

Zitrus

This is not a lemon - the treachery of images

$$x^2 + z^2 = y^3(1 - y)^3$$

No doubt when we first set eyes on this image we all think: "It's a lemon". But, if it is a lemon, why does it neither have a scent nor a taste? Why doesn't it have pores or spots? Clearly it can't be a lemon!

This shape is not a lemon, but a mathematical model of it. It helps us get a better grasp of the properties of the lemon's shape. In geography there is a matching quote by *Alfred H. S. Korzybski*: "The map is not the territory."

Equations allow us to build mathematical models that help us to study the shape of things better.

All this is part of the poetry of mathematics: we can generate beautiful surfaces by means of algebraic equations that transport our thoughts to unexpected corners of our mind.