SOLUCIONES EJERCICIO INTEGRADOR ECUACIONES DIFERENCIALES

Problema 1

a) $h(t) = -\frac{1}{4}e^{-5t}u(t) + \frac{1}{4}e^{-t}u(t)$

b) $h(t) = \frac{19}{3}e^{-7t}u(t) - \frac{10}{3}e^{-4t}u(t)$

c) $h(t) = 5e^{-7t}u(t)$

d) $h(t) = \delta(t) - 9e^{-10t}u(t)$

Problema 2

a) $y(t) = -\frac{1}{2}e^{-3t}u(t) + \frac{1}{4}e^{-5t}u(t) + \frac{1}{4}e^{-t}u(t)$

b) $y(t) = -5e^{-3}[-\frac{1}{4}e^{-3(t-1)}u(t-1) + \frac{1}{8}e^{-5(t-1)}u(t-1) + \frac{1}{8}e^{-(t-1)}u(t-1)$

c) $y(t) = -\frac{1}{4}e^{-5t}u(t) + \frac{1}{4}e^{-t}u(t)$