

APPENDIX C: CRIB SHEET 3

Poker Champion
Money Maker — *Chris Maysmiller*



THE RELATIVE VALUES OF TEXAS HOLD 'EM HANDS

One of the hardest things for beginning Hold 'Em players to understand is the percentage odds assigned to various combinations of hole or pocket cards. In other words, how do you determine which two cards are worth playing and which two cards are worthless?

Obviously, a high pocket pair (jacks, say) will justify a bigger opening bet than a low pocket pair (threes), but how do you calculate the odds of playing less obvious hole cards into advantageous five-card poker hands?

Below is a brief rundown of the most effective opening hands in Texas Hold 'Em, ranked according to *playability*—that is, according to your chances of playing these two cards into a winning five-card poker hand.

The Top 40:

1. A-A
2. K-K
3. Q-Q
4. A-K, suited
5. J-J
6. A-Q, suited
7. A-K
8. 10-10

- 9. K-Q, suited
- 10. A-J, suited
- 11. A-10, suited
- 12. 9-9
- 13. A-Q
- 14. K-J, suited
- 15. K-Q
- 16. 8-8
- 17. K-T, suited
- 18. A-9, suited
- 19. A-J
- 20. Q-J, suited
- 21. K-J
- 22. A-8, suited
- 23. A-10
- 24. Q-10, suited
- 25. J-10, suited
- 26. K-9, suited
- 27. A-5, suited
- 28. A-4, suited
- 29. Q-J
- 30. A-7, suited
- 31. K-8, suited
- 32. K-10
- 33. Q-9, suited
- 34. A-3, suited
- 35. A-6, suited
- 36. A-2, suited
- 37. Q-10
- 38. K-7, suited
- 39. 7-7
- 40. J-9, suited

APPENDIX D: CRIB SHEET 4

THE PROBABILITY OF KEY OPENING HANDS

In Hold 'Em, there are 1,326 possible two-card combinations that can be made from a deck of fifty-two cards. Some of these combinations are always worth playing, while others are pretty much worthless.

Here, courtesy of Bill Burton's *Get the Edge at Low-Limit Texas Hold 'Em*, published by Bonus Books, are the odds of drawing some of the more common opening hands—playable and otherwise.

The probability of holding . . .	Percent	Odds against
Any pair	5.9	16 to 1
Pockets aces, or any specific pair	0.45	220 to 1
Suited cards	23.5	3.25 to 1
Unsuited cards, no pair	70.6	0.4 to 1
All ace-king combinations	1.2	82 to 1
Ace-king, suited	0.3	331 to 1
Ace-ace, king-king, or ace-king	2.1	46 to 1
A single ace	14.9	3.7 to 1
Any "premium hand"—A-A, K-K, Q-Q, A-K, A-Q, K-Q	5	19 to 1

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Starting Hand Guide

Game: No Limit Texas Hold'em

Players: 6 handed

Conditions: Averages

Situation: You are first to voluntarily enter the pot

STEP 1: Determine your position at the poker table

(use "Positions" diagram on opposite page as a reference)

STEP 2: Locate your hand on the chart below

STEP 3: Use the color key to determine whether you should

raise or fold with this hand

AA	AK	AQ	AJ	AT	A9	A8	A7	A6	A5	A4	A3	A2
AX	KK	KQ	KJ	KT	K9	K8	K7	K6	K5	K4	K3	K2
AD	KD	QD	JD	TD	9D	8D	7D	6D	5D	4D	3D	2D
AJ	KJ	QJ	JJ	TJ	9J	8J	7J	6J	5J	4J	3J	2J
AT	KT	QT	JT	TT	9T	8T	7T	6T	5T	4T	3T	2T
A9	K9	Q9	J9	T9	99	89	79	69	59	49	39	29
A8	K8	Q8	J8	T8	98	88	78	68	58	48	38	28
A7	K7	Q7	J7	T7	97	87	77	67	57	47	37	27
A6	K6	Q6	J6	T6	96	86	76	66	56	46	36	26
A5	K5	Q5	J5	T5	95	85	75	65	55	45	35	25
A4	K4	Q4	J4	T4	94	84	74	64	54	44	34	24
A3	K3	Q3	J3	T3	93	83	73	63	53	43	33	23
A2	K2	Q2	J2	T2	92	82	72	62	52	42	32	22

Suited Hands

Unsuited Hands

- Raise from any position
- Raise only from Middle Position or later
- Raise only from Late Position or Button
- Raise only from Button
- Fold (or if in Big Blind, check)

Hand 5
Hand 4
Hand 3
Hand 2
Hand 1

— SHORTHANDED, AVERAGE —

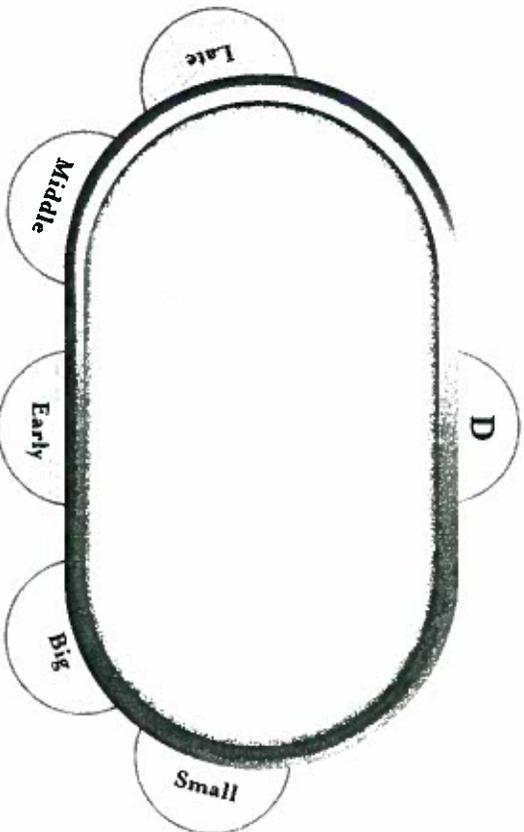
Game: Average 2 players before the flop

Action: First to the pot, and raising

Players: 5- to 6-handed

Suited Hands												
AA	AK	AQ	AJ	AT	A9	A8	A7	A6	A5	A4	A3	A2
KK	KQ	KJ	KT	K9	K8	K7	K6	K5	K4	K3	K2	
QQ	QJ	QT	Q9	Q8	Q7	Q6	Q5	Q4	Q3	Q2		
KJ	QJ	JT	J9	J8	J7	J6	J5	J4	J3	J2		
KT	QT	JT	TT	T9	T8	T7	T6	T5	T4	T3	T2	
K9	Q9	J9	T9	99	98	97	96	95	94	93	92	
K8	Q8	J8	T8	88	87	86	85	84	83	82		
K7	Q7	J7	T7	77	76	75	74	73	72			
K6	Q6	J6	T6	66	65	64	63	62				
K5	Q5	J5	T5	55	54	53	52					
K4	Q4	J4	T4	44	43	42						
K3	Q3	J3	T3	33	32							
K2	Q2	J2	T2	22								

