1056-01-335 **William Dunham*** (`wdunham@muhlenberg.edu`), Department of Mathematics and CS, 2400 W. Chew Street, Allentown, PA 18104. *Newton's Proof of Heron's Formula.*

This talk examines a derivation of Heron's formula, courtesy of Isaac Newton. The result, of course, dates back to classical times, but in 1707 Newton published an algebraic proof quite different from Heron's original. In so doing, he noted that algebraic proofs of geometrical results "... so much depend on the various Positions and complex Relations of Lines, that they require some farther Invention and Artifice to bring them into Algebraick Terms." Such artifice he provided in a clever argument that, although entirely elementary, allowed Newton to revisit one of geometry's greatest theorems. (Received August 30, 2009)