

Taller 9

• $f(x) = 1,1x^3 - 1,6x^2 + 3x - 5$

$x_i = 0,5$

$x_{i+1} = 0,6$

$h = 0,1$

Orden 0

$$f(0,6) \cong 1,1(0,5)^3 - 1,6(0,5)^2 + 3(0,5) - 5$$

$$f(0,6) \cong -3,7625$$

Orden 1

$$f(0,6) \cong -3,7625 + \frac{(3,3x^2 - 3,2x + 3)}{1!} \cdot 0,1$$

$$f(0,6) \cong -3,54$$

$$f'(x) = 3,3x^2 - 3,2x + 3$$

$$f''(x) = 6,6x - 3,2$$

Orden 2

$$f(0,6) \cong -3,54 + \frac{(6,6x - 3,2)}{2!} \cdot 0,1^2$$

$$f(0,6) \cong -3,5395$$

$$f'''(x) = 6,6$$

Orden 3

$$f(0,6) \cong -3,5395 + \frac{(6,6)}{3!} \cdot 0,1^3$$

$$f(0,6) \cong -3,5381$$

• $f(x) = 1,6e^x - 4,2x + 2,75$

$x_i = 0,4$

$x_{i+1} = 0,45$

$h = 0,05$

Orden 0

$$f(0,45) \cong 1,6e^{(0,4)} - 4,2(0,4) + 2,75$$

$$f(0,45) \cong 3,456919516$$

Orden 1

$$f(0,45) \cong 3,456919516 + \frac{(1,6e^x - 4,2)}{1} \cdot 0,05$$

$$f(0,45) \cong 3,366265492$$

$$f'(x) = 1,6e^x - 4,2$$

$$f''(x) = 1,6e^x$$

$$f'''(x) = 1,6e^x$$

Orden 2

$$f(0,45) \cong 3,366265492 + \frac{(1,6e^x)}{2!} \cdot 0,05^2$$

$$f(0,45) \cong 3,369249141$$

Orden 3

$$f(0,45) \cong 3,369249141 + \frac{(1,6e^x)}{3!} \cdot 0,05^3$$

$$f(0,45) \cong 3,369298869 //$$

Norma