1. Find the volume of the figure found by rotating $y = \sqrt{x}$ on the interval $[0, 5]$ about the x-axis. (Hint: what is the cross-sectional area at a point x?)

2. Consider the region bounded between the graphs of $y = \sqrt{x}$ and $y = \sqrt{2x}$ on the interval $[0, 5]$. If this region is rotated about the x-axis, what is the cross-sectional area? What is the volume of the resulting figure?

3. Find the volume of the figure whose base is enclosed by $y = \sqrt{x}$, the x-axis, and $x = 5$, and whose cross sections perpendicular to the base are equilateral triangles.