

... 2.66. (2)

c) What is the value of $y_{ij}(t) = x_i(t) * h_j(t)$, $i \neq j$ at $t=4$ for $i, j \in [1..3]$?

~~Using the graphs~~

By visually analyzing the graphs from parts (a) and (b) and seeing the overlaps:

$$y_{12}(4) = (x_1 * h_2)(4) = 1 - 1 - 1 + 1 = 0$$

$$y_{13}(4) = (x_1 * h_3)(4) = -1 - 1 + 1 + 1 = 0$$

$$y_{21}(4) = (x_2 * h_1)(4) = 1 - 1 - 1 + 1 = 0$$

$$y_{23}(4) = (x_2 * h_3)(4) = -1 + 1 - 1 + 1 = 0$$

$$y_{31}(4) = (x_3 * h_1)(4) = -1 - 1 + 1 + 1 = 0$$

$$y_{32}(4) = (x_3 * h_2)(4) = -1 + 1 - 1 + 1 = 0$$

