Paso 4 = $4C2 = 6$

Taller 10

- $f(x) = 0,5x^3 - 1,5x^2 + 2x - 4$

$f'(x) = 1,5x^2 - 3x + 2$

$f''(x) = 3x - 3$

$f'''(x) = 3$

- $F(0.5) = 0.5(0.5)^3 - 1.5(0.5)^2 + 2(0.5) - 4 = -3.3125$
- $f'(0.5) = 1,5(0.5)^2 - 3(0.5) + 2 = 0.875$
- $f''(0.5) = 3(0.5) - 3 = -1.5$
- $f''' = 3$

- $F(x) = f(0.5) + f'(0.5)(x - 0.5) + \frac{f''(0.5)}{2}(x-0.5)^2 + \frac{f'''(0.5)}{6}(-0.5)^3$

$F(x) = -3.3125 + 0875(x-0.5) - \frac{1.5}{2}(x-0.5)^2 + \frac{3}{6}(x-0.5)^3$

Para $x = 0.5$

$F(0.5) = -3.3125 + 0.875(0) - \frac{1.5}{2}(0) + \frac{3}{6}(0) = -3.3125$

$F(x) = 1.2e^x - 2.8x + 3.3$

$f'(x) = 1.2e^x - 2.8$

$f''(x) = 1.2e^x$

$f'''(x) = 1.2e^x$

evalúo

$F(0.4) = 1.2e^{(0.4)} - 2.8(0.4) + 3.3 = 3.97016$

$f'(0.4) = 1.2e^{0.4} - 2.8 = -1.00984$

$f''(0.4) = 1.2e^{0.4} = 1.79016$

$f'''(0.4) = 1.2e^{0.4} = 1.79016$

$$f(x) = F(0.4) + f'(0.4)(x-0.4) + \frac{f''(0.4)}{2}(x-0.4)^2 + \frac{f'''(0.4)}{6}(x-0.4)^3$$

$$f(x) = 3.97016 - 1.00984(x-0.4) + \frac{1.79016}{2}(x-0.4)^2 + \frac{1.79016}{6}(x-0.4)^3$$

para $x = 0.55$ $\quad x - 0.4 = 0.15$

$$F(0.55) = 3.97016 - 1.00984(0.15) + \frac{1.79016}{2}(0.15)^2 + \frac{1.79016}{6}(0.15)^3$$

$F(0.55) = 3.97016 - 0.151476 + 0.0201798 + 0.000099883$

$F(0.55) = 3.838961883$

$F(0.55) \approx 3.839$