

1023-H5-1804

**Jim Fulmer\*** (jrfulmer@ualr.edu), Mathematics Department, University of Arkansas at Little Rock, 2801 South University, Little Rock, AR 72204. *Mathematics of Euler — Euler Line and Euler's Formula for Polyhedra.*

How can we incorporate the mathematics of Leonard Euler into the secondary and undergraduate mathematics classroom? This talk will focus on three ways: 1) A brief history of Euler - The talk will begin with a brief history of Leonard Euler, including his life and times. This will include dates and geographic locations where he worked and lived. 2) Euler's formula relating vertices, edges, and faces -Then a discussion of the Euler formula for relating vertices, edges, and faces:  $V + F = E + 2$ . Using Polydrons, several three-dimensional models of polyhedra will be used to illustrate vertices, faces, and edges. Models will include pyramids, prisms, and the five regular polyhedra. 3) Geometric construction of the Euler line - The geometric construction of the Euler line will be illustrated on transparencies, using straight edge and compass constructions. This will include construction of the centroid, orthocenter, and circumcenter of a given triangle. Color will be used to distinguish between the three points and constructions. These points will be shown to be collinear, which creates the Euler Line. (Received September 26, 2006)