



# FORMULAS

'The laws of nature are but the mathematical thoughts of God.'  
Euclid

FORMULA No.

**L001**

[www.and-just-math.com](http://www.and-just-math.com)

We are not mathematicians, but we love mathematics and create formulas ourselves.

'No other science boosts the faith in the strength of the human spirit like mathematics.'  
Hugo Steinhaus

Let:

$$x = a + b \times i$$

$$y = a - b \times i$$

$$z = 1 - 2 \times a$$

where:

$$a = \frac{1}{3} - \frac{1}{6} \times \sqrt[3]{\frac{11 - \sqrt{58,5}}{2}} - \frac{1}{6} \times \sqrt[3]{\frac{11 + \sqrt{58,5}}{2}}$$

$$b = \sqrt{\frac{6 \times a^2 - 4 \times a - 1}{2}}$$

and  $i = \sqrt{-1}$ .

Then, it holds that:

$$x + y + z = 1$$

$$x^2 + y^2 + z^2 = 2$$

$$x^3 + y^3 + z^3 = 3$$

Of course, for any  $n \in \mathbf{N}$  we can calculate the value of the sum:

$$x^n + y^n + z^n$$