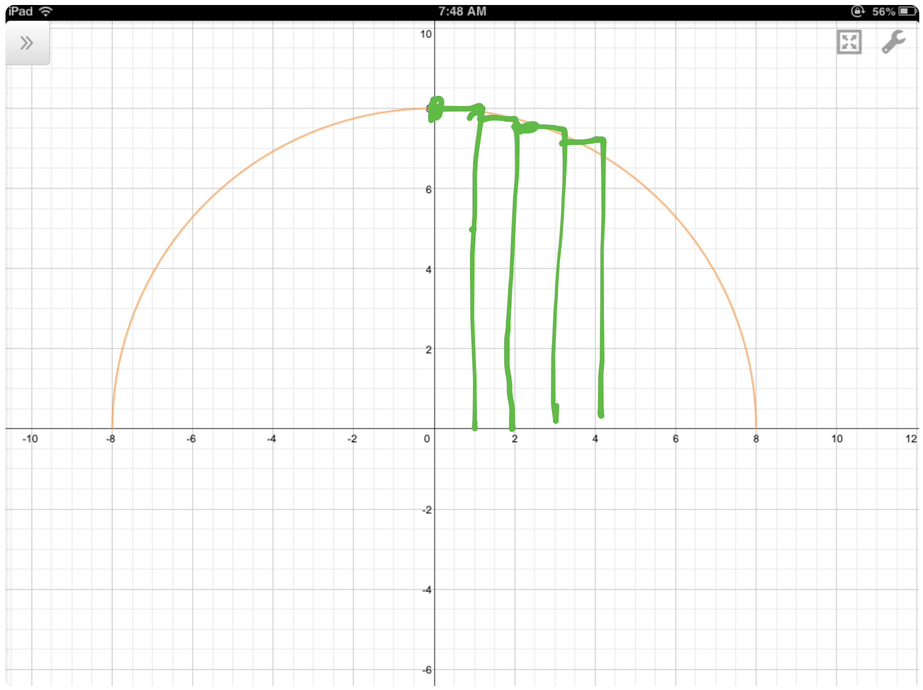
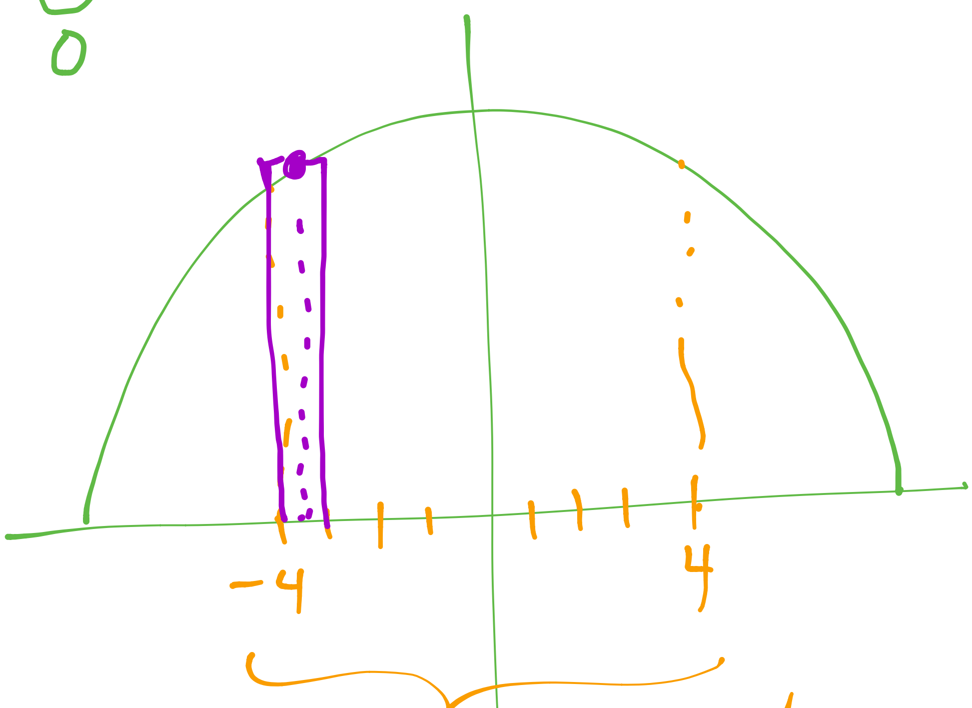


$$\int_0^4 \sqrt{64-x^2}\,dx = 31.099$$

The area under the curve of $\sqrt{64-x^2}$ from $x=0$ to $x=4$ is 31.099.

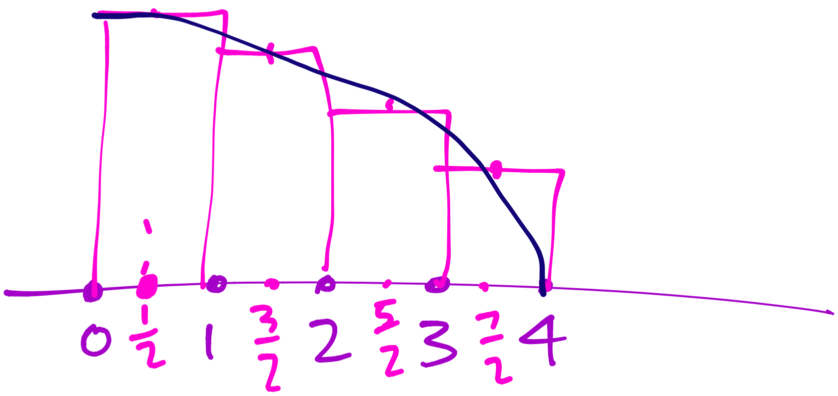
$$\int_0^8 \sqrt{64-x^2}\,dx \simeq 45.437$$



