6.4 - The Definite Integral

$\lim_{n \to \infty} \sum_{k=1}^{n} f(c_k)\Delta x$ is the definite integral of $f(x)$ on [a, b].

Notation:

Geometric interpretation:

Properties: (in addition to all the previous properties of integrals)

1. $\int_a^a f(x)\,dx = 0$

2. $\int_a^b f(x)\,dx = -\int_b^a f(x)\,dx$

3. If $a \le c \le b$, then $\int_a^b f(x)\,dx = \int_a^c f(x)\,dx + \int_c^b f(x)\,dx$.

Examples:

HW # 25 - 47 (odd)