Unsuited Hands



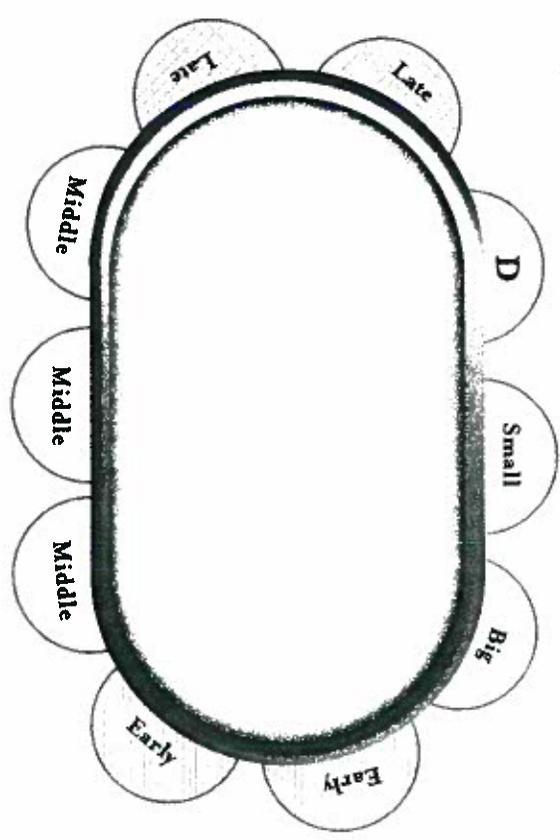
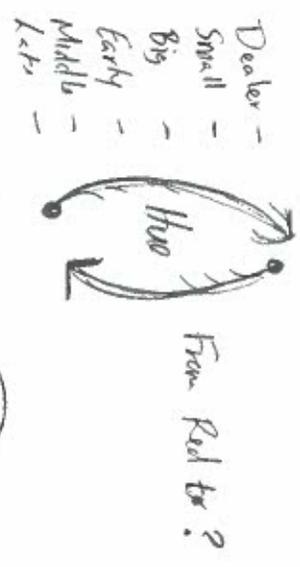
All charts can be found in color, printable formats on my Web site:
www.philgordonpoker.com/littlegreenbook.html

—AVERAGE GAME—

Game: Average 2-3 players max before the flop
 (not tight, not loose)
 Action: First to the pot, and raising
 Players: 9- to 10-handed

										Suited Hands														
AA	AK	AQ	AJ	AT	A9	A8	A7	A6	A5	A4	A3	A2	AK	AQ	AJ	AT	A9	A8	A7	A6	A5	A4	A3	A2
AK	KK	KQ	KJ	KT	K9	K8	K7	K6	K5	K4	K3	K2	KQ	QK	QJ	QT	Q9	Q8	Q7	Q6	Q5	Q4	Q3	Q2
AJ	KJ	QJ	J	JT	J9	J8	J7	J6	J5	J4	J3	J2	KJ	QJ	J	JT	J9	J8	J7	J6	J5	J4	J3	J2
AT	KT	QT	JT	TT	T9	T8	T7	T6	T5	T4	T3	T2	KT	QT	JT	TT	T9	T8	T7	T6	T5	T4	T3	T2
A9	K9	Q9	J9	T9	99	98	97	96	95	94	93	92	Q9	J9	T9	99	98	97	96	95	94	93	92	
A8	K8	Q8	J8	T8	98	88	87	86	85	84	83	82	Q8	J8	T8	98	88	87	86	85	84	83	82	
A7	K7	Q7	J7	T7	97	87	77	76	75	74	73	72	Q7	J7	T7	97	87	77	76	75	74	73	72	
A6	K6	Q6	J6	T6	96	86	76	66	65	64	63	62	Q6	J6	T6	96	86	76	66	65	64	63	62	
A5	K5	Q5	J5	T5	95	85	75	65	55	54	53	52	Q5	J5	T5	95	85	75	65	55	54	53	52	
A4	K4	Q4	J4	T4	94	84	74	64	54	44	43	42	Q4	J4	T4	94	84	74	64	54	44	43	42	
A3	K3	Q3	J3	T3	93	83	73	63	53	43	33	32	Q3	J3	T3	93	83	73	63	53	43	33	32	
A2	K2	Q2	J2	T2	92	82	72	62	52	42	32	22	Q2	J2	T2	92	82	72	62	52	42	32	22	

Unsuited Hands



D → Red
 SB → Medium Sea Green
 Early → Navy's White
 Mid → Light Blue
 Late → Blue

— I'M PLAYING TIGHT —

Game: Average 3-5 players before the flop

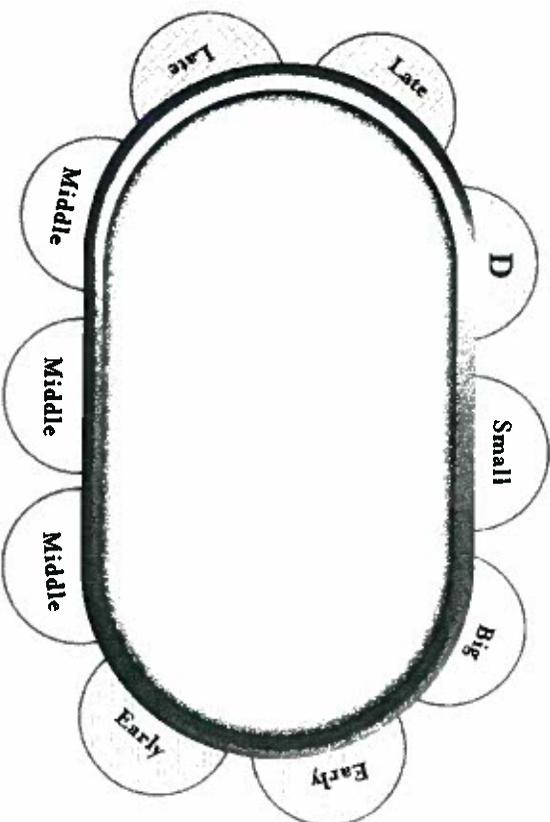
Action: First to the pot, and raising

Players: 9- to 10-handed

Suited Hands

AA	AK	AQ	AJ	AT	A9	A8	A7	A6	A5	A4	A3	A2
AK	KK	KQ	KJ	KT	K9	K8	K7	K6	K5	K4	K3	K2
AQ	KQ	QQ	QJ	QT	Q9	Q8	Q7	Q6	Q5	Q4	Q3	Q2
AJ	KJ	QJ	JJ	JT	J9	J8	J7	J6	J5	J4	J3	J2
AT	KT	QT	JT	TT	T9	T8	T7	T6	T5	T4	T3	T2
A9	K9	Q9	J9	T9	99	98	97	96	95	94	93	92
A8	K8	Q8	J8	T8	98	88	87	86	85	84	83	82
A7	K7	Q7	J7	T7	97	87	77	76	75	74	73	72
A6	K6	Q6	J6	T6	96	86	76	66	65	64	63	62
A5	K5	Q5	J5	T5	95	85	75	65	55	54	53	52
A4	K4	Q4	J4	T4	94	84	74	64	54	44	43	42
A3	K3	Q3	J3	T3	93	83	73	63	53	43	33	32
A2	K2	Q2	J2	T2	92	82	72	62	52	42	32	22

