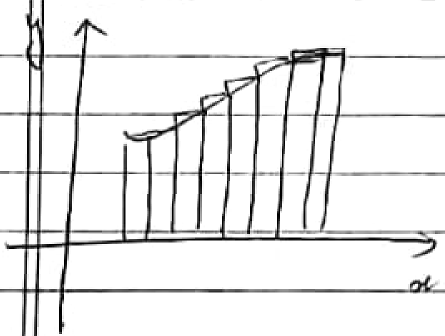
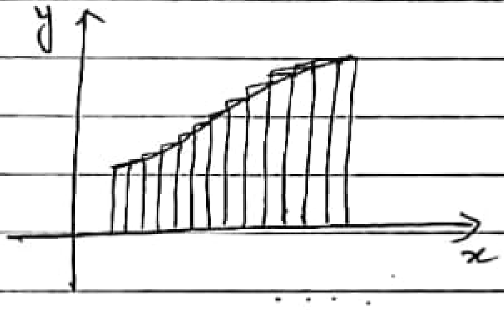
- Notice, that the ~~Upper~~ Right Riemann Sum in this ~~should~~ case gives me an area greater than the required area whereas ~~Lower~~ left Riemann sum ~~gives~~ is less than the required area. It might change depending on whether $f$ is increasing or decreasing.
- Also, notice that if we increase the number of intervals $n$, then we can get a better approximation of our required area.





Thus, the best possible scenario is if we let

~~[illegible]~~ $n \to \infty$.

and look at

$$\lim_{n \to \infty} \left( \left[ f(x_1) + f(x_2) + \cdots + f(x_n) \right] \Delta_n \right) \quad \text{where } \Delta_n = \frac{b-a}{n}$$

and $x_1, x_2, \ldots, x_n$ are any arbitrary points in the respective subintervals. ( - for ~~Upper~~ right Riemann Sum - choose right end points

- for ~~Lower~~ left Riemann Sum - choose left end points )