

Disk and Washer Method

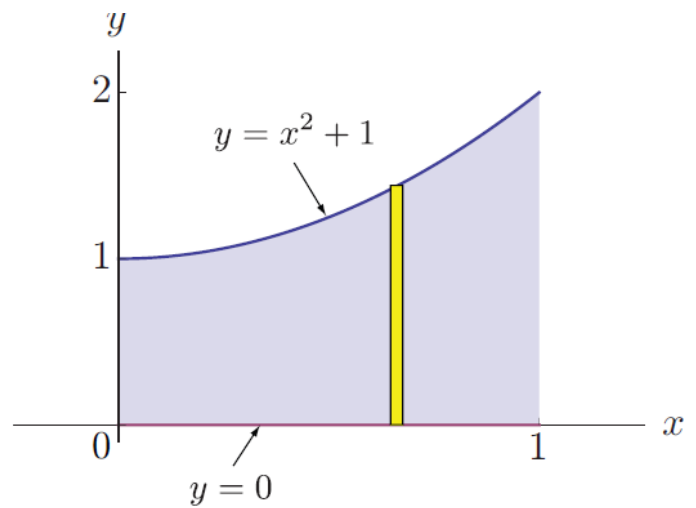
(Volume by Integration).

1.

3. Find the volume of the solid of revolution obtained by rotating the region under the curve $y = x^2 + 1$ over the interval $0 \leq x \leq 1$:

(a) about the x -axis,

Answer: = $\frac{28\pi}{15}$



2.

Let R be the region below the curve $y = \sqrt{4 - x}$ and between $x = 1$ and $x = 4$.

Calculate the volume of the solid obtained by revolving R around the x -axis.

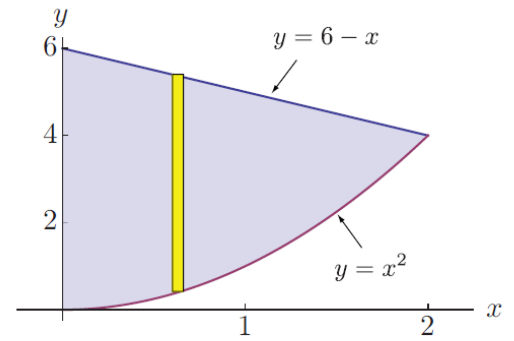
Answer: $\frac{9\pi}{2}$

3.

2. Find the volume of the solid of revolution obtained by rotating the region in the first quadrant bounded by $y = x^2$, $x + y = 6$, and $x = 0$ about the y -axis.

(X – axis not y- axis)

answer: $\frac{664\pi}{15}$



4.

12. Find the volume of the solid generated by revolving the region bounded by $y = \sqrt{x}$, $y = 2$, and $x = 0$ about the:

x -axis

Draw a sketch of the region bound by the function first

Answer: 8π