Unsuited Hands

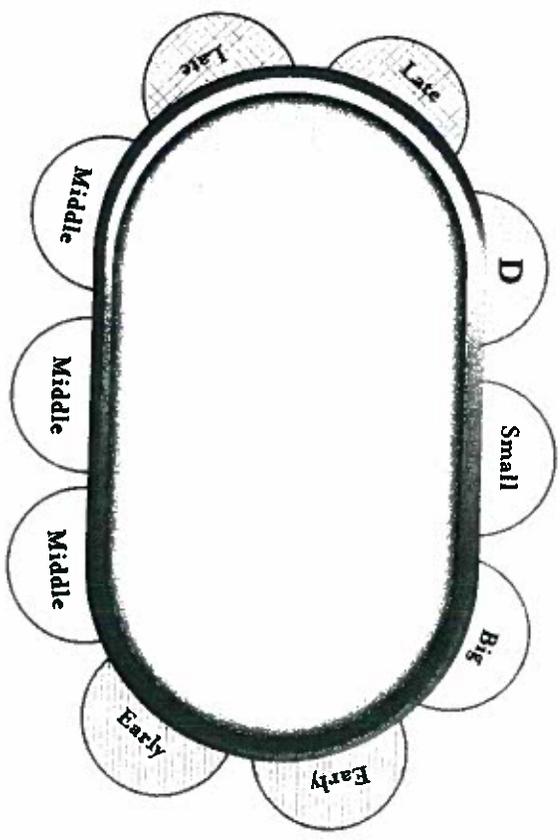


— I'M PLAYING LOOSE —

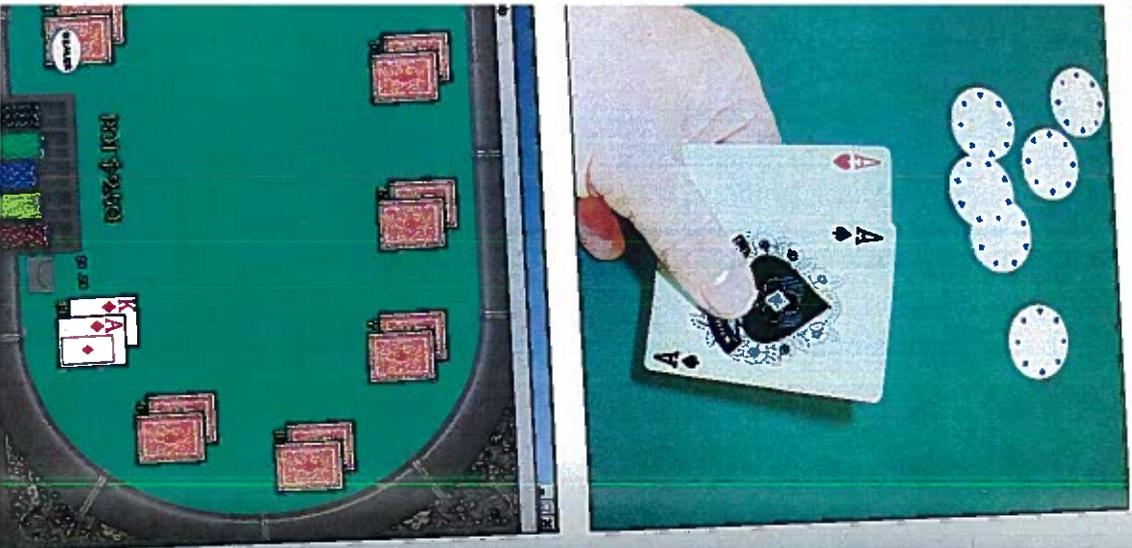
Game: Average 2 players before the flop
 Action: First to the pot, and raising
 Players: 9 - to 10-handed

Suited Hands												
A4	AK	AQ	AJ	AT	A9	A8	A7	A6	A5	A4	A3	A2
AK	KK	KQ	KJ	KT	K9	K8	K7	K6	K5	K4	K3	K2
AQ	KQ	QQ	QJ	QT	Q9	Q8	Q7	Q6	Q5	Q4	Q3	Q2
AJ	KJ	QJ	JJ	JT	J9	J8	J7	J6	J5	J4	J3	J2
AT	KT	QT	JT	TT	T9	T8	T7	T6	T5	T4	T3	T2
A9	K9	Q9	J9	T9	99	98	97	96	95	94	93	92
A8	K8	Q8	J8	T8	98	88	87	86	85	84	83	82
A7	K7	Q7	J7	T7	97	87	77	76	75	74	73	72
A6	K6	Q6	J6	T6	96	86	76	66	65	64	63	62
A5	K5	Q5	J5	T5	95	85	75	65	55	54	53	52
A4	K4	Q4	J4	T4	94	84	74	64	54	44	43	42
A3	K3	Q3	J3	T3	93	83	73	63	53	43	33	32
A2	K2	Q2	J2	T2	92	82	72	62	52	42	32	22

Unsuited Hands



only cards you have that others can't



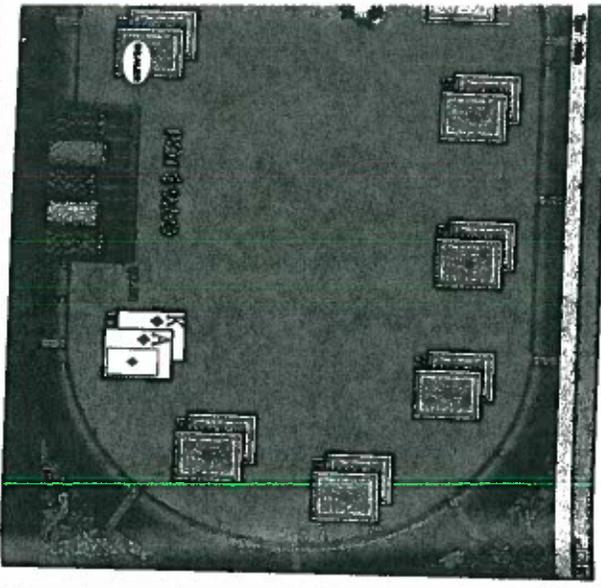
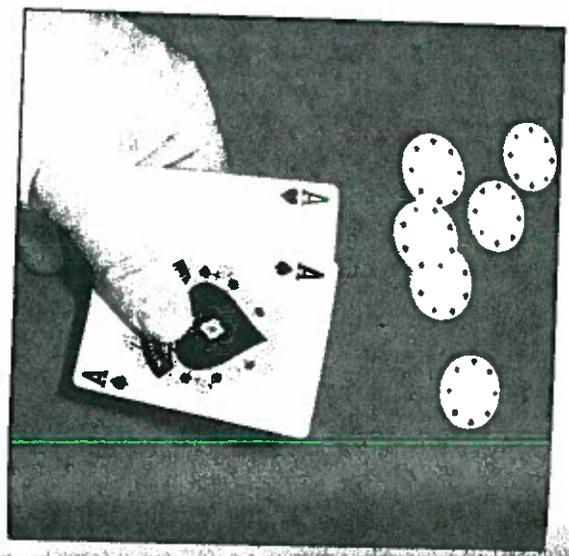
Hold'em Starting Hand Chart

The chart shown offers a guideline for selecting starting hands in Hold'em poker. AA means two aces; AKs means an ace and a king of the same suit. The dark green starting hands (AA, KK) should be played in any table position. The lighter green pairs (QQ, JJ, etc.) are played at any table position except by the tightest (most conservative) players. The dark blue (suited) and dark pink (unsuited) starting hands are played from middle and late positions, depending on the player's risk comfort and the size of the bets. The light blue (suited) and pink (unsuited) starting hands should only be played in low-limit games at late table positions, depending on the player's risk comfort.

