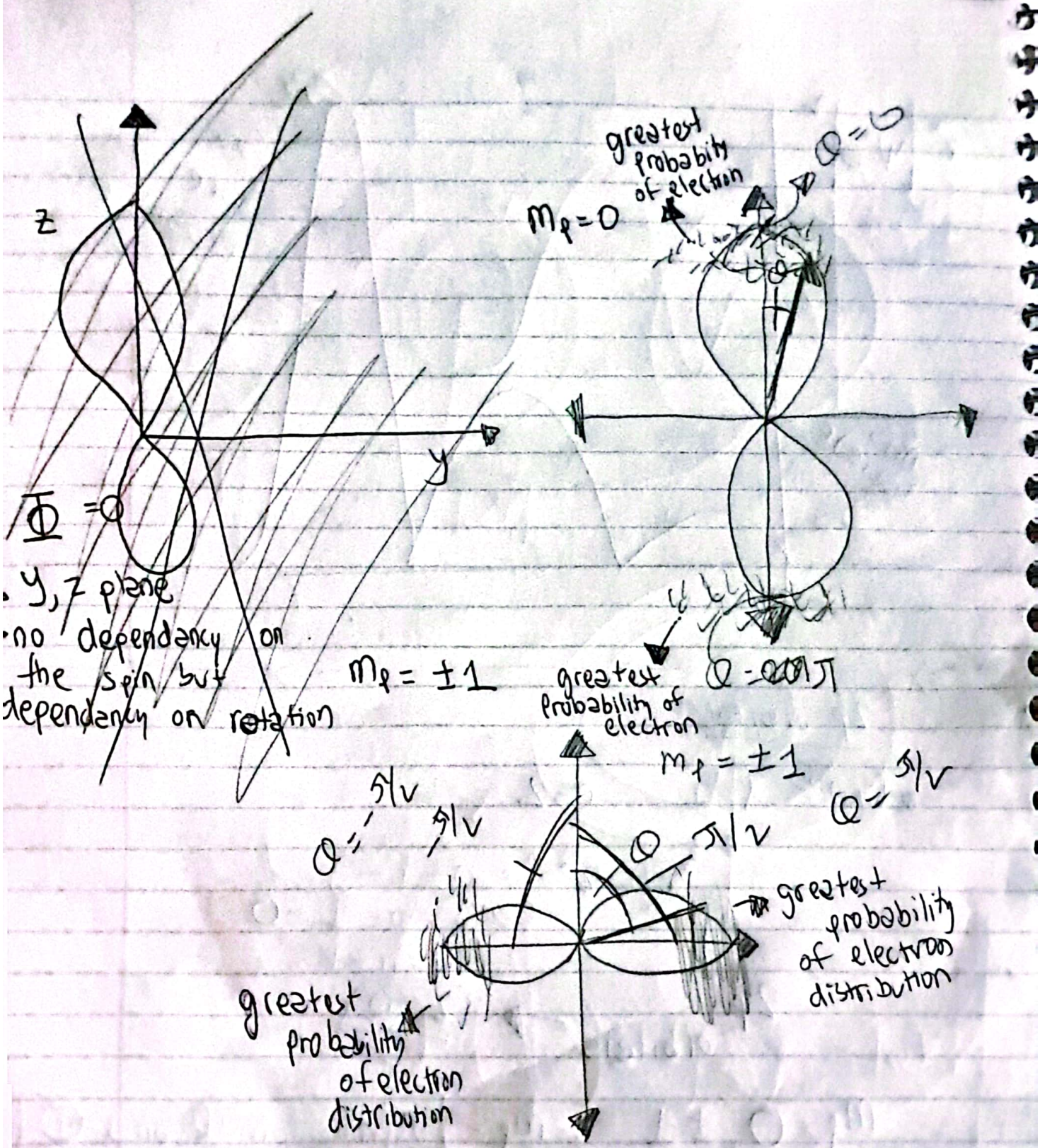
$2 = n$

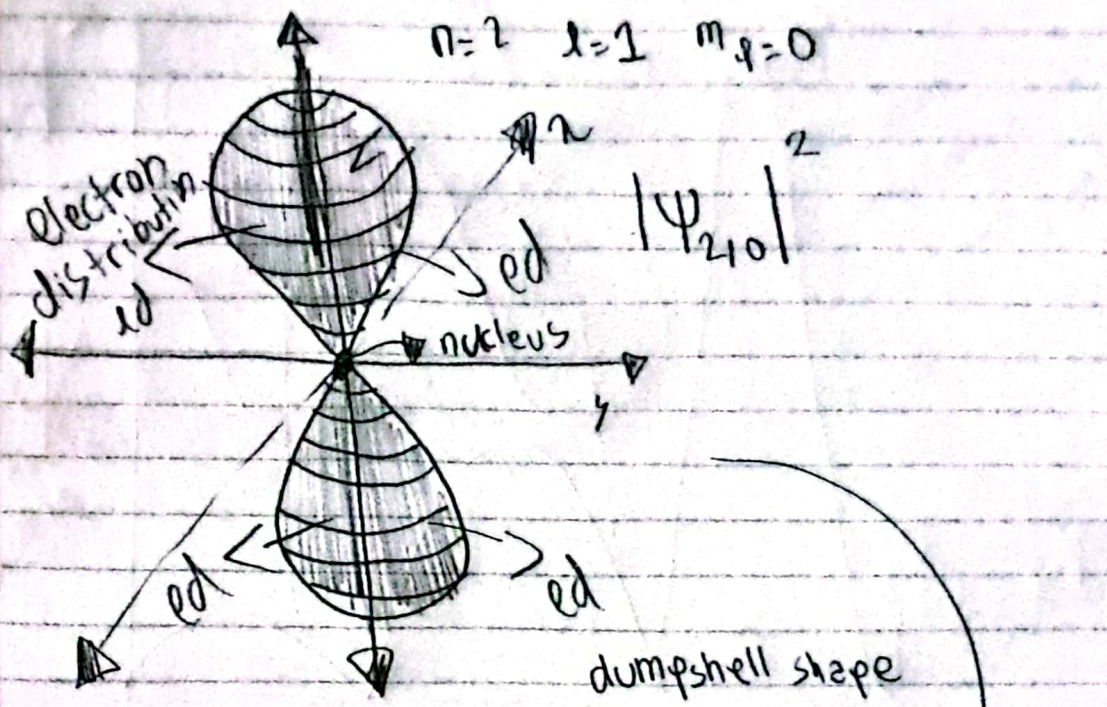
2p orbitals →

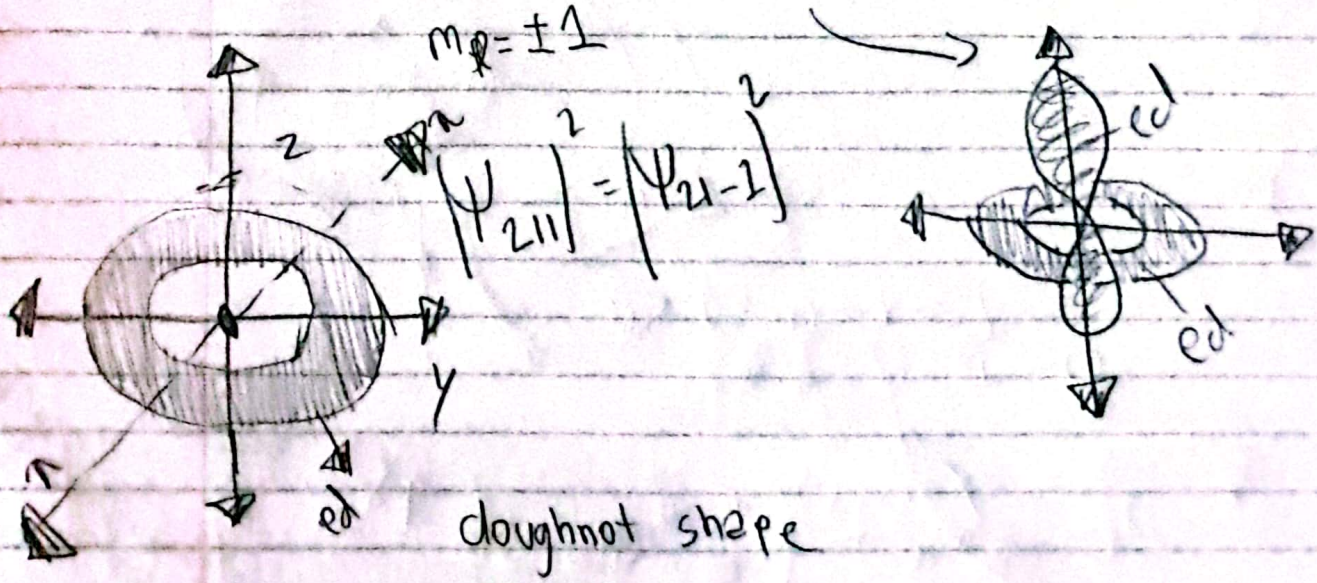
$m_l = 0, \pm 1 \quad \therefore m_l :-$ [depends on θ and Φ]

because m_l will be non zero

[next page figures]


z
y
Φ = 0
y, z plane
no dependency on the spin but dependency on rotation
$m_l = 0$
greatest probability of electron
θ = 0
θ = 0.01π
$m_l = \pm 1$
greatest probability of electron
$m_l = \pm 1$
θ = π/2
θ = π/2
θ = π/2
greatest probability of electron distribution
greatest probability of electron distribution





doughnut shape

Probability density = no dependence on Φ