



13-5-2021

Evidencia 2.1

Martínez Coronel Brayan Yosafat

$$f_1(t) = \begin{cases} 1 & -1 \leq t \leq 6 \\ 0 & \text{en otro caso} \end{cases}$$

$$f_2(t) = \begin{cases} 2 & -1 \leq t \leq 1 \\ 0 & \text{en otro caso} \end{cases}$$

$$f_2 * f_1 = \int_{-1}^{t+1} 2 dx + \int_{-1}^1 2 dx + \int_{t-1}^1 2 dx \rightarrow 2\lambda$$

caso 1 caso 2 caso 3

$$\text{caso 1: } t+1 \geq -1 \quad x \leq 0$$

$$\text{caso 2: } t+1 \geq 1 \quad 0 \leq t \leq 5$$

$$\text{caso 3: } t-1 \geq -1 \quad 5 \leq t \leq 7$$

$$= 2\lambda \Big|_{-1}^{t+1} + 2\lambda \Big|_{-1}^1 + 2\lambda \Big|_{t-1}^1$$

$$= \begin{cases} 2t+4 & \text{en } -2 \leq t \leq 0 \\ 4 & \text{en } 0 \leq t \leq 5 \\ 4-2t & \text{en } 5 \leq t \leq 7 \end{cases}$$