This chart is a beginning point for most Hold'em players in determining which starting hands to play. With experience, you will memorize this table to use as a guideline to help make better plays.

AA	AKs	AQs	AJs	ATs	A9s	A8s	A7s	A6s	A5s	A4s	A3s	A2s
AK	KK	KQs	KJs	KTs	K9s	K8s	K7s	K6s	K5s	K4s	K3s	K2s
AQ	KQ	QQ	QJs	QTs	Q9s	Q8s	Q7s	Q6s	Q5s	Q4s	Q3s	Q2s
AJ	KJ	QJ	JJ	JTs	J9s	J8s	J7s	J6s	J5s	J4s	J3s	J2s
AT	KT	QT	JT	TT	T9s	T8s	T7s	T6s	T5s	T4s	T3s	T2s
A9	K9	Q9	J9	T9	99	98s	97s	96s	95s	94s	93s	92s
A8	K8	Q8	J8	T8	98	88	87s	86s	85s	84s	83s	82s
A7	K7	Q7	J7	T7	97	87	77	76s	75s	74s	73s	72s
A6	K6	Q6	J6	T6	96	86	76	66	65s	64s	63s	62s
A5	K5	Q5	J5	T5	95	85	75	65	55	54s	53s	52s
A4	K4	Q4	J4	T4	94	84	74	64	54	44	43s	42s
A3	K3	Q3	J3	T3	93	83	73	63	53	43	33	32s
A2	K2	Q2	J2	T2	92	82	72	62	52	42	32	22

and the only cards you have that others can't



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AA/KK = *Dark Green*

Slabe

AA	AKs	AQs	A1s	ATs	A9s	ABs	A7s	A6s	A5s	AAs	A3s	A2s
AK	KK	KQs	K1s	KTs	K9s	K8s	K7s	K6s	K5s	K4s	K3s	K2s
AQ	KQ	QD	Q1s	QTs	Q9s	Q8s	Q7s	Q6s	Q5s	Q4s	Q3s	Q2s
AJ	KJ	QJ	J1s	JTs	J9s	J8s	J7s	J6s	J5s	J4s	J3s	J2s
AT	KT	QT	JT	TT	T9s	T8s	T7s	T6s	T5s	T4s	T3s	T2s
A9	K9	Q9	J9	T9	99s	98s	97s	96s	95s	94s	93s	92s
AB	K8	Q8	J8	T8	98	88	87s	86s	85s	84s	83s	82s
A7	K7	Q7	J7	T7	97	87	77s	76s	75s	74s	73s	72s
A6	K6	Q6	J6	T6	96	86	76	66s	65s	64s	63s	62s
A5	K5	Q5	J5	T5	95	85	75	65	55s	54s	53s	52s
A4	K4	Q4	J4	T4	94	84	74	64	54	44s	43s	42s
A3	K3	Q3	J3	T3	93	83	73	63	53	43	33s	32s
A2	K2	Q2	J2	T2	92	82	72	62	52	42	32	22s

QQ-JJ = *Green*

Pink

high plus

WINNER'S GUIDE TO TEXAS HOLD'EM POKER

Each player in turn behind you can correctly play progressively weaker and weaker hands because there are weaker players behind him who might raise. The number of potential raisers is reduced with each player who passes or folds. If you have a weak, or less than a premium hand, you certainly would rather see the flop for only one bet than for two bets or more.

Your position in hold'em is also important because it does not change during the course of the hand. Being first to act for four betting rounds is a distinct disadvantage because you normally have no idea how many players will call or raise behind you until it happens. On the other hand, being last to act for four consecutive betting rounds is one of the biggest advantages you could have without everybody actually showing you their cards. By the time the action gets to you they will have, in effect, shown you their cards anyway. You will at least know how they feel about their hands by the way they have checked, bet, raised or reraised with their hands.

If you're last, every player in the game will have to act on his hand for four rounds without knowing what you're going to do. You, on the other hand, won't have to act on your hand until you've seen what everyone else has done with theirs. When you're last to act, you're in a powerful position. You can save money by folding when someone else has called a bet ahead of you, or you can raise when you have the best hand.

EARLY POSITION

When you are in early position, the type of hands that you can play is restricted to:

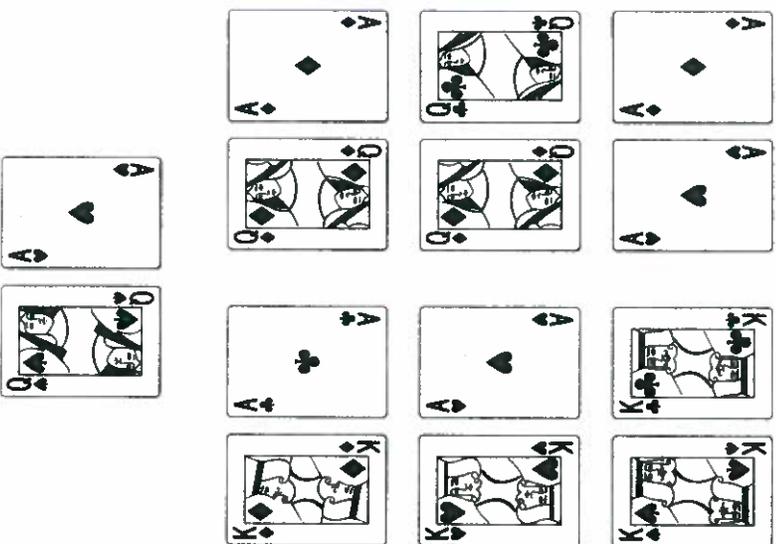
1. High cards, hands that clearly have a high expectation of winning.
2. Hands that will win with little or no improvement.

PRACTICAL WINNING HOLD'EM CONCEPTS

3. Drawing cards like A♥ Q♥, hands that still have a chance to win if you miss your draw. You can miss your heart draw and still win with a pair of aces or queens.

The hands you play up front should be able to stand a raise behind you if it comes. These are the only hands that you can profitably play from early position in a low-limit game:

Early Position Hands



As you become a more experienced hold'em player and gain a deeper insight into the subtleties of the game, there are several other hands that you can add to this early position starting hand list. This is also true for the following middle and late position starting hand list and these added hands will be covered later.

Anything else, no matter how pretty it looks, is not profitable played in an early position in a low-limit game.

MIDDLE POSITION

While playing in middle position, you will usually have a few callers in front of you already in the pot and you'll have a few more potential callers behind you. Because the chance of a raise is somewhat reduced and there are already several players in the pot, you are getting better odds to play somewhat weaker hands and you will often be getting the correct odds to play drawing hands like J♣ 10♣.

Also realize that if you call, it raises the pot odds for the players behind you and makes it more correct for them to play weaker hands. Pot odds are the odds that the pot is offering you in relation to the size of the bet you are making or calling. For example, if a sole opponent bets \$10 into a \$50 pot (to create a \$60 pot), then you are getting pot odds of 6 to 1. If you think your odds of winning a hand if you call are better than 6 to 1, then you should call. If you think your odds of winning the hand if you call are less than 6 to 1, then you should not call.

