

MAT – 112: Calculus I and Modeling

Homework 7

Instructor: Thomas R. Cameron

Due: 3/30/2018

Instructions

You must complete all book problems and other problems. The book problems are intended to give you practice in solving problems from the textbook. They are graded based upon completion and correctness. The other problems are intended to help further your understanding of the concepts from a theoretical point of view. These problems are more rigorously graded, with a high expectation on the student providing clear, detailed, and justified answers. Lastly, you may work with other students and ask me any questions, but you may not look up solutions online. You must write your solutions independently so I may interpret your understanding while grading.

Book Problems

§6.3: 17, 21, 32, 39

§6.4: 8, 21, 29, 35

§6.5: 10 (read “approximation of dy for the given values of x and Δx ”), 14 (just do the approximation), 32 (read “maximum error in computing the area”).

Other Problems

Problem 1. Use differentials to give a linear approximation of $\sin 122^\circ$. and $\cos 137^\circ$. Use a calculator or computer to report the error in your approximation.