



**CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY**

Name(s) Kaitlyn M. Sims	Project Number J1318
Project Title "Fair Deal" or "No Deal"?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals My objective was to use ratios to find a pattern in the Banker's offers in the game show #Deal or No Deal# to see whether the Banker knows what's in the case or not? I think by the ratios of the live and online game show will be different and will show that the Banker deviates his offers.</p> <p>Methods/Materials I used the online Deal or No Deal game to play the game show. I filled a spreadsheet with assorted pieces information from the games. I did the same thing for the live show, and then compared the ratio of Offer/Sum of Remaining cases (Ratio X) for the live show and online games.</p> <p>Results In the online game, I found that the difference between the average of the winning Ratio X (offer divided by the sum of the remaining cases) and the losing Ratio X (Losing subtracted from Winning) was a minute amount, usually less than .05. The difference between the average of the winning Ratio X and the losing Ratio X in the live show, I found that the losing Ratio X's had an average that was up to .22867.</p> <p>Conclusions/Discussion The difference in the average of winning and losing Ratio X is a small amount in the online game show, usually around .05. In the live show, the average of losing Ratio X is larger than the average of winning Ratio X by a large amount, up to .22876. The ratios I used to find patterns suggests that the Banker deviates his offer. The offers on the live show in instances where the contestant holds a losing amount in their case are larger than proportionately dictated on the online show. This is because when the numerator in a fraction (or ratio) is increased, the value of the fraction is increased. In the online show, the proportion of the offer divided by the sum of remaining cases is very similar or exactly the same for both winning and losing amounts. This can be proven because the difference of winning and losing average Ratio X's is a very small difference, which could possibly become more exact through more testing. In order for a different ratio to be used for cases losing amounts, this would suggest that the Banker knows what is inside the case.</p>	
Summary Statement I used ratios and other various mathematical formulae to attempt to find a pattern in the Banker's offers in the game show "Deal or No Deal", and if a pattern was found, could I use it to try and determine whether or not the Banker knows what's inside the case?	
Help Received	