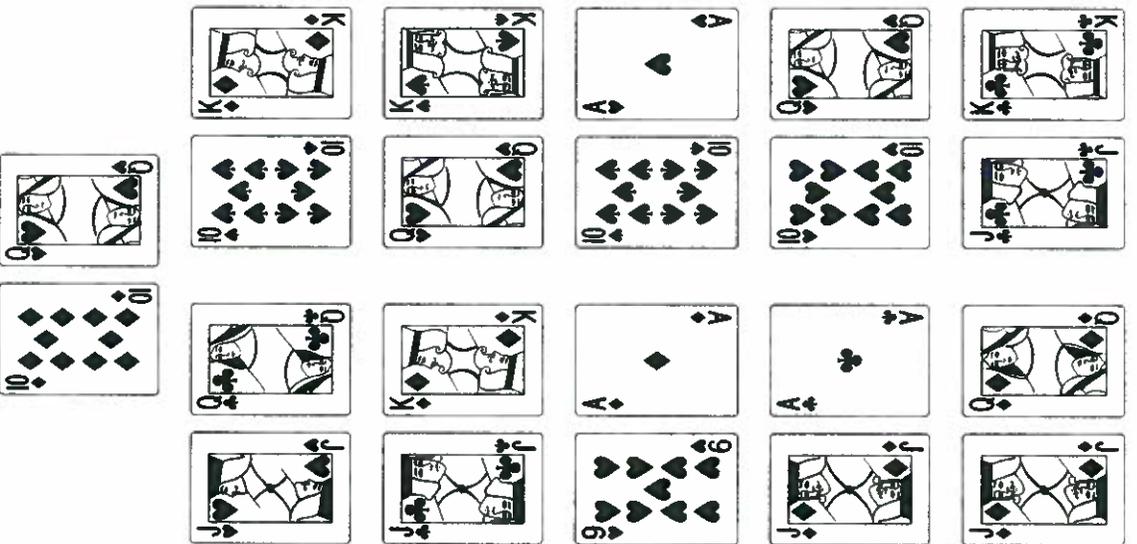
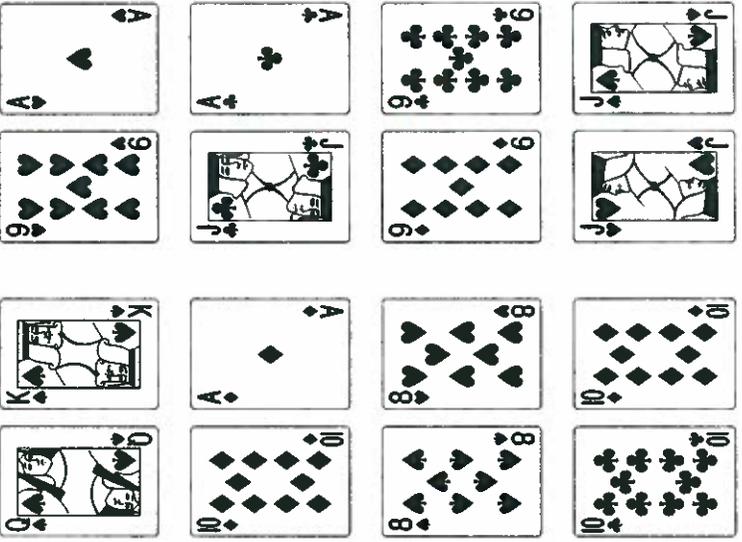
For example, a player who is last with 10♥ 9♥ cannot play if there are only one or two players in the pot. He just doesn't have the right odds to draw to the hand. But if you call in middle position with something like K♦ 10♦, you might have induced the player on your left to call because he has one more player in the pot (you) and the pot is slightly bigger. This, in turn, starts a domino effect where each player calls a bigger pot and adds one bet to it. The last player might be getting 6 to 1 on his bet and can now play

his 10♥9♥.

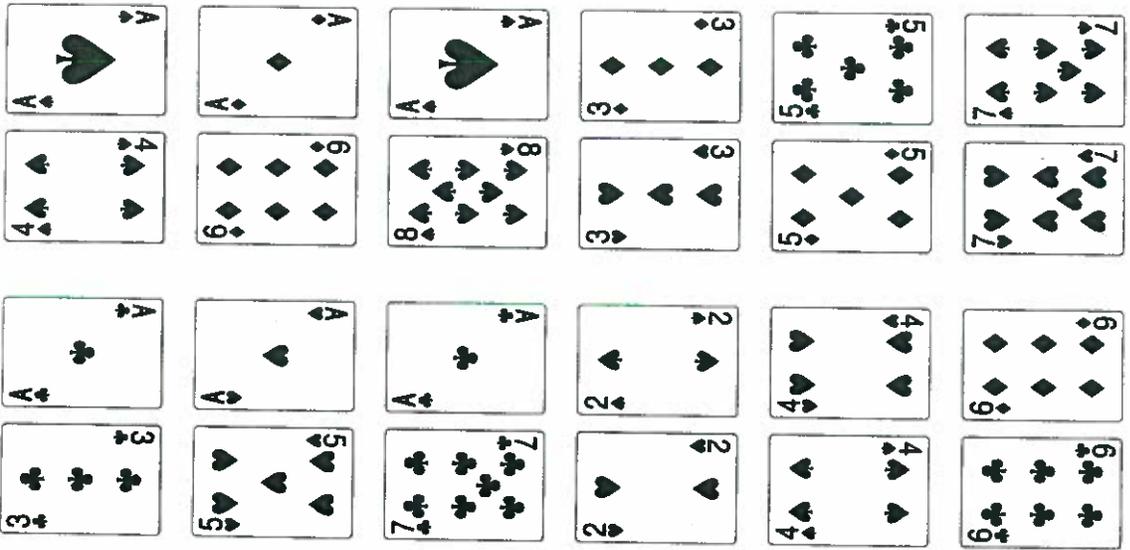
The effect of calling in early and middle position is that it induces players to play weaker hands behind you, especially in low-limit hold'em. This increases the size of the pot if you win, but it reduces your overall chances of winning the pot to begin with.

Here is the list of hands that you can play in middle position, in addition to the Early Position list:

