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Ex.1 Convolution (Response of electric circuits)

$x(t) := e^{-t}$ *input*

$h(t) := e^{-2 \cdot t}$ impulse response

$$y_1(t) := \int_0^t x(\tau) \cdot h(t-\tau)\, d\tau \rightarrow e^{-t} - e^{-(2 \cdot t)}$$ *output*

$$y_2(t) := \int_0^t x(\tau) \cdot h(t-\tau)\, d\tau \rightarrow e^{-t} - e^{-(2 \cdot t)}$$ *output*