Introduction to the Theory & Practice of Poker

Lecture #9 January 24, 2020

JHU Poker club

- Facebook page
 - Search for JHU Poker Club
- Monthly tournaments
 - Last semester first place was \$100 and no buy-in
- Welcoming people of all skill levels
- Great place to improve poker skill & socialize with other JHU students
- See Danny Blessing for more info



Awards

Live game winner

- Andrew King
- Finished with 570,000 chips



Tuesday satellite winner

• Sidney Thybulle

Wednesday Satellite winner

• Shehrya Haris

Cash games winner

• Lukas Sznewajs – 1,800,000 in cash winnings

Live tourney results

Final table



Other notable results

- Last Rubin standing
 - Elana comes in at #11
- Bruno Lanca
 - 6th in Wednesday satellite
 - 5th in Live game last night
- Matthew Shneyderman
 - 4th place came in as alternate
- Nick Parente
 - 3rd place
- Eda Incekara
 - Edited all the videos that are online
 - 2nd place



Amber knocks out Professor at #17



An actual hand

I played at Maryland Live Jan 3, 2020 Interesting turn decision

Incorporates many of the lessons in this course

- \$2 \$5 Game at Maryland Live
- I have \$800 in my stack
- Villain (V) has me covered. He's a local pro very good player
- Table is pretty aggressive and very strong
 - At least 3 pros who I know
- I'm in the big blind with 🎏 🚉



- V in middle position makes it \$15
- Two callers, and it comes to me in the big blind
 - I will close the action
- What do I do?
- Consideration:
 - There is \$62 in the pot. I'm already in for \$5
 - My pot odds are ridiculous: 12-1
 - I should call with almost any hand
 - And my hand plays well multi-way

- I call \$15
- Pot is now \$71 (with \$5 rake + \$1 jackpot)
- Five players see the flop:
- I check to the raiser
 - Pretty sure he will bet
- Initial raiser, V, bets \$65
- It folds to me
- I have an open ended straight draw and a flush draw
 - NOT FOLDING
- What do I do?
- Considerations:
 - What does he have?
 - He bet almost pot into 4 other players
 - That's not a good time to bluff
 - He could have AQ, Q9, also a flush draw, an over-pair (KK, AA)

My hand:



Pre-flop pot: \$71

Considerations

- What are my pot odds?
 135 65 so, approx 2-1
- What's my equity against his possible holdings?
- Most likely, I have 14 outs
 - Pretty much never fold on the flop with 14 outs
- If he has AQ, I'm 56% to win, 44% to lose
 - I'm actually ahead
- If he has Q9
 - I'm 48% to win, he's 52%
 - I have pot odds to call, getting 2-1 and being even money to win
- If he has KK or AA
 - We are about even odds
- If he has a set of 5s
 - He is 60%, and I'm 40% still have odds to call
- Summary: I am never folding
- So, what do I do? Call or raise?





Flop:



Pot: \$135

Facing bet: \$65

Considerations

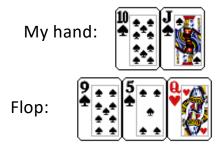
- Call or raise?
- I'm out of position
- If I call, I will miss my draw on the turn around 70% of the time
- If he has a made hand, he will bet turn
 - on such a wet board
 - I will have a tough decision
 - I may no longer have odds to call a big bet on the turn
- Since calling is not a good option
 - I raise!
- How much to raise?
- Let's look at 3 options
 - Raise to 3x his bet or \$195 (about a pot sized raise)
 - Raise to 2x his bet or \$130
 - All in



Pot: \$135

Facing bet: \$65

- Raise to 3x his bet or \$195 (about a pot sized raise)
- If I raise to \$195
 - There will be \$395 in the pot
 - I will have (effective stacks) \$590 left
- What do I do if he ships it?
 - Obviously, I will call
 - I'm most likely a favorite here
 - And I have the pot odds no matter what
 - E.g. I make it \$195 and he shoves,
 - I have to call \$590 to win \$1,375, or 2.3 1 odds
 - Easy call
- What do I do if he calls?
 - If I miss the turn, I will have a tough decision
 - He's obviously got something at this point
 - He might be way ahead on a blank turn
 - And I'm not sure I'll be able to bluff him off the hand
- Really, I'm hoping he just folds



