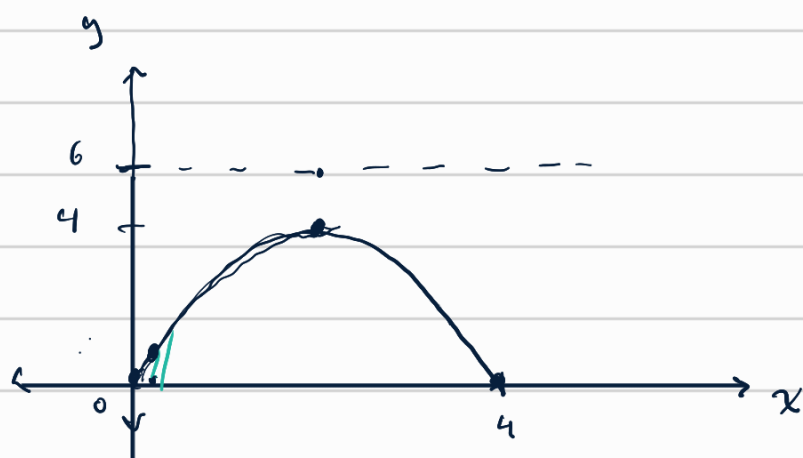


V a)



$$(4-x)x = y$$

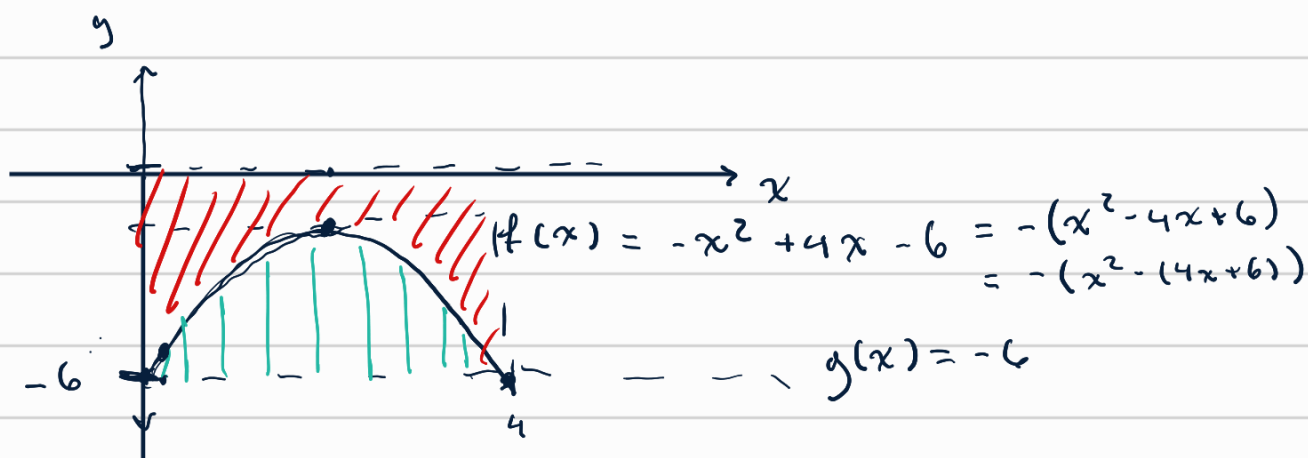
$$\frac{1408}{15} \pi$$

$$f(x) = 4x - x^2 - 6$$

$$g(x) = -6$$

Hacemos coincidir  $y = 6$  con el eje  $x$

ºº desplazar 6 unidades hacia abajo la gráfica



$$V_3 = \int_0^4 \pi [g^2(x) - f^2(x)] dx = \int_0^4 \pi [36 - (x^4 - 8x^3 + 28x^2 - 48x + 36)] dx$$

$$= \pi \int_0^4 [x^4 - 8x^3 + 28x^2 - 48x] dx = -\pi \left[ \frac{x^5}{5} - \frac{8x^4}{4} + \frac{28x^3}{3} - \frac{48x^2}{2} \right]_0^4$$

$$= -\pi \left[ \frac{1024}{5} - 512 + \frac{1792}{3} - \underbrace{24 \cdot 16}_{384} \right]$$

$$= -\pi \left[ \frac{12032}{15} - 896 \right] = \frac{1408}{5} \pi$$

$$V_2 = V_0 - V_1 = \pi \cdot 6^2 \cdot 4 - \frac{2432\pi}{5} = 144\pi - \frac{1408}{5} \pi$$

$$= \frac{752}{5} \pi$$