

Homework 8 - Math 431

Due Mar 7th

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Office 319 Gross Hall
Office hours 2:45pm on Friday in 304B Gross Hall
Web page www.math.duke.edu/~mauro/teaching.html

Reading: from Reed's textbook: study sections 3.5,3.6, in their entirety, paying attention to both the theorems and the examples. Study also section 4.1.

Problems:

§3.3: #3,8,10,13 [10 pts each]

§3.5: #7 [15 pts]

§3.6: #9 [15 pts], #12(*)

Additional Problems

Which of the following improper Riemann integrals exist? [10pts each]

- $\int_0^{+\infty} \frac{e^{-x+1}}{2\sqrt{x}}$
- $\int_{-\infty}^{+\infty} \frac{x}{2} dx$
- $\int_{-\infty}^{+\infty} \frac{\sin(e^x)}{1+x^3} dx$