

Do you feel lucky?

Some people offer advice on how to win at games of chance, or how to influence probability in your favour for an easier, happier life. For each statement below, decide whether you think it is good advice, and use your mathematical understanding to justify your decisions.

Lottery advice:

Roughly equal numbers of odd and even are drawn most weeks, so you should pick a good mixture of odds and evens.

Choose six numbers with a total between 100 and 200, because the total is rarely outside this range.

Never choose six numbers all from the same group - for example, all single digits, all multiples of five, all with the same last digit...

Always pick some higher numbers from the 30s and 40s.

Coin Flipping:

If tails has come up on the last 9 occasions then it's a good idea to call tails again.

Winning at Roulette:

If red has come up lots of times in a row, you should bet on black next.

Snakes on a plane:

When you're flying, always take a pet snake with you in your hand luggage. The probability of there being TWO snakes on the plane is almost zero, so you will be safe from snake attack.

Staying dry at the cricket match:

Follow the example of the famous mathematician Hardy and take an umbrella with you to cricket matches. If you forget your umbrella it is more likely to rain, so if you remember to take it with you it is more likely to be sunny all day.