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Math-based approach to win slot games

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Maths might not be the first thing you think of when you want to play online slots. After all, apart from knowing how much money you have to spend and what your total budget is, where does maths even feature?

The truth is, maths plays a big part on [slots site](#) games, and if you want to have more of a chance of winning, understanding that maths is crucial. It will help you to choose the best game to play, thus giving you the best odds of winning. It's not guaranteed, of course, but by picking the right game you can up your chances of coming away with a profit. Read on to find out how maths and slot games go together.

The Mathematics of Slots

Slots work using a random number generator (RNG) system. The way these RNGs themselves work revolves around mathematical formulas which combine to give a random number each time the play button is pressed. This number will correspond to the symbols on the slot, and so the machine or the online slot if you're playing at an internet casino will then place those symbols in the order that the number tells them to.

Sometimes this will result in a winning combination, but because there are fewer winning combinations than there are losing ones, it is more likely that the random number will place the slots in a way that means you don't make a return.

Calculating Probabilities

Because the numbers generated are always going to be random, it is impossible to be able to predict exactly when a winning combination of symbols will appear. The next best thing, however, is calculating the possibilities of this happening.

If you are trying to calculate the possibility of winning on a specific slot game, you need to know which the probability of landing a winning selection of symbols, and what they pay when they are triggered. This latter piece of information should be listed in the game's pay table, but the first part is much more difficult to determine – how can you work out how likely it is that a combination will land?

It's easier than it seems. If the game has three reels and each reel contains five symbols, you would need to multiply the number of symbols on each reel by the reel's number of stops. In this case, it

would be $5 \times 5 \times 5$ which gives you 125. So there are 125 different ways to win. To work out the probability of winning, you need to know how many winning symbols are on each reel. So, if three rainbows was a winning combination, and there is one rainbow on each reel, you would calculate $1/5 \times 1/5 \times 1/5$ which gives you a very tiny 0.008 percent chance of winning.

Can It Really Be Done?

This is all well and good in theory, but can it really be done? The answer is both yes and no. On older machines that have a smaller number of symbols per reel and a lower number of winning combinations, it is possible. It will take a long time, but it can be done.

On more modern games, particularly online slots, it is next to impossible. There are just too many combinations to deal with. In this case, you are better off checking the RTP (return to player) percentage of each game and determining whether you're happy to play or not.

Photo:  **Chris Liverani**

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