

Let $\mathcal{I} = \int_5^{10} \cos\left(\frac{x^2}{3}\right) + x \, dx$

1. Calculate T_{30} and S_{30} .
2. Use Theorem 43 to determine how close these are to the actual value of \mathcal{I} .
3. Find a value of n so that T_n approximates \mathcal{I} accurate within 0.0001.
Calculate T_n .
4. Find a value of n so that S_n approximates \mathcal{I} accurate within 0.0001.
Calculate S_n .