

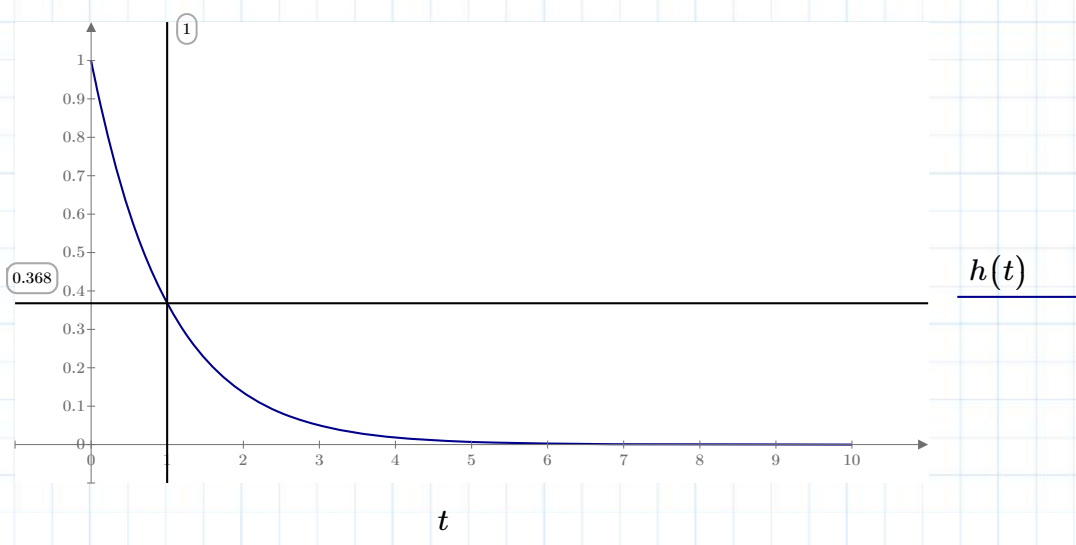
Ex.S5 Response of electric circuit when impulse response and input signal are shown as follows. Sinusoidal waves input. $R=1\Omega, L=1\text{ H}$ (Series connection)

$$R:=1 \quad L:=1 \quad Z(s):=R+s\cdot L \quad h(t):=e^{-t} \quad \text{impulse response}$$

$$h(t):=e^{-t} \quad H(s):=\frac{1}{s+1} \quad R:=1 \quad \omega:=1 \quad L:=1$$

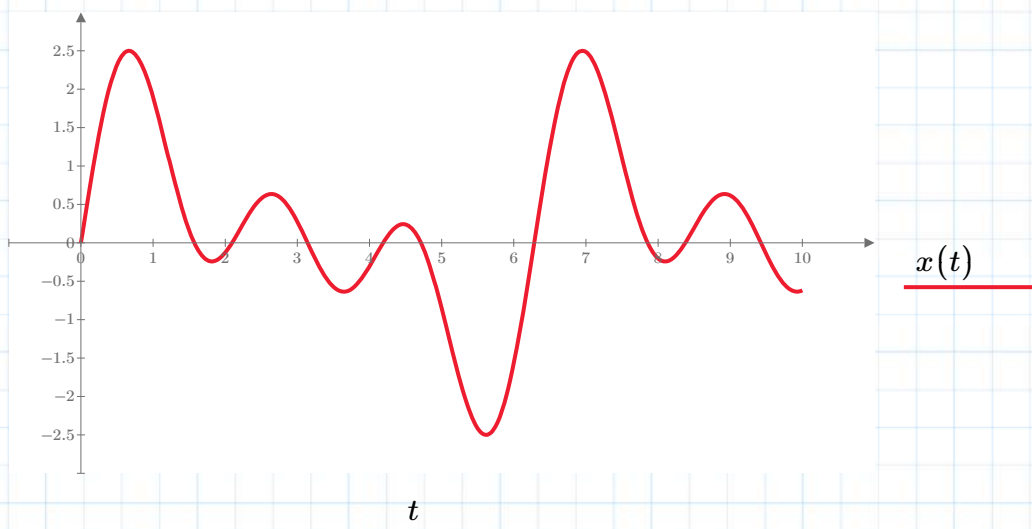
$$a:=1$$

$$h(t):=e^{-a\cdot t} \quad i:=1..200 \quad H_i:=h(0.1\cdot i) \quad H_{10}=0.368$$



$$x(t):=\sin(t)+\sin(2\cdot t)+\sin(3\cdot t) \quad \text{input_signal}$$

$$i:=1..200 \quad X_i:=x(0.1\cdot i) \quad X_{10}=1.892 \quad x(1)=1.892$$



$$y := \frac{X * H}{10}$$

$$t := 0 \quad y_t = -1.192 \cdot 10^{-16} + 7.214i \cdot 10^{-17}$$

$$t := 1 \dots 200 \quad y(t) := y_t$$

