

Assignment 8 answers

Page 286, #6. $e(t) = e^{-2t} \sin t$

Page 286, #11. $\mathcal{L}\{x\} = \frac{e^{-ps}}{s} = \mathcal{L}\{H(t-p)\}$, so that $x(t) = H(t-p)$.

Page 296, #28. $y(t) = y_s(t) + y_i(t)$, where

$$y_s(t) = \frac{1}{3} \int_0^t (e^{-(t-u)} - e^{-4(t-u)})g(u) du \quad y_i(t) = \frac{4}{3}e^{-t} - \frac{1}{3}e^{-4t}$$