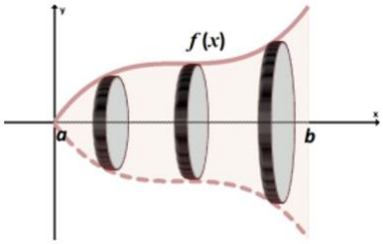
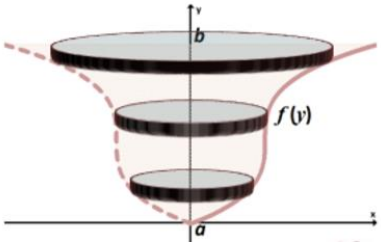
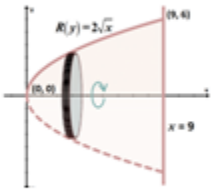
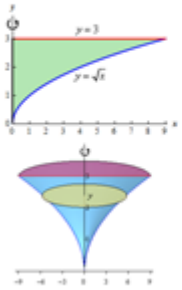
Horizontal Axis of Revolution	Vertical Axis of Revolution
$Volume = V = \pi \int_a^b [R(x)]^2\, dx$	$Volume = V = \pi \int_c^d [R(y)]^2\, dy$
	

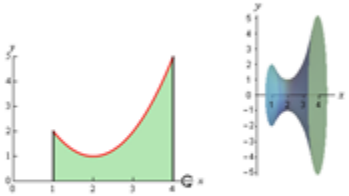
1. Find the volume of the solid formed by revolving the region bounded by the graph of $f(x) = 2\sqrt{x}, y = 0$ & $x = 9$ about the $x-axis$.



2. Determine the volume of the solid by rotating the region bounded by $y = \sqrt{x}$ *and* $y = 3$, about the $y-axis$.



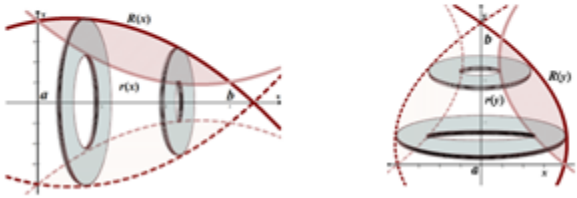
3. Determine the volume of the solid by rotating the region bounded by $y = x^2 - 4x + 5, x = 1, x = 4$, and the $x-axis$ about the $x-axis$.



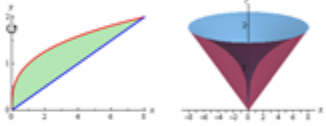
THE WASHER METHOD

Use the washer method for solids of revolution with holes.

$$V = \pi \int_a^b ([R(x)]^2 - [r(x)]^2)\, dx$$



1. Determine the volume of the solid by rotating the portion of the region bounded by $y = \sqrt[3]{x}$ and $y = \frac{x}{4}$ that lies in the first quadrant about the $y-axis$.



2. Find the volume of the solid formed by revolving the region bounded by the graphs of $y = \sqrt{x}$ and $y = x^2$ about the x-axis.