THE MEANS

**Stat 101: Extra Credit #4 [2] DUE: \_\_\_\_\_\_ Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**“…What's in a name? That which we call a rose by any other name would smell as sweet;”**

[*Romeo and Juliet*; Juliet Act II, Scene II; William Shakespeare]

What’s in a name? That which we call a mean by any other name is not necessarily the mean we all know how to calculate – the arithmetic mean. Explore here other “means.”

**Instructions:** **Submit only this sheet. No labels, no credit. NOTE1:** You will need to do some research to complete this extra credit assignment. **NOTE2:** None of the problems use the arithmetic mean.

MeanS

Arithmetic Geometric Harmonic Quadratic

   

**[NOTE:** Using a TI-84, the geometric mean may be obtained by selecting: Math > item #5,  ]

**Match the mean to its use and complete the example problems.**

1. [.4] Match the mean with its function and/or the types of data for which it is used.

\_\_\_\_ Arithmetic A) data consisting of physical applications in power distributions, such as voltage

and currents

\_\_\_\_ Geometric B) data consisting of rates of change, average rates of growth, or average ratios

\_\_\_\_ Harmonic C) data consisting of a set of values to be averaged

\_\_\_\_ Quadratic D) data consisting of rates of change, such as speeds

1. [.4] Four students travel from New York to Florida (1200 miles) at a speed of 40 mph (yeah, right) and return at a speed of 60 mph (ditto). What is the average speed for this trip?
2. [.4] Determine the average growth factor for money compounded at annual interest rates of 10%, 8%, 9%, 12%, and 7%. [Note: e.g. 10% would be represented as 1.10.]
3. [.4] Find the root mean square for the following power supplies (in volts): 151,162, 0, 81, -68.
4. [.4] A dispatcher for the Kramden Bus Company calculates the average round-trip speed (in miles per hour) for the route between Boston and Providence. The results obtained for 14 different runs are listed below. Based on these values, what is the average speed of a bus assigned to this route?

42.4 41.3 38.2 42.9 43.4 43.7 40.8 34.2 40.1 41.2 40.5 41.7 39.8 39.6