

COMBOS, BLOCKERS, SHOWDOWN, AND THE EXTRA CHIPS

Count the Deck

Level 1 gave you the words and the rankings. Level 2 gave you the ranges. This level is about counting — the fifth card that decides a showdown, the 1,326 hands and how your two cards change what's left, and the antes and straddles that change what a big blind even means. Every mix in the solver, every "why does it 3-bet A5s and not KJo," every live game that plays nothing like the trainer: it all comes back to counting the deck.

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Best five of seven

There is exactly one rule at showdown, and half the misreads at a live table come from forgetting it.

You have seven cards: two in your hand, five on the board. Your hand is the **best five of those seven**. Not "my two cards plus the board." Not "whatever I've got." Five cards, chosen from seven, and the other two do not exist. The same rule applies to everyone, which means the board can be part of your hand, all of your hand, or none of it.

Three consequences follow, and every showdown trap in Part 3 is one of them in disguise.

Consequence 1 — the kicker is a real card

When two players hold the same category and the same made hand, the fifth card decides. It is called the kicker, but it is not a tiebreaker in the abstract: it is the actual fifth card of your best five. If the board holds a higher fifth card than the one in your hand, the board's card plays and yours is dead.

BOARD	K♠ Q♦ 7♥ 7♣ 2♠									
YOU	A♠ K♦ → K K 7 7 A									
THEM	K♥ J♣ → K K 7 7 Q – their jack never plays; the board's queen is the better fifth card									
RESULT	You win. Same two pair; the ace is the fifth card.									

Consequence 2 — your hole cards can be worthless

If the board's five cards beat any five that includes yours, you are "playing the board." So is everyone else who can't beat it, and the pot splits. A pocket pair below two pairs on the board is the classic case: it looks like a hand and it is nothing.

BOARD	9♥ 9♦ 5♠ 5♣ A♦									
YOU	7♠ 7♣ → best five is 9 9 5 5 A. The sevens are dead – 9 9 5 5 7 is worse than 9 9 5 5 A.									
THEM	K♠ Q♠ → 9 9 5 5 A. Their king doesn't play either.									
RESULT	Split pot. Both play the board. This is called being <i>counterfeited</i> .									

Consequence 3 — suits never break ties

Two flushes of the same five ranks are the same hand. Two straights to the same card are the same hand. There is no "spades beat hearts." If the five ranks match, it is a split, full stop.

THE HABIT

Before you say what you have, lay out your best five in your head in rank order, highest to lowest. **K K 7 7 A**. Then do the same for the hand you're worried about. Compare left to right, first difference wins. If you do this every time, Part 3 becomes unnecessary — you will never misread a showdown again.

PART 2

What beats what, and by how much

You know the ladder. This is the ladder with the numbers on it, and the rule for comparing two hands on the same rung.

RANK	HAND	FIVE-CARD COMBOS	CHANCE BY THE RIVER (7 CARDS)	SAME RUNG — WHO WINS
1	Royal flush	4	0.003%	Always a split. There is only one per suit.
2	Straight flush	36	0.028%	Highest top card. 5♠4♠3♠2♠A♠ is the lowest (the steel wheel).
3	Four of a kind	624	0.17%	Higher quads. If quads are on the board, the kicker decides — and it's the only time a single hole card wins a quads pot.
4	Full house	3,744	2.6%	The trips part first , then the pair. Jacks full of tens beats tens full of aces.
5	Flush	5,108	3.0%	Highest card, then second, then third — all five compare. A-high beats K-high no matter the rest.
6	Straight	10,200	4.6%	Highest top card. The wheel (A-2-3-4-5) is the lowest straight; the ace plays low in it. No wrap-around: Q-K-A-2-3 is nothing.
7	Three of a kind	54,912	4.8%	Higher trips, then the two kickers.
8	Two pair	123,552	23.5%	Top pair first , then the bottom pair, then the kicker. Aces and twos beats kings and queens.
9	One pair	1,098,240	43.8%	Higher pair, then kickers in order — up to three of them.
10	High card	1,302,540	17.4%	All five cards compare, highest first.

