

1106-A1-2156 **Peiyi Zhao*** (pzhao@stcloudstate.edu). *Locus problems and analytic geometry.*

Geometry software such as Geometer's Sketchpad has been very useful in aiding explorations and generating conjectures. Yet the conjectures need to be justified. This project contains two parts: The first part consists of geometric constructions using Geometer's Sketchpad that simulate certain activities, and making conjectures on the outcome of the activities. The second part is about the justification of the conjectures. For each conjecture they make, students are encouraged to think about proofs using any method. But they must submit one proof using the analytic method. This project is used in an undergraduate geometry course that prepares teachers at the secondary level. (Received September 15, 2014)