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Jerry Lodder* (jlodder@nmsu.edu), Math Sciences, Dept. 3MB, Box 30001, New Mexico State University, Las Cruces, NM 88003. *An Ancient View on Proportionality in Similar Triangles*. Preliminary report.

Similarity has its roots in antiquity and Eudoxus of Cnidus (ca. 408–355 B.C.E.) established a notion of what today would be called the equality of ratios, applicable in the crucial case of incommensurable magnitudes. Against this backdrop, Euclid proves that “in equiangular triangles the sides about the equal angles are proportional,” from Book VI of *The Elements*.

Proportionality results for similar triangles had been in use in ancient China from at least the second century B.C.E. This talk examines an area argument appearing in the ancient Chinese classics *Zhou bi suan jing* and *Jiu zhang suan shu* known as the “in-out” principle, which can be used to establish the modern statement about the ratios of corresponding sides in similar triangles. When applied to a rectangle, the principle identifies certain non-congruent sub-rectangles of equal area that remain after the the exclusion of congruent triangles. The material is ideal for a student module in a geometry or a college algebra course, particularly one that draws secondary education majors. (Received September 10, 2007)