

Study guide for quiz 05

Quiz problems include both the lecture contents and homework problems.

1. Section 10.7:

Study multiplication and division of two power series.

Study the statements of Term by Term Differentiation Theorem and Term by Term Integration Theorem. Use them to derive the power series representation of $\ln(1 \pm x)$ and $\tan^{-1}(x)$.

2. Section 10.8:

Memorize the definitions of Taylor polynomial of order n generated by f at $x = a$ and Taylor series generated by f at $x = a$ (i.e. $T_{f,a}(x)$). Study how to generate $T_{f,a}(x)$ and why it is possible that $T_{f,a}(x) \neq f(x)$ on $x \neq a$. Study how to generate $T_{f,a}(x)$ alternatively using Theorem A in Lecture 09.