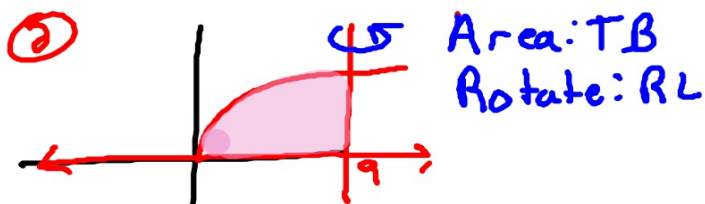


$$\pi((4-x^2)^2 - 0^2) dx$$

$$\pi(16 - 8x^2 + x^4) dx$$

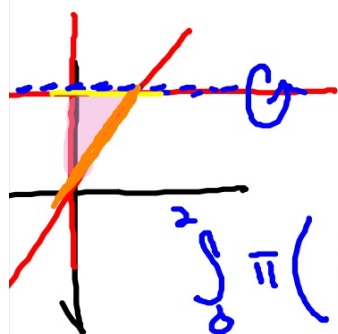
$$\pi\left(16x - \frac{8}{3}x^3 + \frac{1}{5}x^5\right) \Big|_{-2}^2$$

$$\pi(34.133) = \boxed{107.233}$$



$$\int_0^9 2\pi(9-x)(\sqrt{x}-0) dx$$

$$\boxed{407.15}$$



Area: TB
Rotate: TB

$$\int_0^2 \pi ((6-3x)^2 - \cancel{(6-2)^2}) dx$$

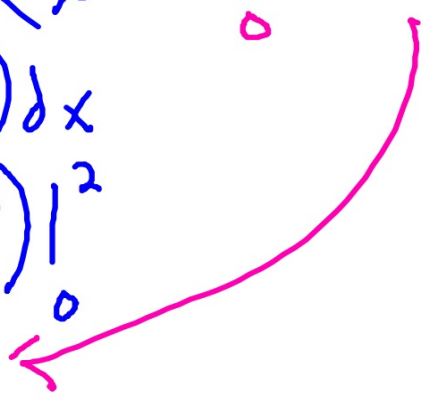
$$\int_0^2 \pi (36 - 36x + 9x^2) dx$$

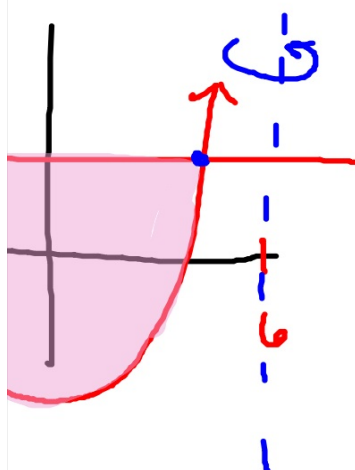
$$\pi (36x - 18x^2 + 3x^3) \Big|_0^2$$

$$\pi(24) = \boxed{75.398}$$

Area: RL
Rotate: TB

$$\int_0^6 2\pi (6-y) \left(\frac{y}{3} - 0\right)$$





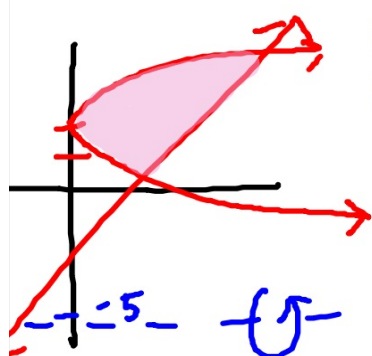
Area: TB

Rotate: RL

$$\int_{-3}^6 2\pi(6-x)(4-(x^2-5))dx$$

$$\int_{-3}^6 2\pi(6-x)(9-x^2)dx$$

1357.168

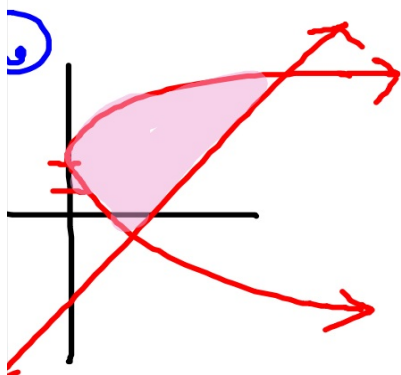


Area: RL
Rotate: TB

$$\int_0^5 2\pi (y-5)((y+4)-(y-2)^2) dy$$

$$\int_0^5 2\pi (y+5)(-y^2+5y) dy$$

$$\boxed{981.748}$$

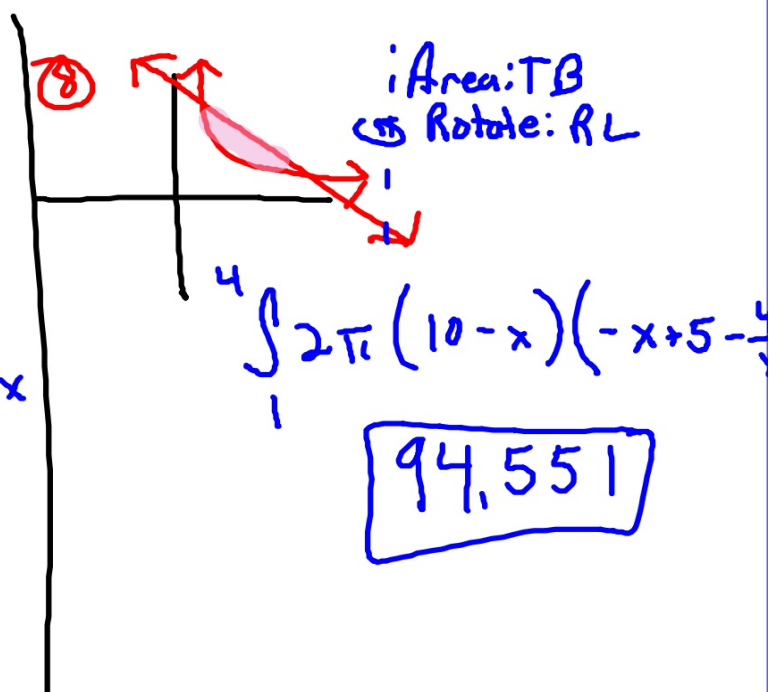
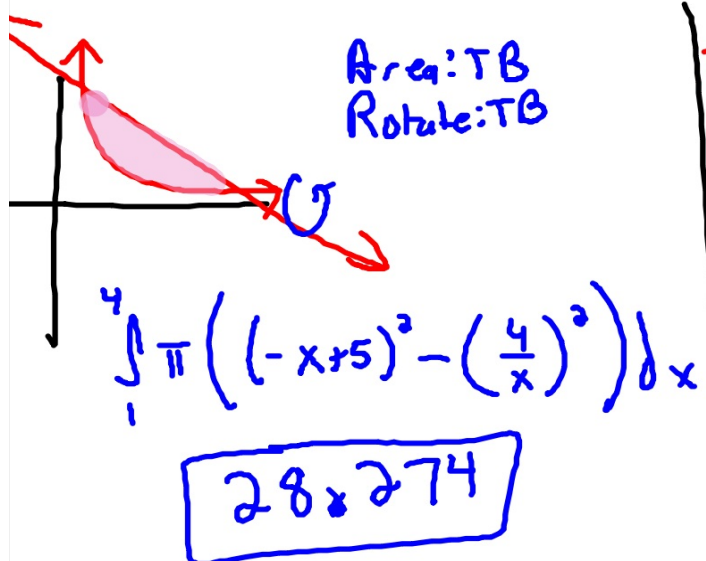


Area: RL
Rotate: RL