Five-card combos are out of 2,598,960 possible five-card hands. The river column is the chance your best five of seven lands in that category — which is why "two pair or better" happens roughly one hand in three, and why a bare pair is usually the hand at a six-max showdown.

Two hands that look alike and are not

Set vs trips

A set is a pocket pair plus one on the board (7♠7♠ on K-7-2). Trips is a pair on the board plus one in your hand (7♠2♠ on K-7-7). Same rank at showdown — but a set is hidden and a trips board is shared, so when two players both hold trips the kicker decides, and when you hold a set nobody else can hold the same three.

Full house vs full house

Compare the trips first, always. On J♦ J♣ T♠ T♥ 4♠, J♠2♠ makes jacks full of tens; T♦A♠ makes tens full of jacks. Jacks full wins — the ace is irrelevant, it was never part of the five.

PART 3

The traps

Nine showdowns that get misread at live tables every night. Each one is Part 1 applied.

1. The counterfeited pair

Your pocket pair is below two pairs on the board. It doesn't play. You have whatever the board plus your best kicker is — usually the board, usually a split. Covered above; it's first because it's the most common.

2. "I have an ace" on a paired board

BOARD	8♣ 8♦ 8♠ K♥ 3♦
YOU	A♠ 4♠ → 8 8 8 K A. Trips, ace kicker.
THEM	K♣ 2♠ → 8 8 8 K K. Full house.
RESULT	They win. Their king pairs the board; your ace is only a kicker to trips.

3. One card plays the straight

BOARD	6♠ 7♠ 8♦ 9♣ T♦
YOU	J♣ 2♠ → 7 8 9 T J. Jack-high straight.
THEM	A♠ A♦ → 6 7 8 9 T. They play the board's ten-high straight; the aces are dead.
RESULT	You win with the jack. One hole card beats two aces.

4. The wheel is the lowest straight

BOARD	2♠ 3♠ 4♦ 5♥ K♣
YOU	A♦ 9♦ → A 2 3 4 5. Five-high straight — the wheel.
THEM	6♣ 6♦ → 2 3 4 5 6. Six-high straight.
RESULT	They win. The ace is low in the wheel; six-high beats five-high.

5. Quads on the board — the kicker is the whole hand

BOARD 5♦ 5♣ 5♠ 5♥ 8♦
YOU A♣ 2♣ → 5 5 5 5 A.
THEM K♠ Q♠ → 5 5 5 5 K.
RESULT You win. Anyone without an ace is drawing dead to a split; anyone with one is unbeatable.

6. The nut flush that isn't the nuts

BOARD Q♠ J♠ T♠ 4♦ 4♣
YOU A♠ 5♠ → A-high flush. The "nut flush."
THEM K♠ 9♠ → K Q J T 9 of spades. Straight flush.
RESULT They win. On a board with three connected suited cards, the nut flush is not the nuts. A♠K♠ would have been — a royal.

7. Full house under quads

BOARD A♣ A♦ 7♠ 7♦ 3♥
YOU A♥ 2♥ → A A A 7 7. Aces full — top full house.
THEM 7♣ 7♥ → 7 7 7 7 A. Quads.
RESULT They win. The top full house on a double-paired board loses to either set of quads. Bet it; don't stack off with it.

8. Two pair with a higher pair on the board

BOARD K♠ K♥ 9♦ 4♣ 2♠
YOU 9♣ 4♦ → you flopped "two pair," 9s and 4s. Your best five is K K 9 9 4. Kings and nines.
THEM Q♣ 2♦ → K K 2 2 Q. Kings and deuces.
RESULT You win — but notice your four never played. Against K♦ 5♦ you lose to trips. "Two pair" on a paired board is one pair plus the board's pair.

9. Flush vs flush — every card counts

BOARD A♥ K♥ 9♥ 4♣ 2♥
YOU Q♥ J♠ → A K Q 9 2 of hearts.
THEM 3♥ 3♦ → A K 9 3 2 of hearts.
RESULT You win. Both have "the ace-high flush." Both aces are the board's; the third card breaks it — Q over 3. The nut flush here is the Q♥: the A♥ and K♥ are on the board, so the queen is the highest heart a player can hold.

