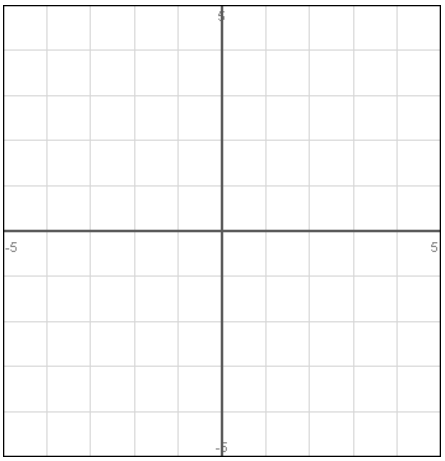
Finding Volumes of Solids Using the Disk Method

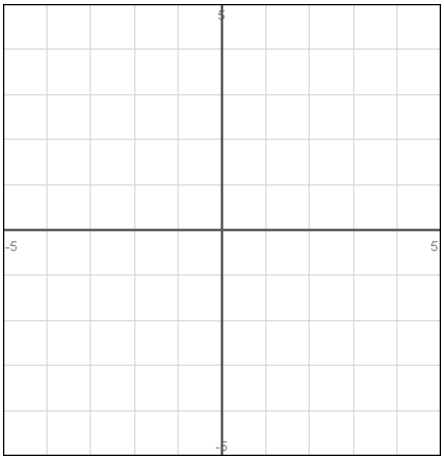
Vertical Disks: Volume = $\int_a^b \pi \left(\text{Radius Function}\right)^2 dx$

Horizontal Disks: Volume = $\int_c^d \pi \left(\text{Radius Function}\right)^2 dy$

1. Find the volume of the solid generated by revolving the region bounded by $y = \sqrt{x}$, $0 \le x \le 4$ and the $x-axis$ about the $x-axis$.



2. Find the volume of the solid generated by revolving the region bounded by $y = \sqrt{x}$ and the lines $x = 1$ and $x = 4$ about the line $y = 1$.



3. The region between the curve $x = \frac{2}{y}$, $1 \le y \le 4$ and the $y-axis$ is revolved about the $y-axis$ to generate a solid. Find the volume.