Math 1551-3 Homework

2.1: 11, 20

2.2: 21, 23, 25, 27, 37, 44, 64

2.3: 17, 29, 30, 36*, 37, 38*

2.4: 19, 22, 27, 52, 79, 84, 85*, 90

• **Due August 31 (Monday)**: The above asterisked problems.

Extra Credit 1 (Due September 4): Use only analytic geometry and trigonometry to find the slope of the tangent line to the parabola $y = \frac{1}{4}x^2$ at a point $(c, \frac{1}{4}c^2), c > 0$.

2.5: 7, 11, 15, 17, 21, 23, 26, 27, 30, 33*, 39, 42, 47, 49, 50

2.6: 7, 11, 14, 19, 25, 27, 32, 37, 38*, 46

2.7: 4, 5, 6, 7, 12, 14, 19

2.8: 2, 5, 11, 18*, 22, 24, 25, 27

• **Due September 8 (Tuesday)**: The above asterisked problems.

Extra Credit 2 (Due September 11): Page 104, 53 (a)(c)

3.1: 6, 21, 27, 29, 36, 39, 41, 43, 52, 53, 55*, 57

3.2: 5, 6, 7, 15, 16, 22, 29, 31, 43, 48, 53, 55, 57, 58*, 60

3.3: 5, 9, 12, 18, 20, 21, 23, 26, 28, 33, 35, 38, 49, 50, 51, 52*

• **Due September 14 (Monday)**: The above asterisked problems.

Extra Credit 3 (Due September 18): Page 142, 94

3.4: 5, 15, 18, 22, 28, 31, 32, 35

3.5: 7, 14, 19, 25, 31, 32, 36, 38, 52, 53

3.6: 8, 11, 14, 17, 21, 23, 29, 31, 33, 36, 38, 42, 43, 44, 45

3.7: 10, 13, 17, 23, 27, 29, 33, 41, 47, 51, 55, 59, 65, 69

Exam (1) 9/21/09 (Monday). Sections: 2.1–2.8 and 3.1–3.7

3.8: 9, 13, 19, 26, 32* 35, 36, 46*, 54, 59*

3.9: 11, 18, 19, 20, 24, 28, 31, 32, 34, 37

• **Due September 28 (Monday)**: The above asterisked problems.

Extra Credit 4 (Due September 30): Problem 94 on Page 142 with $f(x) = a(1-x^2)$ and $g(x) = b\big(4-(x-4)^2\big)$, where a and b are positive numbers.

3.10: 11, 12, 15, 24, 33, 35, 37*, 39, 43, 46*, 47, 48, 51, 60, 64

• **Due October 5 (Monday)**: The above asterisked problems.

Extra Credit 5 (Due October 9): Page 206, 42(a)

3.11: 5, 9*, 14, 19, 27, 31

4.1: 17, 23*, 43, 47, 54, 68

4.2: 5, 11, 13, 16, 29*, 35, 37, 43, 49, 53, 61, 69

4.3: 7, 9, 21, 22, 29, 33, 37, 43, 49, 51, 61, 64*

4.4: 9, 11, 15, 25, 28*, 31, 35, 41, 45, 49, 65

4.5: 17, 25, 31, 46, 47, 61, 63, 67, 79, 81, 91

4.6: 3, 5, 6*, 9, 13, 18, 33, 44, 50

• **Due October 19 (Monday)**: The above six asterisked problems.

4.7: 13, 16, 21, 27, 33, 34, 41, 45, 66, 67*, 68

4.8: 1, 3, 5, 7, 11, 20*

4.9: 17, 29*, 35, 39, 43, 47, 52, 57, 64, 67

• **Due October 26 (Monday)**: The above asterisked problems.

5.1: 17, 18, 21, 37, 39, 42, 45, 46, 53, 54, 60, 61, 65, 70, 73, 74

Exam (2) 10/28/09 (Wednesday). Sections: 3.8–3.11, 4.1–4.9, and 5.1

5.2: 13, 29, 37, 39, 41*, 70, 71, 72, 74, 83, 86

5.3: 9, 11, 19, 23, 29, 33, 35, 37, 38, 39, 42, 45, 46, 51, 57*

5.4: 3, 4, 5, 6, 9, 13, 17, 18, 20, 22, 27*, 31, 34, 35, 40

5.5: 1, 2, 6, 8, 12, 15, 17, 27

• **Due November 9 (Monday)**: The above asterisked problems.

Extra Credit 6 (Due November 13): Let $f(x) = x^{-1}$ for $0 < x \leq 1$ and $f(0) = 1$. Prove that $f(x)$ is not Riemann integrable on $[0, 1]$.

5.6: 9, 10, 12, 14, 17, 19, 21, 25, 37, 42, 47, 49, 57, 61*, 65, 67, 79, 83, 84, 86, 91, 93

5.7: 3, 7, 9, 13, 21, 24*, 25, 29, 41, 43, 46, 51, 55, 62, 64, 71

5.8: 4, 6, 9, 16, 23, 31, 36*, 39

6.1: 3, 11, 15, 16, 17, 19, 23*, 27, 31, 35, 37, 42, 45, 47

• **Due November 16 (Monday)**: The above asterisked problems.

Extra Credit 7 (Due November 20): Evaluate the integral $\displaystyle\int_0^{\pi/2} \frac{1}{1 + \tan^{100} x}\, dx$.

6.2: 5, 6, 7, 10, 11, 13, 39, 43, 45, 55

6.3: 7, 11, 15, 17, 20, 21, 27, 31, 35, 45

6.4: 3, 7, 11, 13, 19, 20, 25, 29, 35, 41

6.5: 5, 7, 9, 16, 17, 18, 29, 31

Exam (3) 11/23/09 (Monday). Sections: 5.2–5.8 and 6.1–6.5

8.1: 3, 7, 15, 17, 32, 37, 39, 41

8.2: 2, 3, 4, 5

8.3: 7, 11, 17, 21, 25, 27, 29, 30

FINAL EXAM: December 11, 2009 (Friday), 10:00–12:00, Lockett 116