

Name _____

Finding the Middle Ground: Exploring the Mean Value Theorem

Multiple Choice Questions

1. What does the mean value theorem state?
 - A) The average speed of a function
 - B) The instantaneous rate of change of a function
 - C) The relationship between average and instantaneous values of a function
 - D) The area under the curve of a function

2. How is the mean value theorem applied in driving?
 - A) It helps us navigate winding highways
 - B) It ensures that our instantaneous speed matches our average speed at some point during the journey
 - C) It calculates the distance traveled
 - D) It tells us how fast we're traveling at any given point

3. What conditions must be met for the mean value theorem to apply?
 - A) The function must be continuous on a closed interval and differentiable on an open interval
 - B) The function must be discontinuous on a closed interval
 - C) The function must be constant
 - D) The function must be differentiable on a closed interval

4. How does the mean value theorem relate to economics?
 - A) It helps us analyze the average rate of change of a company's profit over a certain period
 - B) It calculates the area under the curve of a profit function
 - C) It determines the maximum profit a company can achieve
 - D) It helps us understand the supply and demand curves

5. What analogy is used to describe the mean value theorem in the passage?
 - A) A road trip with winding highways
 - B) Driving from point A to point B
 - C) Navigating through curves and slopes
 - D) A guidepost on a mathematical journey

