

Monty Hall

The host, Monty Hall, offers you a choice of three doors. Behind one is a sports car, but behind the other two are goats.

After you have chosen one door, he reveals one of the other two doors behind which is a goat (he wouldn't reveal a car).

Now he gives you the chance to switch to the other unrevealed door or stay at your initial choice. You will then get what is behind that door.

You cannot hear the goats from behind the doors, or in any way know which door has the prize.

Should you stay, or switch, or doesn't it matter? You must give reasons for your answer



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The Solution ...

Your first choice has a $1/3$ chance of having the car, and that does not change.

The other two doors HAD a combined chance of $2/3$, but now a Goat has been revealed behind one, all the $2/3$ chance is with the other door.

You better switch!

(Unless you really want a goat)