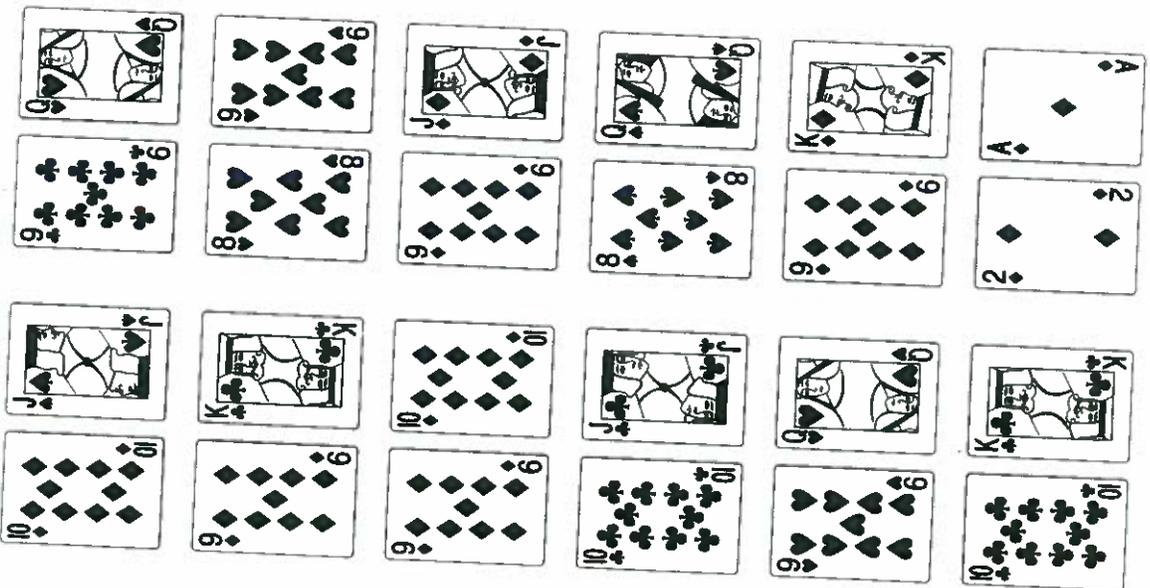
Middle Position Hands



Late Position Hands



Winner's Guide To Texas Hold'em Poker
Ken Warren



The Top 40 Hold'em Hands Based on Earning Power

Rank	Hand	% Chance or Better*	Odds-to-1 or Better†
1	A-A	0.45	
2	K-K	0.90	220:00
3	Q-Q	1.36	109:50
4	J-J	1.81	72:57
5	A-Ks	2.11	54:25
6	10-10	2.56	46:36
7	A-K	3.02	38:00
8	A-Qs	3.77	32:15
9	K-Qs	4.07	25:52
10	A-Js	4.37	23:56
11	A-10s	4.68	21:86
12	A-Q	5.38	21:86
13	9-9	6.08	20:39
14	K-Js	6.33	16:92
15	K-Q	6.33	15:58
16	K-10s	7.24	14:79
17	A-9s	7.54	12:81
18	A-J	7.84	12:26
19	8-8	8.75	11:75
20	Q-Js	9.20	10:43
21	K-J	9.50	9:87
22	A-8s	10.41	9:52
23	A-10	10.71	8:61
24	Q-10s	11.61	8:34
25	K-9s	11.92	7:61
26	1-10s	12.22	7:39
27	A-5s	12.52	7:19
28	A-4s	12.82	6:99
29	Q-J	13.12	6:80
30	A-7s	14.03	6:62
31	K-8s	14.33	6:13
32	K-10	14.63	5:98
33	Q-9s	15.54	5:84
34	A-3s	15.84	5:44
35	A-6s	16.14	5:31
36	A-2s	16.44	5:20
37	Q-10	16.74	5:08
38	K-7s	17.65	4:97
39	7-7	17.95	4:87
40	J-9s	18.40	4:67
		18.70	4:57
			4:43
			4:35

The "s" after a hand indicates that the two pocket cards are suited. If there is no "s," then the cards are not suited.

* This is the percent chance that you will be dealt this hand or any one of the hands above it on the list.

† This is the percent column converted to odds. For example, your chance of being dealt K-Q suited or any of the eight hands above it is 4.07 percent; converted to odds is 23.56-1.

OVERCARDS

An overcard is a card on the flop that is higher than the highest card in your hand. It represents the threat that it has paired one of your opponent's hole cards.

If you have 10♠ 10♥, then you definitely would not like a flop like K♥ 8♦ 6♣ against six players. Any player betting in front of you is representing at least a pair of kings. Whether or not he actually has a king is for you to figure out and it usually means you'll have to fold your hand, even if you sometimes actually have the best hand at that point.

You must have an ace in the pocket to not have to worry about an overcard, and that's going to happen only 14.9 percent of the time. The "X" in the following table represents any card lower than the one named.

Percent Chance That You Will Flop an Overcard

You Hold	Number of Overcards				An Overcard & No Set if Paired
	0	1	2	3	
K♠K♦ or K♥	77.449	21.122	1.408	0.020	22.530
Q♦Q♥ or Q♠	58.571	35.149	6.000	0.286	41.429
J♥J♠ or J♦	43.041	43.041	12.796	1.122	56.959
10♦ 10♠ or T♣	30.531	45.796	20.816	2.875	69.487
9♥9♦ or 9♣	20.714	44.388	29.082	5.816	79.286
8♦8♥ or 8♣	13.265	39.796	36.612	10.327	86.735
7♥7♠ or 7♦	7.857	31.000	42.429	16.714	92.143
6♠6♥ or 6♦	4.163	24.980	45.551	25.306	95.837
5♠5♥ or 5♦	1.857	16.714	45.000	36.429	98.143
4♦4♥ or 4♣	0.612	9.184	39.796	50.408	99.388
3♥3♠ or 3♦	0.102	3.367	28.959	67.571	99.898
2♠2♥	Impossible	0.245	11.510	88.245	100.000
					88.24

Basic Odds for the Flop In Percentages - A

You Hold	ST	4 of Kind	Full House	Flush	Straight	3 of Kind	Two Pair	One Pair	4-STRT
A♦A♠	—	.245	.980	—	—	10.776	16.163	71.837	2.612
A♦K♠	—	.245	.980	—	—	10.776	16.163	71.837	2.612
K♦K♠	—	.245	.980	—	—	10.776	16.163	71.837	2.612
Q♦Q♠	—	.245	.980	—	—	10.776	16.163	71.837	2.612
J♦J♠	—	.245	.980	—	—	10.776	16.163	71.837	2.612
10♦10♠	—	.245	.980	—	—	10.776	16.163	71.837	2.612
9♦9♠	—	.245	.980	—	—	10.776	16.163	71.837	2.612
8♦8♠	—	.245	.980	—	—	10.776	16.163	71.837	2.612
7♦7♠	—	.245	.980	—	—	10.776	16.163	71.837	2.612
6♦6♠	—	.245	.980	—	—	10.776	16.163	71.837	2.612
5♦5♠	—	.245	.980	—	—	10.776	16.163	71.837	2.612
4♦4♠	—	.245	.980	—	—	10.776	16.163	71.837	2.612
3♦3♠	—	.245	.980	—	—	10.776	16.163	71.837	2.612
2♦2♠	—	.245	.980	—	—	10.776	16.163	71.837	2.612
AKs	.005	.010	.092	.837	.321	1.571	4.041	40.408	11.204
AK	—	.010	.092	—	.327	1.571	4.041	40.408	11.347
AOs	.005	.010	.092	.837	.321	1.571	4.041	40.408	11.847
AO	—	.010	.092	—	.327	1.571	4.041	40.408	12.000
AJs	.005	.010	.092	.837	.321	1.571	4.041	40.408	12.811
AJ	—	.010	.092	—	.327	1.571	4.041	40.408	12.980
ARs	.005	.010	.092	.837	.321	1.571	4.041	40.408	13.776
AT	—	.010	.092	—	.327	1.571	4.041	40.408	13.959
A9s	—	.010	.092	.837	—	1.571	4.041	40.408	6.531
A9	—	.010	.092	—	—	1.571	4.041	40.408	7.393
ABs	—	.010	.092	.842	—	1.571	4.041	40.408	7.510
A8	—	.010	.092	—	—	1.571	4.041	40.408	7.393
AVs	—	.010	.092	.842	—	1.571	4.041	40.408	7.510
A7	—	.010	.092	—	—	1.571	4.041	40.408	7.393
AVs	—	.010	.092	.842	—	1.571	4.041	40.408	7.510
A6s	—	.010	.092	.842	—	1.571	4.041	40.408	7.510
A6	—	.010	.092	—	—	1.571	4.041	40.408	7.393
ASs	.005	.010	.092	.837	.321	1.571	4.041	40.408	13.776
A5	—	.010	.092	—	.327	1.571	4.041	40.408	13.959
A4s	.005	.010	.092	.837	.321	1.571	4.041	40.408	12.811
A4	—	.010	.092	—	.327	1.571	4.041	40.408	12.980
A3s	.005	.010	.092	.837	.321	1.571	4.041	40.408	11.847
A3	—	.010	.092	—	.327	1.571	4.041	40.408	12.000
A2s	.005	.010	.092	.837	.321	1.571	4.041	40.408	11.204
A2	—	.010	.092	—	.327	1.571	4.041	40.408	11.347
KOs	.010	.010	.092	.832	.643	1.571	4.041	40.408	15.566
KO	—	.010	.092	—	.653	1.571	4.041	40.408	15.735
K6s	.010	.010	.092	.832	.643	1.571	4.041	40.408	16.209
K6	—	.010	.092	—	.653	1.571	4.041	40.408	16.408
KJs	.010	.010	.092	.832	.643	1.571	4.041	40.408	17.173
KJ	—	.010	.092	—	.653	1.571	4.041	40.408	17.388
KTs	.010	.010	.092	.837	.653	1.571	4.041	40.408	17.388
KT	—	.010	.092	—	.653	1.571	4.041	40.408	17.388
K9s	.005	.010	.092	.837	.321	1.571	4.041	40.408	12.491
K9	—	.010	.092	—	.321	1.571	4.041	40.408	12.491

