

Math 1553-1 Homework

7.1: 25, 41, 45, 55*, 61

7.2: 9, 10, 20, 23, 24, 32, 41*, 50, 53, 66*

7.3: 7, 13, 15, 19, 21, 28*, 31, 35, 43, 48, 67, 75(a)(b)(c)

• **Due August 25 (Thursday):** The asterisked problems from 7.1 and 7.2.

Extra Credit 1 (Due August 29): Let $I_n = \int_0^{\pi/4} \tan^n x \, dx$. Evaluate the values I_0 and I_1 . Then use the reduction formula in Problem 67 of §7.3 to evaluate the values of I_2, I_3, I_4, I_5 . Basing on what you have obtained, find the value of I_n for general n .

7.4: 14, 17, 24, 29, 35, 37, 42*, 45, 47, 52

7.5: 18, 21, 25*, 29, 40

7.6: 2, 3, 4, 13, 17, 22, 27, 35, 40*, 45, 49, 50, 56, 57, 72

• **Due September 1 (Thursday):** The asterisked problems from 7.3, 7.4, and 7.5.

Extra Credit 2 (Due September 1): Evaluate the integral

$$\int_0^{\pi/2} \frac{1}{1 + \tan^{2011} x} \, dx$$

7.7: 11, 19, 21, 29, 30, 48*, 52, 63, 73, 79, 94, 98

10.1: 15, 20, 22, 23, 30, 33, 35, 36*, 49, 55, 59, 66, 75, 76, 77

• **Due September 12 (Monday):** The asterisked problems from 7.6 and 7.7.

Extra Credit 3 (Due September 12): Find the limit of the sequence

$$c_n = \frac{1}{\sqrt{n^2 + 1^2}} + \frac{1}{\sqrt{n^2 + 2^2}} + \cdots + \frac{1}{\sqrt{n^2 + n^2}}.$$

10.2: 7, 13, 15, 16, 20, 26, 27, 34, 36*, 40*, 45, 47

Exam (1) 9/19/11 (Monday). Sections: 7.1–7.7 and 10.1–10.2

10.3: 7, 9, 11*, 15, 19, 23, 27*, 31, 35, 47*, 51, 57, 61, 64*, 69, 72, 82, 84

10.4: 3, 7*, 8, 15, 19, 21, 25*, 27, 29, 33, 34

• **Due September 26 (Monday):** The asterisked problems from 10.2 and 10.3.

Extra Credit 4 (Due September 26): Problem #45 from 10.2.

10.5: 7, 9, 11*, 15, 19, 21, 24*, 25, 35, 39, 41, 49

10.6: 5, 9, 12*, 15, 19, 23*, 29, 33, 38, 45

• **Due October 3 (Monday):** The asterisked problems from 10.4, 10.5, and 10.6.

Extra Credit 5 (Due October 3): Problem #56 from 10.6.

10.7: 3, 7, 9, 15, 19, 22, 24, 27, 28, 30, 39, 42, 45, 64, 67, 70, 79, 86

11.1: 25, 27, 31, 43, 48, 61, 66, 70

11.2: 6, 10, 11, 13, 15, 19, 21, 23, 31, 32, 33

11.3: 25, 27, 28, 29, 30, 31, 37

11.4: 5, 8, 9, 11, 13, 14, 18, 25

Exam (2) 10/20/11 (Thursday). Sections: 10.3–10.7 and 11.1–11.4

11.5: 7, 8, 15, 19, 27, 51, 53, 57, 61, 63

12.1: 29, 31, 35, 39, 49, 55, 59

12.2: 5, 11, 15, 17, 21, 27, 29, 35, 37, 46, 48, 51

12.3: 15, 21, 25, 31, 36, 43, 45, 49, 53, 57, 59, 60*, 63, 65*, 80, 81

12.4: 5, 9, 13, 15, 20, 27, 34*, 38, 43*, 45, 61*, 71

Extra Credit 6 (Due October 31): Show that $\lim_{n \rightarrow \infty} \sin n$ does not exist.

• **Due November 3 (Thursday):** The asterisked problems from 12.3 and 12.4.

12.5: 11, 13, 16, 17, 21, 24, 27, 28, 29, 31, 35, 37, 44, 47, 49, 65

12.6: 1–6, 7–12, 15, 17, 19, 27, 29

12.7: 11, 15, 23, 25, 27, 43, 45, 47, 57, 59

13.1: 7, 9, 11, 17, 18, 19, 29, 30, 36, 37

13.2: 4, 9, 13, 14, 18, 19, 21, 27, 31, 33, 35, 41, 44, 49, 53, 55

13.3: 3, 5, 7, 9, 12, 15, 17, 19*, 25, 27

13.4: 3, 5, 9, 15, 17, 19, 20, 21*, 22*, 29, 32, 35, 49, 53

13.5: 5, 7, 12*, 17, 19, 21, 24, 25, 31, 33

• **Due November 17 (Thursday):** The asterisked problems from 13.3, 13.4, and 13.5

Exam (3) 11/21/11 (Monday). Sections: 11.5, 12.1–12.7 and 13.1–13.4

FINAL EXAM: December 6, 2011 (Tuesday), 7:30–9:30, Lockett 240