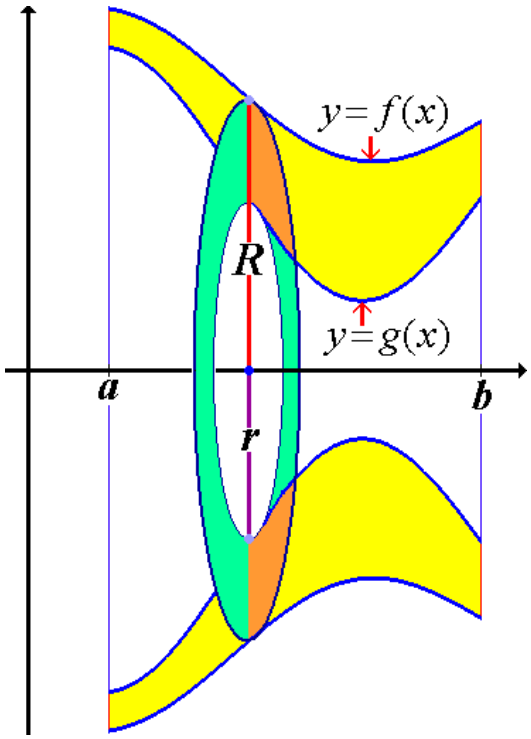
Name: _____ Date: _____

AP Calculus AB Volumes of Solids of Revolution Ms. Loughran

Do Now:

Find the volume of the solid formed when the region bounded by $y = x^2$, the x-axis, and $x = 1$ is revolved about the line $x = 1$.



1. The region bounded by $x = \sqrt{y}$, the *x*-axis and $x = 1$ is revolved about the *y*-axis. Find the volume.

2. Find the volume of the solid that results when the region bounded by $y = x$ and $y = x^2$ is revolved about the *x*-axis.

3. Consider the area bounded by the graphs of $y = -x^2 + 2x + 1$ and $y = 1$. Find the volume generated if this area is rotated about the x-axis.

4. The region in the first quadrant enclosed by the y-axis and the graphs of $y = \cos x$ and $y = \sin x$ is revolved around the x-axis to form a solid. Find its volume.