

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

TRENT UNIVERSITY, Summer 2023 (S61)

Quiz #2

Due just before midnight on Thursday, 11 May.*

Do both of the following questions.

1. Compute $\lim_{x \rightarrow \infty} \frac{(x^2 - 1) \sin\left(\frac{\pi x}{2}\right)}{x^3 + x^2 - x - 1}$ using what you've learned about limits. [2.5]
2. Let $f(x) = (x - 1)^2$. Compute $f'(x)$ using the limit definition of the derivative. [2.5]

* You should submit your solutions via Blackboard's Assignments module, preferably as a single pdf. If this fails, you may submit your work to the instructor on paper or by email to sbilaniuk@trentu.ca.