Basic Odds for the Flop In Percentages - B

You Hold	ST	4 of Kind	Full House	Flush	Straight	3 of Kind	Two Pair	One Pair	4-STRT
K9	—	.010	.092	.842	.327	1.571	4.041	40.408	12.653
K8s	—	.010	.092	—	—	1.571	4.041	40.408	6.107
K8	—	.010	.092	—	—	1.571	4.041	40.408	6.204
K7s	—	.010	.092	.842	—	1.571	4.041	40.408	7.071
K7	—	.010	.092	—	—	1.571	4.041	40.408	7.184
K6s	—	.010	.092	.842	—	1.571	4.041	40.408	7.393
K6	—	.010	.092	—	—	1.571	4.041	40.408	7.510
K5s	—	.010	.092	.837	—	1.571	4.041	40.408	7.393
K5	—	.010	.092	—	—	1.571	4.041	40.408	7.510
K4s	—	.010	.092	.842	—	1.571	4.041	40.408	6.429
K4	—	.010	.092	—	—	1.571	4.041	40.408	6.531
K3s	—	.010	.092	.842	—	1.571	4.041	40.408	5.464
K3	—	.010	.092	—	—	1.571	4.041	40.408	5.551
K2s	—	.010	.092	.842	—	1.571	4.041	40.408	4.571
K2	—	.010	.092	—	—	1.571	4.041	40.408	4.571
Qs	.015	.010	.092	.827	.964	1.571	4.041	40.408	20.893
Q1	—	.010	.092	—	.980	1.571	4.041	40.408	21.143
QBs	.015	.010	.092	.827	.964	1.571	4.041	40.408	21.336
Q1	—	.010	.092	—	.980	1.571	4.041	40.408	21.796
Q9s	.010	.010	.092	.832	.643	1.571	4.041	40.408	17.173
Q9	—	.010	.092	—	.653	1.571	4.041	40.408	17.388
Q8s	.005	.010	.092	.837	.321	1.571	4.041	40.408	13.133
Q8	—	.010	.092	—	.327	1.571	4.041	40.408	13.306
Q7s	—	.010	.092	.842	—	1.571	4.041	40.408	7.071
Q7	—	.010	.092	—	—	1.571	4.041	40.408	7.184
Q6s	—	.010	.092	.842	—	1.571	4.041	40.408	8.086
Q6	—	.010	.092	—	—	1.571	4.041	40.408	8.163
Q5s	—	.010	.092	.842	—	1.571	4.041	40.408	8.357
Q5	—	.010	.092	—	—	1.571	4.041	40.408	8.490
Q4s	—	.010	.092	.842	—	1.571	4.041	40.408	7.393
Q4	—	.010	.092	—	—	1.571	4.041	40.408	7.510
Q3s	—	.010	.092	.842	—	1.571	4.041	40.408	6.429
Q3	—	.010	.092	—	—	1.571	4.041	40.408	6.531
Q2s	—	.010	.092	.842	—	1.571	4.041	40.408	5.464
Q2	—	.010	.092	—	—	1.571	4.041	40.408	5.551
Ts	.020	.010	.092	.821	1.286	1.571	4.041	40.408	26.219
T1	—	.010	.092	—	1.306	1.571	4.041	40.408	25.531
T9s	.015	.010	.092	.837	.064	1.571	4.041	40.408	21.536
T9	—	.010	.092	—	.980	1.571	4.041	40.408	21.796
T8s	.005	.010	.092	.832	.643	1.571	4.041	40.408	17.816
T8	—	.010	.092	—	.653	1.571	4.041	40.408	18.041
T7s	.005	.010	.092	.837	.321	1.571	4.041	40.408	14.097
T7	—	.010	.092	—	.327	1.571	4.041	40.408	14.286
T6s	—	.010	.092	.842	—	1.571	4.041	40.408	8.036

Basic Odds For the Flop In Percentages - C

You Hold	ST	4 of Kind	Full House	Flush	Straight	3 of Kind	Two Pair	One Pair	4-STRT
19s	.020	.010	.092	.821	1.286	1.571	4.041	40.408	26.219
19s	.015	.010	.092	.827	1.306	1.571	4.041	40.408	26.531
18s	.015	.010	.092	.827	.964	1.571	4.041	40.408	22.179
18s	.010	.010	.092	.832	.980	1.571	4.041	40.408	22.449
17s	.010	.010	.092	.832	.643	1.571	4.041	40.408	18.871
17s	.010	.010	.092	.837	.653	1.571	4.041	40.408	19.020
16s	.010	.010	.092	.842	.327	1.571	4.041	40.408	15.061
15s	.010	.010	.092	.842	.327	1.571	4.041	40.408	15.265
14s	.010	.010	.092	.842	.327	1.571	4.041	40.408	9.143
14s	.010	.010	.092	.842	.327	1.571	4.041	40.408	9.143
13s	.010	.010	.092	.842	.327	1.571	4.041	40.408	9.143
13s	.010	.010	.092	.842	.327	1.571	4.041	40.408	9.143
12s	.010	.010	.092	.842	.327	1.571	4.041	40.408	9.143
12s	.010	.010	.092	.842	.327	1.571	4.041	40.408	9.143
11s	.010	.010	.092	.842	.327	1.571	4.041	40.408	9.143
11s	.010	.010	.092	.842	.327	1.571	4.041	40.408	9.143
10s	.010	.010	.092	.842	.327	1.571	4.041	40.408	9.143
10s	.010	.010	.092	.842	.327	1.571	4.041	40.408	9.143
9s	.010	.010	.092	.842	.327	1.571	4.041	40.408	9.143
9s	.010	.010	.092	.842	.327	1.571	4.041	40.408	9.143
8s	.010	.010	.092	.842	.327	1.571	4.041	40.408	9.143
8s	.010	.010	.092	.842	.327	1.571	4.041	40.408	9.143
7s	.010	.010	.092	.842	.327	1.571	4.041	40.408	9.143
7s	.010	.010	.092	.842	.327	1.571	4.041	40.408	9.143
6s	.010	.010	.092	.842	.327	1.571	4.041	40.408	9.143
6s	.010	.010	.092	.842	.327	1.571	4.041	40.408	9.143
5s	.010	.010	.092	.842	.327	1.571	4.041	40.408	9.143
5s	.010	.010	.092	.842	.327	1.571	4.041	40.408	9.143
4s	.010	.010	.092	.842	.327	1.571	4.041	40.408	9.143
4s	.010	.010	.092	.842	.327	1.571	4.041	40.408	9.143
3s	.010	.010	.092	.842	.327	1.571	4.041	40.408	9.143
3s	.010	.010	.092	.842	.327	1.571	4.041	40.408	9.143
2s	.010	.010	.092	.842	.327	1.571	4.041	40.408	9.143
2s	.010	.010	.092	.842	.327	1.571	4.041	40.408	9.143
1s	.010	.010	.092	.842	.327	1.571	4.041	40.408	9.143
1s	.010	.010	.092	.842	.327	1.571	4.041	40.408	9.143

