Let's Make a Deal (Bonus)

CREDIT: The questions on this document were written by Erik Packard, PhD, Associate Professor of Mathematics at Colorado Mesa University.

- There are 3 doors. Two of the doors have a goat and the other is a brand-new car. The host (Monty Hall) knows what's behind the doors. The contestant first picks a door (which is left closed). Next, Monty reveals a goat (although he doesn't show you what's behind your door). Next, he asks you if you would like to switch doors. (Note that the contestant should not switch to the goat!) When playing the game, you can get 3 playing cards perhaps a pair of deuces for the goats and a nice ace for the car. Have three spots on the table numbered 1, 2, and 3 for the doors. (Don't number the cards as the contestant even if a child will figure it out soon!) You are welcome to turn this assignment in with more than one name as it is much better with a partner.

    1. Using just your intuition, what do you think is the best strategy?

        A) Switch B) Stay C) It Doesn't Matter

    2. Play the game 25 times and always stay (it's easier with a partner). Estimate the probability of winning of winning if you stay. The answer will be how many times you win out of 25.

    3. Play the game 25 times and always switch (it's easier with a partner). Estimate the probability of winning if you switch. The answer will be how many times you win out of 25.

    4. Using the results from the second and third parts, what do you think is the best strategy?

        A) Switch B) Stay C) It Doesn't Matter