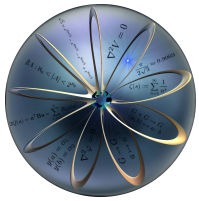

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sequence

Canonical name	Sequence
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Related topic	ConvergentSequence
Defines	generalized sequence
Defines	transfinite sequence
Defines	finite sequence

Sequences Given any set X, a *sequence* in X is a function $f\colon \mathbb{N} \to X$ from the set of natural numbers to X. Sequences are usually written with subscript notation: $x_0, x_1, x_2 \ldots$, instead of $f(0), f(1), f(2) \ldots$.

Generalized sequences One can generalize the above definition to any arbitrary ordinal. For any set X, a *generalized sequence* or *transfinite sequence* in X is a function $f\colon \omega \to X$ where ω is any ordinal number. If ω is a finite ordinal, then we say the sequence is a *finite sequence*.