A royal flush is the rarest poker hand in standard Texas Hold'em: ace, king, queen, jack and ten, all in the same suit. You might see its odds written as **1 in 649,739**. That number is a useful shorthand, but it needs a little context: it refers to five-card hands, not directly to the chance of making a royal flush by the river in Hold'em.

Below, we'll unpack the royal flush probability, compare it with other poker hands, and look at how draw odds change from flop to turn to river. The goal is to make the numbers useful at the table—not to make you reach for a calculator every time you see three suited cards.

What does "1 in 649,739" mean?

In a standard deck, there are four possible royal flushes: one in hearts, one in diamonds, one in clubs and one in spades. A five-card hand can be dealt in 2,598,960 different ways. Divide all possible five-card hands by the four royal flushes and you get a probability of roughly **1 in 649,740**.

You'll also see **1 in 649,739** quoted. That's a commonly repeated rounded figure; the exact calculation for a five-card hand is 1 in 649,740. Either way, the plain-English takeaway is the same: a royal flush is poker equity chart extraordinarily unlikely in a random five-card deal.

In percentage terms, the chance is about **0.000154%**. Imagine dealing a fresh five-card hand over and over. On average, you'd expect to see a royal flush once in roughly 649,740 hands. "On average" matters: it doesn't mean the next one is due, or that you'll get one after dealing exactly that many hands.

Five-card odds are not the same as Texas Hold'em odds

The famous 1-in-649,740 figure counts five-card hands. Texas Hold'em gives each player two private cards and puts five community cards on the board, so you can use the best five cards out of seven. Having seven cards to work with makes a royal flush more likely than it is in a five-card hand—but it's still rare.

Across all seven-card combinations, the chance of having a royal flush is about **1 in 30,940**, or roughly **0.00323%**. That's the probability of a seven-card holding containing a royal flush, not a promise about how often you personally will make one in a particular session. Your actual chance at a hand depends on your hole cards and the board as they are dealt.

So if someone says "royal flush odds are 1 in 649,739," ask what they're counting. For a five-card hand, that's the familiar ballpark. For a complete Hold'em hand using seven available cards, the number is different.

Where the royal flush sits in Texas Hold'em hand rankings

A royal flush is the highest possible straight flush: ten, jack, queen, king and ace, all in one suit. It is not a separate hand category in the standard ranking; it is the very top version of a straight flush. Suits do not have different strengths. A royal flush in clubs ties a royal flush in spades.

Hand ranking What it means Example Royal flush Ace-high straight flush A♠ K♠ Q♠ J♠ 10♠ Straight flush Five consecutive cards, all one suit 9♥ 8♥ 7♥ 6♥ 5♥ Four of a kind Four cards of the same rank Q♣ Q♦ Q♥ Q♠ 4♣ Full house Three of a kind plus a pair J♠ J♥ J♦ 8♣ 8♦ Flush Five cards of one suit, not in sequence A♦ J♦ 8♦ 5♦ 2♦ Straight Five consecutive cards in more than one suit 9♣ 8♦ 7♠ 6♥ 5♣ Three of a kind Three cards of the same rank 7♠ 7♥ 7♦ K♣ 2♥ Two pair Two different pairs A♣ A♦ 5♠ 5♥ 9♣ One pair Two cards of the same rank K♠ K♦ Q♣ 8♥ 3♠ High card No pair or stronger hand A♥ J♣ 8♠ 5♦ 2♣

When players have the same hand category, the rank of the cards that make the hand matters. For a pair, compare the pair first, then the remaining cards—called kickers—from highest to lowest. For example, if one player has A♠ K♦ and another has A♥ Q♦ on a board where both make a pair of aces, the king kicker beats the queen kicker. With a royal flush, there is no higher kicker and no suit tiebreaker: the best five-card hand is already the same for both players.



How rare is a royal flush compared with other hands?

The comparison below uses standard five-card poker-hand probabilities. These figures help explain why a royal flush is such a memorable sight, but they are not the odds of making each hand by the river in Hold'em.

Five-card hand Approximate probability Plain-English frequency Royal flush 0.000154% About 1 in 649,740 Four of a kind 0.0240% 1 in 4,164; also stated as about 1 in 4,165 Full house 0.1441% About 1 in 694 Flush 0.1965% About 1 in 509 Straight 0.3925% About 1 in 255

The four-of-a-kind entry is often presented as **0.0240% (1 in 4,164)** and also as **about 1 in 4,165**. Those are familiar rounded versions of the five-card figure. The practical point is that four of a kind is far more common than a royal flush, yet it is still a standout hand.

