

Análise Matemática II

LISTA 4

$$(1) f_n(x) = \begin{cases} \frac{1}{n}, & x \notin \mathbb{Q} \\ 0, & x \in \mathbb{Q} \end{cases}$$

$$(2) \quad \begin{aligned} \text{(a)} & 0 \\ \text{(b)} & 0 \end{aligned}$$

$$(3)$$

$$(4)$$

$$(5) 1$$

$$(6)$$

$$(7) \quad \text{(a)}$$

$$\text{(b)} \quad x \neq 2k\pi, k \in \mathbb{Z}$$

$$\text{(c)} \quad \sum(1 - \cos n)/n^3$$

$$(8)$$

$$(9) \quad \text{(a)} \quad -x/(1+x), |x| < 1$$

$$\text{(b)} \quad -1/(x+1), |x| > 1$$

$$\text{(c)} \quad -\log(1-x), x \in [-1, 1[$$

$$\text{(d)} \quad \frac{x}{(1-x)^2}, x \in]-1, 1[$$

$$\text{(e)} \quad x \frac{1+x}{1-x}, x \in]-1, 1[$$

$$\text{(f)} \quad x - 1 + \frac{1}{2} \log(x/(2-x)), x \in]0, 2[$$

$$\text{(g)} \quad (2-x)(\log(2-x) - 1), x \in]0, 2[$$