

$$E[f] = \delta^2 \int_0^1 f(x)^2 dx + \int_0^1 \left(\left(\frac{df}{dx} \right)^2 - 1 \right)^2 dx + \epsilon^2 \int_0^1 \left(\frac{d^2 f}{dx^2} \right)^2 dx.$$