CALIFORNIA STATE SCIENCE FAIR
2015 PROJECT SUMMARY

Name(s)
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Project Number
35559

Project Title
The Geometry of Banking a Basket

Abstract

Objectives/Goals
Have you ever wondered where the best spot to shoot a bank-shot on a Basketball court is? In my experiment, I hypothesized that if I used Algebra and Geometry to find the relative probability of making a bank-shot from different positions on a basketball court and then make a scale model of a basket and backboard to find the relative probability to physically test the bank-shot, then I would be able to predict the best position on the basketball court for a real player to make a bank-shot.

Methods/Materials
I first used math and geometry to find different lengths on the court such as backboard length and length from the backboard to the player the apostrophe s position. I then used these lengths to find the relative probability from the 30, 45, 60, and 90 degree positions. I then built a scale model using poster boards for the court, a wrapping paper tube for a ramp and a miniature basketball and tested it from the 0, 30, 60, and 90 degree positions. The data was used to find the relative probability from each position.

Results
For my calculations, the highest relative probability was at the 90 degree position. For my scale model, the 30 degree position had the highest relative probability of 3.03.

Conclusions/Discussion
I was able to find the relative probability of making a bank-shot with Math and Geometry and by using a scale model. This project can help basketball players to know where the best position to shoot a bank-shot on the court is.

Summary Statement
My project is about using geometry to find the best position on a basketball court to shoot a bank-shot.

Help Received
My dad taught me to use excel spreadsheets