

Name: \_\_\_\_\_ Student Number: \_\_\_\_\_

Mathematics 1110H, TRENT UNIVERSITY, Fall 2025

Test #2 for Section F01 and CAT. *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  $f(x) = 2x^2 - x$ . [5]

*Question 2 is on the back.*

*Question 1 is on the front.*

- 2.** Use the derivative rules to compute  $f'(x)$  if  $f(x) = \ln\left(\frac{1 + \sin(x)}{\cos(x)}\right)$ . Simplify your answer as much as you reasonably can. [5]