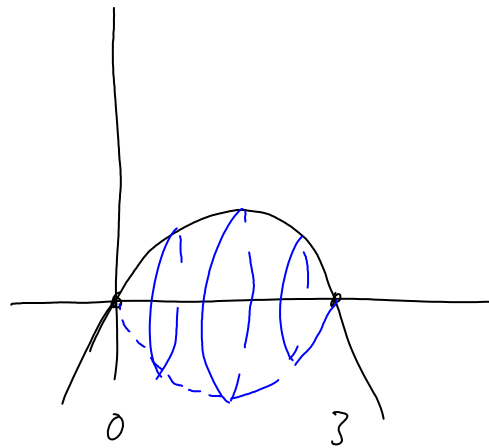


Vi får skaffa oss lite koll på grafen

$$\text{till } y = 3x - x^2.$$

$$y = 0 \Leftrightarrow x(3-x) = 0 \Leftrightarrow x_1 = 0, x_2 = 3$$

Skissa



Alltså

$$V = \int_0^3 \pi (3x - x^2)^2 dx = \pi \int_0^3 (9x^2 - 6x^3 + x^4) dx =$$

$$= \pi \left[3x^3 - \frac{6x^4}{4} + \frac{x^5}{5} \right]_0^3 =$$

$$= \pi \left(3 \cdot 3^3 - \frac{3^5}{2} + \frac{3^5}{5} \right) = 3^4 \pi \left(1 - \frac{3}{2} + \frac{3}{5} \right)$$

$$= \frac{81\pi}{10} (10 - 15 + 6) = \frac{81\pi}{10} \quad \text{v.e}$$