

12. $x = y^3 - y$ & $x = 3y$

$$y^3 - y = 3y$$

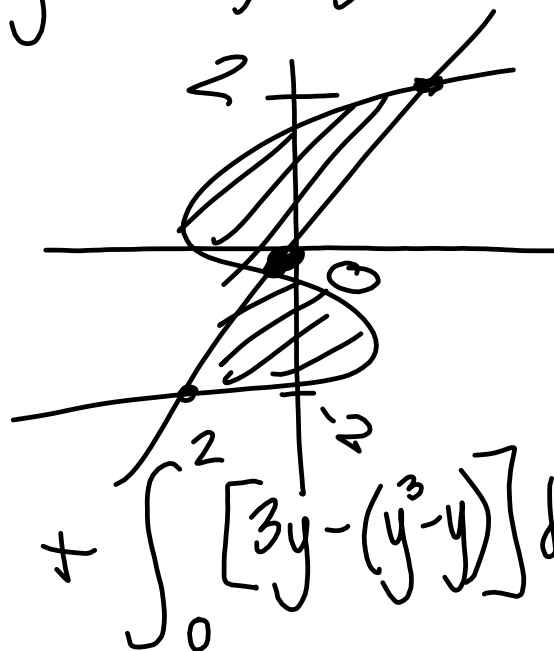
$$y^3 - 4y = 0$$

$$y(y^2 - 4) = 0$$

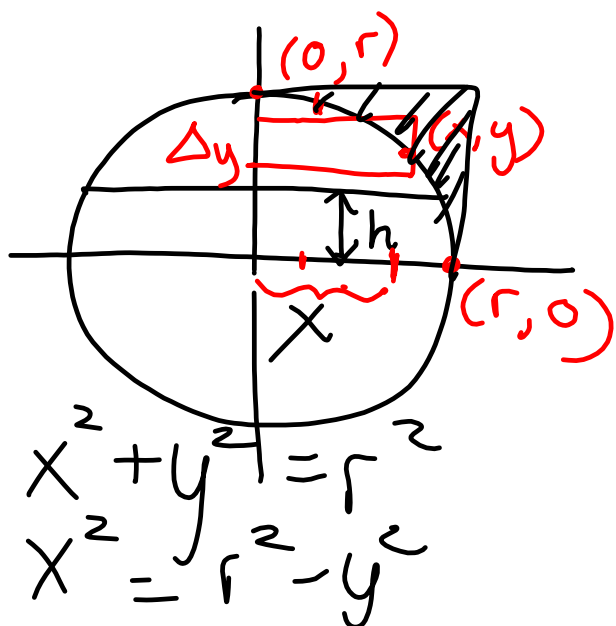
$$y(y-2)(y+2) = 0$$

$$\int_{-2}^0 [(y^3 - y) - 3y] dy$$

$$y = -2, 0, 2$$

