

The proof of the impossibility of changing probabilities in 3 doors 1 prize

3 doors and a stubborn choice gives you $1/3$ winning chances, however, you will point at a losing door $2/3$ of the time since only 2 appear to exist. When the only other losing door is revealed, you change your mind and win the game as you abandon that first losing-choice. Assuming you always change your mind, you jumped in with $2/3$ winning chance and the probabilities never changed.

The following table shows losses when a guess matches the prize door. That's $1/3$ of the time for every column and in total. The only other choice is to win the game for the remaining $2/3$ of the time.

Losing-door to be revealed for every guess in every game

guess	3	2	1	1 or 2
	2	3	1 or 3	1
	1	2 or 3	3	2
		1	2	3
prize door				