

Mathematics 1110H (Section A) – Calculus I: Limits, Derivatives, and Integrals
TRENT UNIVERSITY, Fall 2024

Quiz #4
Derivatives

*Wednesday, 2 October.**

Please do these problems by hand and show all your work.

1. Find the slope of the tangent line to $y = \tan(x)$ at $x = \frac{\pi}{4}$. [1.5]
2. Compute $f'(x)$ if $f(x) = \ln(\tan(x) + \sec(x))$. Simplify your answer as much as you reasonably can. [1.5]
3. Find the slope of the tangent line to $y = \frac{x^2 - 5x + 4}{x^2 - 1}$ at $x = 2$. [2]

* Please submit your solutions, preferably as a single pdf, via Blackboard's Assignments module before midnight. If that fails, please submit them to the instructor on paper or via email to sbilaniuk@trentu.ca as soon as you can.