1) An LTI system has impulse response

h(t) = u(t) - u(t-1)Find and sketch the output when then input is x(t) = delta(t) + u(t-1)

2) Find and sketch the convolution of f(t) and g(t) where

 $f(t) = 2 (1/3)^{(t)} u(t)$ g(t) = delta(t-1) - (1/3) delta(t-2)

3) Find the convolution of f(t) and g(t) where

 $f(t) = 2 \exp(-t) u(t)$ $g(t) = -2 \exp(-2t) u(t)$

4) Find and sketch the convolution of f(t) and g(t) where

5) The signal x(t) is given by

x(t) = (1 - t) [u(t) - u(t-2)]

The signal x(t) is put through the integrator. Find and sketch the output signal.