

1096-VH-2435 **Howard Troughton*** (htroughton@babson.edu), **George Recck** and **William Rybolt**. *Let's Make a (New) Deal: Variations of the Monty Hall Problem.*

A familiar problem in the teaching of probability is the classic Monty Hall problem. A contestant is presented with three doors with a major prize behind one of the doors and booby prizes behind the other two. After the contestant chooses a door, the host opens one of the other doors revealing a booby prize and then offers the contestant the option of sticking with the original choice or switching to the remaining door. Contrary to most people's intuition, the contestant's odds of winning improve from 33% to 67% by switching choices! Most students, and even some mathematicians, have a difficult time accepting the validity of this result.

This talk will present the solution using payoff tables instead of Bayes Theorem, and will also present some variants to the classic problem, including cases with more than three doors, cases with multiple major prizes, and cases with multiple prizes of different values. (Received September 17, 2013)