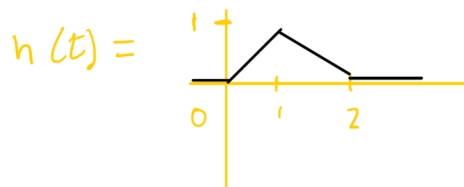
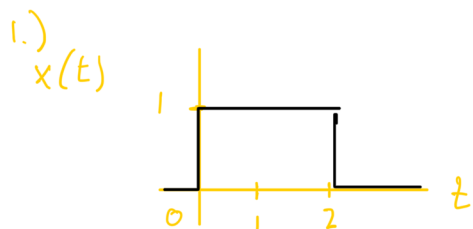


Convolution Check:



$$h(t) = r(t) - r(t-1)$$



$$x(t) = u(t) - u(t-2)$$



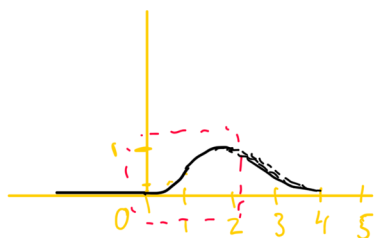
$$t < 0: 0 \quad \leftarrow \quad \int_{-t}^0 x(t-\tau) r(\tau) d\tau = 0$$

$$0 < t < 2:$$

$$\int_0^t x(t-\tau) r(\tau) d\tau =$$

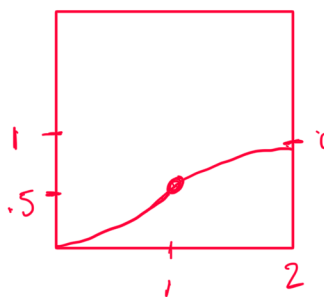
$$\hookrightarrow \int_0^t \tau d\tau$$

$$y(t) =$$



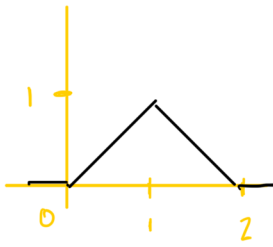
$$@ .5 s \Rightarrow .125$$

$$@ 1 s \Rightarrow .25$$



2.)

$$y(t) =$$



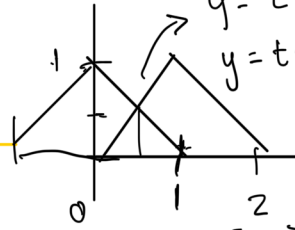
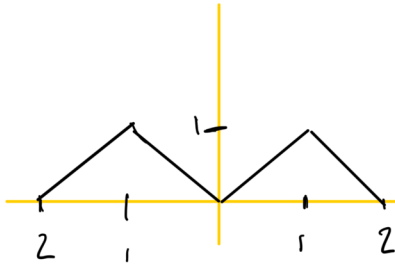
$$\int \tau(t-\tau) d\tau$$

$$\hookrightarrow t \frac{\tau^2}{2} - \frac{\tau^3}{3}$$

$$\int_0^t \tau(t-\tau) d\tau$$

$$y = \tau$$

$$y = t - \tau$$



$$t = .5 \Rightarrow .125$$

$$t = 1 \Rightarrow .25$$

