Name(s)	Project Number
Kaycee Jade Nerhan	**J1222**

Project Title

Taking Stock in Phi: The Golden Ratio

Abstract

Objectives/Goals
Open your wallet and pull out a credit card. Why does this card have such a familiar and pleasing physical dynamic? The answer is Phi, the Golden Ratio. The ratio of Phi exists in many aspects of our daily life such as proportions in architecture, engineering and even the dimensions of the human face. The research and testing attached attempts to explain if there is a relationship of the Phi Ratio (1.618:1) to price movements in the stock market.

Methods/Materials
To begin, the value of Phi was solved for using the quadratic equation. After finding the value of 1.618, ten stocks were chosen from either the NASDAQ or the New York Stock Exchange. A graph of each stock was printed showing price movements for the year of 2005. Each stock graph was then overlaid with grid lines corresponding to the Phi ratio of 1.618:1. The grid was then moved over the stock graph until it matched at a Phi point. A Phi point is being defined as an upward or downward movement which begins on the Phi line.

Results
The overall percentage of stock prices graphically corresponding to PHI from averaging all 10 stocks was 52%. By averaging the yearly highs and lows for the ten chosen stocks, the stock price averages were very close to 1.618 (Phi)

Conclusions/Discussion
The overall results from testing stock price movements to the PHI ratio of 1.618:1 were astounding. The numerical and graphic evidence shows a definite relationship between PHI (1.618) and the price movements of each of the ten chosen stocks over the last year. Some of the stocks had a significant relationship to PHI while others were only slight. The graphic average overall percentage of stock prices falling into the PHI grid was 52%. This represents a high percentage considering the amount of variation in stock prices. The results achieved from averaging the price highs and lows (1.689 compared to 1.618) also lead to the conclusion that PHI has a relationship to these stocks.

Summary Statement

Determining the value of Phi by quadratic equation and comparing this ratio graphically to the upward or downward trends of the stock market.

Help Received

Mr. Gary Meisner showed me Phi Matrix software