1023-F1-203   **Murray H. Siegel*** (`mhsiegel@sc.rr.com`), GSSM, 401 Railroad Avenue, Hartsville, SC 29550.
Learning About Algebraic Functions Using Data Models.

A significant amount of time is spent in College Algebra and Precalculus courses investigating linear, quadratic, exponential, logarithmic and piece-wise defined functions. Students exposed to the use of functions to model interesting data will see the importance of algebraic functions. Analysis of why a particular set of data might be linear or exponential brings the mathematics into the "real world". Manipulating coefficients to find the best model allows students to learn what changes to a function result in the various types of transformations. Data sets that have proven to be successful include grams of fat vs. calories in pizza (a linear model), year vs. U.S. population density (a quadratic model), age vs. value of a car (exponential decay) and year vs. number of member colleges in the NCAA (piece-wise linear). In the piece-wise models the students must communicate what caused the drastic change in slope. A semester project requiring students to find interesting data and examine the various types of functions in order to select and justify the best model has proven to be of real value in terms of assessment. (Received August 23, 2006)