Royal flush draw odds from flop to river

Draw odds depend on the cards you can see and the cards you need. A useful example is a genuine one-card royal-flush draw: you hold two suited cards, and the flop gives you three more cards in that suit, making four of the five royal ranks. You need the one missing rank in that suit to complete the royal flush.

With five cards known—your two hole cards and the three-card flop—there are 47 unseen cards. If exactly one card completes your royal flush, your chance to hit it on the turn is **1 in 47, or about 2.13%**. If you miss the turn, 46 unseen cards remain for the river, so the chance to hit on the river after missing the turn is **1 in 46, or about 2.17%**.

Across both turn and river, the chance to hit that one specific card is about **4.26%**. That comes from two chances among 47 unseen cards: 2/47. It is not 2.13% plus 2.17% exactly, because the turn changes what remains in the deck. In this example, you need one exact rank in one exact suit—not any card of that suit.



Situation Cards remaining Chance to complete the example royal draw On the turn 47 unseen cards 1/47 = about 2.13% On the river, after missing turn 46 unseen cards 1/46 = about 2.17% By the river Two cards to come 2/47 = about 4.26%

Don’t mistake a flush draw for a royal-flush draw

A flush draw is not automatically a royal-flush draw. If you have four cards of the same suit, you may have nine cards of that suit left unseen—often called nine outs to a flush. But only a particular missing card may complete a royal flush. The other suited cards might make an ordinary flush, or they might not improve your hand at all.

For example, if you have four hearts including A♥ K♥ Q♥ J♥, then 10♥ is the card that makes your royal flush. Other hearts can complete a flush, but they do not make it royal. If a villain has a lower flush and you have the ace-high flush, you may still win—but that is a flush showdown, not a royal-flush completion.

Hand odds, pot odds and equity are different things

Hand odds describe how likely a card or hand is to arrive. **Pot odds** compare the cost of a call with the amount you can win. **Equity** estimates your share of the pot against an opponent’s range, accounting for possible future cards.

A 4.26% chance to hit a royal draw by the river does not, by itself, tell you whether calling is correct. You could also win by making a lower flush, a pair, or another hand—or lose even after improving. The right decision depends on the pot, the bet, your opponent’s likely holdings, and how often your hand remains best.

As a quick sanity check: if villain has a smaller flush and you have the ace-high flush, your hand may be ahead already. If villain has a full house, making an ordinary flush usually does not save you. If the board pairs, a flush can be beaten by a full house or four of a kind. Always ask what the opponent can hold, not just what your draw might become.

Use printable cheat sheets and equity charts to learn faster

For beginners, printable cheat sheets are useful for keeping hand rankings and common draw odds close at hand. A simple chart can remind you that a four-card flush draw on the flop usually has nine outs, while the one-card royal example above has only one out to the royal itself. Those are different situations and should not be lumped together.

Equity charts can help show how a hand performs against a range of possible opponent hands. They're especially useful for seeing why "I have a draw" is not enough information: a draw can have different equity depending on whether it is live, whether your opponent has a made hand, and whether some of your outs are dirty. Use charts as learning tools, then pay attention to the actual cards and action in front of you.

- Keep a printable hand-ranking cheat sheet nearby when learning the order of hands.
- Use draw-odds charts to distinguish turn odds from odds across turn and river.
- Use equity charts to compare your hand with a range, not just one guessed holding.
- Check your outs carefully: an out is not helpful if it improves your opponent more.

The plain-English takeaway

The **royal flush probability** of roughly **1 in 649,739** is the familiar five-card figure; the exact five-card calculation is about 1 in 649,740. In Texas Hold'em, seven available cards make a royal flush more likely overall—about 1 in 30,940 seven-card combinations—but it remains the **rarest poker hand**.

On a specific flop, don't rely on the headline number. Count the cards you need and the unseen cards: in the one-out royal example, that is about 2.13% on the turn and 4.26% to hit by the river. And remember the basics: a royal flush is a straight flush, a flush draw is not necessarily a royal draw, kickers matter when hands tie in category, and suits never break ties.