42 Lecture - MTH101

Important Subjective

What is an infinite series?

An infinite series is a sum of an infinite number of terms. It is represented as a1 + a2 + a3 +… where a1, a2, a3, … are the terms of the series.

What is the difference between a sequence and a series?

A sequence is a list of numbers in a specific order, while a series is the sum of these numbers.

What is a convergent series?

A convergent series is a series whose sum approaches a finite value as the number of terms increases.

What is a divergent series?

A divergent series is a series whose sum approaches infinity or negative infinity as the number of terms increases.

What is the nth term test for divergence?

The nth term test for divergence is a test used to determine if a series converges or diverges by checking if the limit of the nth term as n approaches infinity is zero or not.

What is the comparison test for convergence?

The comparison test for convergence is a test used to determine if a series converges or diverges by comparing it to a series that is known to converge or diverge.

What is the ratio test for convergence?

The ratio test for convergence is a test used to determine if a series converges or diverges by checking the limit of the ratio of successive terms as n approaches infinity.

What is the integral test for convergence?

The integral test for convergence is a test used to determine if a series converges or diverges by comparing it to the integral of a related function.

What is the alternating series test for convergence?

The alternating series test for convergence is a test used to determine if an alternating series converges or diverges by checking if the absolute value of the terms decreases and approaches zero.

What is the limit comparison test for convergence?

The limit comparison test for convergence is a test used to determine if a series converges or diverges by comparing it to a series whose limit as n approaches infinity is known.