

1154-VI-2618      **Melanie Pivarski\*** (mpivarski@roosevelt.edu). *Using an Ellipse to Compute the Elapse of an Eclipse in Multivariate Calculus.*

On our university's convocation day in 2017, there was a total solar eclipse, visible from parts of the United States. This eclipse motivated our multivariate calculus class to model its length, using ellipses, Kepler's laws, areas, eccentricity, and error estimates. The problem illuminated the need to think carefully about geometric details, such as the difference between a sphere and a point particle, and how assumptions can dramatically affect the end result. (Received September 17, 2019)