PART 4

Finding the nuts in three seconds

"The nuts" is the best possible hand given the board. It changes on every street. Read it the same way every time, and you will never pay off a hand you could have seen coming.

Run down the ladder from the top and stop at the first rung the board allows. Each rung has a one-glance test:

RUNG	POSSIBLE WHEN...	THEN THE NUTS IS
Straight flush	three cards of one suit within five ranks of each other	the highest straight flush that uses three board cards
Quads	the board is paired	the pocket pair matching the board pair — or, if the board has trips, the case card
Full house	the board is paired	top set full of the pair — e.g. on K-K-9, K x is only trips; 9 9 is nines full of kings; K 9 is kings full
Flush	three cards of one suit	the highest card of that suit <i>not on the board</i> , plus any other
Straight	three cards within five ranks	the highest straight that uses three board cards — check the top end first, then whether an ace can play high
Set	always, on an unpaired rainbow board with no three-in-five	top set

WORKED — FLOP

Q♠ 9♠ 4♦. No three of a suit, no three within five (Q-9-4 spans eight). Nuts: **top set**, **Q Q**. Second nut: **9 9**.

WORKED — TURN

Turn **J♠** → board **Q♠ 9♠ 4♦ J♠**. Three spades within five ranks (Q J 9) → straight flush possible with **K♠ T♠** or **T♠ 8♠**. Nuts: **K♠T♠**. Behind it: **T♠8♠**, then the **A♠**-high flush, then the straight K-T ... the set of queens is now fifth.

THE TELL IN YOUR OWN GAME

May's drills showed you know the right action ~90% of the time. The 10% you miss leans passive: checking when the solver bets. One cause is fear of a hand you haven't actually counted. If you can name the nuts and the second nuts before you act, you will bet the hands that are ahead of everything real.

PART 5

Combos — counting the 1,326

A range is not a list of hands. It is a number of combinations, and the number is what pot odds and blockers act on.

There are 1,326 possible two-card hands. They come in three shapes, and every counting problem in poker starts here:

Pocket pair · 6 combos Four suits, choose two: A♠A♥ A♠A♦ A♠A♣ A♥A♦ A♥A♣ A♦A♣. Thirteen pairs × 6 = 78.	Suited · 4 combos One per suit: A♠K♠ A♥K♥ A♦K♦ A♣K♣. 78 suited hands × 4 = 312.	Offsuit · 12 combos Four suits for the first card × three for the second. 78 offsuit hands × 12 = 936.	Any unpaired hand · 16 4 suited + 12 offsuit. "AK" is 16 combos. "AKs" is 4. 78 + 312 + 936 = 1,326.
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Reading a range as combos

A 4-bet range of "QQ+ AK" sounds like four hands. It is $6 + 6 + 6 + 16 = 34$ combos, and 16 of them — nearly half — are the unpaired one. That is why AK dominates what a tight range "is," and why holding an ace or a king changes it so much (Part 6).

- TT+ 5 pairs $\times 6 = 30$ combos
- AQ+ AK 16 + AQ 16 = 32
- A5s–A2s 4 hands $\times 4 = 16$
- "BTN opens 45%" $\approx 0.45 \times 1,326 \approx 600$ combos

Card removal — the board and your hand shrink the deck

Every card you can see is a card they cannot hold. This is the entire mechanism behind blockers, so learn the arithmetic on three cases:

YOU SEE	THEIR HAND	COMBOS BEFORE	AFTER	WHY
A♠ K♦ in your hand	AA	6	3	three aces left, choose two = 3
same	AK	16	9	3 aces $\times$ 3 kings
same	KK	6	3	three kings left
board K♣ 7♥ 2♠, you hold A♠Q♦	AK	16	9	3 aces $\times$ 3 kings (one king on the board, one ace in your hand)
board T♥ 8♥ 4♣ 2♠ J♥	any two hearts (a flush)	—	45	ten hearts unseen, choose two
same board, you hold A♥	any flush	45	36	nine hearts left — and zero nut-flush combos, all nine A♥x♥ are gone

unpaired: (cards of rank A left) $\times$ (cards of rank B left) · pair: $n(n-1)/2$ for n cards of the rank left · suited pair of any two: $n(n-1)/2$ for n of the suit left

PART 6

Blockers

Your two cards are not just your hand. They are two cards removed from every hand your opponent can have. Blockers is the name for using that on purpose.

