

The card game of solitaire was played 500 times so that the probability of winning could be estimated. Among the 500 trials, the game was won 77 times. Based on these results, find the odds against winning. Estimate the probability of winning of the next game?

$$\text{Probability} = \frac{\text{total ways a specific outcome will happen}}{\text{total number of possible outcomes}}$$

A specific outcome in our case is winning. Total ways of winning equals 77, and total number of playing equals 500, so

$$\text{Probability} = \frac{77}{500}$$

Odds equal *(total number of winning):(total number of no winning)* = 77:(500 – 77) = 77:423

Answer: odds - 77: 423, probability - $\frac{77}{500}$