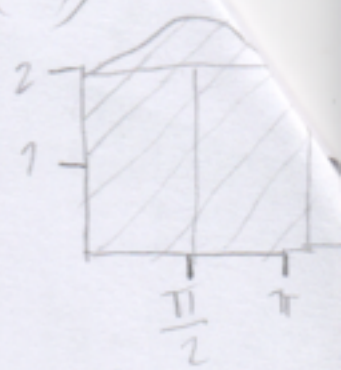
7)

$\Delta x = \frac{\pi - 0}{2} = \frac{\pi}{2}$

$L_2 = \frac{\pi}{2} * \left(2 + \operatorname{sen}\left(\frac{\pi}{2}\right)\right) + \frac{\pi}{2} * \left(2 + \operatorname{sen}(\pi)\right)$

$L_2 = 7{,}28$ //

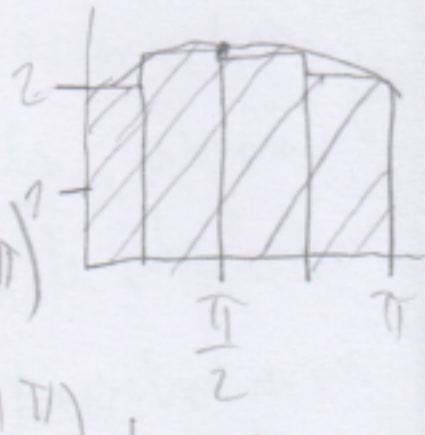


$\Delta x = \frac{\pi - 0}{4} = \frac{\pi}{4}$

$L_2 = \frac{\pi}{4} * \left(2 + \operatorname{sen}\frac{\pi}{4}\right) + \frac{\pi}{4} + \left(2 \operatorname{sen}\frac{1}{2}\pi\right) +$

$\frac{\pi}{4} * \left(2 + \operatorname{sen}\frac{3}{4}\pi\right) + \frac{\pi}{4} * \left(2 + \operatorname{sen}\pi\right)$

$L_2 = 6{,}049$ //



$\Delta x = \frac{\pi - 0}{8} = \frac{\pi}{8}$

$L_2 = \frac{\pi}{8} * \left(2 + \operatorname{sen}\frac{\pi}{8}\right) + \frac{\pi}{8} * \left(2 \operatorname{sen}\frac{2}{8}\pi\right)$

$9{,}024 = \frac{\pi}{8} * \left(2 + \operatorname{sen}\frac{3\pi}{8}\right) + \frac{\pi}{8} * \left(2 \operatorname{sen}\frac{4\pi}{8}\right)$

$\frac{\pi}{8} * \left(2 + \operatorname{sen}\frac{5\pi}{8}\right) + \frac{\pi}{8} * \left(2 \operatorname{sen}\frac{6\pi}{8}\right)$

$\frac{7\pi}{8}$

19)

$\lim_{n \to \infty} \sum_{i=1}^{n} x_i \ln(1 + x_i^2) \Delta x \; [2, 6] \; \frac{7\pi}{8}$

$\int_2^6 x_i \ln(1 + x_i^2)\, dx$ //

25)

$\int_0^1 (x^3 - 3x^2)\, dx$

$\frac{x^4}{4} - 3 \cdot \frac{x^3}{3}$

$\frac{1}{4} - 1 = \frac{-3}{4}$