The idea in one sentence

When you hold a card, every combination of theirs that needed it is gone — so the mix of their range shifts, and the right action shifts with it. You are not guessing what they have. You are counting what they *can* have, given what you are looking at.

The two directions

Blocking their value

Hold a card their strong hands need, and they have fewer strong hands. Bluffing gets better (more of what's left folds). Calling gets better (less of what's left beats you). The A♥ on a three-heart river is the clean case: you block the nut flush entirely.

Blocking their bluffs — and unblocking them

Hold a card their *bluffs* need, and they bluff less often than baseline — so you should fold more, not less. The reverse is the useful one: when you want to bluff, you want to **unblock** their folding hands. A missed straight draw that doesn't touch their missed straight draws is a better river bluff than a hand that shares cards with them.

WHY IT'S CALLED A "BLOCKER" AND NOT "A READ"

It's arithmetic, not intuition. On T♥ 8♥ 4♣ 2♠ J♥, a player who bets big on the river has, let's say, 20 value combos (flushes and the two straights) and needs about 10 bluffs to be balanced. If you hold A♥, nine of those value combos don't exist. Their range is now 11 value against the same 10 bluffs — your bluff-catcher went from 33% to 48% to be good, with no change in what you "think" they have.

Why the solver 3-bets A5s and folds KJo

This is the question that Level 2 answered with "blockers" and left there. Here's the count. Facing an open, the hands that continue against your 3-bet and hurt you most are AA, KK, AK, AQ. Hold A♠5♠ and:

AA 6 → 3 combos

AK 16 → 12

AQ 16 → 12

KK 6 → 6 (no help)

Eleven of their strongest 44 combos are gone before they look at their cards — a quarter of the hands that 4-bet you. Meanwhile A5s still makes the nut flush and the wheel when called, and it is a weak *call* (dominated by every better ace). All three point the same way: raise. KJo blocks nothing that matters, has no suit, and gets called by hands that dominate it. Its three arguments all say fold.

The size of the effect

One blocker rarely moves a decision from 0% to 100%. It moves it from close to clear. That is exactly why the solver's mixes fall along blocker lines — on a given board, K♠J♠ bets 60% and K♦J♦ bets 40% because the spade combo blocks the spade draws that would call. When you mix by suit (Level 2, Part 9), you are following the count without doing it.

PART 7

Blockers in the four spots where they decide

Most of the time blockers are a tiebreaker. In four spots they are the whole decision.

1. River bluffs on a flush board — the nut blocker

Board $T♥\ 8♥\ 4♣\ 2♠\ J♥$. You hold $A♥\ 3♣$ — a busted nothing with the ace of hearts. This is the best bluff in your range: you block every nut flush, you have no showdown value to protect, and a big bet makes every K-high and Q-high flush face a hand that "must" have the nuts. The same hand without the $A♥$ is a fold. One card, opposite action.

2. Bluff-catching — which side of their range did you block?

Same board, you hold $Q♥\ Q♣$ and face a shove. You block $Q♥$ -high flushes (their value) and hold a real pair. Lean call. Now hold $9♠\ 9♣$ instead: you block 9-7 and Q-9 — the straights that *missed*, i.e. their bluffs. They bluff less than baseline. Lean fold, with a better-looking hand. The pair rank matters less than which half of their range your cards live in.

3. Preflop — the 3-bet and 4-bet bluff menu

Every bluff 3-bet and 4-bet the solver picks is an ace-blocker hand: $A5s-A2s$, sometimes $A9o-A8o$ from the blinds. It never picks $Q9s$, which plays as well. Reason: the ace. Against a 4-bet, $A5s$ folds cheaply and has done its job — it made their AA and AK rarer for the whole hand, and if it gets called it has the wheel and the nut flush to fall back on.

