OUTSPOKEN MARKET

CÁLCULO

$0, 1, 1, 2, 3, 5, 8, 13, \ldots, n$

u_{n-1} u_n u_{n+1}

$$\lim_{n\to\infty} \frac{u_{n+1}}{u_n} = \frac{1+\sqrt{5}}{2} \simeq 1{,}618034\ldots \quad (1)$$

$$u_{n+1} = u_n + u_{n-1} \quad (2)$$

$$\frac{u_{n+1}}{u_n} = 1 + \frac{u_{n-1}}{u_n} \quad (3)$$

$$\lim_{n\to\infty} \frac{u_{n+1}}{u_n} = L \quad (4)$$

$$\frac{1}{L} = \lim_{n\to\infty} \frac{u_{n-1}}{u_n} \quad (5)$$

DIVIDIR u_n

$$\lim_{n\to\infty} \frac{u_{n+1}}{u_n} = 1 + \lim_{n\to\infty} \frac{u_{n-1}}{u_n} \quad (6)$$

$(4) \to L$ $\qquad \frac{1}{L}$

$$L = 1 + \frac{1}{L} \quad (7)$$

$$L^2 = L + 1 \quad (8)$$

$$X^2 - X - 1 = 0$$

$$X = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

2º GRAU

$a=1 \quad b=-1 \quad c=-1$

$$a L^2 - b L - c = 0 \quad (9)$$

$$L = \frac{1 \pm \sqrt{(-1)^2+4}}{2}$$

$$L = \frac{1 \pm \sqrt{5}}{2}$$

$$L = \frac{1+\sqrt{5}}{2}$$

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GEOMETRIA

$$\alpha = \frac{1}{x} = \frac{x}{1-x} = 1,618034\ldots \quad (1)$$

$$x^2 = -x + 1 \quad (2)$$

$a=1 \quad b=1 \quad c=-1$

$$x^2 + x - 1 = 0 \quad (3)$$

$$x = \frac{-1 \pm \sqrt{5}}{2} \qquad x = \frac{-1+\sqrt{5}}{2}$$

$$\frac{1}{x} = \frac{2}{-1+\sqrt{5}} = \alpha$$

$$\frac{1}{x} = \frac{2(1+\sqrt{5})}{(-1+\sqrt{5})(1+\sqrt{5})} = \frac{2+2\sqrt{5}}{-1-\sqrt{5}+\sqrt{5}+5} = \frac{2+2\sqrt{5}}{4} = \frac{1+\sqrt{5}}{2} = \alpha$$

$$\alpha = 1,618034$$