4.1: Series

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Def: A **series** is an addition of infinitely many terms, often related to each other. A **partial sum** is the summation of the first n numbers in a series.

Def: A series is said to **converge** if the partial sum of the first n terms as n approaches infinity approaches a finite number. If not, it is said to **diverge**. If the series has a variable, convergence may depend on the value that variable takes on.

Def: A series may contain complex numbers, in which case the real and complex components of each term can be broken apart and added separately, in the form $A+iB$, where A and B are the sub-series of the real and complex terms respectively. A complex series converges if both A and B converge.