

Changing Minds with Statistics

A famous problem in statistics is the Monty Hall problem.

In it, we have a gameshow, where there are 3 doors. Behind one of the doors is a prize.

A contestant is asked to choose a door.

The host then opens one of the other two doors, revealing that the prize isn't behind it.

The host then asks whether the contestant wishes to stick with the door they initially picked, or switch to the other remaining door.

What would you do?

It turns out that your best option is to switch to the other door - you double your chances of winning by doing so!

One way to see why this is true is to note that if you don't change your mind, there's a 1 in 3 chance of winning as there are 3 doors.

If you do change your mind, then the only way you lose is if the prize is behind the door you first picked (1 in 3). Thus, you must win 2 out of 3 times.