Math 220
Week 6
Assignments

Monday, October 9

Read posted notes.

Problem Set 18

5.2: 4ab, 17, 25
Let m and n be positive integers. Show that

$$\int_{-L}^{L} \sin\left(\frac{m\pi t}{L}\right) \sin\left(\frac{n\pi t}{L}\right)\ dt = \begin{cases} 0 & m \neq n \\ L & m = n. \end{cases}$$

10.2: 10, 14

Wednesday, October 11

Read posted notes.

Problem Set 19

5.2: 10ab, 12ab
Let m and n be positive integers. Show that

$$\int_{-L}^{L} \cos\left(\frac{m\pi t}{L}\right) \sin\left(\frac{n\pi t}{L}\right)\ dt = 0.$$

10.2: 15
10.3: 8, 13, 14 (note that 13 and 14 use ideas from chapter 3)

Friday, October 13

Read posted notes.

Problem Set 20

10.2: 16, 17
10.3: 9, 15
10.4: 9, 15, 24
