

# Exercício de Séries

Cálculo Diferencial e Integral II

19/11/2019

1. Confira se as séries abaixo são convergentes. Se possível calcule sua soma.

(a)  $\sum_{n=1}^{\infty} \frac{1}{2^n}$

(b)  $\sum_{n=0}^{\infty} \left( \frac{1}{10^n} + 2^n \right)$

(c)  $\sum_{n=0}^{\infty} \text{sen}^{2n}(x)$  para  $|x| < \frac{\pi}{2}$

(d)  $\sum_{n=1}^{\infty} \frac{1}{\sqrt{n}}$

(e)  $\sum_{n=1}^{\infty} \left( (-1)^n \frac{1}{\sqrt{n}} \right)$

(f)  $\sum_{n=2}^{\infty} \left( \frac{\ln(n)}{n^2} \right)$

(g)  $\sum_{n=1}^{\infty} \frac{1}{n(n+1)}$