

DIVISION BY 0

Giuseppe Galeotti

2019-08-04

Abstract

in every book is wrote that the C ensemble is close in the division operation so if you divide two complex numbers you will get a complex number but if you divide a complex number for 0 I will not get a complex number but I supposed that you can create a new unit j such that

$$0 \cdot j = i \quad (1)$$

1 j features

introducing j we have that

$$(0 \cdot j) \cdot (0 \cdot j) = 0^2 \cdot j^2 = 0 \cdot j^2 = i^2 = -1 \quad (2)$$

reversing the equation we can simply see that

$$j^2 = \frac{-1}{0} \quad (3)$$

and that

$$j = \frac{i}{0} \quad (4)$$

2 U ensemble

with the j unit we can create the U ensemble of further numbers within all numbers can be represented like a polynomial

$$Q = (q_0 + q_1 i + q_2 j) \quad (5)$$

and within numbers can be represented in a three-dimensional Cartesian plan but with the j axis without intersections with the point (0;0;0) but with the 0 at the point (0;i;0). these numbers have the same operator of polynomials but applying this simple rules of product between units:

$$1 \cdot 1 = 1 \quad (6)$$

$$1 \cdot i = i \quad (7)$$

$$1 \cdot j = j \tag{8}$$

$$i \cdot i = i \cdot j = -1 \tag{9}$$

$$j \cdot j = \frac{-1}{0} \tag{10}$$

3 Conclusion

was not easy to solve the division by 0 problem and I hope that another people will read this article and develop more equations about these numbers