

## RESEARCH ON DERIVATIVES AND APPLIED TEACHING STRATEGIES IN HIGH SCHOOL

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### ABSTRACT

Whether it is junior high school or high school, derivatives are an important part of all students' learning in the curriculum. Derivatives and their applications play an important role in the study of function monotonicity, extrema and maximum, and the use of derivatives to prove inequalities, which is not only the core of problem solving, but also the perfect combination of number and shape, and also the concentrated embodiment of calculus ideas. Especially in recent years, high school derivatives and applications have accounted for an increasing proportion of the test papers of the high school entrance examination and the college entrance examination, and it is also the key for students to reflect the core literacy of mathematics of students. If students want to get a high score in the college entrance examination, they must not only understand the concept of derivatives and the application of theorems, but also master the basic knowledge of derivatives and the application of derivatives in life. Because "Derivatives and Applications" is a very important chapter in high school mathematics, students are required to master it to the best of their ability, and students need to invest a lot of energy and time in this area. It also needs the active guidance and help of teachers. Through the research background and theoretical basis of "Derivatives and Applications", this paper analyzes the current situation of "Derivatives and Applications" in modern high schools, and proposes effective teaching strategies that can effectively improve teaching efficiency and formulate effective teaching strategies suitable for all students.

**Keywords:** Derivatives and applications; analysis of the current situation; Teaching Strategies.