$8 \to 8$ rect.

width $= \frac{8}{8} = 1$

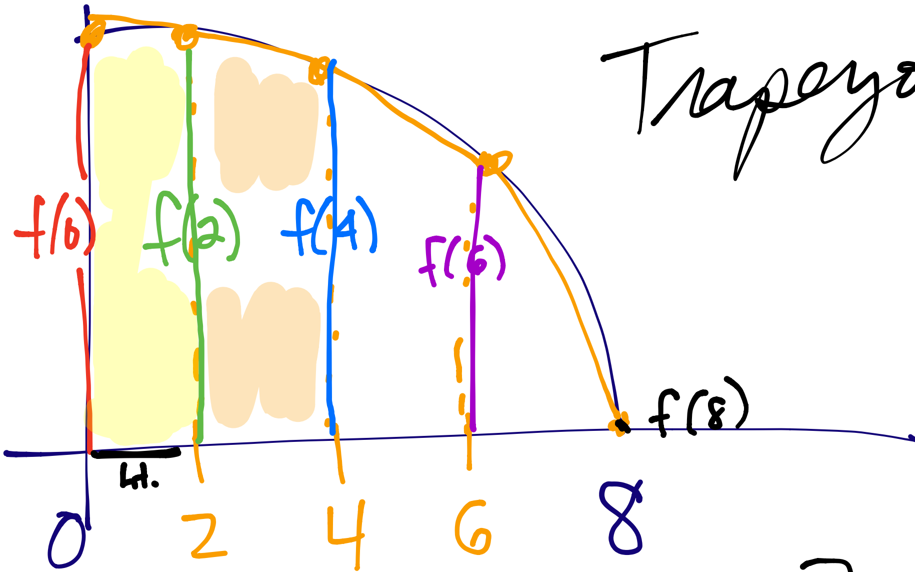
Go to the midpoint of the interval to find the height of the rectangles.



$$\text{area} = \left[f(-3.5) + f(-2.5) + f(-1.5) + f(-0.5) + f(0.5) + f(1.5) + f(2.5) + f(3.5)\right] \cdot 1$$

61.271

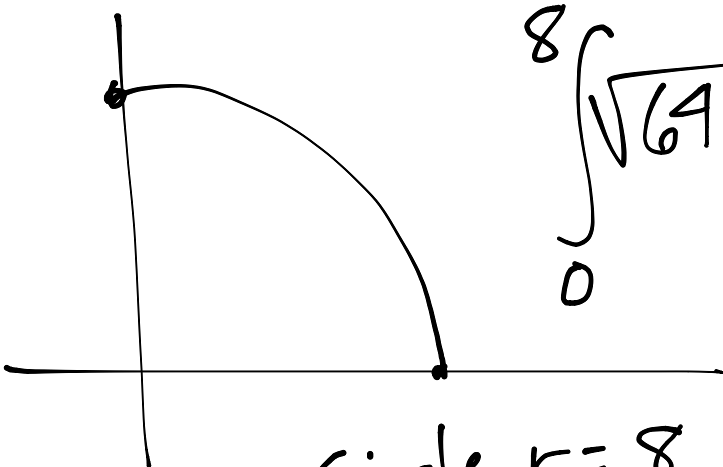
Trapezoids



$$\text{Area} = \frac{1}{2}\cdot 2\left(f(0)+f(2)\right) + \frac{1}{2}\cdot 2\left[f(2)+f(4)\right] + \frac{1}{2}\cdot 2\left[f(4)+f(6)\right] + \frac{1}{2}\cdot 2\left[f(6)+f(8)\right]$$

$$= \frac{1}{2}\cdot 2\left\{f(0)+2f(2)+2f(4)+2f(6)+f(8)\right\}$$

$$\approx 47.931$$



$$\int_0^8 \sqrt{64-x^2}\,dx = \frac{1}{4}\pi\cdot 8^2$$

$$= 16\pi$$

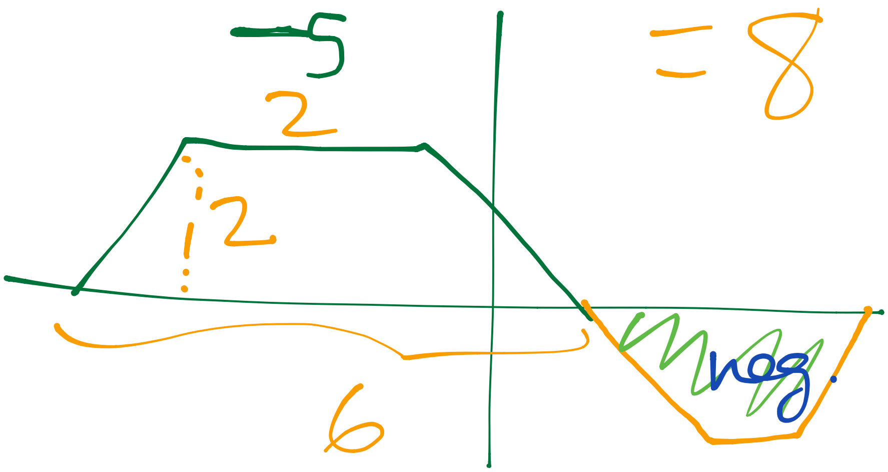
50.265

Circle $r = 8$

Area $= \pi\cdot 8^2$

$$\int_{-5}^{1} f(x)\,dx = \frac{1}{2}\cdot 2(2+6)$$

$$= 8$$



$$\int_{1}^{-5} f(x)\,dx = -8$$

$$\int_{1}^{5} f(x)\,dx = -5$$

$$\int_{5}^{1} f(x)\,dx = 5$$

Finish basic integration WS for HW.