

$$1. \quad x_t \in [\hat{x} - \Delta x, \hat{x} + \Delta x]$$

$$x_t \in [1,2, \quad 1,3]$$

$$\frac{d}{dx} = 4,4x^3 - 6,6x^2 + 1,4x - 2$$

$$\Delta f(x) \equiv [4,4(1,2)^3 - 6,6(1,2)^2 + 1,4(1,2) - 2] \cdot 0,05$$

$$f(x) \equiv 1,1(1,2)^4 - 2,2(1,2)^3 + 0,7(1,2)^2 + 2$$

$$f(1,2) \equiv -1,012578$$

$$\Delta f(x) \equiv [-1,012578, -0,0989375]$$

$$f(x) = \cos(x) - \ln(2x)$$

$$f'(x) = -\sin(x) \ln(2x) + \frac{\cos(x)}{x}$$

$$\Delta f(x^2) \approx \left[-\sin\left(\frac{\pi}{3}\right) \ln\left(2\left(\frac{\pi}{3}\right)\right) + \frac{\cos\left(\frac{\pi}{3}\right)}{\pi/3} \right] \cdot 0,005$$

$$\Delta f(x^3) \approx 0,00081378624$$

$$f(x^2) \approx \cos\left(\frac{\pi}{3}\right) \cdot \ln\left(2\left(\frac{\pi}{3}\right)\right)$$

$$f(x) \approx 0,3696323889$$

$$f(x) \in [0,3696323889 - 0,00081378624, 0,3696323889 + 0,00081378624]$$

$$f(x) \in [0,367494265,$$

$$0,3777702513]$$