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uncountable

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Definition A set is *uncountable* if it is not countable. In other words, a set S is uncountable, if there is no subset of \mathbb{N} (the set of natural numbers) with the same cardinality as S .

1. All uncountable sets are infinite. However, the converse is not true, as \mathbb{N} is both infinite and countable.
2. The real numbers form an uncountable set. The famous proof of this result is based on Cantor's diagonal argument.