

Marks
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- Sketch the following wavefunctions using lobe representations. Clearly mark all nodal surfaces, nuclear positions and the relative sign (+ or -) of the wavefunction within the lobes.

a $2s$ atomic orbital	a $3p$ atomic orbital
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Explain the significance of (a) the lobes, (b) the nodes and (c) the sign of the wavefunction, in terms of the probability of finding an electron at a given point in space relative to the nucleus.

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THE REMAINDER OF THIS PAGE IS FOR ROUGH WORKING ONLY