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Enhancing understanding of transformation matrices.

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Summary: With the common core state standards' emphasis on transformations, teachers need a variety of approaches to increase student understanding. Teaching matrix transformations by focusing on row vectors gives students tools to create matrices to perform transformations. This empowerment opens many doors: Students are able to create the matrices for composite transformations and make the leap to three dimensions. Most important, students truly understand the connection between the algebraic and the matrix descriptions of the transformations. This understanding is fundamental for students not only as they go forward in their studies but also because these matrices are so ubiquitous – from Pauli matrices used to describe quantum iso-spin to color adjustments in the Adobe Flash Player. And giving students the ability to solve complex problems is what mathematics education is all about. (ERIC)

Classification: H60 G70

Keywords: state standards; core curriculum; linear algebra; geometric concepts; matrix multiplication; transformations; transformation matrices

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