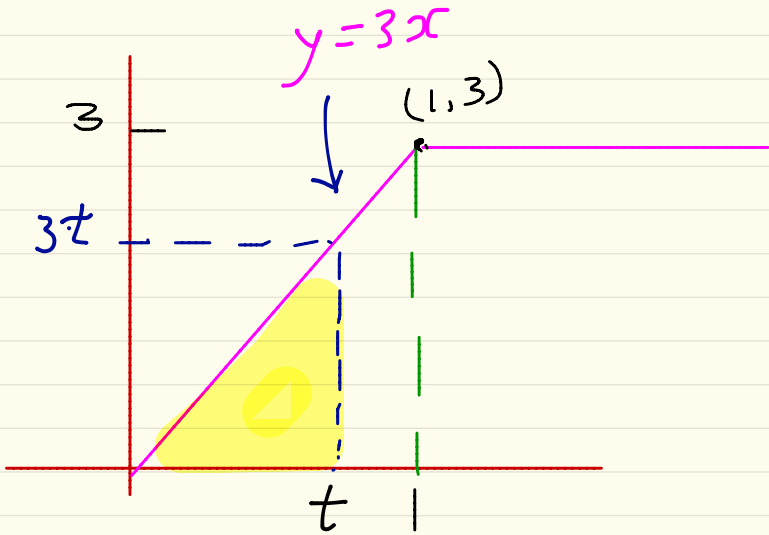


CHAPTER 3 REVIEW

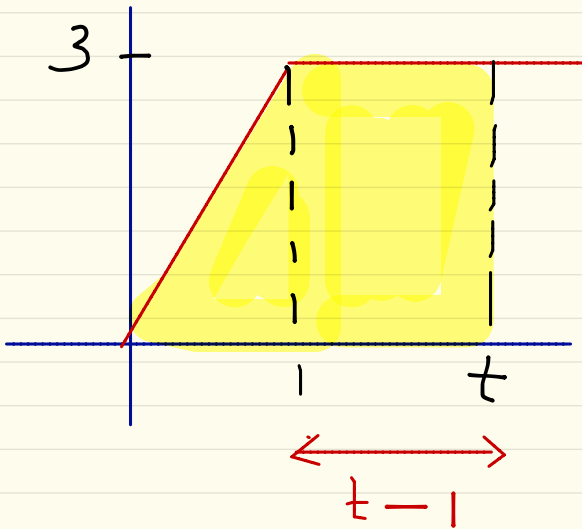
Q9.



Let t be the length of the base of the triangle.

For $0 \leq t \leq 1$, the area of the triangle (in yellow) is

$$\begin{aligned} A &= \frac{1}{2}bh = \frac{1}{2} \times t \times 3t \\ &= \frac{3t^2}{2} \end{aligned}$$



For $t > 1$, the enclosed area =

A triangle + A rectangle

$$= \frac{3}{2} \times 1^2 + 3(t-1)$$

$$= 3t - 3 + \frac{3}{2}$$

$$= 3t - \frac{3}{2}$$

Our Area function is

$$A(t) = \begin{cases} \frac{3t^2}{2}, & 0 < t \leq 1 \\ 3t - \frac{3}{2}, & t > 1 \end{cases}$$