$$\int_{-4}^4 \pi \left((y+4-5)^2 - ((y-2)-5)^2 \right) dy$$

$$\int_0^5 \pi \left((y+9)^2 - (y^2-4y+9)^2 \right) dy$$

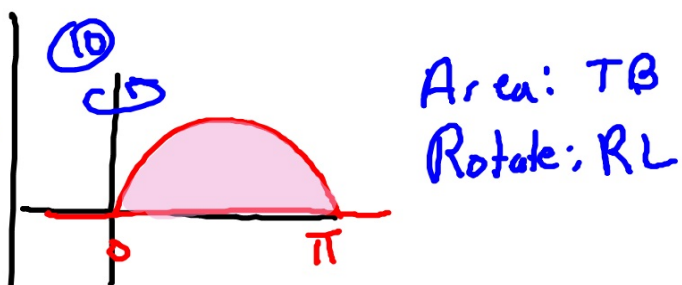
$$\boxed{1178.097}$$





$$\int_0^{\pi} (3-0)^2 - (3-\sin(x))^2 dx$$

32.764



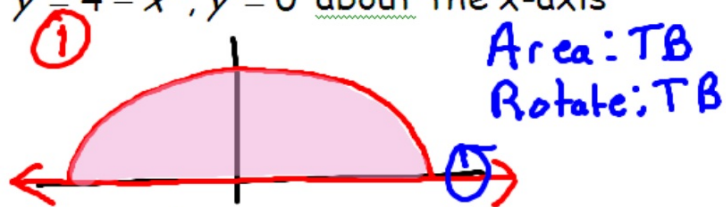
$$\int_0^{\pi} 2\pi x (\sin x - 0) dx$$

19.739





1. $y = 4 - x^2, y = 0$ about the x-axis



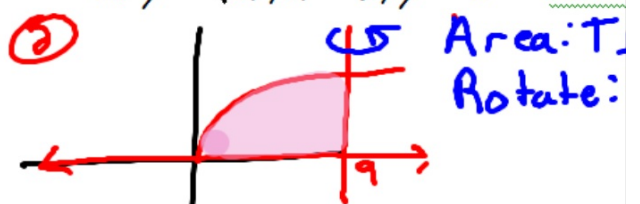
$$\int_{-2}^2 \pi((4-x^2)^2 - 0^2) dx$$

$$\int_{-2}^2 \pi(16 - 8x^2 + x^4) dx$$

$$\pi \left(16x - \frac{8}{3}x^3 + \frac{1}{5}x^5 \right) \Big|_{-2}^2$$

$$\pi(34.133) = \boxed{107.233}$$

2. $y = \sqrt{x}, x = 9, y = 0$ about the y-axis

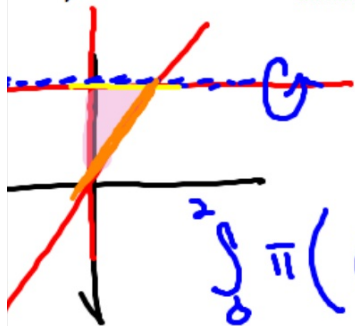


$$\int_0^9 2\pi(9-x)(\sqrt{x}-0) dx$$

$$\boxed{407.15}$$



3. $y = 6 - 3x$, $y = 6$, $x = 0$ about $y = 6$



Area: TB
Rotate: TB

$$\int_0^2 \pi ((6-3x)^2 - \cancel{(6-6)^2}) dx$$

$$\int_0^2 \pi (36 - 36x + 9x^2) dx$$

$$\pi (36x - 18x^2 + 3x^3) \Big|_0^2$$

$$\pi(24) = \boxed{75.398}$$

4. $y = x^2 - 5$, $y = 4$ about $x = 6$

Area: PL
Rotate: TB

$$\int_0^6 2\pi (6-y) \left(\frac{y}{3} - 0\right)$$

