Taller 11

- para $x = 0.7$ y $h = 0.1$
- $f(0.7)$
- $f(0.7 + 0.1) = f(0.8)$
- $f(0.7 - 0.1) = f(0.6)$

$f'(x) = 0.88x^3 - 1.12x$

$f''(x) = 2.64x^2 - 1.12$

$f(0.7) = 4.578422$

$f(0.8) = 4.531712$

$f(0.6) = 4.626912$

$f'(0.7) \approx \frac{4.531712 - 4.578422}{0.1} = -0.4671$

$f'(0.7) \approx \frac{4.578422 - 4.626912}{0.1} = -0.4849$

$f'(0.7) \approx \frac{4.531712 - 4.626912}{2 \cdot 0.1} = -0.4760$

$f'(0.7) = -4.822$

- $f''(0.7) \approx \frac{4.531712 - 2 \cdot 4.578422 + 4.626912}{(0.1)^2} = 0.1780$

$f''(0.7) = 0.1736$

· $x = 0.7$ $\quad h = 0.1$

$f'(x) = 0.88x^3 - 1.12x$

$f''(x) = 2.64x^2 - 1.12$

$f(0.7) = 0.22(0.7)^4 - 0.56(0.7^2 + 4.8 = 4.578422$

$f(0.8) = 0.22(0.8)^4 - 0.56(0.8)^2 + 4.8 = 4.531712$

$f(0.6) = 0.22(0.6)^4 - 0.56(0.6)^2 + 4.8 = 4.626412$

$f(0.9) = 0.22(0.9)^4 - 0.56(0.9)^2 + 4.8 = 4.490742$

$f(0.5) = 0.22(0.5)^4 - 0.56(0.5)^2 + 4.8 = 4.673375$

· $f'(0.7) = \dfrac{f(0.8) - f(0.7)}{0.1} = \dfrac{-0.04671}{0.1} = -0.4672$

$f'(0.7) = \dfrac{-0.04784}{0.1} = -0.4784$

$f(0.7) = \dfrac{f(0.8) - f(0.6)}{2 \times 0.1} = -0.476$

· $f''(0.7) = \dfrac{f(0.9) - 2f(0.8) + f(0.7)}{(0.1)^2} = 0.574$

$f''(0.7) = \dfrac{f(0.7) - 2f(0.6) + f(0.5)}{(0.1)^2} = -0.1652$

$f''(0.7) = \dfrac{f(0.8) - 2f(0.7) + f(0.6)}{(0.1)^2} = 0.1778$

$f'(x) = 0.88x^3 - 1.12x$

Para $x = 0.7$

$F'(0.7) = 0.88(0.7)^3 - 1.12(0.7) = -0.498216$

$F''(x) = 2.64x^2 - 1.12$

para $x = 0.7$

$F''(0.7) = 2.64*(0.7)^2 - 1.12 = 0.17736$