

Calc β

Midterm Study Guide

Noah A. Hughes

July 15, 2018

The first midterm will cover all material discussed in the first 8 lectures of the course. (The eighth lecture will take place on Monday July 16.)

This corresponds to the basics of precalculus up through implicit differentiation.

To study for this exam I recommend you review all problems I have given you thus far. Blank copies and answer keys to each can be found at the following webpage:

<http://www.math.uconn.edu/~hughes/math1131sum18/homework.html>

If you can do every homework problem you will be fairly prepared for the midterm. I intend about 70 - 80% of the exam to be directly based on the homework. The remaining 20% may be problems you have not seen before.

After reviewing your notes and the homework, you may wish to try additional problems to sure up your understanding of a particular section. Here are the supplemental exercises from Stewart (your text) given on the webpage.

Day 1 - A framing of calculus

Day 2 - Limits and continuity

2.1: 1 - 4, 9, 25, 34

2.3: 1, 11, 13, 23

2.5: 1, 3, 11, 15, 17, 32, 35, 39, 41

Day 3 - The precise definition of a limit

2.4: 1 - 5

Day 4 - Limits and infinity

2.2: 13, 14, 31 - 41

2.6: 1 - 3, 7, 10, 15, 19, 25, 36

Day 5 - The derivative of a function

2.7: 1 - 7 odd, 18, 25, 31 - 36, 41, 49

2.8: 1, 3, 4, 9, 14, 20, 21, 35

Day 6 - The algebraic properties of the derivative

3.1: 3, 7, 10, 21, 33

3.2: 1, 3 - 25 odd, 27, 32

3.3: 1 - 15 odd, 18, 21, 31, 39

Day 7 - The chain rule and exponential functions

3.1: 27

3.4: 1 - 45 odd, 51 - 54

Day 8 - implicit diff. and inverse functions

3.1: 23, 25, 28, 35

3.5: 1 - 19 odd, 49, 61

3.6: 1 - 11 odd, 15, 27, 29, 33, 34, 43 - 52