4. Facing a raise on a paired board — do you block the boat?

Board $K♠\ K♥\ 9♦\ 4♣$. You hold $9♠\ 9♣$ — nines full. You get check-raised big. Ask: which full houses beat you? Kings full — $K9$, $K4$, and KK . Count them. Two kings are unseen; the only nine left is $9♥$, so $K9$ is $2 \times 1 = 2$ combos. $K4$ is $2 \times 3 = 6$. KK is 1. Nine combos beat you. Every other Kx is trips and loses, and there are dozens of those. You are ahead of most of what raises, and your nines block most of what beats you. Call or shove; folding a boat here is the "scared of the nuts" leak with numbers attached.

LIVE-GAME CAVEAT

Blockers assume the other player's range is roughly right. At a live \$1/\$3 table, a player who has shown down 7-2 offsuit for a river shove does not have a range you can count. Against a solver or a good regular, count. Against a player with no range, play your hand and the pot odds and forget the blockers.

PART 8

The ante

An ante is money in the pot before anyone has a hand. It doesn't change the cards. It changes the price of every decision, and therefore every range.

Two kinds

Everyone antes

Each player posts a fraction of the big blind before the deal — often 10–25% of the BB in tournaments, a fixed chip in some live cash games. Six players $\times$ 0.2bb = 1.2bb extra in the pot.

Big blind ante

One player posts an ante for the whole table each hand — usually 1bb, paid by whoever is in the big blind. Same money, one chip, faster. Almost every modern tournament and many live cash games use it.

What it does to the math

The preflop pot in a 6-max game with no ante is 1.5bb. With a 1bb BB-ante it's **2.5bb** before anyone acts. Every raise now wins 67% more when it takes the pot down. Every call is cheaper relative to what's in the middle.

SPOT (BTN OPENS 2.5BB)	NO ANTE — POT WHEN BB ACTS	BB NEEDS	1BB ANTE — POT	BB NEEDS
BB decides to call 1.5	4.0	27%	5.0	23%
SB decides to call 2.0	4.0	33%	5.0	29%

need = to call ÷ (pot + to call) · no ante: 1.5 ÷ 5.5 = 27% · ante: 1.5 ÷ 6.5 = 23%

What it does to the ranges

- **Open wider from every seat.** The steal is worth more. BTN goes from ~45% to well over 50%; UTG adds a few suited hands.
- **Defend wider from the BB.** The price dropped four points. Hands on the fold line at 27% — the 43s, the A7o — are calls at 23%.
- **3-bet a little more, call a little less in the SB.** More dead money to attack; the same logic as Level 2, louder.
- **Stack-to-pot ratio drops.** Bigger pots from the start mean commitment thresholds arrive a street sooner. A 100bb stack behaves like ~80bb.

The trainer's ranges are no-ante cash ranges. In an ante game, shift every line one notch looser and keep the same shape. Don't rebuild the range; widen it.

PART 9

The straddle

A straddle is a voluntary third blind, posted before the cards, usually double the big blind. It is the most common way a live game stops looking like the trainer.

The three you'll see

STRADDLE	WHO POSTS	SIZE	ORDER OF ACTION PREFLOP
UTG straddle	the player left of the BB	2× BB (sometimes more)	starts left of the straddler; the straddler acts last preflop and can raise ("the option")

Mississippi / button straddle	the button (house rules vary)	2× BB	usually starts with the small blind; the button acts last preflop and is still last postflop — the only straddle that keeps position
Re-straddle	the next player	2× the straddle	each straddle doubles the effective blind again

The one thing that matters: the blind just doubled

You asked earlier why "everyone's stack is half as deep." This is why. Stack depth is always measured against the biggest forced bet. In a \$1/\$2 game with \$200 stacks you are 100 big blinds deep. Add a \$4 straddle and the forced bet is \$4: the same \$200 is now **50 straddle-blinds**. Nothing about the chips changed. Everything about the ranges does, because ranges are built for a depth.

