Problem Set
Section 6.3

Problem 1

Using the **method of cylindrical shells**, find the volume of the solid generated by rotating the region enclosed by the curves

$$y = \sqrt{x}, \;\; y = 1, \;\; , x = 4$$

about the line $x = 4$.

Problem 2

Using the **method of cylindrical shells**, find the volume of the solid generated by rotating the region bounded by the curves $y = x^2$ and $y = 1$ about the x-axis.

Problem 3

Find the volume of the solid generated by rotating the region enclosed by the curves $y = x^2$ and $y = -x$ about the y-axis.

Problem 4

Find the volume of the solid obtained by rotating the region bounded by $y = \sqrt{x}, x = 0,$ and $y = 2$ about the x-axis. **(Use both methods)**