

Mathematics 1110H – Calculus I: Limits, Derivatives, and Integrals

TRENT UNIVERSITY, Fall 2025

The following is a list of exercises from the text book, *Single Variable Calculus* (Early Transcendentals) by David Guichard, that you should take a look at and figure out how to do as we go through the material. (Keep in mind that we may occasionally do some material in a slightly different order, or even skip some less critical material in class.) These are for practice and should not be submitted, but feel free to ask about them in class or office hours. Most of these also have answers in the back of the textbook.

It's a relatively minimal set of problems, so feel free to do more problems of a similar nature from the textbook, other first-year textbooks, and other sources.

Chapter 1

§1.1 Exercises 1, 5, 9, 10, 12

§1.2 Exercises 1be, 2be, 5, 6

§1.3 Exercises 2, 3, 4, 5, 13, 15

§1.4 Exercises 1, 4, 5, 8, 13, 15, 17

Chapter 2

§2.1 Exercises 1, 3, 5, 6, 8

§2.2 Exercises 1, 3

§2.3 Exercises 1, 3, 4, 7, 11, 13, 15, 16, 17, 18, 19

§4.3 Exercises 1, 2, 4, 8 *We'll be doing this section early.*

§2.4 Exercises 1, 3, 4, 6, 8, 9, 10, 11

§2.5 Exercises 1, 3, 5, 6

Chapter 3

§3.1 Exercises 1, 3, 5

§3.2 Exercises 1, 2, 4, 5, 8, 10, 11, 13

§3.3 Exercises 1, 3, 4, 5, 6,

§3.4 Exercises 1, 4, 5, 7, 8

§3.5 Exercises 3, 6, 10, 11, 16, 21, 24, 27, 29, 37, 39

§4.8 Exercises 1, 3, 5, 7, 11, 16, 19 *We'll be doing this section early.*

Chapter 4

§4.1 Exercises 2, 3, 5, 9, 11

§4.4 Exercises 1, 3, 4

§4.5 Exercises 1, 4, 5, 8, 9, 10, 14, 17

§4.6 Exercises 1, 2, 3, 4, 5, 6

§4.7 Exercises 1, 3, 4, 7, 11, 12, 15, 17, 19, 20

§4.9 Exercises 2, 3, 4, 5, 8

§4.10 Exercises 1, 2, 3, 4, 7, 12, 25, 26, 41 ... *and as many more as you can stand!*

§4.11 Exercises 1, 2, 3, 5, 7, 8

Chapter 5

§5.1 Exercises 1, 4, 7, 9, 12, 13, 15, 16, 17

§5.2 Exercises 3, 5, 6, 8, 9, 12, 14, 16

§5.3 Exercises 2, 5, 7, 11, 14, 16

§5.4 Exercises 1, 8, 11, 13, 17, 19

§5.5 Exercises 3, 5, 7, 11, 17, 18, 24, 28, 29, 30

Chapter 6

§6.1 Exercises 1, 2, 5, 7, 11, 15, 21, 24

§6.2 Exercises 2, 3, 5, 7, 10, 12, 15, 18

§6.3 Exercises 1, 3

§6.4 Exercises 2, 4

§6.5 Exercises 1, 3, 5, 7, 10, 11

Chapter 7

§7.1 Exercises 1, 3, 6, 7

§7.2 Exercises 1, 2, 3, 5, 7, 10, 11, 12, 14, 15, 18, 19, 22

§7.3 Exercises 1, 3, 4, 6

Chapter 8.

§8.1 Exercises 1, 3, 4, 5, 7, 8, 10, 11, 13, 15, 16, 20

§8.4 Exercises 1, 2, 3, 5, 6, 7, 8, 10, 12, 14