

1077-D5-2556      **Susan L Schmoyer\*** ([sschmoyer@worchester.edu](mailto:sschmoyer@worchester.edu)), Mathematics Department, 486 Chandler Street, Worcester, MA 01602. *Teaching Transformations of Functions Using Sage*. Preliminary report.

Graphing functions using transformations (like vertical and horizontal shifts) is a skill usually introduced in college algebra and used in precalculus, calculus, and mathematical modelling. In this talk I will demonstrate a Sage worksheet that helps students to make the connection between an algebraic transformation of a function and its respective graph. Sage is a free, open source alternative to Maple, Matlab, and Mathematica. Part of the Sage worksheet is a “Transformations Guessing Game” that creates a random graph of a function and asks the student to find the formula of the function. This knowledge of transformations is then applied to create some basic mathematical models. (Received September 22, 2011)