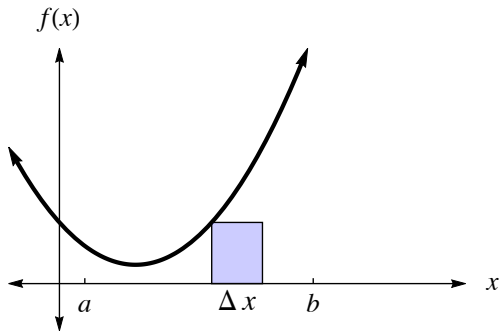


Approximating Area Using Left Endpoint Rectangles

We can generalize our method for approximating the area under a curve when:

1. We have some function, $f(x)$,
2. The x values for from $x = a$ to $x = b$ (that is, $a \leq x \leq b$),
3. We are using n left endpoint rectangles,
4. All the rectangles have an equal width, Δx .

Here is an example graph showing one rectangle:



Using summation notation, the approximate area under the curve is given by:

$$A \approx \sum_{i=0}^{n-1} \Delta x \cdot f(a + \Delta x \cdot i)$$

This method of using rectangles to approximate the area under a curve is called a **Riemann Sum**.