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Nome: Davi Augusto Neves Leite RA: 191027383



Atividade - 30/06/2020

① $\ln(x) + x - 4 = 0$ com $\epsilon = 0,0001$ e $x_0 = 1,5$

* $F'(x) = \frac{1}{x} + 1$ e $x \in [0, 3]$

$$x_1 = 1,5 - \left(\frac{-2,0945}{1,6667} \right) = 2,7567$$

$$\text{Erro: } \frac{|2,7567 - 1,5|}{|2,7567|} = 0,4559 > \epsilon$$

$$X_2 = 2,7567 - \left(\frac{-0,2293}{1,3628} \right) = 2,9250$$

$$\text{Error: } \frac{|2,9250 - 2,7567|}{2,9250} = 0,0575 > \epsilon$$





$$X_3 = 2,9250 - \left(\frac{-0,0017}{1,3419} \right) = 2,9263$$


$$\text{Error: } \frac{|2,9263 - 2,9250|}{2,9263} = 0,0004 > \epsilon$$

$$X_4 = 2,9263 - \left(\frac{0}{1,3417} \right) = 2,9263$$


$$\text{Error: } \frac{|2,9263 - 2,9263|}{2,9263} = 0 < \epsilon$$


$$\therefore \bar{X} \approx 2,9263$$





$f(x) = \ln(x) + x - 4$





Entrada...

