1. Consider the function \( f(x) = 2x + 3 \) on the interval \([0, 2]\). Approximate the area under the this curve by dividing the interval into 4 subintervals of equal length, and finding the area of the four corresponding rectangles that result by using inscribed rectangles. This means that you use the left-hand endpoints of each subinterval to evaluate the height of each rectangle.

2. Evaluate the Riemann Sum \( R_P \) for

\[ f(x) = (x + 1)(x - 2)(x - 4) = x^3 - 5x^2 + 2x + 8 \]

on the interval \([0, 5]\) using the partition \( P \) with partition points \( 0 < 1.1 < 2 < 3.2 < 4 < 5 \) and the corresponding sample points \( \bar{x}_1 = 0.5, \bar{x}_2 = 1.5, \bar{x}_3 = 2.5, \bar{x}_4 = 3.6, \) and \( \bar{x}_5 = 5. \)

3. Evaluate \( \int_{-1}^{3}(2x^2 - 8)dx \)

4. Evaluate \( \int_{-10}^{10}(x^2 + x)dx \)

5. Evaluate \( \int_{-2}^{1}(2x + \pi)dx \)

6. Express the given limit as a definite integral: \( \lim_{||P|| \to 0} \sum_{i=1}^{n}(\bar{x}_i + 1)^3\Delta x_i; a = 0, b = 2 \)

7. Express the given limit as a definite integral: \( \lim_{||P|| \to 0} \sum_{i=1}^{n}((\sin \bar{x}_i)^2\Delta x_i; a = 0, b = \pi \)

8. Find \( G'(x) \) when \( G(x) = \int_{0}^{x}(2t^2 + \sqrt{t})dt \)

9. Find \( G'(x) \) when \( G(x) = \int_{1}^{x^2} \sin t dt \)