

HOW CARDS SPLIT
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Most bridge players have heard the old axiom that an *even number of cards tend to split odd and an odd number of cards tend to split even*, or as close to even as they can. The probability of these distributions or splits is important to understand in the play of the hand, especially if the opponents haven't bid. In order for the declarer to try and get an initial "count" of the hand, he must often guess at the probable splits based on the number of cards out in a suit.

For example, with two cards out there are four possible combinations that can occur. The cards will split 1:1 (even) half the time and 2:0 or 0:2 (odd) half the time. This particular case is trivial and self-evident.

With three cards out, there are eight possible combinations of holdings the opponents can have. The cards now split 2:1 or 1:2 (considered even) six times out of eight for 75% and 3:0 or 0:3 (odd) the remaining two times out of eight for 25%. Knowing this distribution, it is relatively safe for declarer to play this suit one time without getting ruffed in a suit contract

With four cards out in a suit the number of combinations grows to 16. Now the cards split 4:0, 3:1 or 1:3, 0:4 (odd) 62.5% of the time and 2:2 (even) 37.5% of the time. Therefore, you can expect to get ruffed on the first or second card played in a suit contract 62.5% of the time.

Now let's consider the case when five cards are out in a suit. The number of combinations becomes 32. The most important split to remember is that the cards will be distributed 3:2 or 2:3 (considered even) 62.5% of the time. The remaining odd distributions account for 37.5%. In a suit contract, you are relatively safe playing cards in this suit two times without getting ruffed.

The final consideration will be the case when six cards are out in a suit. The number of possible combinations is now 64. Because there are an even number of cards out, the distribution is expected to be mostly odd. In fact, the cards will split 3:3 (even) only 31.25% of the time. This is an important consideration if you are playing for a fourth-round trick in a suit where you began with a 4-3 holding.

The following table illustrates the various ways cards split as a function of the number of cards out in a suit.

Number of cards out in a suit	Probability for an even split	Probability for an odd split
2	50% (1:1)	50%
3	75% (1:2 or 2:1)	25%
4	37.5% (2:2)	62.5%
5	62.5% (3:2 or 2:3)	37.5%
6	31.25% (3:3)	68.75%

Of course, if the opponents bid, the probabilities can be altered to take the auction into consideration.

If we round the probabilities and focus on the even splits for an even number of cards out, the table is easy to memorize and becomes

Number of cards out in a suit	Probability for an even split
2	50% (1:1)
4	40% (2:2)
6	30% (3:3)

In addition, with four cards out in a suit, a conditional probability may occur in the play of the hand that changes the probability for an even split from 37.5% to 50%. Similarly, with six cards out in a suit, a conditional probability can change the probability of an even split from 31.25% to 50%. These are important considerations as declarer decides *when to play for the drop* of an honor.

Expert players know these probabilities and use them as a guide in the play of the hand.