22 Lecture - MTH101

Important Subjective

What are relative extrema?

Answer: Relative extrema are the local maximum or minimum values of a function within a given interval.

How do you find relative extrema?

Answer: To find relative extrema, we take the first derivative of the function, set it equal to zero, and solve for x. We then use the second derivative test to determine the nature of each critical point.

What is a critical point in calculus?

Answer: A critical point in calculus is a point on the function where the derivative is zero or undefined.

What is the second derivative test?

Answer: The second derivative test is a method used to determine whether a critical point corresponds to a relative maximum, relative minimum, or neither.

What is the second derivative of a function?

Answer: The second derivative of a function is the derivative of its first derivative.

What is a relative maximum?

Answer: A relative maximum is the highest point of a function within a given interval.

What is a relative minimum?

Answer: A relative minimum is the lowest point of a function within a given interval.

Can a function have more than one relative maximum or minimum?

Answer: Yes, a function can have multiple relative extrema.

What are some applications of relative extrema in economics?

Answer: Relative extrema can represent the maximum or minimum values of a cost function, profit function, or utility function in economics.

What are some applications of relative extrema in physics?

Answer: Relative extrema can represent the maximum or minimum values of a velocity or acceleration function in physics.