Taller 22

- Grado 1

$x_0 = 2 \quad f(x_0) = 1$
$x_1 = 3 \quad f(x_1) = 2,1$

$$f_1(x) = \frac{x-3}{2-3} \cdot 1 + \frac{x-2}{3-2} \cdot 2,1$$

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

$$f_1(2,5) = 1,1 \cdot (2,5) - 1,2 = \boxed{1.55}$$

- Grado 2

$x_0 = 2 \quad f(x_0) = 1$
$x_1 = 3 \quad f(x_1) = 2,1$
$x_2 = 4 \quad f(x_2) = 2,4$

$$f_2(x) = \frac{(x-3)(x-4)}{(2-3)(2-4)} \cdot 1 + \frac{(x-2)(x-4)}{(3-x)(3-4)} \cdot 2,1$$

$$+ \frac{(x-2)(x-3)}{(4-2)(4-3)} \cdot 2,4$$

$$f_2(x) = -0,4x^2 + 3,1x - 3.6$$

$$f_2(2,5) = -0,4(2,5)^2 + 3,1(2,5) - 3.6 = \boxed{1,65}$$

- Grado 3

$x_0 = 1 \quad f(x_0) = 0,1$
$x_1 = 2 \quad f(x_1) = 1$
$x_2 = 3 \quad f(x_2) = 2,1$
$x_3 = 4 \quad f(x_3) = 2,4$

$$f_3(x) = \frac{(x-2)(x-3)(x-4)}{(1-2)(1-3)(1-4)} \cdot 0,1 + \frac{(x+1)(x-3)(x-4)}{(2-1)(2+3)(2-4)} \cdot 1$$

$$+ \frac{(x-1)(x-2)(x-4)}{(3-1)(3-2)(3-4)} \cdot 2,1 + \frac{(x-1)(x-2)(x-3)}{(4-1)(4-2)(4-3)}$$

$$f_3(x) = -0,166x^3 + 1,1x^2 - 1,233x + 0,4$$

$$f_3(2,5) = -0,166(2,5)^3 + 1,1(2,5)^2 - 1,233(2,5) + 0,4$$

$$= \boxed{1,59}$$