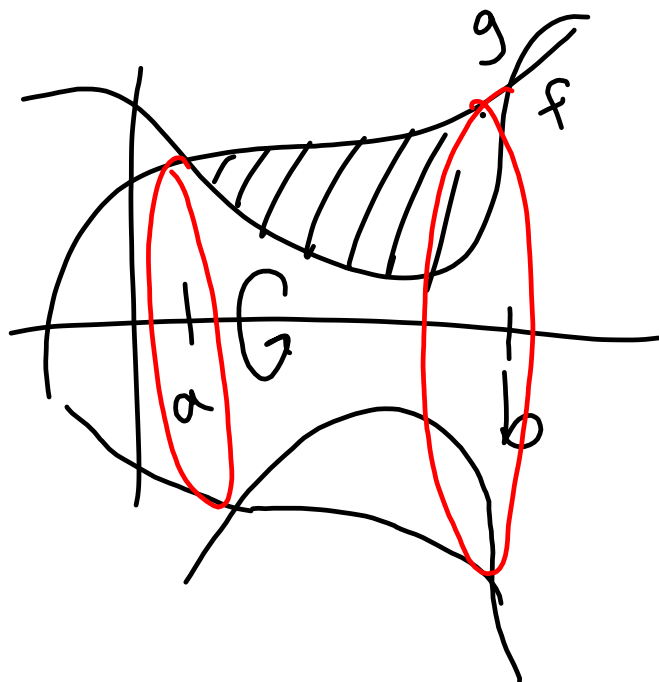


$$+ \int_0^2 [3y - (y^3 - y)] dy$$



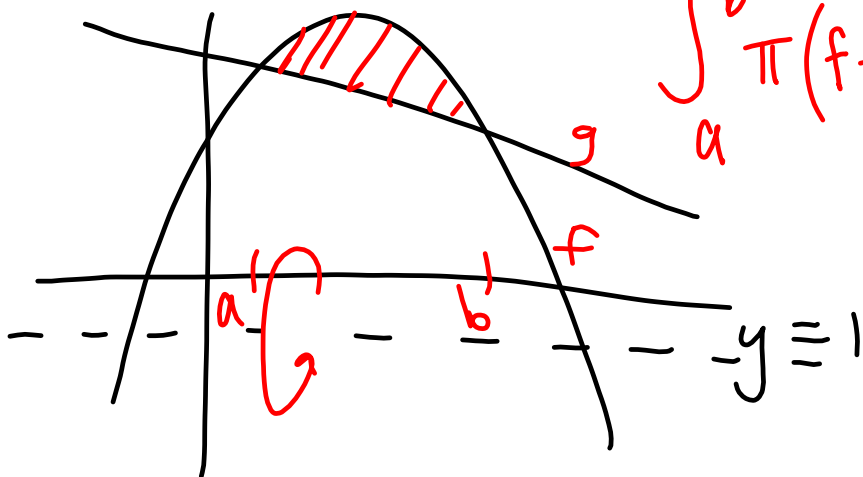
$$\int_h^r \pi (x)^2 dy$$

$$\int_h^r \pi (r)^2 dy - \int \pi y^2 dy$$

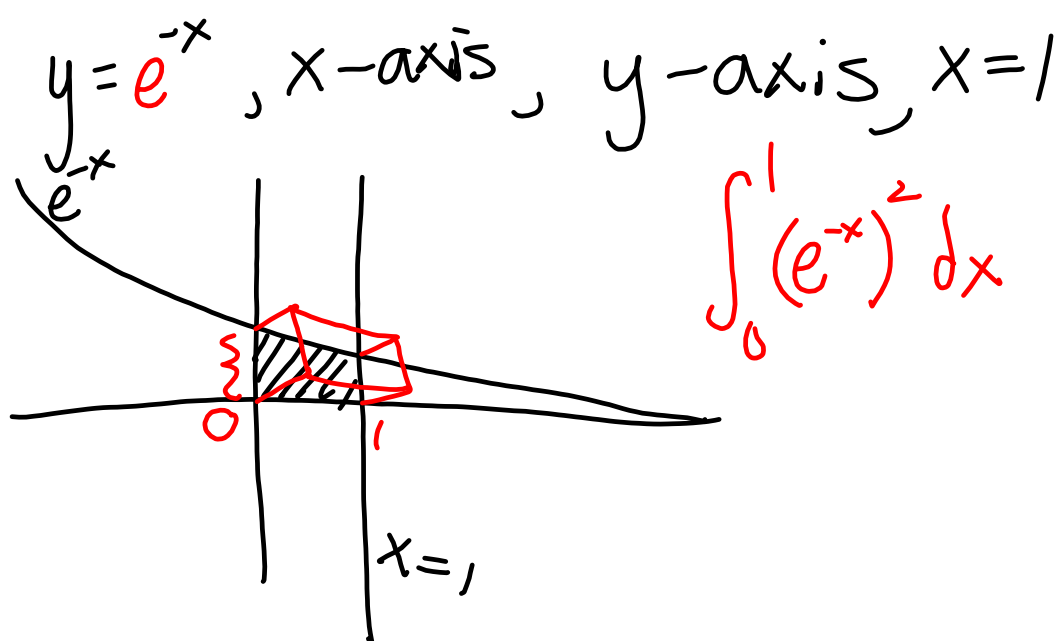
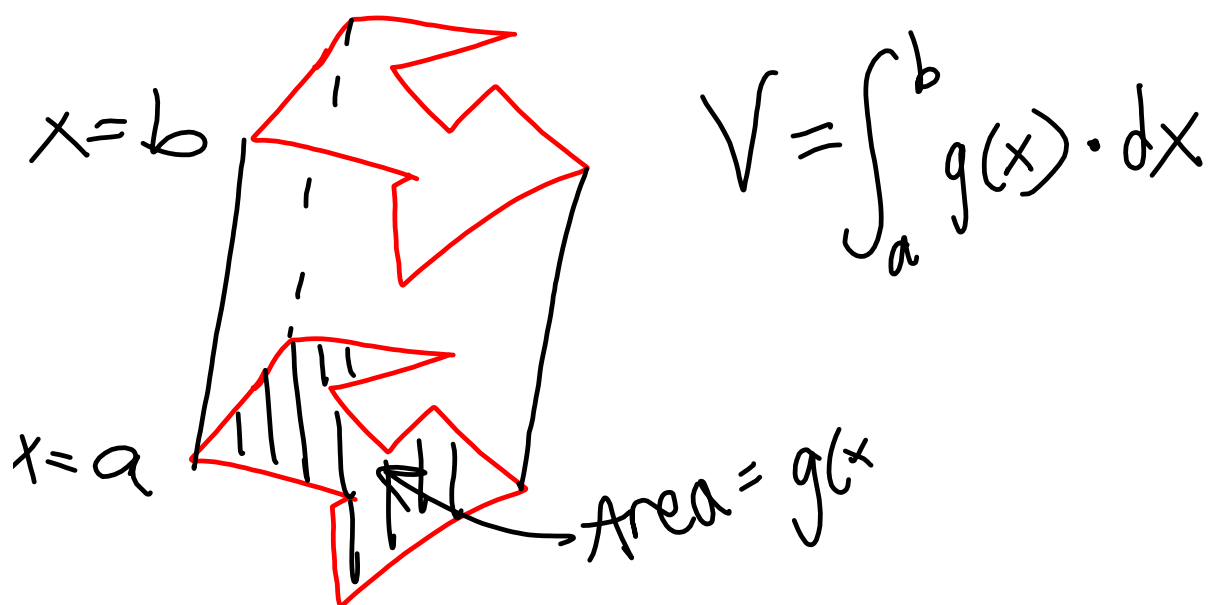