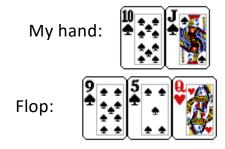
Facing bet: \$65

- Raise to 2x his bet or \$130
- If I raise to \$130
 - There will be \$330 in the pot
 - I will have (effective stacks) \$655 left
- What do I do if he ships it?
 - Same logic as before
 - And I have the pot odds no matter what
 - I will still be getting better than even odds and most likely ahead
- What do I do if he calls?
 - Same logic, I'm not really happy if I miss the turn
- Really, I'm hoping he just folds
- So, any advantage to betting 2x or 3x the pot?
 - I think he's more likely to fold a hand like AQ to the bigger bet



Facing bet: \$65

- What if I go all in?
- I'd be calling the \$65
 - And the putting in another \$720
 - Into a pot of \$265
- This is too much of an overbet
 - Not realizing the value I have in the hand
- What I actually did:
- I raised to \$165 (between 2x and 3x his bet)
- He calls, and pot is now \$465
 - I have \$620 left



Facing bet: \$65

- Consideration at this point
 - I don't love this spot
 - Out of position
 - Big draw
 - I'm over 50% to hit my draw by the end
 - But 28% to hit my draw on the next card
 - A blank turn will be difficult
 - If I hit my spade, it's not the nuts
 - Best possible card for me is a non-spade 8 or K
 - I prefer the K in case he has KQ of spades
 - He will improve his hand and might call me

• Turn card:



- Yuk
- What do I do?



Pot: \$465

- What do I do?
- Options:
 - Check or Bet
 - If I bet, how much?
- Consideration:
 - If I check, he may bet
 - What do I do if he bets big?
 - With one card to come, he can deny me the odds to call
 - I may have to fold with so much equity
 - Is it possible he will check back?
 - Unlikely given that he's a strong player and my check is very weak
 - After all, would I really check two pair or a set on this wet board?
 - What hand should I represent?
 - I'm on a big draw, if I play it like a draw, he could shove, and I won't have odds to call
 - What do I think he has?
 - Since I'm out of position, I have no new information same assumption as before
 - He clearly has something because of the flop call

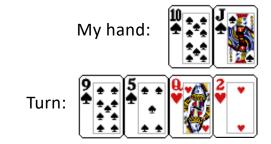


- Checking seems like a bad option
- How much to bet?
 - Let's consider:
 - \$175 (blocking bet)
 - \$400
 - All In
- Say I bet \$175
 - What do I do if he calls, and I whiff the river?
 - Do I take another stab? It's getting expensive, and he has something he likes
 - · Too much in the pot at that point to expect him to fold
 - I pretty much have to give up if I miss the river
 - What do I do if he shoves?
 - At that point, I have to call \$445 with \$1,260 in the pot.
 - Pot odds will be 2.8 1
 - My odds against hitting flush or straight are 3.2 1
 - And there's a chance he has a bigger flush draw (e.g. AQ of spades or AK of spades)
 - So I have to fold horrible result



• Say I bet \$400

- What do I do if he calls, and I whiff the river?
 - I have \$620, I am telling him that I am putting all my chips in
 - I can safely check-fold the river if I miss
 - His call on the turn means I'm dead if I miss
 - I will save \$220
- What do I do if he shoves?
 - If he shoves, now I'm easily getting a price to snap call
 - This is the main reason to bet big
 - It is now "correct" to call
 - Pot will have \$1,265, It will cost me \$220 to call
 - Pot odds: 5.75 1
 - Never fold
- So, 28% of the time, I'll hit and probably win
- And 72% of the time, I'll miss and lose
- And don't forget, sometimes he'll fold to my \$400



Pot: \$465

- Say I go All In
 - Applies maximum pressure
 - He'll probably fold out hands like AQ
 - He'll probably fold any draws
 - If he calls, I still have 28% to hit my draw
 - And probably win



- So which option is best?
 - Check
 - Bet \$175
 - Bet \$400
 - Shove all in for \$620?
- In hindsight, I like the \$400 bet
- At the time, I did not think it through this well
 - I bet \$175
 - He called
 - I barfed
- River card:



• What do I do?