Shallower stack → these hands lose value

- Small pairs — set-mining needs ~15:1 implied odds; at 50 deep you rarely get it
- Suited connectors and gappers — their equity is in big pots on later streets that no longer exist
- Flatting in general — pot-to-stack gets big fast, so flat ranges shrink

Shallower stack → these gain

- High-card hands — AJo, KQo, ATs play better when the money goes in early
- 3-betting and jamming — commitment arrives a street sooner, so the raise-first hands get stronger relative to the call-first hands
- Medium pairs — 88-JJ become stack-off hands at 50 deep in a way they aren't at 100

Sizing against a straddle

Size relative to the straddle, not the blind. A standard open over a \$4 straddle in a \$1/\$2 game is \$10–\$14 (2.5–3.5× the straddle), not \$6. If you raise to \$6 you've min-raised a \$4 blind with \$7 already dead in the pot and everyone behind is getting 2:1 to call. Preflop pots are larger, so c-bets are larger in absolute terms and the same in fractions.

The straddler acts last — use it, don't fear it

With a UTG straddle on, the straddler closes the preflop action, like a big blind with a bigger blind. Play the straddle seat like a BB facing a raise: defend at the price, 3-bet the top, and remember you'll be first to act on every street after. Facing a straddle from the blinds, you are now two seats further from the button than you feel — play tighter than your normal SB and BB ranges, and fold the hands you'd have defended against a plain open.

Should you straddle?

A UTG straddle is a blind bet out of position with a random hand. It is –EV on its own; people do it for action and for the table dynamic. A Mississippi (button) straddle costs the same but keeps position, so it is much less bad and sometimes fine at a passive table. The honest answer for someone building toward 90–95% of GTO: don't, unless the table expects it and you want the game to keep going. When someone else does, count the new blind, re-measure the stacks, and play the ranges for the new depth.

Live structures on one page

Every structure comes down to two questions. Answer them before the first hand and the table stops being strange.

THE TWO QUESTIONS

- 1. What is the effective big blind? The largest forced bet — the BB, or the straddle, or the re-straddle. Measure every stack in that unit.
- 2. How much dead money is in the pot before anyone acts? Blinds plus antes plus straddles. That number sets the price of every open and every defence.

STRUCTURE	EFFECTIVE BB	DEAD MONEY (6-MAX)	\$200 STACK IS	ADJUST
\$1/\$2, no ante	\$2	\$3	100 bb	the trainer's game — play the ranges
\$1/\$2 + \$2 BB ante	\$2	\$5	100 bb, plays like ~80	one notch wider everywhere
\$1/\$2 + \$4 UTG straddle	\$4	\$7	50 sbb	50bb ranges: fewer flats, more high cards, size off \$4
\$1/\$2 + \$4 straddle + \$8 re-straddle	\$8	\$15	25 sbb	shove-or-fold territory for most of the table; don't flat anything
\$1/\$3 + \$6 button straddle	\$6	\$10	33 sbb	button has the blind AND position — 3-bet it less, respect its calls more
\$2/\$5, no ante	\$5	\$7	40 bb	same chips, half the depth — this is a different game, not a bigger one

"sbb" = straddle big blinds. The last row is the one people miss: moving up in stakes with the same buy-in is a depth change first and a stakes change second.

Poker → trading, level 3

Level 2 mapped ranges to setup grades. This level maps counting to the two things you already said you wanted: a decision that sizes itself, and information that changes the odds instead of the mood.

POKER	TRADING	WHAT IT TRAINS
Best five of seven	The setup is the five criteria that matter — not everything you noticed	Grading on the rule, not on the feeling that "a lot lined up"
Made flush vs four to a flush on the river	Five of five steps present vs four of five at decision time	Four of five isn't a draw anymore — there is no next card. It's a busted hand. Size it like one or fold
Counterfeited pair	A reason that looked like edge until the context made it worthless	Re-grade on every new piece of information, without attachment

Blockers	Confluence that removes the other side's story — "for this to fail, X would have to be true, and X is off the table"	Information that shifts the distribution, not information that feels good
Unblockers	Knowing which failure modes are still live before you commit	Naming the specific way it goes wrong, not "risk"
The ante	The cost of being in the game — commissions, spread, the prop-firm fee, the mental toll of sitting	Dead money forces action. Deciding when it should and when it shouldn't
The straddle	Someone doubled the stakes of the same setup — news, a bigger account, a session you "need"	Your stack just got half as deep in R terms. Re-measure, size down, play the ranges for the new depth
Count the nuts before you act	Name the best-case and the invalidation before entry	Never being surprised by a hand you could have counted

THE ONE FROM EARLIER, WITH THE CARDS ON IT

K♥ J♥ on Q♥ 8♥ 4♣ 3♦. River 2♥: made flush, five of five, all in.
River 2♠: four hearts, king-high, nothing — same picture all the way to the last card. The trade with one step missing at decision time looks identical to the winner right up until you count.

