

Problem statement Consider the series

a) $\sum_{n=1}^{\infty} \frac{(-1)^n}{\sqrt{n} + 1}$

b) $\sum_{n=1}^{\infty} \frac{(-1)^n \sin n}{n^6 + 1}$

c) $\sum_{n=1}^{\infty} \frac{(-1)^n}{(n!)^2}$

a) Decide for each series if the conditions of the alternating series test are satisfied.

b) For those series satisfying the conditions, decide how many terms need to be added in order to reach within 10^{-8} of the sum of the series. Give a decimal approximation of the sum of *one* of the series with maximum allowed error of 10^{-8} .