Pot: \$465

- What do I do?
- Is there any chance my pair of jacks is good?
 - I didn't think so
- Can I bluff him off the hand?
- My all in bet is half the pot
- At this point, I'm putting his range more on made hands than missed draws
- I don't think he'll fold
- What if I check?
 - If he bets, I have to fold I'm pretty sure I'm beat
 - If I check, what does he put me on?
 - I called pre-flop, check-raised the flop, bet the turn
 - Seems like a set or a big combo draw
 - He might be confused by my small bet on the turn
 - Is there any chance he will check back a made hand?
 - Most likely he'll check back unless he has a set or better

My hand:



Board:



Pot: \$815

- I check
- He thinks for a while
- I'm pretty sure he's going to shove
 - And I will fold having lost half my stack
- He checks
- I show my hand
- He mucks his cards and says, "nice hand"
- I scoop the pot
- I misplayed the turn. In hindsight, I think he had AK of spades. I can't think of any other hand that plays this way and still loses
 - Any Q beats me, and no other combo draws make sense, given my cards
 - AK of spades fits his betting on each street
 - Raise pre-flop, bet-call on the flop with a nut flush draw and overcards, call smallish turn bet, check river when you're beat and missed
- After this, I took a break and went for a walk
 - These hands are not good for my heart

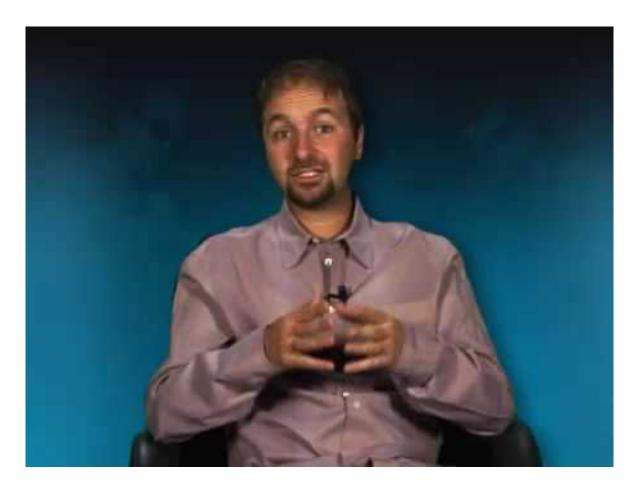


Board:



Pot: \$815

Daniel Negreanu on hand reading



River play

River is most important street

- Bets are the largest
- Mistake pre-flop can cost you a few BB
 - Mistake on the river can cost your stack
- More information is available than other streets
- Hand outcome is determined no more "outs"
- Five categories of hands
 - You have the nuts
 - You have a very strong hand, but not the nuts
 - You have a good hand, given the board and the betting action
 - You have a hand with some value
 - You have nothing



You have the nuts



- With little information on the opponent, generally you want to shove all in.
- Example:
 - You think your opponent has a decent hand, based on the action
 - His River Profile
 - 20% will call any bet
 - 30% will call pot sized bet
 - 20% of the time will call up to 70% of the pot
 - 30% will fold to any bet (maybe he was bluffing or not as strong as he looked)

You have the nuts

- Against this River Profile
- Say pot is \$500 with \$2,000 effective stack
 - If we bet half pot (\$250) and he calls 70% of the time, we make \$175
 - If we bet pot (\$500) and he calls %50 of the time, we make \$250
 - If we push all in (\$2,000), and he calls 20% of the time, we make \$400
- The amount you make when he calls overshadows likelihood of him calling
- And all-in overbet sometimes looks like a bluff
- This example had 4-1 stack to pot ratio
 - With smaller ratio, chances of all-in being called goes up



With the nuts

- Can't always shove the nuts need some variation
- Possible strategy with the nuts on the river, out of position
 - Push all-in 40%
 - Bet the pot 20%
 - Bet ¾ of the pot 15%
 - Bet half the pot 10%
 - Bet 1/3 of the pot 10%
 - Check 5%
- The fact that you will occasionally check the nuts on the flop
 - Provides cover for when you check a weak hand



With the nuts in position

- Opponent acts first and bets pot
 - Raise all in 70%
 - Raise the pot 30%
- Opponent acts first and checks
 - Push all in 20%
 - Bet the pot 20%
 - Bet ¾ of the pot 20%
 - Bet half the pot 30%
 - Bet 1/3 of the pot 10%
- Obviously, never check the nuts in position
 - In a tournament that carries a penalty



