

**Mathematics 1110H (Section A) – Calculus I: Limits, Derivatives, and Integrals**  
TRENT UNIVERSITY, Fall 2024

**Quiz #2**

**Sine $\epsilon\delta^\dagger$**

*Wednesday, 18 September.\**

In doing this quiz, you may freely use the fact it true that for all real numbers  $t$ ,  $|\sin(t)| \leq |t|$ .

1. Use the  $\epsilon$ - $\delta$  definition of limits to verify that  $\lim_{x \rightarrow 0} 2 \sin(2x) = 0$ . [5]

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<sup>†</sup> With apologies to the creators of *Buckaroo Banzai*. “Remember: no matter where you go, there you are.”

\* Please submit your solutions, preferably as a single pdf, via Blackboard’s Assignments module before midnight. If that fails, please submit them to the instructor on paper or via email to [sbilaniuk@trentu.ca](mailto:sbilaniuk@trentu.ca) as soon as you can.