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Mike Nakamaye* (nakamaye@math.unm.edu). *Transformational Geometry in the High School Curriculum*. Preliminary report.

Rigid motions of the plane play a fundamental role throughout the development of the geometry domain in the Common Core State Standards for Mathematics. Reflections are introduced in elementary school and in the eighth grade students systematically study different rigid motions of the plane and their impact on points and shapes. In high school, these rigid motions are used to establish the key congruence criteria for triangles.

This important conceptual shift in understanding congruence offers many opportunities to make important connections with other parts of the high school curriculum, including:

- Transformations are important examples of functions and offer many rich opportunities for students to work with functions whose domain and range are not the real numbers or a subset of the real numbers.
- Transformations can be described algebraically and can form a powerful tool for analyzing some functions such as quadratics.
- Transformations are at the heart of symmetry, a topic of vital interest in nature and in mathematics.

In this talk, we will explore some of these important connections which rigid motions have with the rest of the K-12 curriculum. (Received September 01, 2014)