Good hand given board and betting action

- One of the most expensive errors made by beginners
 - Failure to value bet good (non-nut) hands on the river
 - Fear of getting re-raised
 - Worry that no worse hand will call
- Need to learn to bet for "thin value"
- E.g. you have two pair, but a flush came runner-runner
 - He probably does not have the flush
 - Assess how likely he would be to bluff-raise a thin value bet
 - How many hands that he could have
 - Are worse than yours
 - Are likely to call you, given this player and the action

On the river with no hand

- You need to decide whether to bluff
- General rules
 - Don't bluff a calling station
 - Don't bluff someone who has shown great strength in the hand
 - Don't bluff if your story is not consistent
 - What hand does your series of bets represent?
 - Bluff players who have shown some weakness
 - Bluff if a plausible scare card arrives on the river
 - · Cards that fill a straight or a flush, or even an A
 - Bluff if you miss your draw with low cards
 - Low cards can't win a showdown
 - Caution, bluffing missed draws is sometimes obvious to good players

A hand between two pros

Demonstrating no hand on the river

Jennifer Tilly

- Oscar nominated actress
 - Bullets Over Broadway, 1994
 - Regular spot on Family Guy
 - (voice of Bonnie Swanson)
- Partner of poker pro Phil Laak since 2004
- Won WSOP bracelet in 2005
 - Won the ladies event with 600 players
 - Prize: \$158,625
- Regular on Poker After Dark
- Many other great poker results





Dan Shak

- Established successful hedge fund
- Became poker pro in 2004
- Live tournament winnings exceed \$7.4M
 - \$709,290 winnings at WSOP
- Won \$1,107,553 at Aussie Millions event in 2010
- In 2013, won the \$125k buy-in Party Poker London for \$528,000
- Considers poker a "hobby"
- Very pleasant, fun guy to be around



Example hand – a river bluff & a sick read



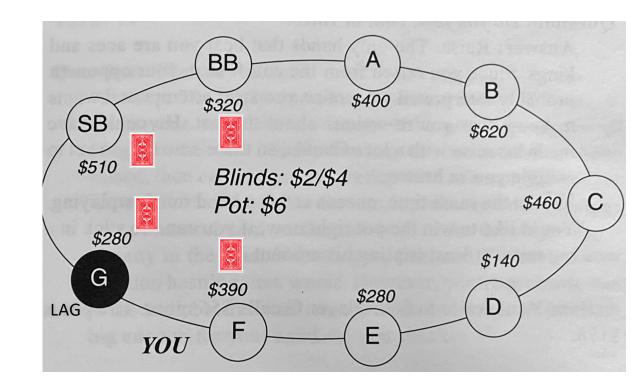
Hand example

River play

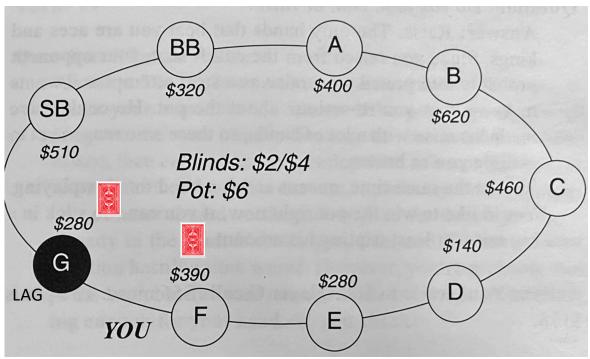
• Your hand:



- Game is fairly tight
- Players A-E Fold
- What do you do?
- Considerations:
 - QQ is a strong hand
 - Do not want to slow play
 - Stacks are not shallow
 - With a LAG behind
 - Hope to get action
- You raise to \$12
- Player G re-raises to \$24
- The blinds fold. The pot is now \$42
- What do you do?



