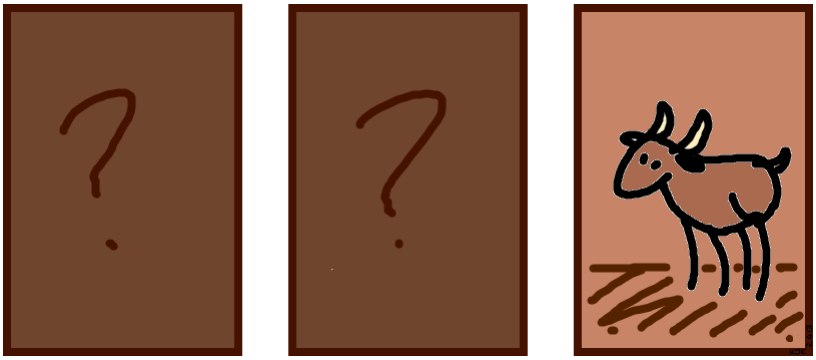
1 Introduction

The Monty Hall Problem is a classic example of probability. Let's say you are on a game show, and you are presented with 3 doors. Behind 1 is a car, and behind the other 2 are goats. Once you've picked one of the doors, the host reveals one of the doors that you did not select, and shows it has a goat behind it. Now all that is left is 1 car and 1 goat, behind either your door or the other. The game show now gives you a choice: you can switch to the other door or stay with your original choice. Now here is the question: Should you stick with your door, switch the door, or does it make no difference?



2 The Answer

1. What do you think you should do?

2. In the beginning, what is the probability of picking the car?

3. In the beginning, what is the probability of picking the goat?

4. After the game show host opens the door with a goat behind it, what is the probability of having a goat behind your door? A car?

5. Does the the probability of you picking either a car or a goat on the first try change if the game show host reveals one of the unpicked doors?

6. What is the probability that the unopened door you did not pick contains a goat? A car?

7. Now that we've gone over the logic, what should you do?