1. For both part (a) and (b), estimate the area under the graph of $f(x) = 1/x$ from $x = 1$ to $x = 5$ using four approximating rectangles and the indicated endpoints. Sketch the graph and the rectangles. Is your estimate an underestimate or an overestimate?
   a. Right endpoints.
   b. Left endpoints.

2. For both part (a) and (b), estimate the area under the graph of $f(x) = 25 - x^2$ from $x = 0$ to $x = 5$ using five approximating rectangles and the indicated endpoints. Sketch the graph and the rectangles. Is your estimate an underestimate or an overestimate?
   a. Right endpoints
   b. Left endpoints
3. For both part (a) and (b), estimate the area under the graph of \( f(x) = e^{-x^2}, -2 \leq x \leq 2 \) using the indicated number of approximating rectangles and the right endpoints. Sketch the graph and the rectangles. Does your estimate improve?
   a. \( n = 4 \)
   b. \( n = 8 \)

4. Evaluate the Riemann sum for \( f(x) = 2 - x^2, 0 \leq x \leq 2 \), with 4 subintervals, taking the sample points to be the right endpoints. (Give your answer correct to 6 decimal places.) What does the Riemann Sum represent? Illustrate with a diagram.

5. If \( f(x) = \ln x - 1, 1 \leq x \leq 4 \), evaluate the Riemann Sum with \( n = 6 \), taking the sample points to be the left endpoints. (Give your answer correct to 6 decimal places.) What does the Riemann Sum represent? Illustrate with a diagram.
6. If \( f(x) = \sqrt{x} - 2 \), \( 1 \leq x \leq 6 \), find the Riemann sum with \( n = 5 \) correct to 6 decimal points, taking the sample points to be midpoints. What does the Riemann Sum represent? Illustrate with a diagram.

For questions 7 and 8, express the limit as its corresponding definite integral on the given interval.

7. \( \lim_{n \to \infty} \sum_{i=1}^{n} x_i \cos x_i \Delta x \), \([0, \pi]\)

8. \( \lim_{n \to \infty} \sum_{i=1}^{n} [4 - 3(x_i)^2 + 6(x_i)^5] \Delta x \), \([1, 2]\)

For questions 9 and 10, express the definite integral as its corresponding Right Riemann Sum.

9. \( \int_{1}^{4} (x^2 + 2x - 5) \, dx \)

10. \( \int_{2}^{6} \frac{x}{1+x^4} \, dx \)