

**Mathematics 1110H – Calculus I: Limits, Derivatives, and Integrals**

TRENT UNIVERSITY, Summer 2023 (S61)

**Quiz #8**

**Etch A Sketch?**

*Due\* just before midnight on Thursday, 1 June.*

Please show all your work when answering the question below.

1. Let  $f(x) = \frac{x}{1-x^2}$ . Find the domain, all the intercepts, vertical and horizontal asymptotes, intervals of increase and decrease, maxima and minima, intervals of concavity, and inflection points of  $f(x)$ . Sketch the graph of  $f(x)$  based on this information. [10]

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\* You should submit your solutions via Blackboard's Assignments module, preferably as a single pdf. If this fails, you may submit your work to the instructor on paper or by email to [sbilaniuk@trentu.ca](mailto:sbilaniuk@trentu.ca).