

0 Question: A car is behind 1 of 3 doors, with a goat behind the other two. You choose a door at random. The host opens one of the other doors to reveal a goat. What's the probability of winning if you switch to the unopened door?

A1: Certainly $2/3$

A2: Unsure, but probably between $1/2$ and $2/3$ depending on host policy

Arguments for A1

2 Question: Do we know that the host will open a door?

A1: Yes

A2: Yes

6 Question: If you kept on letting the host pick a door with a goat behind it, then wouldn't the probability of winning when you switched be $2/3$?

A1: Yes

A2: No, because it depends each time on host policy

7 Question: Since the problem states that the other door reveals a goat behind it, isn't it true that you would have a $2/3$ probability of winning by switching?

A1: Yes

A2: Maybe, but it depends on the host policy

Arguments for A2

1 Question: Do we know what the host's policy for selecting the door to open is?

A1: In this situation, yes

A2: No

3 Question: Are two possible valid options for the host policy:

1. The host always picks a door with a goat
2. The host just picks a door at random (and it just so happened to contain a goat this time)

A1: Possibly, but the given situation considers a door with a goat behind.

A2: Yes

4 Question: With policy #1, is the probability of winning by switching $2/3$?

A1: Yes

A2: Yes

5 Question: With policy #2, is the probability of winning by switching $1/2$?

A1: Yes

A2: Yes