CALIFORNIA STATE SCIENCE FAIR
2007 PROJECT SUMMARY

Name(s)
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Project Number
J1316

Project Title
Let's Make a... Deal or No Deal

Abstract

Objectives/Goals
The goal of my science fair project was to mathematically calculate whether or not the #Monty Hall Theory# is applicable to the game show #Deal or No Deal.# My hypothesis was that the #Monty Hall Theory# would not be applicable to the game show #Deal or No Deal,# and that in the game #Deal or No Deal# staying with your original case would be in your best interest.

Methods/Materials
In my science fair project the materials I used were a laptop, the online #Deal or No Deal# game, StatDisk, and Excel spreadsheets. My methods were to go online and play the #Deal or No Deal# game 100 times. I then logged in an excel spreadsheet the case I chose in each game and the amount I won. I put this data on StatDisk and figured the mean, median, amount of losing and winning amounts won, and range for the data. I then played fifty games of #Deal or No Deal# on the website, this time logging the offers. I took all of the Offer 1#s, Offer 2#s, etc. and put each set of data on StatDisk. I found the mean, median, amount of losing and winning offers, and range for each set of data. I used the amount of offer sets that were always winners to calculate my conclusion.

Results
After the 100 games, I found that the median amount won was $750. I decided to use the median instead of the mean for my calculations to set up the winner/loser system. This is because a few high amounts would skew the data. If the winnings were over $750 they were considered a winner, and if they were equal to or below $750 they were considered a loser. I determined the winners by whether or not they were over $750. In the fifty games I logged all of the offers and put these in the offers sets. My results that I got from my experiment were that 6 out of nine 9 of the offer sets were always winners. I found this in my control that $750 was the median in my data. I found that the #Monty Hall Theory# could apply to #Deal or No Deal.#

Conclusions/Discussion
I found in my experiments that when playing the game #Deal or No Deal,# taking the deal will always be in your favor 66% of the time. This is the exact scenario the #Monty Hall Theory# predicts. My hypothesis was unsupported, and the #Monty Hall Theory# is applicable to the game #Deal or No Deal.#

Summary Statement
My science fair project was testing whether or not the #Monty Hall Theory,# a probability theory, would be applicable to the game show #Deal or No Deal.#

Help Received
Mother helped by providing college level textbooks, transportation, and teaching me how to use StatDisk.