

Study guide for quiz 07

Quiz problems include both the lecture contents and homework problems.

1. Section 4.6: Review standard procedure for applied optimization: determine relevant range of the unknown, find possible locations of maximum/minimum, and how to verify a candidate point is actually a maximum/minimum.
2. Section 4.9: Understand the meaning of Antiderivatives and how to find them in the simple cases. Study how to solve initial value problems using antiderivatives and how to find the undetermined constant in the antiderivative from the initial values (section 4.8, problems 91-113).
3. Section 5.2: Read and understand the meaning of a partition P and its norm $\|P\|$, and the meaning of a Riemann sum. Study to express a definite integral as the limit of Riemann sum and how to compute it as $\lim_{n \rightarrow \infty} \sum_{k=1}^n \cdots$ when P is the uniform partition ($\Delta x_k = \Delta x = \frac{b-a}{n}$). Practice the procedure on simple cases such as $\int_a^b x^k dx$ for $k = 1, 2, 3, \dots$.