

RELEVANT PERCENTAGES FOR BRIDGE PLAYERS



1) Percentages of Card Division between two hidden hands

Cards out

2 cd				1-1 52%	2-0 48%	Except for 2 cards
3 cd				2-1 78%	3-0 22%	the general rule is
4 cd			2-2 41%	3-1 50%	4-0 10%	Even cards probably do not split evenly
5 cd			3-2 68%	4-1 28%	5-0 4%	Odd cards probably do split as evenly as possible
6 cd		3-3 35%	4-2 49%	5-1 15%	6-0 2%	
7 cd		4-3 62%	5-2 30%	6-1 7%	7-0 0.5%	
8 cd	4-4 33%	5-3 47%	6-2 17%	7-1 3%	8-0 0.2%	
9 cd	5-4 59%	6-3 31%	7-2 9%	8-1 1%	9-0 0.1%	

The percentages for card division presume that there is NO evidence from bidding or play to alter the probabilities. Eg a hand which has pre-empted showing a 7 card club suit has only 6 'vacant spaces' for other cards while if declarer and dummy together have 4 clubs the other defender has 2 clubs leaving 11 vacant spaces in that hand. If there are 4 cards in another suit (hearts) in those hands the probability of them splitting 2-2 drops from over 40% to under 35% while the hand with more vacant spaces is 5 times as likely than the other to hold 3 or 4 hearts.

2)

Probability of opponents ruffing on -

4 th rd	3 rd rd	2 nd rd	1 st rd	Cards out
100%	100%	100%	48%	2 cards
100%	100%	100%	22%	3 cards
100%	100%	60%	10%	4 cards
100%	100%	32%	4%	5 cards
100%	65%	17%	2%	6 cards
100%	38%	8%	1%	7 cards

With 2 cards missing go for the drop of the King (52%)

With 4 cards missing go for the drop of the Queen (52%), the cards may be 2-2 (41%) or she may be singleton (12%)

With 6 cards missing go for the drop of the Jack (54%), the cards may be 3-3 (35%) or he may be doubleton (18%) or singleton (2%)

With 3, 5 or 7 cards out do NOT expect to drop K, Q or J respectively

3)

Probability of Drop of -

K	Q	J	10
52%	100%	100%	100%
26%	78%	100%	100%
12%	52%	90%	100%
5%	31%	73%	96%
3%	19%	54%	87%
1%	9%	38%	71%

4) Probability of High Card Points in a hand

5) Common Hand Patterns

HCP	Probability(%)	HCP	Probability(%)	Pattern (any suit order)	Probability (%)
0	0.4	16	3.3	4432	21.6
1	0.8	17	2.4	5332	15.6
2	1.4	18	1.6	<i>5431</i>	<i>12.9</i>
3	2.5	19	1.0	<i>5422</i> or 4333	10.6
4	3.9	20	0.64	6322	5.6
5	5.2	21	0.38	6421	4.7
6	6.6	22	0.21	6331	3.5
7	8.0	23	0.11	5521	3.2
8	8.9	24	0.06	4441	3.0
9	9.4	25	<i>0.03</i>	7321	1.9
10	9.4	26	<i>0.01</i>	6430 or <i>5440</i>	<i>1.3</i>
11	8.9	27	<i>0.005</i>	5530	0.9
12	8.0	28	<i>0.002</i>	6511 or 6520	0.7
13	6.9	29	<i>0.0007</i>	7222 or 7411 or 7420	0.4
14	5.7	30	<i>0.0002</i>	All other 6/7 card suits (4)	0.5
15	4.4	31-37	<i>0.0001</i>	All 8+ card suits (16)	0.5

Being dealt 7-12pts accounts for over half of all hands.

It is unlikely any hand in a 26 board session has over 24HCP

A partner who bids 1NT (12-14) probably has 12 or a poor 13HCP

A partner who bids 2NT (20-22) probably has only 20 HCP

Nearly half the hands are balanced and a quarter 5 4

In a 26 board session there may be 4 x 7+ card suits

2/3 of hands probably contain a 5 card or longer suit

1/3 of all hands probably have a singleton or void

Bear in mind that these are the mathematically determined values, and do not take into account the fact that hands which are imperfectly 'shuffled and dealt' often are more balanced than those randomly generated on a computer.

6) Probabilities of the best fit between 2 hands

Number of cards between two hands	7	8	9	10	11
Percentage of deals	16%	46%	28%	9%	2%

Probability of your partner having a fit with a single suit in your hand

Cards in your suit	Probability of at least	Total number of cards held by you and your partner together			
	8 card fit	7 card	8 card	9 card	10 card
4	34%	32%	21%	9%	2%
5	54%	29%	31%	17%	5%
6	76%	19%	33%	28%	12%
7	93%	7%	26%	35%	22%

Probability of partner having a fit with one of your TWO suits

Your suits	4 - 3	4 - 4	5 - 3	5 - 4	5 - 5
Probability of fit	49%	60%	66%	74%	84%

The higher the probability of fit the lower the points needed to open or overcall

The 74% chance of a fit with 5-4 distribution makes Astro overcalls of 1NT attractive

The 84% chance of a fit with 5-5 distribution makes the Unusual NT and Michaels attractive.

7) Miscellaneous Bridge Probabilities

Number of different

hands a player can receive = 635,013,559,600

possible deals = 53,644,737,765,488,792,839,237,440,000

possible auctions = 128,745,650,347,030,683,120,231,926,111,609,371,363,122,697,557

(There are 88 ways an auction can reach 1D. Can you find them all? And 2936 ways to reach 1H!)



Odds against a player being dealt

Playing 26 boards twice a week expect

13 cards in one suit	=	158753389899 to 1	Once every 50,000,000 years!
10 cards in one suit	=	59000 to 1	Once in 20 years
9 cards in one suit	=	2700 to 1	Once a year
8 cards in one suit	=	213 to 1	Once a month
7 cards in one suit	=	28 to 1	Once a session
6 cards in one suit	=	6 to 1	Four times a night
at least one singleton	=	2 to 1	Once a two board round
at least one void	=	19 to 1	Once a session
AKQJ10 in a suit	=	500 to 1	Once every three months
four Aces	=	378 to 1	Once every two months
a hand with no points	=	278 to 1	Once a month
a Yarborough (no10)	=	1827 to 1	Twice a year

Odds against a partnership being dealt

26+ HCP	=	8 to 1	Three times a night
33+ HCP small slam in NT	=	288 to 1	Once a month
37+ HCP grand slam in NT	=	11600 to 1	Once every two years