

RELEVANT PERCENTAGES FOR BRIDGE PLAYERS

1) Percentages of Card Division between two hidden hands

Cards out

2 cd			1-1 52%	2-0 48%	
3 cd			2-1 78%	3-0 22%	
4 cd		2-2 41%	3-1 50%	4-0 10%	
5 cd			3-2 68%	4-1 28%	5-0 4%
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%
8 cd	4-4 33%		5-3 47%	6-2 17%	7-1 3%
9 cd	5-4 59%	6-3 31%	7-2 9%	8-1 1%	9-0 0.1%

Except for 2 cards /
the general rule is
Even cards probably do not split evenly
Odd cards probably do split as evenly as possible

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

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%

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

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	4333	10.5
2	1.4	18	1.6	4441	3.0
3	2.5	19	1.0	5332	15.5
4	3.9	20	0.64	5431	12.9
5	5.2	21	0.38	5422	10.6
6	6.6	22	0.21	5521	3.2
7	8.0	23	0.11	5440	1.2
8	8.9	24	0.06	5530	0.9
9	9.4	25	0.03	6322	5.6
10	9.4	26	0.01	6421	4.7
11	8.9	27	0.005	6331	3.5
12	8.0	28	0.002	6430	1.3
13	6.9	29	0.0007	6511 or 6520	0.7
14	5.7	30	0.0002	Any with 7 cd	3.9
15	4.4	31-37	0.0001	Any with 8+ suit	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

In a 26 board session there may be 4 x 7cd 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 a partnership having a fit (at least 8 cards in a chosen suit) The higher the probability of fit the lower the points needed to open or overcall

Probability of a partnership having a good fit

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			
		7 card	8 card	9 card	10 card
	8 card fit				
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%

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

Odds against a player being dealt

13 cards in one suit	169,066,442 to 1	Once every 60 000 years!
cards in one suit 7	213 to 1	Once a month
cards in one suit 6	28 to 1	Once a session
cards in one suit	6 to 1	Four times a night
at least one singleton at	2 to 1	19
least one void	to 1	Once a two board round
AKQJ10 in a suit	500 to 1	Once a session
Aces	378 to 1	Once every three months
a hand with no points a	278 to 1	Once every two months
Yarborough (no10)	1827 to 1	Once a month Twice a year

Playing 26 boards twice a week expect

Odds against a partnership being dealt

26+ HCP = 33+ HCP small slam	8 to 1	288	every two years
in NT = 37+ HCP grand slam in	to 1	11600	
NT =		to 1	

Three times a night Once a month Once