

10. HAVE $* y'' + y = \delta(t-\pi) + \delta(t-2\pi) \quad y(0) = y'(0) = 0$
 TAKE $\mathcal{L}\{y\}$:

$$(s^2 + 1)Y = e^{-\pi s} + e^{-2\pi s}$$

$$Y(s) = e^{-\pi s} \frac{1}{s^2 + 1} + e^{-2\pi s} \frac{1}{s^2 + 1}$$

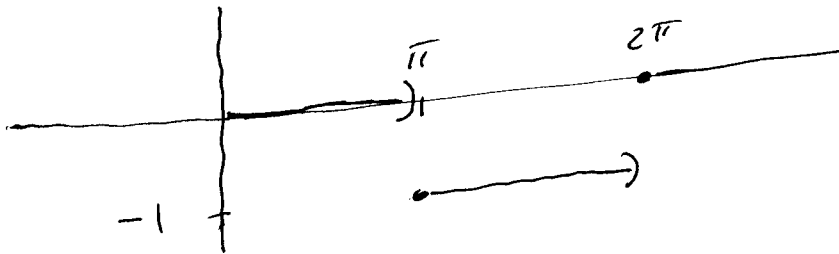
\mathcal{L}^{-1} :

$$y(t) = u_{\pi}(t) \sin(t-\pi) + u_{2\pi}(t) \sin(t-2\pi)$$

$$= u_{\pi}(t) [-\sin t] + u_{2\pi}(t) \sin t$$

a) $y(t) = [u_{2\pi}(t) - u_{\pi}(t)] \sin t$

b) $u_{2\pi}(t) - u_{\pi}(t)$ HAS GRAPH.



SO $[u_{2\pi}(t) - u_{\pi}(t)] \sin t$ LOOKS LIKE THIS :

