
Time for the Monty Hall Problem!



A little bit of history...

The Monty Hall problem is a probability puzzle that is a brain teaser. It is based on the American television game show *Let's Make a Deal*, and named after its original host, Monty Hall. While the problem was originally posed and solved in a letter by Steve Selkin to the *American Statistician* in 1975, it became famous when a reader asked this question to Marilyn vos Savant's "Ask Marilyn" column in *Parade* magazine in 1990.

Savant gave the right answer, which was later proven by computer simulations and probability theory. However, at the time, many famous mathematicians and nearly 1000 people with PhDs disagreed with her and wrote to the *Parade* magazine, telling Savant was wrong.

Even with explanations, simulations, and formal proofs, many people still refused to believe the correct answer. Notably, Paul Erdős, one of the most prolific mathematicians in history, remained unconvinced until he was shown a computer simulation that demonstrated Savant's predicted result.



The Monty Hall Problem

Suppose you're on a game show, and you're given the choice of three doors. Behind one door is a car, behind the others, goats. You pick a door, say #1, and the host, who knows what's behind the doors, opens another door, say #3, which has a goat. He says to you, "Do you want to pick door #2?" Is it to your advantage to switch your choice of doors?

