1) An LTI system has impulse response
$h(t)=u(t)-u(t-1)$
Find and sketch the output when then input is
$x(t)=\operatorname{delta}(t)+u(t-1)$
2) Find and sketch the convolution of $f(t)$ and $g(t)$ where
$f(t)=2(1 / 3)^{\wedge}(t) u(t)$
$g(t)=$ delta(t-1) - (1/3) delta(t-2)
3) Find the convolution of $f(t)$ and $g(t)$ where
$f(t)=2 \exp (-t) u(t)$
$g(t)=-2 \exp (-2 t) u(t)$
4) Find and sketch the convolution of $f(t)$ and $g(t)$ where

$$
\begin{aligned}
& f(t)=u(t-1) \\
& g(t)=t u(t)
\end{aligned}
$$

5) The signal $x(t)$ is given by
$x(t)=(1-t)[u(t)-u(t-2)]$
The signal $\mathrm{x}(\mathrm{t})$ is put through the integrator. Find and sketch the output signal.
