

A dark blue vertical bar runs down the left side of the page. A blue arrow-shaped banner points to the right from this bar, containing the date. In the bottom left corner, there are several thin, curved lines in dark blue and light grey.

20-5-2021

# Evidencia 2.3

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$$f_1 = \begin{cases} t+10 & -10 \leq t \leq -5 \\ 5 & -5 \leq t \leq 5 \\ -t+10 & 5 \leq t \leq 10 \end{cases}$$

$$f_2 = \begin{cases} t & 0 \leq t \leq 2 \\ -t+4 & 2 \leq t \leq 4 \end{cases}$$

$$f_1 * f_2 = \begin{cases} \int_{-10}^{t+4} (\lambda+10)(-\lambda+4) d\lambda & -14 \leq t \leq -12 \\ \int_t^{t+2} \lambda(\lambda+10) d\lambda + \int_{t+2}^{t+4} (\lambda+10)(-\lambda+4) d\lambda & -12 \leq t \leq -10 \\ \int_t^{t+2} \lambda(\lambda+10) d\lambda + \int_{t+2}^{-5} (\lambda+10)(-\lambda+4) d\lambda + \int_{-5}^{t+4} 5(-\lambda+4) d\lambda & -9 \leq t \leq -7 \\ \int_t^5 \lambda(\lambda+10) d\lambda + \int_5^{t+2} 5\lambda d\lambda + \int_{t+2}^{t+4} 5(-\lambda+4) d\lambda & -7 \leq t \leq -5 \\ \int_t^{t+2} 5\lambda d\lambda + \int_{t+2}^{t+4} 5(-\lambda+4) d\lambda & -5 \leq t \leq -1 \end{cases}$$

$$f_1 * f_2 = \begin{cases} \int_t^5 \lambda(\lambda+10) d\lambda + \int_5^{t+2} 5\lambda d\lambda + \int_{t+2}^{t+4} 5(-\lambda+4) d\lambda & -7 \leq t \leq -5 \\ \int_t^{t+2} \lambda(5) d\lambda + \int_{t+2}^5 5(-\lambda+4) d\lambda + \int_5^{t+4} (10-\lambda)(-\lambda+4) d\lambda & -5 \leq t \leq -1 \\ \int_t^{t+2} (10-\lambda)\lambda d\lambda + \int_{t+2}^{t+4} (10-\lambda)(-\lambda+4) d\lambda & 1 \leq t \leq 3 \\ \int_t^{t+2} \lambda(10-\lambda) d\lambda + \int_{t+2}^{t+4} (10-\lambda)(4-\lambda) d\lambda & 3 \leq t \leq 5 \\ \int_t^{10} \lambda(10-\lambda) d\lambda & 5 \leq t \leq 6 \\ \int_t^{10} \lambda(10-\lambda) d\lambda + \int_{t+2}^{10} (10-\lambda)(4-\lambda) d\lambda & 6 \leq t \leq 8 \\ \int_t^{10} \lambda(10-\lambda) d\lambda & 8 \leq t \leq 10 \end{cases}$$