10. $E = \frac{f^{(4)}(\varepsilon)}{4!} \int_0^{3h} (x)(x-h)(x-2h)(x-3h)\, dx$

$= \frac{f^{(4)}(\varepsilon)}{4!} \int_0^{3h} (x^2 - hx)(x^2 - 5hx + 6h^2)\, dx$

$= \frac{f^{(4)}(\varepsilon)}{4!} \int_0^{3h} x^4 - 5hx^3 + 6h^2x^2 - hx^3 + 5h^2x^2 - 6h^3x\, dx$

$= \frac{f^{(4)}(\varepsilon)}{4!} \left[\frac{x^5}{5} - \frac{5hx^4}{4} + 2h^2x^3 - \frac{hx^4}{4} + \frac{5}{3}h^2x^3 - 3h^3x^2 \right]_0^{3h}$

$= \frac{f^{(4)}(\varepsilon)}{4!} \left[\frac{(3h)^5}{5} - \frac{5h(3h)^4}{4} + 2h^2(3h)^3 - \frac{h}{4}(3h)^4 + \frac{5}{3}h^2(3h)^3 - 3h^3(3h)^2 \right]$

$= \frac{f^{(4)}(\varepsilon)}{4!} \left[\frac{243}{5}h^5 - \frac{405}{4}h^5 + 54h^5 - \frac{81}{4}h^5 + 45h^5 - 27h^5 \right]$

$= \frac{f^{(4)}(\varepsilon)}{4!} \left[-\frac{9}{10} h^5 \right]$

$= f^{(4)}(\varepsilon) \cdot \frac{-3}{80} \cdot h^5$

$= \frac{-3}{80} h^5 f^{(4)}(\varepsilon)$