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Noah H Rhee* (RheeN@umkc.edu), 206 Haag Hall, University of Missouri-Kansas City, 5100 Rockhill Road, Kansas City, MO 64110, and Larry Eifler (EiflerL@umkc.edu), 206 Haag Hall, University of Missouri-Kansas City, 5100 Rockhill Road, Kansas City, MO 64110. The n-Dimensional Pythagorean Theorem via the Divergence Theorem.

The theorem of Pythagoras relating the squares of the lengths of the sides of a right triangle is well known. Its generalization to 3 dimensions is known as de Gua's theorem. The generalization of this result to n-dimension has appeared numerous times in the literature. In this talk we present a proof of n-dimensional Pythagorean theorem using the divergence theorem. (Received January 10, 2009)