1014-L1-1326   **Scott R. Herriott*** (`herriott@mum.edu`), 1000 N. Fourth St. #1070, Fairfield, IA 52557. *The "Basic Four" Elementary Functions and their Applications.*

An additive change to a variable is the addition of a constant. A multiplicative change is the multiplication by a scalar. These two types of change are easy to describe in natural language, being referred to as an absolute change and as a percentage change, respectively. The most basic types of elementary function, therefore, are those that associate an additive or multiplicative change in X with an additive or multiplicative change in Y. These basic four elementary functions are the linear, exponential, logarithmic, and power. This paper explains the derivation of these four functions from the pairings of these two types of change and argues that these four account for the vast majority of the applications of the function concept that are suitable to courses below calculus. (Received September 27, 2005)