

1125-VR-2597 **Steven M. Hetzler*** (smhetzler@salisbury.edu), Department of Math & C.S., Salisbury University, 1101 Camden Ave, Salisbury, MD 21801. *Introducing Picard's Theorem in Integral Calculus: an Interesting Example.*

A non-standard method of estimating continuously compounded interest will be presented. This method is accessible to students with sufficient integral calculus experience to find the average value of an integrable function on a closed, bounded interval. The method produces Taylor Polynomials for the exponential function by considering the interest due on a principal, the interest due on the interest due on the principal, and so forth. By approaching the Taylor Polynomials from a new perspective, students can be led to see a generalization which shows that a unique solution exists for certain differential equations (Picard's Theorem). (Received September 20, 2016)