

1116-VH-2467 **Howsikan Kugathasan***, 411 Annex Ave, Apt B4, Nashville, TN 37209, and **Qingxia Li**
(qli@fisk.edu), 411 Annex Ave, Apt B4, Nashville, TN 37209. *Grandma Sells Granola?*

The objective of this presentation is to connect the real life problem with the underlying mathematics concept of finding local extrema through a case study, which is appropriate for Calculus I at the lower collegiate level or high school level. Applying case studies in teaching will increase student's interest in learning mathematics and then truly understand the meaning of the mathematics concepts. This case is about how a grandson to help his grandma making maximal revenue by selling granola at a farmer's market. It is an interrupted case with a three part scenario. The first part discusses the case that grandma will only sell granola in bags which causes the problem to calculate the profit with the first derivative test. The second scenario did pass the derivative test because grandma expanded her selling scale by selling the granola at any weight. The third part will be involved with economics model of hiring a new grandma for this business. Through this process, students were also able to understand the mathematical and economical concepts clearly. (Received September 22, 2015)