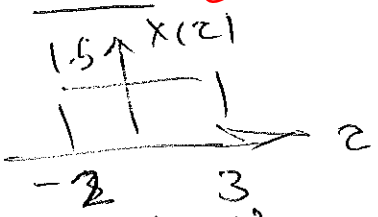
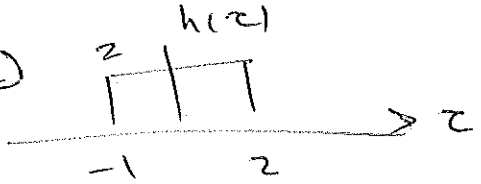
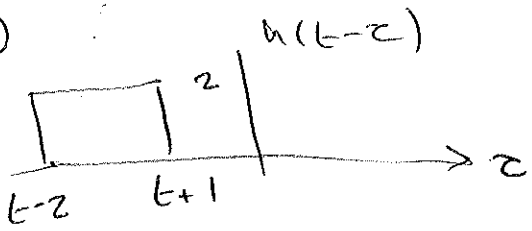
Question 3

a)

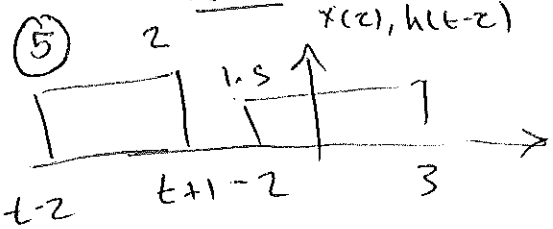
① 

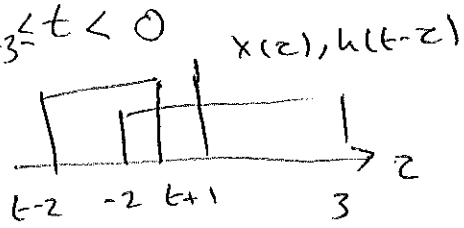

② 

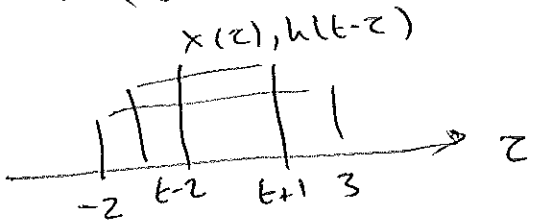

③ 

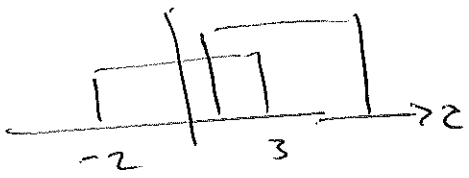

④ 

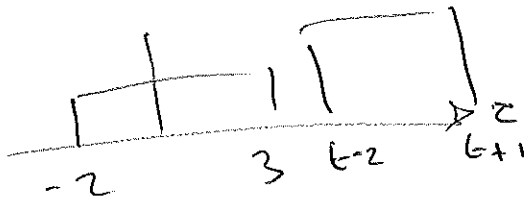

$t < -3$

⑤ 


⑥ $-3 \le t < 0$ 


⑦ $0 \le t \le 2$ 


⑧ $2 \le t \le 5$ 


⑨ $t \ge 5$ 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$-3 \le t \le 0$ $\quad y(t) = \int_{-2}^{t+1} 3\,d\tau = 3(t+3)$

$0 \le t \le 2$ $\quad y(t) = \int_{t-2}^{t+1} 3\,d\tau = 9$

$2 \le t \le 5$ $\quad y(t) = \int_{t-2}^{3} 3\,d\tau = 3(5-t)$

$$y(t) = \begin{cases} 0 & t < -3 \\ 3(t+3) & -3 \le t \le 0 \\ 9 & 0 \le t \le 2 \\ 3(5-t) & 2 \le t \le 5 \\ 0 & t > 5 \end{cases}$$