

Name: _____ Student Number: _____

Mathematics 1110H, TRENT UNIVERSITY, Fall 2025.

Test #4 for Section F01 and CAT. *Friday, 14 November*. 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 one (1) of questions 1 or 2.** (Question 2 is on page 2.)

1. What is the maximum area of a right triangle with a hypotenuse of length 5 *m*? [10]

2. Initially, a 5 m long ladder is put up flush against a vertical wall. Its base then begins to slide away from the wall along the horizontal floor at a constant rate of 1 m/s , with the top of the ladder maintaining contact with the wall throughout. How is the top of the ladder moving at the instant that it is 3 m above the floor? *[10]*