h.)

$f(x) \cong a(x-x_2)^2 + b(x-x_2)+c$ donde $h_0 = x_1 - x_0$

$h_1 = x_2 - x_1$

$$a = \frac{f[x_1,x_2]-f[x_0,x_1]}{h_2 - h_1}$$

$$F[x_0,x_1] = \frac{fx_1 - fx_0}{\underbrace{x_1 - x_0}_{h_0}} = \delta_0$$

$b = f[x_1,x_2] + ah_2^2$

$$F[x_1,x_2] = \frac{fx_2 - fx_1}{\underbrace{x_2 - x_1}_{h_1}} = \delta_1$$

$c = f(x_2)$

i) $f(x_0) = a(x_0-x_2)^2 + b(x_0-x_2)+c$

ii) $f(x_1) = a(x_1-x_2)^2 + b(x_1-x_2)+c$

iii) $f(x_2) = \cancel{a(x_2-x_2)^2} \xrightarrow{0} + \cancel{b(x_2-x_2)} \xrightarrow{0} + c$
$= c$

$f(x_0) = a(x_0-x_2)^2 + b(x_0-x_2) + f(x_2)$

$f(x_1) = a(x_1-x_2)^2 + b(x_1-x_2) + f(x_2)$

$f(x_2) = c$

$\Rightarrow$ Sustituyendo $\delta_0, \delta_1$ en i, ii

$\Rightarrow (h_0+h_1)b - (h_0+h_1)^2 a = h_0\delta_0 + h_1\delta_1$

donde $a = \dfrac{\delta_1 - \delta_0}{h_1 + h_0}$ $b = ah_1 + \delta_1$