Math 2B Worksheet: 6.2 Volumes

Write your names and Student ID numbers at the top of the page

1. Find the volume of the solid formed by rotating $y = e^x$ about the x-axis between $x = -1$ and $x = 1$. Sketch the solid and a typical cross section.

2. Find the volume of the solid formed by rotating the region bounded by $x = y^2$, $x = 1$, $y = 4$ about the y-axis. Sketch the solid and a typical cross section.

3. Find the volume of the solid formed by rotating the region bounded by $x = y^2$, $x = 1 - y^2$, about the line $x = 3$. Sketch the solid and a typical cross section.

4. Find the volume of the solid whose base is bounded by $y = 0$, $y = 1/x$, $x = 2$, $x = 4$, and whose cross sections are squares oriented such that a side lies on the base and is perpendicular to the x-axis.