

1106-J5-481 **Walter Jacob*** (walter.jacob@temple.edu). *A novel approach to the integral of $\csc x$ inspired by James Gregory's VERA QUADRATURA.*

The typical approach to the integral of the cosecant function encountered by calculus students is often frustratingly unintuitive. This strategy asks the student to perform a multiplication that is not immediately obvious and in fact requires one to know the answer in advance. As a result, even a student who appreciates the cleverness of this trick is often left wondering how they might have discovered such a solution on their own. In James Gregory's 1667 book VERA CIRCULI ET HYPERBOLAE QUADRATURA, he proves a simple but surprising property of the hyperbola that allows for a much more intuitive approach to the integral of $\csc x$. In our presentation, we will explain how the translation of Gregory's book led to this observation. (Received August 29, 2014)