

Mathematics 1110H – Calculus I: Limits, Derivatives, and Integrals (Section C)

TRENT UNIVERSITY, Fall 2021

Assignment #3
Some Asymptotes

Due on Friday, 22 October.

Submission: Scanned or photographed handwritten solutions are fine, so long as they are legible. Submission as a single pdf is strongly preferred, but other common formats are probably OK. (If not, we'll get back to you! :-). Please submit via Blackboard's Assignments module. If that fails, please email your solutions to the instructor at: sbilaniuk@trentu.ca

Find all of the vertical and horizontal asymptotes, if any, of each of the following functions and explain how the function approaches each asymptote.

1. $f(x) = \frac{x \sin(x)}{\pi + x}$. [4]

2. $f(x) = \frac{x \sin(x)}{\pi + \sin(x)}$. [2]

3. $f(x) = \frac{x \sin(x)}{\pi + \pi \sin(x)}$. [4]