PART 12

Drills — 20 puzzles

Cover the answers. Lay out both best-fives. Say the winner out loud. Ten showdowns, five counts, five blocker calls.

Showdowns — who wins?

1 · BOARD K♠ Q♦ 7♥ 7♣ 2♠
A A♠ K♦
B K♥ J♣

2 · BOARD 9♥ 9♦ 5♠ 5♣ A♦
A 7♠ 7♣
B K♣ Q♠

3 · BOARD 8♣ 8♦ 8♠ K♥ 3♦
A A♠ 4♠
B K♣ 2♠

4 · BOARD 6♠ 7♠ 8♦ 9♣ T♦
A J♣ 2♠
B A♠ A♦

5 · BOARD 2♠ 3♠ 4♦ 5♥ K♣

A A♦ 9♦

B 6♣ 6♦

6 · BOARD 5♦ 5♣ 5♠ 5♥ 8♦

A A♣ 2♣

B K♠ Q♠

7 · BOARD Q♠ J♠ T♠ 4♦ 4♣

A A♠ 5♠

B K♠ 9♠

8 · BOARD A♣ A♦ 7♠ 7♦ 3♥

A A♥ 2♥

B 7♣ 7♥

9 · BOARD J♦ J♣ T♠ T♥ 4♠

A J♠ 2♠

B T♦ A♣

10 · BOARD A♥ K♥ 9♥ 4♣ 2♥

A Q♥ J♠

B 3♥ 3♦

Counts

11. How many combos: AK? AA? AKs? A5s–A2s together?
12. You hold A♠ Q♦. Board K♣ 7♥ 2♦. How many combos of AK, AA, KK, QQ can they hold?
13. Board 9♠ 8♠ 4♦. How many two-spade combos exist? How many if you hold A♠, and what happened to the nut flush draw?
14. A 4-bet range of "QQ+ AK" is how many combos? You hold A♦ K♦ — now how many?
15. Board 9♠ 8♦ 7♣. How many combos make a straight? You hold T♠ J♠ — now how many can *they* have?

Blocker calls — bluff, call, or fold?

16. River T♥ 8♥ 4♣ 2♠ J♥, you hold A♥ 3♣, checked to you. Bet big or give up?
17. Same river, you hold Q♥ Q♣ and face a shove. Which half of their range do you block? Lean which way?
18. Same river, you hold 9♠ 9♣ and face a shove. Which half now? Lean which way?
19. You're on the BTN facing a CO open. Which is the better 3-bet bluff, A♠5♠ or K♦J♠, and name the three reasons.
20. River K♠ Q♦ 4♥ J♣ 2♠, you hold 6♣ 5♣ — a missed nothing. Their folding range is missed straight draws (T9, 98, A-T). Do you block their folds or unblock them? Bluff or not?

