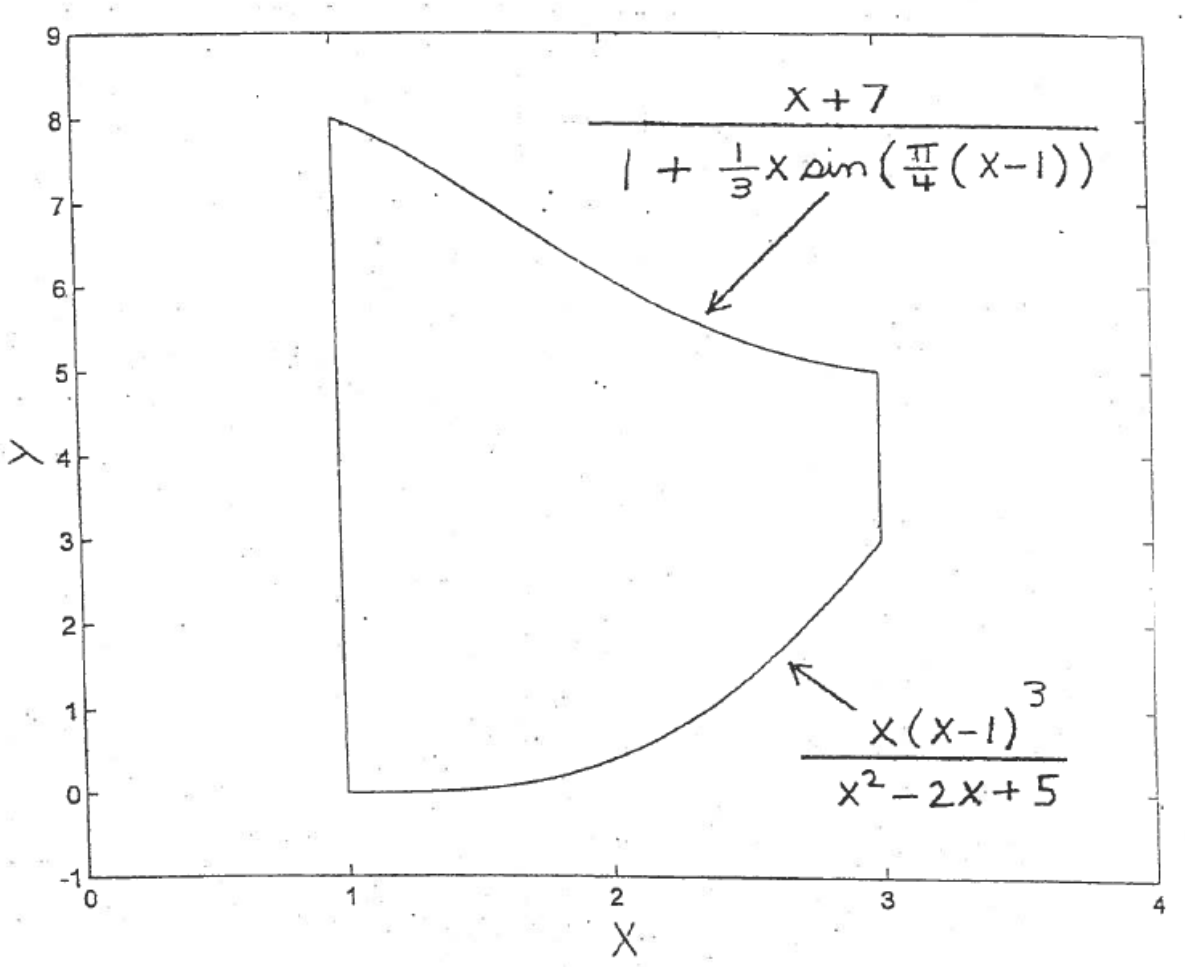
Sample 8c



A solid is bounded in the x and y directions by the region shown above and is bounded below and above in the z direction by the planes z=0 and z=y+1. The density of the solid is given by

$$\rho = \frac{(xyz + 2x + y^2)\, e^z}{\sqrt{3x^5 + 2y^4 + 2z^3 + 7}}$$

Write a MATLAB program to calculate and print the mass of the solid. Use 1e-4 as the accuracy factor. The output of this program should look like this:

mass = 7347.054