Session 5, February 21, 2011, 12:30–16:15

Program

1. 12:30–14:00 in G5-112. I will first review techniques for determining the radius of convergence of a power series. Then I complete the results on integration theory, based sections 6.5 and 6.6 in [PF]. I will also start on the theory of differential equations, section 7.1 in [PF].

2. 14:00–16:15 in groups. See the list of exercises below. Note that there is extra time for solving problems today.

Exercises   Solve the exercises in the order posed.

1. Section 6.3, Exercises 3 and 4.

2. Section 6.4, Exercises 6 and 9.

3. Exam June 2008, Opgave 2.

4. Re-Exam August 2008, Opgave 2.

5. Problems from the list in Summary 4 not solved last time.

6. Show that if f is integrable on $[a, b]$, then $|f|$ is also integrable on $[a, b]$.

Important!   Write down complete solutions to the two exam problems posed today. I will check the written solutions while visiting the groups, either today, or next session.

Comments on [PF]   Note the following misprints in [PF].

- Page 152, line 4. Change $U(f, P_n) \leq L(f, P_n)$ to $U(f, P_n) \leq U(g, P_n)$.

- Section 6.2, Exercise 4a. Obviously one should show $\int_a^b x\,dx = (b^2 - a^2)/2$.

<div align="right">Arne Jensen</div>