



# IMPORTANCE OF MATH IN POKER LECTURE

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# THE EVOLUTION OF POKER

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Poker has greatly evolved over the years, from a game of street-smarts, reads and tells, to a game heavily entrenched in game theory and mathematics.



Unfortunately, math still tends to be the red-headed stepchild to tells and reads in poker when it's arguably just as important, if not more so, than reads and tells.



# CHANGING OF THE GUARD

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# DOYLE BRUNSON

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In his seminal work, *Super System*,  
which was originally published in  
1979



**Poker is a game of  
people...that's what poker's  
all about.**

- Doyle Brunson

Arguably one of the greatest  
poker players of his time,  
Brunson emerged in an era  
where poker was a game of  
street-smarts, intuition, reads  
and tells.

In 1979, Brunson had already  
amassed over one million in  
winnings by the practice of  
“playing the player,” or what we  
commonly refer to today as  
“exploitative poker”; in which  
players seek holes in their  
opponents’ games and exploit  
them through tells, tendencies,  
and general weaknesses.

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# LIV BOEREE

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We can contrast Brunson's style of play with one of the world's former top female poker players, Liv Boeree. Boeree – an astrophysicist and Team PokerStars Pro, until her retirement in 2019 from professional poker, earned close to four million in live earnings, according to the Hendon Mob Poker Index, played a modern style of poker based on game theory mathematics.

In a presentation to The Oxford Union Society in 2016 entitled The Science Behind Poker, Boeree explained the two primary aspects of the game:

*"The game is actually very different to how it used to be 10 years ago. Back then, most of the players that were very good were playing the game based on street smarts that they had gained from years and years of experience at the tables. Nowadays, the best players are the ones that are taking a very analytical approach, using mathematical analysis and practical application of a branch of mathematics called game theory."*





# DANIEL NEGREANU

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In his 2016 documentary film, *KidPoker*, Daniel Negreanu, who has earned over \$50 million in live earnings and is currently third on the all-time money list, explains how online poker has changed the game and how he had to re-learn modern theory and strategy:

*“I’m proud of the fact that I’ve been able to put up winning years every year despite the game evolving and changing. Online poker has changed the game immensely, all of the sudden a lot of players got really, really good. What I found fun was just focusing on the fundamentals and the math and the stats and the numbers because I’ve always been a numbers geek. I decided to relearn a lot of the stuff that these kids are learning and adjust.”*





# DRIVING FORCE IN POKER'S EVOLUTION

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- The advent and proliferation of online poker, along with a plethora of poker software and tools, has been the driving force behind the evolution of poker.
- As online poker emerged, software to help assist online poker players emerged as well.
- These software tools brought with them the ability to better understand the statistical and mathematical aspects of the game. This led to a greater focus on game theory.



A wide array of software tools exist, such as:

- Artificial Intelligence-Based Training Software
- Equity and Range Analysis Software
- Tournament Independent Chip Model (ICM) Software Trainers
- Game Theory Optimal (GTO) Software Trainers
- Poker Tracking Software
- Heads Up Displays (HUDs)



# THE THREE ASPECTS OF POKER

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