

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

TRENT UNIVERSITY, Winter 2021

Quiz #10

Tuesday, 30 March.

Available on Blackboard at 12:00 a.m. Tuesday morning.

Due on Blackboard by 11:59 p.m. Tuesday night.

Solutions will be posted on Thursday, 1 April.

Submission: Scanned or photographed solutions are fine, so long as they are legible. Please try to make sure that they are oriented correctly – if they are sideways or upside down, they're rather harder to mark! Submission as a single pdf is strongly preferred, but multiple files and/or other common formats are probably OK in a pinch. Please submit your solutions via Blackboard's Assignments module; if Blackboard does not acknowledge a successful upload, please try again. As a *last* resort, email your solutions to the instructor at: sbilaniuk@trentu.ca

Reminder: Per the course outline, *all work submitted for credit must be written up entirely by yourself, giving due credit to all relevant sources of help and information.* For this quiz, you are permitted to use your textbook and all other course material, from this and any other mathematics course(s) you have taken or are taking now, but *you may not use any other sources or aids, nor give or receive any help*, except to ask the instructor to clarify questions and to use a calculator (any that you like).

Show all your work! Simplify where you conveniently can. Compute both of the following integrals.

1. $\int_{1/8}^{1/3} \frac{1}{2x^2 \sqrt{1 + \frac{1}{x}}} dx$ [2.5]

2. $\int \sec^2(\theta) \tan(\theta) \sqrt{1 + \sec^2(\theta)} dx$ [2.5]