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James R. Valles Jr* (james.valles@ttu.edu), TTU Mathematics, Math Bldg., Room 201, Box 41042, Lubbock, TX 79409-1042, and Alexander Yu. Solynin (alex.solynin@ttu.edu), TTU Mathematics, Math Bldg., Room 201, Box 41042, Lubbock, TX 79409-1042. Affine Transformations and Conformal Invariants. Preliminary report.

Affine transformations have been especially important in areas such as the Bôcher-Grace Theorem and Steiner inellipses and their effects on domains such as ellipses and regular polygons. Properties of domains, such as the conformal modulus of a domain in the complex plane, have been studied for their applications in fields such as Geometric Function Theory.

In this talk, the effect of affine transformations on conformal invariants of a domain will be explored. Of particular interest will be the application of affine transformations on quadrilaterals and conformal invariant properties of the quadrilateral under an affine transformation. (Received September 22, 2010)