https://tinyurl.com/4sfuffb5

Advanced Calculus A
Total Points 20

Academic Honesty Statement:
I understand that I may discuss this lab with others if I give them credit in this statement. I also understand that I am required to write my report--that to copy all or part of someone else's report or to allow someone else to copy all or part of my report constitutes plagiarism, which is a serious violation of academic honesty.
I discussed this lab with *(replace this parenthetical remark with first and last names of those with whom you discussed the lab)* . I wrote my own report. I did not copy any of this report from anyone else and I did not allow anyone else to copy any of this report.
Signed

Purpose: The purpose of this lab is to use Maple to visualize and calculate volumes of solids of revolution.

Design a drinking glass or vase by revolving suitable function(s) about the **x-axis**.
Step 1: Brainstorm ideas of various types of cups, glasses or vases to recreate in Maple.
Step 2: Determine a function (Using a piecewise function will earn you more points) that you will use as a bound with the x axis, to rotate about the x-axis to create your design.
Step 3: Be sure to create a second function that will be used to create the hollowed out part of your glass or vase.
Step 4: Determine the volume of the part of the glass that will be filled with liquid to drink from your glass or fill in your vase.

Step 5: Include the function(s), a two-dimensional plot of the functions, a three-dimensional plot of your glass and determine the volume of the **liquid-filled part**. You will be graded on the complexity of the functions used, utility of the glass, and elegance of your design. See samples in front of room 110. (20 points)

Be creative and UNIQUE!!!