1114-97-329   **Kyle Kishimoto*** (`kylemoto@yahoo.com`), Department of Mathematics, CSUF, 154 McCarthy Hall, Fullerton, CA 92620-0290. *Applications of Differential Calculus Techniques to Fundamental Questions in Algebra.*

Many algebra problems can be approached from an advanced viewpoint. In our presentation we explore various solutions that are incorporating real analysis ideas and techniques, with the goal of reaching a more profound understanding of the mathematical phenomena behind each of the questions under investigation. Some of the applications use the First Derivative Test, others use Second Derivative Test and the study of convexity, while others are applications of multivariable calculus techniques in investigating extrema. Some of the problems we discuss in our talk are recently published by Gazeta matematica, a journal established in 1895. (Received September 01, 2015)