Answers

- 1 **A wins.** K K 7 7 A beats K K 7 7 Q. The jack never plays; the board's queen is B's fifth card.
- 2 **Split.** Both play the board: 9 9 5 5 A. The sevens are counterfeited; the king is below the board's ace.
- 3 **B wins.** 8 8 8 K K, a full house, over 8 8 8 K A, trips with an ace kicker.
- 4 **A wins.** Jack-high straight (7-8-9-T-J) over the board's ten-high straight. The aces are dead.
- 5 **B wins.** Six-high straight over the wheel. The ace plays low in A-2-3-4-5.
- 6 **A wins.** Quads on board; the kicker is the hand. Ace over king.
- 7 **B wins.** K-Q-J-T-9 of spades is a straight flush. A's "nut flush" is second best; only A♠K♠ (a royal) beats B.
- 8 **B wins.** Four sevens beat aces full of sevens.
- 9 **A wins.** Jacks full of tens over tens full of jacks — trips part first. B's ace is not in the five.
- 10 **A wins.** A-K-Q-9-2 of hearts over A-K-9-3-2. Both aces are the board's; the third card decides.
- 11 $AK\ 16 \cdot AA\ 6 \cdot AKs\ 4 \cdot A5s-A2s\ 16$ (four hands $\times$ four suits).
- 12 $AK: 3\ aces \times 3\ kings = 9.$ $AA: 3.$ $KK: 3.$ $QQ: 3.$ A tight range of 34 became 18.
- 13 Eleven spades unseen $\rightarrow C(11,2) = 55$ combos. Holding A♠: ten left $\rightarrow 45$, and the nut flush draw no longer exists for them — every draw they have is to a king-high flush or worse.
- 14 $6 + 6 + 6 + 16 = 34.$ Holding A♠K♠: AA 3, KK 3, QQ 6, AK 9 = 21. Your one hand removed 38% of their range.
- 15 Straights need J-T, T-6, or 6-5: $16 + 16 + 16 = 48$ combos. Holding T♠J♠: J-T becomes $3 \times 3 = 9$, T-6 becomes $3 \times 4 = 12$, 6-5 stays 16 $\rightarrow 37$.
- 16 **Bet big.** You block every nut flush, you have no showdown value, and every K- and Q-high flush is facing "the nuts."
- 17 You block Q♥-high flushes — their value. **Lean call.**

18 You block 9-7 and Q-9 – the straights that **missed**, i.e. their bluffs. They bluff less than baseline. **Lean fold**, despite the pair.

19 **A♠5♣**. (1) The ace removes AA, AK and AQ combos – 11 of their strongest 44. (2) It has the nut flush and the wheel when called. (3) It is a bad call, dominated by every better ace, so raising beats flatting. KJo blocks nothing, has no suit, and gets called by hands that dominate it.

20 You **unblock** them – 6-5 shares no cards with T9, 98, or AT. Every missed draw they can have, they still have, and all of it folds. **Bluff**. The same spot with **T♦ 9♦** in your hand blocks their folds and is a worse bluff with a better-looking hand.

Glossary, level 3

Ante

A forced bet from every player (or one for the table, the BB ante) before the deal. Dead money that raises the price of folding.

Blocker

A card you hold that removes combinations from the other player's range. Value blockers make bluffing and calling better; bluff blockers make folding better.

Board plays

The five community cards are your best hand. Everyone who can't beat them splits.

Card removal

The arithmetic behind blockers: every visible card is a card nobody else can hold.

Combo

One specific two-card hand by suit. 1,326 total. 6 per pair, 4 per suited hand, 12 per offsuit hand.

Counterfeited

Your made hand is made worthless by a board card — a pocket pair under two board pairs, a two pair when a higher pair boards.

Dead money

Chips in the pot that no live hand is defending: blinds, antes, straddles, folded bets.

Effective big blind

The largest forced bet in the hand. The unit stacks are measured in. A straddle changes it.

Kicker

The card(s) in your best five that aren't part of the made hand. Not a tiebreaker in the abstract — an actual card in the five, which the board can supply instead of you.

Mississippi straddle

A straddle posted from the button (or another late seat) instead of UTG. Keeps position, so much less costly.

Nut blocker

Holding the one card that makes the nuts — the A♥ on a three-heart board — so nobody else can have it.

Option

The straddler's right to raise when the action gets back to them unraised, like a big blind's.

Playing the board

See *board plays*.

Quads

Four of a kind.

Re-straddle

A straddle on top of a straddle, doubling the effective blind again.

Set

Three of a kind made with a pocket pair. Hidden.

Steel wheel

A-2-3-4-5 of one suit. The lowest straight flush.

Straddle

A voluntary blind bet before the deal, usually 2× the BB, that becomes the new effective big blind.

Straddle-blinds (sbb)

Stack depth measured against the straddle. \$200 at \$1/\$2 with a \$4 straddle = 50 sbb.

Trips

Three of a kind made with a paired board and one hole card. Shared, so kickers decide.

Unblocker

Holding cards that don't touch the other player's folding hands, so all of their folds are still live. The property of a good river bluff.

Wheel

A-2-3-4-5. The lowest straight; the ace plays low.