Name: _____ **Student Number:** _____

Mathematics 1110H, TRENT UNIVERSITY, Fall 2025

Test #2 for Sections F03 and F05. *Friday, 10 October.* Time: 20 minutes.

Instructions
- Write your name and student number at the top.
- Use only this sheet of paper, including the back side. If you need more paper, ask for it.
- You may use an aid sheet, A4- or letter-size with whatever you want written on all sides, and a calculator, with no restrictions beyond not being able to communicate with other devices.
- **Do both (2) of questions 1 and 2.**

1. Use the limit definition of the derivative to find $f'(x)$ for $f(x) = x^2 - 6x + 5$. *[5]*

*Question **2** is on the back.*

2. Use the derivative rules to compute $f'(x)$ if $f(x) = \dfrac{e^{5x} + e^{3x}}{2e^{4x} + 2e^{2x}}$. Simplify your answer as much as you reasonably can. *[5]*