Homework 23 (Chap. 11.8), 59.00/70.00 (84.29%)

April 15, 2020

Problem 6 score: 10/10

good

Problem 27 score: 9/10[1]

If $b_n = \frac{n!2^n}{1\cdot 3\cdot \cdots \cdot (2n-1)}$, why $\lim_{n\to\infty} \neq 0$?

Problem 30 score: 10/10

Problem 31 score: 10/10

good

Problem 33 score: 10/10

good

Problem 37 score: 0/10[2]

You can NOT use 41 here, as the statement in 41 does NOT hold when two series have same radius of convergence.

In other words, in general it is NOT true that if series $\sum_{n\geq 0} a_n x^n$ and $\sum_{n\geq 0} b_n b^n$ have the same radius of convergence R, then $\sum_{n\geq 0}(a_n + b_n)x^n$ has also radius of convergence R (take $a_n = 1, b_n = -1$).

Also, were did you find an explicit form of $f(x)$?

Problem 41 score: 10/10

good

[1] similar problems: 28,29

[2] similar problems: 38,39