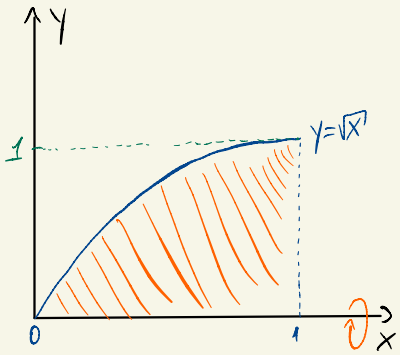
# Ejercicios pendiente Clase 40

**P3**




$y=\sqrt{x}\ /()^2$

$y^2=x$

$\Rightarrow g(y)=y^2$

Luego,

$$V=\int_0^1 2\pi\, y\, g(y)\,dy$$

$$=\int_0^1 2\pi y\cdot y^2\,dy$$

$$=2\pi\int_0^1 y^3\,dy$$

$$=2\pi\left[\frac{y^4}{4}\right]\Big|_0^1$$

$$=2\pi\left(\frac{1}{4}-\frac{0}{4}\right)$$

$$=\frac{\pi}{2}//$$

P4) En clases se había planteado

$$V = \int_0^1 2\pi(2-x)(x-x^2)\,dx$$

$$= 2\pi \int_0^1 (2x - 2x^2 - x^2 + x^3)\,dx$$

$$= 2\pi \int_0^1 (2x - 3x^2 + x^3)\,dx$$

$$= 2\pi \left[ 2\frac{x^2}{2} - 3\frac{x^3}{3} + \frac{x^4}{4} \right]\Big|_0^1$$

$$= 2\pi \left( 2\cdot\frac{1^2}{2} - 3\cdot\frac{1^3}{3} + \frac{1^4}{4} - 0 \right)$$

$$= 2\pi \left( 1 - 1 + \frac{1}{4} \right)$$

$$= \frac{\pi}{2}$$