Axiom 1. *For any two distinct points A and B in $\mathbb{R}^3$ there is a unique line containing them.*

Axiom 2. *For any three non-collinear points A, B and C in $\mathbb{R}^3$ there is a unique plane containing them.*

Axiom 3. *Any two distinct planes ω and α in $\mathbb{R}^3$ either are parallel or intersect in a line.*

From these it is easy to prove (we leave it as an exercise):

Proposition 1. *In $\mathbb{R}^3$, for any point A and line ℓ not containing A, there is a unique plane containing both A and ℓ.*