

Ex 5.3 #13

$$v(t) = t \text{ for } 0 \leq t \leq 1$$

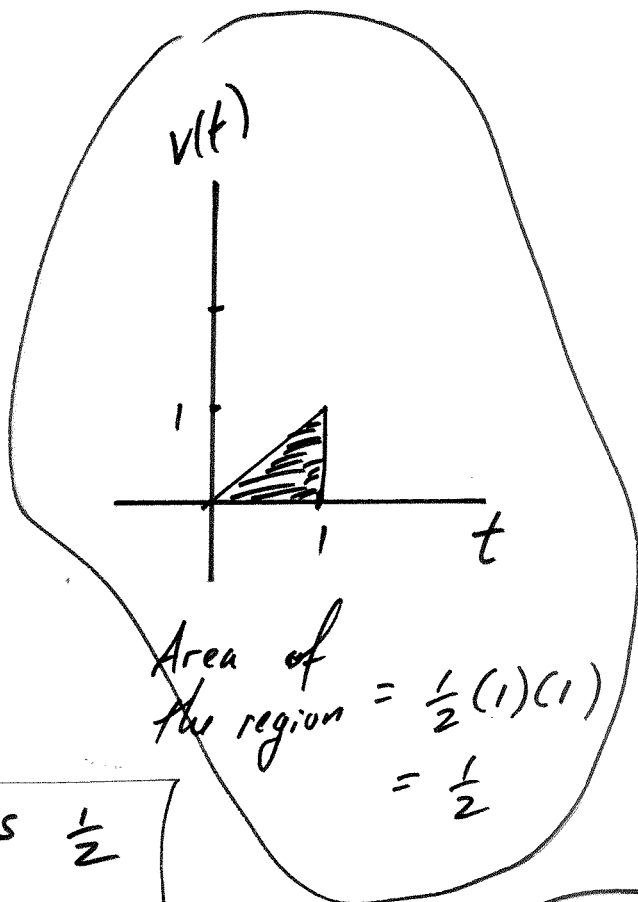
$$\text{Distance Traveled} = \int_0^1 t \, dt$$

$$= \left. \frac{t^2}{2} \right|_0^1$$

$$= \frac{1}{2} - 0$$

$$= \frac{1}{2}$$

So, the distance traveled is $\frac{1}{2}$



5.3 #15

$$v(t) = 2t + 1 \text{ for } 0 \leq t \leq 2$$

$$\text{Distance Traveled} = \int_0^2 (2t + 1) \, dt$$

$$= \left[t^2 + t \right]_0^2$$

$$= (4 + 2) - 0$$

$$= 6$$

So, the distance traveled is 6

