

4. Calculate T_N and M_N for the value of $N = 5$.

$$\int_{-1}^1 3e^{x^4} dx$$

5. Calculate S_N given by Simpson's Rule for the value of $N = 4$.

$$\int_0^1 e^{-x^4} dx$$

6. Use the error bound formula to find the smallest value of N for which $\text{Error}(S_N) \leq 10^{-7}$.

$$\int_2^5 x^{3/5} dx$$