- Player G re-raises to \$24
- What do you do?
- Considerations:
 - There are only 2 hands that
 - Beat you, KK & AA
 - He has position on you
 - You want to take this down
 - As quickly as possible
 - Before an overcard comes
 - You should raise 3x his bet
- You re-raise to \$80
- Player G calls \$56 more
- Pot is now \$178



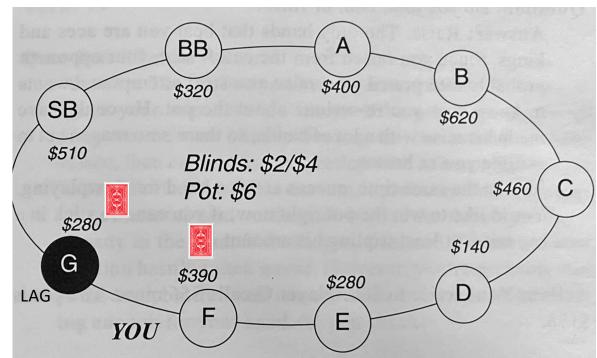
Your hand:



• Flop:



- What do you do?
- Considerations:
 - Not a bad flop
 - · Only one overcard
 - You have 2nd nut flush draw
 - If opponent holds an A
 - The A of clubs won't beat you
 - Only 3 aces would be of concern
 - · On the river
 - Not much value in betting with K on the board
 - A check can induce bluffs from worse hands
- You check. He bets \$72
- What do you do?



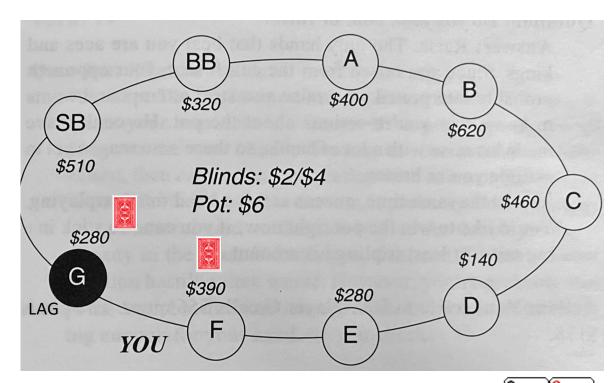
Your hand:



- You check. He bets \$72
- What do you do?
- Considerations:
 - You are not folding!
 - Pot odds 3.5 1
 - · Second nut flush draw & pair
 - Any value in raising?
 - No value with
 - an overcard on board
 - · Worse hands not likely calling
 - Better hands not folding
- You call \$72
- Pot is now \$322. G's stack is now \$128
- Turn card is 👯 👯



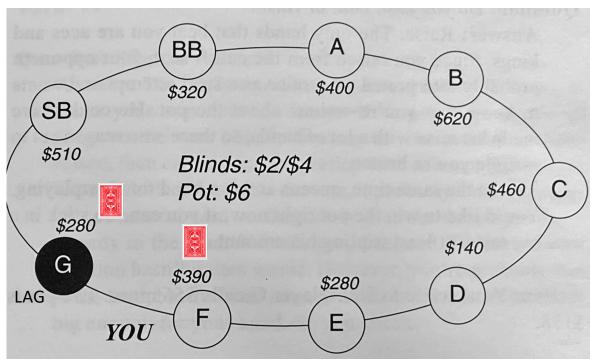
What do you do?





- Considerations:
 - Ten likely did not change leader
 - If you were ahead on flop
 - You're still likely ahead on turn
 - Likely he didn't raise & call reraise
 With AT, JT or worse pre-flop
 - If you were behind on flop
 - You're still behind
 - So this is a neutral turn card
 - No reason to bet
- You check
- Player G checks
- River card is:

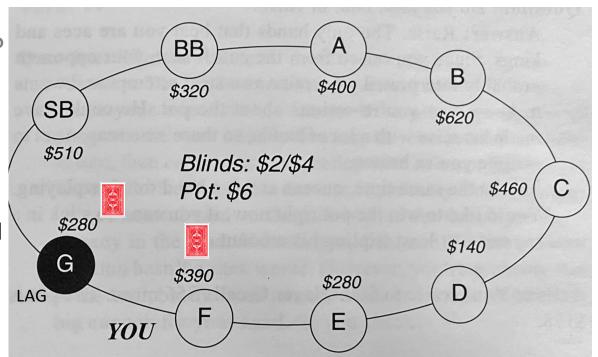






• What did his turn check mean? What do you do now?

