微積分作業6

November 14, 2025

1 find the indefinite integral and check the result by differentiation.

$$\int (\sec y)(\tan y - \sec y)\, dy$$

2 use the summation formulas to rewrite the expression without the summation notation. Use the result to find the sums for n = 10, 100, 1000, 10000

$$\sum_{i=1}^{n} \frac{2i^3 - 3i}{n^4}$$

3 find the upper and lower sums for the region bounded by the graph of the function and the -axis on the given interval. Leave your answer in terms of n, the number of subintervals.

$$f(x) = 9 - x^2, x \in [0, 2]$$