41 Lecture - MTH101

Important Subjective

What is a sequence?

A sequence is a list of numbers arranged in a specific order that follows a pattern or rule.

How can a sequence be defined?

A sequence can be defined through a formula or a recursive formula.

What is the difference between a bounded and an unbounded sequence?

A bounded sequence is limited between two specific values, while an unbounded sequence has no limit.

What is the Fibonacci sequence?

The Fibonacci sequence is a famous sequence defined recursively by the formulas f_1 = 1, f_2 = 1, and f_n = f_{n-1} + f_{n-2} for n ? 3.

What is the squeeze theorem?

The squeeze theorem is a technique used to approximate the value of a limit of a function using a sequence that converges to the limit.

What is a series?

A series is the sum of the terms of a sequence, which can be either finite or infinite.

What is the difference between a convergent and a divergent series?

A series is convergent if the sum of the terms approaches a finite limit as the number of terms increases to infinity, while a series is divergent if the sum of the terms does not approach a finite limit.

What are some tests for determining whether a series is convergent or divergent?

Some tests for determining whether a series is convergent or divergent include the comparison test, the ratio test, and the integral test.

How can sequences be used in calculus?

Sequences can be used to approximate the value of a limit of a function and to determine the convergence or divergence of a series.

Can a sequence be defined in other ways besides a formula or a recursive formula?

Yes, a sequence can also be defined using a table or a graph of its values.