

Mathematics 1110H – Calculus I: Limits, Derivatives, and Integrals
TRENT UNIVERSITY, Summer 2023 (S61)

Quiz #7

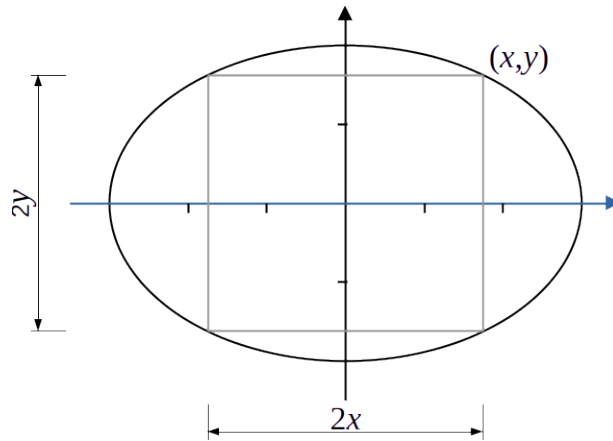
Maximum Area

Due just before midnight on Tuesday, 30 May.*

Please give your complete reasoning when answering the question below.

1. Find the maximum area of a rectangle with each side parallel to one or the other of the x - and y -axes and with all of its corners on the ellipse $4x^2 + 9y^2 = 36$. [10]

Here is a sketch of the setup:



* 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.