

$$y = 6 - \frac{x^2}{6} \Leftrightarrow x^2 = 36 - 6y$$

obs onödigt
att lösa ut x!

$$\begin{aligned} V &= \pi \int_t^{t+2} x^2 dy = \pi \int_t^{t+2} (36 - 6y) dy = \\ &= \pi \left[36y - 3y^2 \right]_t^{t+2} = \pi \left((36(t+2) - 3(t+2)^2) \right. \\ &\quad \left. - (36t - 3t^2) \right) = \\ &= \pi \left(\cancel{36t} + 72 - \cancel{3t^2} - 12t - 12 - \cancel{36t} + \cancel{3t^2} \right) = \\ &= \pi (60 - 12t) \end{aligned}$$

Detta ska nu bli 30π :

$$30\pi = \pi \cdot (60 - 12t)$$

\Leftrightarrow

$$12t = 30$$

\Leftrightarrow

$$t = \frac{30}{12} = \frac{5}{2}$$