

Math 2B Worksheet: 5.2 The Definite Integral

Write your names and Student ID numbers at the top of the page

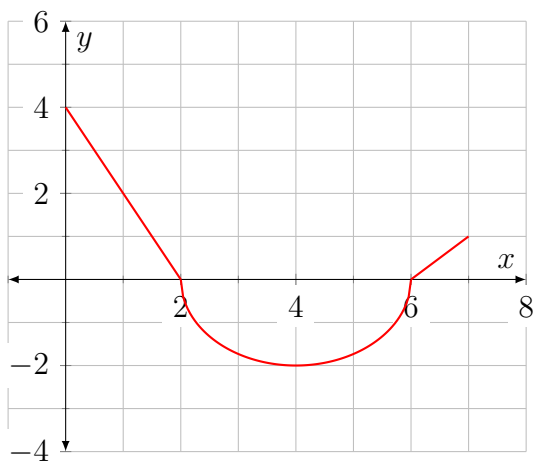
1. Evaluate the integral using right endpoints and the definition of the integral.

$$\int_2^5 (4 - 2x) \, dx$$

2. Interpret the limit as a definite integral over the given interval. (Do not evaluate.)

$$\lim_{n \rightarrow \infty} \sum_{i=1}^n x_i \sqrt{1 + x_i^3} \Delta x, \quad [2, 5]$$

3. Use the graph of $g(x)$ below to evaluate the following integrals by interpreting it in terms of areas. Note that g is composed of 2 linear functions and a semi-circle.



(a) $\int_0^2 g(x) \, dx$

(b) $\int_2^6 g(x) \, dx$

(c) $\int_0^7 g(x) \, dx$