

Notation for Series

It's easier to understand and explain mathematics if we have good notation for what we're discussing. In this case, we define a *partial sum* to be:

$$S_N = \sum_{n=0}^N a_n.$$

Now we can do something similar to what we did for indefinite integrals and define:

$$S = \sum_{n=0}^{\infty} a_n = \lim_{N \rightarrow \infty} S_N.$$

Once again we have two choices. If the limit exists we say that the series converges. If the limit does not exist we say that the series diverges.

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