

11.4 Infinite Series

Sequence: $\{a_n\}$

First term: a_1

Nth term: a_n

1204. Infinite Series

$$\sum_{n=1}^{\infty} a_n = a_1 + a_2 + \dots + a_n + \dots$$

1205. Nth Partial Sum

$$S_n = \sum_{n=1}^n a_n = a_1 + a_2 + \dots + a_n$$

1206. Convergence of Infinite Series

$$\sum_{n=1}^{\infty} a_n = L, \text{ if } \lim_{n \rightarrow \infty} S_n = L$$

1207. Nth Term Test

- If the series $\sum_{n=1}^{\infty} a_n$ is convergent, then $\lim_{n \rightarrow \infty} a_n = 0$.
- If $\lim_{n \rightarrow \infty} a_n \neq 0$, then the series is divergent.