Taller 22

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$$f_1(x) = \frac{x-x_1}{x_0-x_1} f(x_0) + \frac{x-x_0}{x_1-x_0} f(x_1)$$

$$f_1(x) = \frac{x-6}{4-6}(6) + \frac{x-4}{6-4}(10,2)$$

$$f_1(x) = \frac{x-6}{-2}(6) + \frac{x-4}{2}(10,2)$$

$$f_1(x) = (x-6)\cdot(-3) + (x-4)(5,1)$$

$$f_1(x) = -3x+18+5,1x-20,4$$

$$f_1(x) = 2,1x - 2,4$$

$$f_1(5) = 2,1(5) - 2,4 = 10,5 - 2,4$$

$$f_2(5) = 8,1$$

Grado 2

$$f_2(x) = \frac{(x-x_1)(x-x_2)}{(x_0-x_1)(x_0-x_2)} f(x_0) + \frac{(x-x_0)(x-x_2)}{(x_1-x_0)(x_1-x_2)} f(x_1) + \frac{(x-x_0)(x-x_1)}{(x_2-x_0)(x_2-x_1)} f(x_2)$$

$$f_2(x) = \frac{(x-4)(x-6)}{(2-4)(2-6)}(2,5) + \frac{(x-2)(x-6)}{(4-2)(4-6)}(6) +$$

$\frac{(x-2)(x-4)}{(6-2)(6-4)}$ (10,2)

$f_2(x) = x^2 - 10x + 24\left(\frac{5}{16}\right) + x^2 - 8x + 12(-1,5) + x^2 - 6x + 8(1,2)$

$f_2(x) = \frac{5x^2}{16} - \frac{25x}{8} + \frac{15}{2} + 1,5x^2 + 12x - 18 + 1,2x^2$

$-7,2x + 9,6$

$f_2(x) = 3,0125x^2 + 1,675x - 0,9$

$\downarrow 5$

$f_2(5) = 82,7875$

Grado 3

$f_3(x) = \frac{(x-4)}{(2-4)}\frac{(x-6)}{(2-6)}\frac{(x-8)}{(2-8)}\frac{(2,5)}{(4-2)}\frac{+(x-2)}{(4-6)}\frac{(x-6)}{(4-8)}\frac{(x+8)}{}$

$(6) + \frac{(x-2)}{(6-2)}\frac{(x-4)}{(6-4)}\frac{(x-8)}{(6-8)}\frac{(10,2)}{(8-2)}\frac{(x-2)}{(8-4)}\frac{(x-4)}{(8-6)}\frac{(x-6)}{}(4,8)$

$f_3(3) = x^3 - 18x^2 + 109x - 192\left(\frac{-5}{96}\right) + x^3 - 16x^2 + 76x - 96$

$\left(\frac{3}{8}\right)x^3 - 14x^2 + 56x - 64(-0,6375) + x^3 - 12x^2 + 99x$

$-98(0,2458)$

$$f_3(x) = \frac{5x^3}{96} + \frac{15x^2}{16} - \frac{65x}{12} + 10 + \frac{3x^3}{8} - 6x^2 + \frac{57x}{2} -$$

$$36 + 2458x^3 - 2946x^2 + 10815x - 6375x^3 + 89250x^2$$

$$- 357000x + 117984 + 408000$$

$$f_3(x) = \frac{-376001x^3}{96} - \frac{1475217x^2}{16} - \frac{4081943x}{1}$$

$$+ 289990$$

$$f_3(5) = \frac{-47000125}{96} \quad \frac{-36880425}{16} \quad \frac{-20409715}{12} +$$

$$289990$$

$$f_3(5) = \frac{-1345737851}{82}$$