

MATH 285: Methods of Applied Math
Department of Mathematics, U of R
Homework 4

Spring 2024

Handed out: Wednesday, 03/13/24

Due: Wednesday, 04/03/24

Do ALL Problems for full credit. Each main problem is worth the same number of points; almost likewise for each sub problem. Carefully explain your steps. If you invoke a “well known” theorem, make clear precisely which theorem you are using and justify its use.

1. Do Prob. 5, p111 from Strauss
2. Do Prob. 11, p118 from Strauss
3. Do Prob. 8, p123 from Strauss
4. Do Prob. 10, p123 from Strauss, then use it to do Problem 2.

5. Prove that

$$\sin 1 + \frac{\sin 3}{3} + \frac{\sin 5}{5} + \dots = \sin 2 + \frac{\sin 6}{3} + \frac{\sin 10}{5} + \dots$$

6. Do Prob. 9-10, p135 from Strauss
7. Do Prob. 6, p134 from Strauss
8. Do Prob. 12, p.151 from Strauss
9. Do Prob. 8, p151 from Strauss
10. Do Prob. 10, p151 from Strauss