

## 1 | Reading

### 1.1 | Definition of a Definite Integral

For each interval  $[x_i, x_{i+1}]$ , we choose  $x_i^*$  in the interval to be the position of the minimum (for lower bound) or maximum (upper bound) value.

## 2 | Problems

### 2.1 | exr1.3

Using the left edge: -8.4375

Summation notation for left edge approximation:

$$\sum_{i=0}^n \underbrace{\frac{b-a}{n}}_{\text{width}} \underbrace{f\left(a + \frac{b-a}{n}i\right)}_{\text{height}}$$

### 2.2 | exr1.4 (in class)

0.21875 using the left estimate

### 2.3 | exr1.5

#### 2.3.1 | left estimate

69.4 meters (add all except last number)