Integraaltoets / Integral Test §11.3

Gestel f is 'n kontinue, positiewe, dalende funksie (continuous, positive, decreasing function) op $[1, \infty)$ en laat $a_n = f(n)$. Dan geld:

- As $\int_1^\infty f(x)\,dx$ konvergent is, dan is $\sum_{n=1}^{\infty} a_n$ konvergent.

- As $\int_1^\infty f(x)\,dx$ divergent is, dan is $\sum_{n=1}^{\infty} a_n$ divergent.

D.w.s. $\int_1^\infty f(x)\,dx$ is konvergent as en slegs as $\sum_{n=1}^{\infty} a_n$ konvergent is.

p-reeks / p-series:

Die p-reeks $\sum_{n=1}^{\infty} \frac{1}{n^p}$ is konvergent vir $p > 1$

en divergent vir $p \leq 1$.

Huiswerk

Ex. 11.3 nr. 5, 7, 11, 15, 17, 21, 29

Laat pp.763–765 uit.