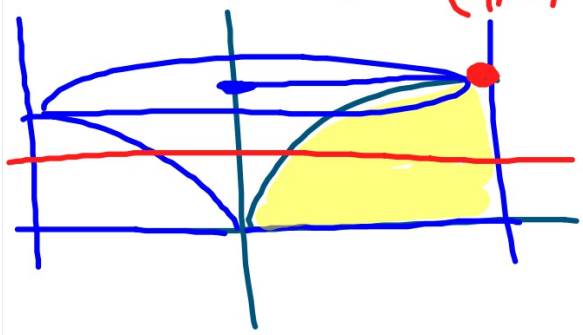
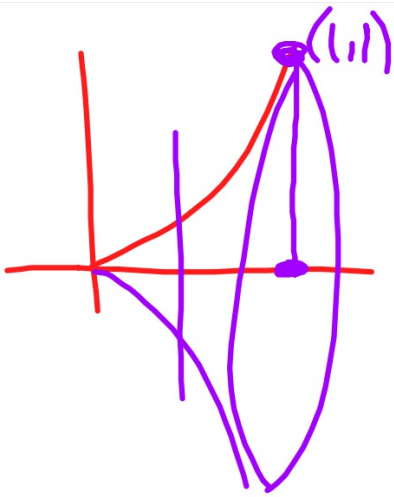
11b. $y = \sqrt{x}$ $y = 0$ $x = 4$



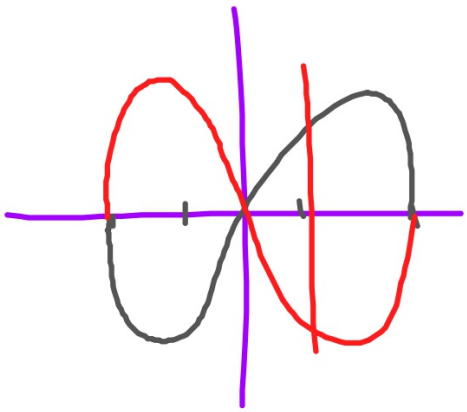
$$V = \pi \int_a^b \left(f(x)\right)^2 dx$$

$$\pi \int_0^2 4^2 - \left(y^2\right)^2 dy$$

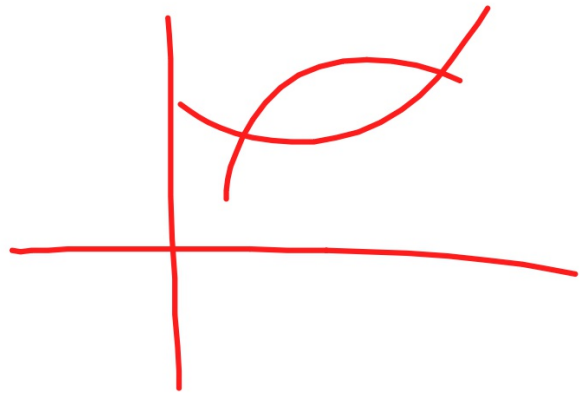


$$\pi \int_0^1 (x^2)^2 \, dx$$

24.



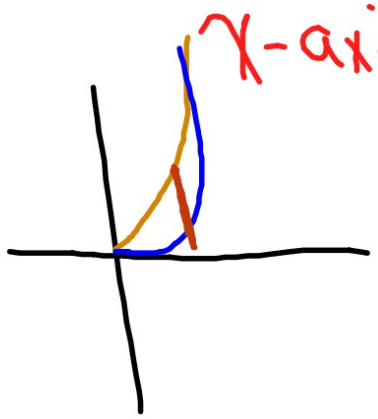
$$\pi \int_{-2}^{2} \left(x\sqrt{4-x^2} \right)^2 dx$$



7.2C Volume (Again)

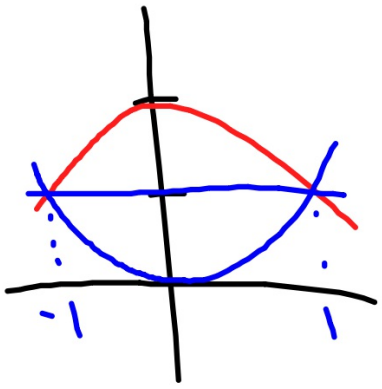
WCID? I can find volume when I revolve around not an axis

A. $y = x^3$ $y = x^4$ $[0,1]$



$$\pi \int_0^1 (x^3)^2 - (x^4)^2 \, dx$$

1. $y = 2 - x^2$ $y = 1$ around $y = 1$

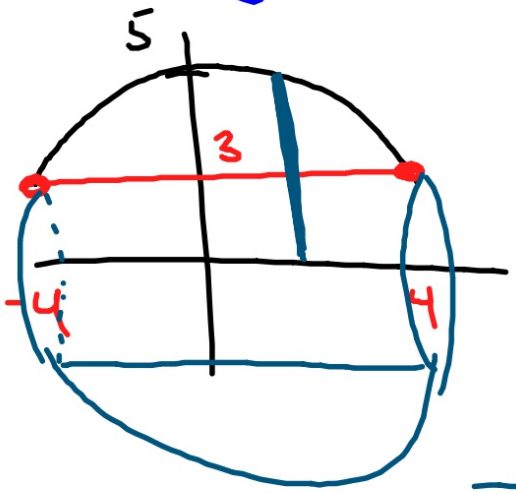


$$V = \int_a^b \pi \left[f(x) - g(x) \right]^2 dx$$

$$= \pi \int_{-1}^{1} \left(2 - x^2 - 1 \right)^2 dx$$

$$= \frac{16\pi}{15}$$

2. $y = \sqrt{25 - x^2}$, $y = 3$ x-axis



$3 = \sqrt{25 - x^2}$

$9 = 25 - x^2$

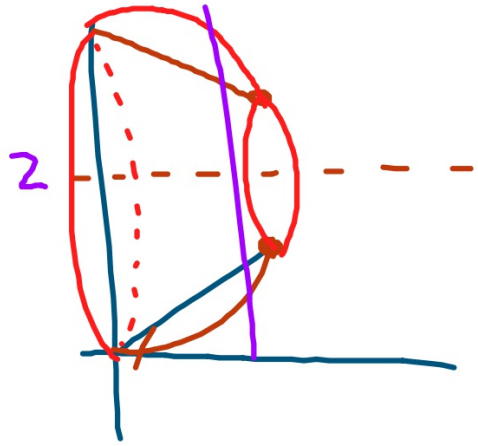
$-16 = -x^2$

$16 = x^2$

$-4, 4$

$$\pi \int_{-4}^{4} \left(\sqrt{25 - x^2}\right)^2 - (3)^2 \, dx$$

Ex $y = x$ $y = x^2$ $y = 2$



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

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11c, 11d, 12c, 12d, 15, 16