Math 10B Discussion Quiz Three Sections 1.1 and 1.2

Directions: Please solve these problems in a neat and legible manner on your paper. Show all of your work. In order to practice for your actual exams, do **not** use a calculator, or computer, or class notes, or any other resources.

Note: Your score on this quiz will **not** be recorded and will **not** count towards your Math 10B course grade. The purpose of this quiz is for you to to assess your understanding and uncover any of your questions and misconceptions about the course material. Thus, do not be afraid to try the problems and make mistakes. If you understand the reason for your mistakes on this friendly quiz and use those mistakes as a starting point to resolve any related questions or confusion, then the chances are that you will not make those same mistakes on the exams.

Problems:

- (1) For this entire problem, let $g(x) = \frac{1}{x+1}$. The graph of y = g(x) appears to the right.
 - (a) Compute R_4 for the function g on the interval [0, 2]. Please express your answer using exact values; in particular, use fractions instead of decimals.
 - (b) Is R_4 an overestimate or an underestimate of the area under the graph of g on the interval [0, 2]?



(2) The graph of y = f(x) appears to the right. Use it to evaluate the definite integrals using appropriate area formulas.

(a)
$$\int_{-4}^{-1} f(x) \, dx$$

(b)
$$\int_0^8 f(x) \, dx$$