- What did his turn check mean?
- What do you do now?
- Considerations:
 - His check on turn indicated that he is weak
 - He is not checking a strong hand
 - He would shove \$128 more in
 - To prevent us folding if a cooler came on the river
 - We now have 2nd nut flush
 - Not going to worry about the ace of clubs
 - If he has it, he has it, does not fit his play on turn
 - We have two choices
 - Check, hoping to induce a bluff
 - Bet, hoping he has a club and can call
 - THIS IS A VERY IMPORTANT DECISION And it COMES UP OFTEN!



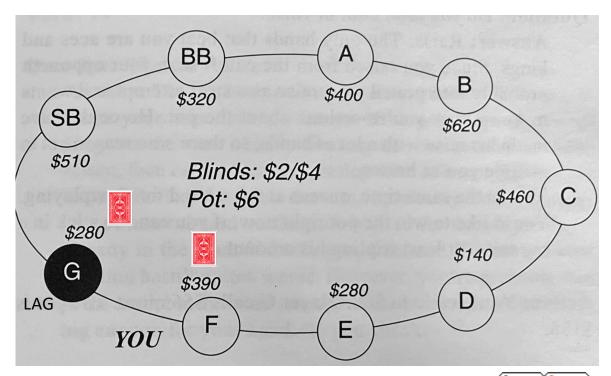








- We need to figure out which choice is best
- Three categories of hands in his range
 - One club
 (two would have bet turn)
 - Decent hand like one pair
 - E.g. JJ or 99
 - AA or KK would have shoved turn
 - Squadoosh
 - He may decide to bluff
- So, let's figure out how likely each category is



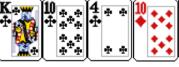


- So, let's figure out how likely each category is
- The chance of being dealt a hand with no clubs
 - 56% = (39/52) x (38/51)
 39 non-clubs out of 52 cards
 38 non-clubs out of 51 cards
 Multiply for joint probability
- The chance of being dealt exactly 2 clubs
 - 6% = (13/52) x (12/51)
 13 clubs out of 52
 12 clubs out of 51
 Multiply for joint probability
- To calculate probability of being dealt exactly one club
 - Subtract prob(no clubs) and prob(two clubs) from 1 38% = 1 .06 .56
- So, if you deal 2 random cards from a deck
 - 38% of the time, you'll have exactly one club
 - (nothing to do with how the hand was played or other information)

Your hand:



Board:



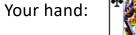
Pot: \$322

Category I: 1 club

Category III: medium pair

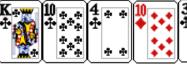
Category III: nothing

- 38% of the time, you'll have exactly one club
- We know that 5 clubs are accounted for
 - Reduces probability of exactly one club to 33%
- Player G bet the flop & stopped betting on the turn
 - No real information about whether he has club
 - · Might be more likely to bet with a club
 - But monotone boards are good for bluffing
 - So these two facts cancel out
 - So, let's keep 33% as chance he has exactly one club
- So category I is 33%
 - Leaving 67% for the other two categories
- Given the amount of betting
 - More likely that he has something than nothing
 - But G is a LAG, so not too much more likely
 - So, we assign
 - Category II 40%
 - Category III 27%





Board:



Pot: \$322

Category I: 1 club

Category II: medium pair

Category III: nothing

- Within each category, how would G respond
 - Bet or check
- Category I (one club, not ace of clubs)
 - If we bet, he'll be getting 3.5 1 pot odds
 - · He can't fold a flush with those odds
 - If we check
 - He might check behind with a low club
 - He might push all in, and we'll call
 - Estimate: check 60%, call 40%
- Category II (medium pair, such as JJ or 99)
 - If we check, he'll check
 - · Not going to bet at that board with small value hand
 - If we bet, he'll fold
- Category III (nothing)
 - If we bet, he'll fold
 - If we check, he might bluff
 - Estimate: 25% bluff, 75% check



