

Guess the Toss

Question: A and B are in a team called AB , playing against C . If AB team wins it gets \$3, nothing otherwise.

Game is: A and B are placed in 2 separate rooms far away. A will toss a coin and B will also toss a coin; A will have to guess outcome of B 's toss and B will guess A 's. If both guesses are right, team AB wins \$3, nothing otherwise. Should they play the game, by giving \$1 in start to C .

Solution: Outcomes of each game: HH, HT, TH, TT .

Note if A and B speak their own coins' faces as guesses of the others'. Then $P(AB \text{ wins}) = 1/2$.

And the average gain $E = 3/2 - 1 = 1/2 > 0$. So they should play.