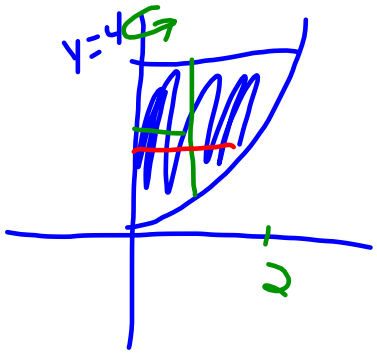
$y = x^2$ $y = 4$ y-axis

rotated around y-axis

Exact answer

$y = x^2$ $y = 4$ y-axis

rotated around y-axis



$$\int_0^2 2\pi (x)(4-y)\, dx$$

$$\int_0^4 \pi(\sqrt{y})^2 dy = 8\pi$$

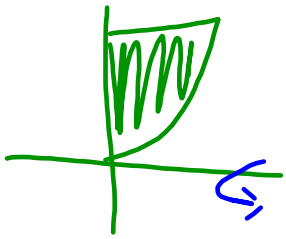
$y = x^2$ $y = 4$ y-axis

rotated around x-axis

3 decimals

$y = x^2$ $y = 4$ y-axis

rotated around x-axis



Disk

$$\int_0^2 \pi\left[(4)^2 - (x^2)^2\right] dx$$

$\rightarrow 80.424$

Shell

$$\int_0^4 2\pi\, y \sqrt{y}\, dy$$

$y = x^2$ $y = 4$ y-axis

rotated around y= -2

3 decimals

$y = x^2$ $y = 4$ y-axis

rotated around y= -2

Disk: $\int_0^2 \pi\left[(6)^2 - (x^2+2)^2\right] dx$

> 147.445

Shell: $\int_0^4 2\pi(\sqrt{y})(y+2)\,dy$

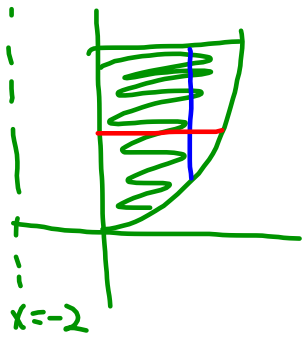
$y = x^2$ $y = 4$ y-axis

rotated around x = -2

3 decimals

$y = x^2$ $y = 4$ y-axis

rotated around x = -2



shell

$$\int_0^2 2\pi (x+2)(4-x^3)\,dx$$

92.153

disk

$$\int_0^4 \pi\left[(\sqrt{y}+2)^2 - (2)^2\right] dy$$

Bounded region

$y = x^2 + 1$ $y = -(x-1)^2 + 5$

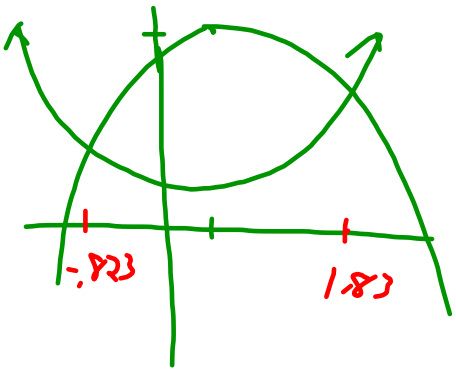
Find Area.

Setup only

Bounded region

$y = x^2 + 1$ $y = -(x-1)^2 + 5$

Find Area.



$$\int_{-.823}^{1.823} \left(-(x-1)^2 + 5\right) - (x^2 + 1)\, dx$$

Bounded region

$y = x^2 + 1$ $y = -(x-1)^2 + 5$

Find the volume for Cross Section of Semicircles perp to x-axis

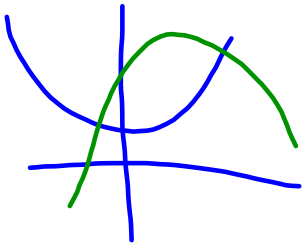
Setup Only

Bounded region

$y = x^2 + 1$ $y = -(x-1)^2 + 5$

Find the volume for Cross Section of Semicircles perp to x-axis

$$\frac{1}{2}\pi \int_{-.823}^{1.823} \left(\frac{1}{2}\left[\left((x-1)^2+5\right) - \left(x^2+1\right)\right]\right)^2$$



Bounded region

$y = x^2 + 1$ $y = -(x-1)^2 + 5$

Volume rotated around x-axis

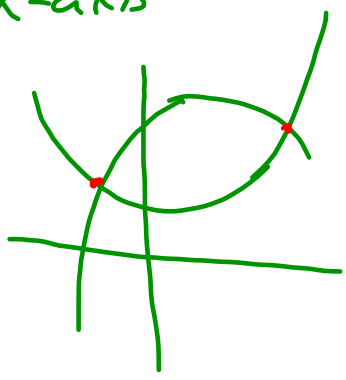
3 decimals

Bounded region

$y = x^2 + 1$ $y = -(x-1)^2 + 5$

Volume rotated around x-axis

$$\int_{-.823}^{1.823} \pi \left(\left(-(x-1)^2 + 5 \right)^2 - \left(x^2 + 1 \right)^2 \right) dx$$



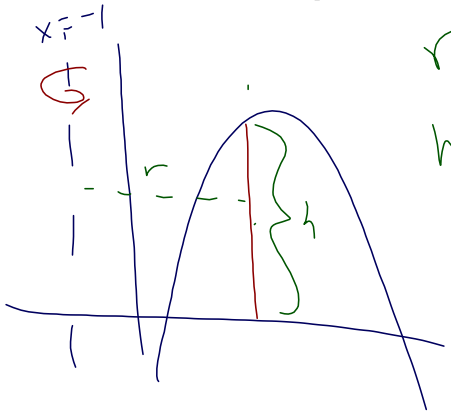
116.366

Region bounded by $y = -(x - 3)^2 + 7$ and the x-axis, rotated around the line $x = -1$.

Show the Setup for Shell Method.

Region bounded by $y = -(x - 3)^2 + 7$ and the x-axis, rotated around the line $x = -1$.

Show the Setup for Shell Method.



$r = x + 1$

$h = y$

$$2\pi \int_{-.354}^{3.645} (x+1)\, y \, dx$$

$$-2\pi \int_{-.354}^{3.645} (x+1)\left((x-3)^2+7\right) dx$$