

7. [12 points] A mysterious three-dimensional abstract sculpture has appeared on the major university's central campus. Alex, being a particularly astute calculus student, notes that the volume is given by $V = \int_1^2 (e^{-x} + 1)^2 dx$, where x is in meters.
- (a) [4 points of 12] What does the integrand of Alex' integral tell you about the shape of the sculpture?

- (b) [4 points of 12] Suppose that the sculpture was placed on a set of x - y axes. Sketch the base of the sculpture, labeling all important dimensions and features.

- (c) [4 points of 12] Sketch and/or carefully explain what the shape of the sculpture is.