$$\int_a^b \pi (f(x))^2 dx - \int_a^b \pi (g(x))^2 dx$$

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



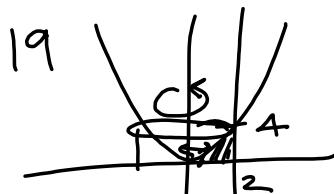
$$\int_a^b \pi (f - (-1))^2 dx - \int_a^b \pi (g + 1)^2 dx$$



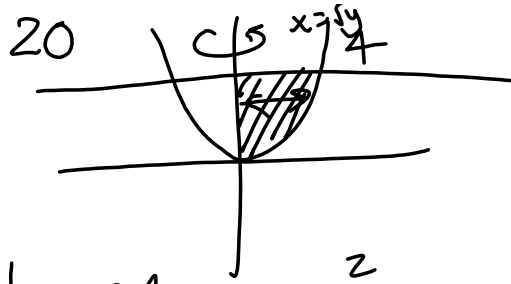
22. $y = x^2, y = 4, \textcircled{y} = 4$



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

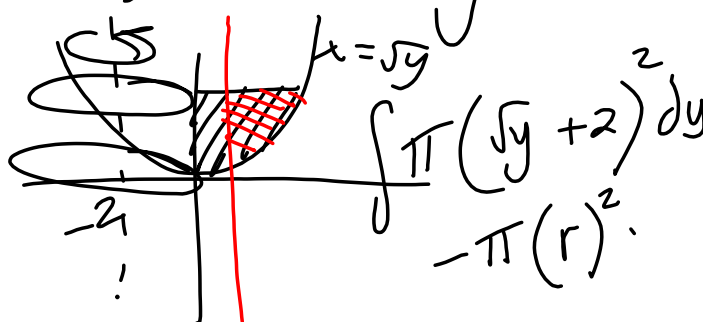


$$\pi(2)^2 - \int_0^4 \pi(\sqrt{y})^2 dy$$



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

$(x-y)^2$ v. $x^2 - y^2$



$$\int \pi(\sqrt{y} + 2)^2 dy$$

$$-\pi(r)^2$$

Integration
Test
Wednesday