33% Category I: 1 club

40% Category II: medium pair

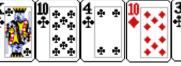
27% Category III: nothing

- Now we can do the calculations
 - If money goes in, our profit is \$128
 - If money doesn't go in, our profit is zero
 - Because we already will win the \$322
- If we bet
 - 33% of the time, we're in category I
 - He has a club, but not the ace, and he calls
 - We win \$128
 - Weighted profit is \$42.24 = .33 x \$128
 - 40% of the time, we're in category II
 - He has a hand with no club, and he folds
 - Our weighted profit is $$0 = .4 \times 0
 - 27% of the time, we're in category III
 - He has nothing, and he folds
 - Our weighted profit is $$0 = .4 \times 0
 - Total weighted profit if we bet is \$42.24









33% Category I: 1 club

40% Category II: medium pair

27% Category III: nothing

• If we check:

- 33% of the time, we're in category I
 - He checks 60% & bets 40%
 - We make nothing when he checks
 - When he bets, we make:
 - $$16.90 = .33 \times .4 \times 128
- 40% of the time, we're in category II
 - He checks
 - We make \$0
- 27% of the time, we're in category III
 - He checks 75% of the time
 - He bets 25% of the time
 - Our weighted profit is:
 - $$8.64 = .27 \times .25 \times 128
- Total weighted profit is \$25.54 = \$16.90 + \$8.64
- We make \$16.70 more when we bet than when we check

Your hand:







Pot: \$322

33% Category I: 1 club

40% Category II: medium pair

27% Category III: nothing

Profit if we bet: \$42.24



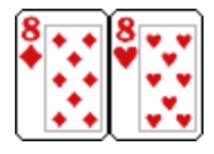
Lessons

If you have the nuts or close, out of position, checking to induce a bluff on the river is

- Common
- Very Overrated
- You are almost always better off putting the chips in yourself
- Final note:
 - Checking always results in a showdown
 - Betting often results in no showdown
 - All other things being equal, decide if you want to show the hand down or not based on image you want to project
 - It's almost always better not to show another reason for betting

Some famous HoldEm hand names

Snowmen



Flat Tire

• What's a:



Ace Magnets

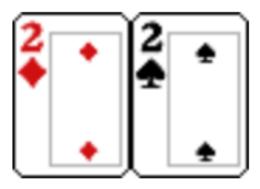


Also known as cowboys

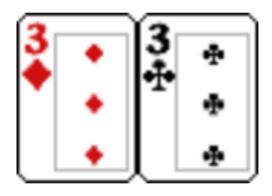
Pocket Rockets



Ducks



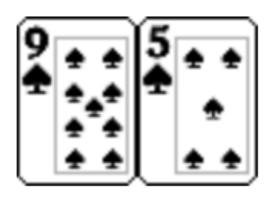
Crabs



Ladies



Dolly Parton





Fish Hooks



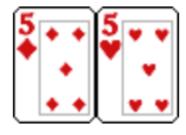
Big Slick



Little Slick



Speed Limit



Mom & Dad



Computer Hand



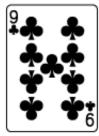
Jeffery Dahmer

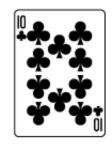


Golf bag







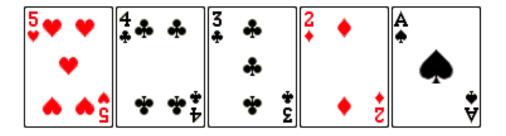




Broadway

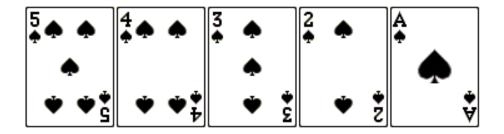


The Wheel





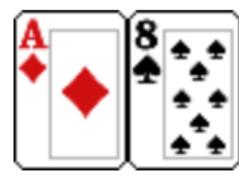
Steel Wheel





Dead Man's Hand

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Dead man's hand

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For other uses, see Dead man's hand (disambiguation).

"Aces and eights" redirects here. For other uses, see Aces and eights (disambiguation).

The makeup of poker's **dead man's hand** has varied through the years. Currently, it is described as a two-pair poker hand consisting of the black aces and black eights. These, and an unknown hole card, were reportedly held by Old West folk hero, lawman, and gunfighter Wild Bill Hickok when he was murdered while playing a game. No contemporaneous source records the exact cards he held when killed. Frank Wilstach's 1926 book, *Wild Bill Hickok: The Prince of Pistoleers*, led to the popular modern conception of the poker hand's contents.



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A Dog of a Hand



Jackson Five





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