Name: _____   **Student Number:** _____

Mathematics 1110H, TRENT UNIVERSITY, Fall 2025

Test #1 for Sections F03 and F05. *Friday, 26 September.* 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 any two (2) of questions 1–3.** *If you do all three and don't cross one out, only the first two encountered by the graders will be marked.*

1. Find the x-intercepts and the location of the tip of the parabola $y = x^2 - 6x - 7$. *[5]*

2. Use the ε–δ definition of limits to verify that $\lim_{x \to 3}(3x + 3) = 12$. *[5]*

3. Use the practical rules for computing limits to compute $\lim_{x \to -1} \dfrac{x^2 - 4x - 5}{x^2 - 7x - 8}$. *[5]*