Basic Odds For the Flop In Percentages - D

You Hold	ST	4 of Kind	Full House	Flush	Straight	3 of Kind	Two Pair	One Pair	4-STRT
76s	.020	.010	.092	.821	1.286	1.571	4.041	40.408	26.219
76s	.015	.010	.092	.827	1.306	1.571	4.041	40.408	26.531
75s	.015	.010	.092	.827	.964	1.571	4.041	40.408	22.179
75s	.010	.010	.092	.832	.980+	1.571	4.041	40.408	22.449
74s	.010	.010	.092	.832	.643	1.571	4.041	40.408	17.816
74s	.010	.010	.092	.837	.653	1.571	4.041	40.408	18.041
73s	.010	.010	.092	.842	.327	1.571	4.041	40.408	13.133
73s	.010	.010	.092	.842	.327	1.571	4.041	40.408	13.306
72s	.010	.010	.092	.842	.327	1.571	4.041	40.408	6.107
72s	.010	.010	.092	.842	.327	1.571	4.041	40.408	6.204
66s	.020	.010	.092	.821	1.286	1.571	4.041	40.408	26.219
66s	.015	.010	.092	.827	1.306	1.571	4.041	40.408	26.531
64s	.015	.010	.092	.827	.964	1.571	4.041	40.408	21.536
64s	.010	.010	.092	.832	.980	1.571	4.041	40.408	21.796
63s	.010	.010	.092	.832	.643	1.571	4.041	40.408	17.173
63s	.010	.010	.092	.837	.653	1.571	4.041	40.408	17.388
62s	.005	.010	.092	.837	.321	1.571	4.041	40.408	12.490
62s	.010	.010	.092	.842	.327	1.571	4.041	40.408	12.653
54s	.020	.010	.092	.821	1.286	1.571	4.041	40.408	26.219
54s	.015	.010	.092	.827	1.306	1.571	4.041	40.408	26.531
53s	.015	.010	.092	.827	.964	1.571	4.041	40.408	21.536
53s	.010	.010	.092	.832	.980	1.571	4.041	40.408	21.796
52s	.010	.010	.092	.832	.643	1.571	4.041	40.408	17.173
52s	.010	.010	.092	.837	.653	1.571	4.041	40.408	17.388
43s	.015	.010	.092	.827	.964	1.571	4.041	40.408	20.893
43s	.010	.010	.092	.832	.980	1.571	4.041	40.408	21.143
42s	.010	.010	.092	.832	.643	1.571	4.041	40.408	16.209
42s	.010	.010	.092	.837	.653	1.571	4.041	40.408	16.408
32s	.010	.010	.092	.832	.643	1.571	4.041	40.408	16.566
32s	.010	.010	.092	.837	.653	1.571	4.041	40.408	15.755

I do not think that this kind of implicit collusion against a short stack represents unethical behavior. I would never say something like, "Okay, guys, let's all take a shot—no one bet or raise." I'm merely hoping that my fellow players are aware of this strategy. If it seems like they might not be, I see no problem in educating them away from the table while on a break or in between rounds.

SOBERING MATH AND BAD BEATS

While tournament poker is a pursuit that demands a lot of skill, there is no doubt in my mind that it requires an extraordinary amount of luck to win.

Over the course of a tournament, I'm due to be dealt pocket aces about 1 out of 221 hands. At typical tournament dealing speeds I pick them up about once every five hours or so.

For this thought experiment, I assume that for every 221st hand I play, I pick up A♣ A♦. I raise. Then a "sucker" at the table, who has exactly the same number

of chips that I have, loves his hand and re-raises. I move all-in and he calls.

I am all-in with the best hand. A dominant best hand. He turns over K♠ K♥ and is crushed to see my aces. I am 81.26% to win before the flop.

Over the course of five days of play, ten hours a day, I face this situation ten times. Ten times I have to "not get unlucky" in order to win the tournament. What are the chances?

A-A vs. K-K All-in	Chance of Survival
1st time	81.26%
2nd	66.02%
3rd	53.65%
4th	43.59%
5th	35.42%
6th	28.78%
7th	23.39%
8th	19.00%
9th	15.44%
10th	12.55%

K♠K♥ vs. A♦8♣

With all the money in the pot, the unsuited ace will win about 29% of the time.

In each case, you can clearly see that suited cards will only outperform their unsuited cousins around 3-4% of the time. In other words, the main strength of a hand comes from the rank of the cards, not their suitedness. A decision whether to play or fold a hand before the flop has to be *very* close before I consider whether or not it is suited.

PREFLOP MATCHUPS

While actually calculating the preflop percentages of two competing hands gets pretty complicated, I can approximate my chances of winning by memorizing just a few scenarios.

- Fav = The favorite to win the hand
- Dog = The underdog in the hand
- Odds = If the favorite is 82% to win, and the underdog is 18% to win, the better hand would be an 82-to-18, or 4.6-to-1 favorite. This



would mean that there would need to be \$46 in the pot for each \$10 I am being asked to call.

(In each situation the favorite is listed first.)

Situation	Example	Fav	Dog	Odds
Pair vs. Underpair	AA vs. 55	82	18	4.6
Pair vs. Under-suited-connectors	KK vs. 87s	77	23	3.3
Pair vs. Suited over and under	TT vs. A2s	68	32	2.1
Pair vs. Connected suited overcards	77 vs. KQs	51	49	1.0
Pair vs. Connected overcards	77 vs. KQo	54	46	1.2
Suited connectors	JT♠ vs. 65♥	63	37	1.7
High card vs. Two intermediates	A2 vs. Q8	58	42	1.4
High/Low vs. Med. suited connectors	A2 vs. QJs	53	47	1.1
Domination	ATs vs. A2	70	30	2.3
Two high vs. Two low	KT vs. 64	64	36	1.8
High/Low vs. Medium/lower	Q7 vs. T5	63	37	1.7
Best vs. Worst	AA vs. 72	89	11	8.1
Unsuited vs. Suited	AKs vs. AKo	53	47	1.1

AKs denotes A and K of the same suit. AKo denotes A and K of two different suits.

SLIGHT DOG, BIG FAVORITE

A-K is one of the best hands to play in No Limit Hold'em. Many top professionals play this hand very aggressively, almost as if they had A-A or K-K. Why so? Because with this hand, most of the time either they will be a very slight underdog (they are against a pocket pair) or they'll be a big favorite (against A-Q, etc.)

Computer simulation with A-K against a random selection of decent hands (any pocket pair A-A to 2-2, A-K, A-Q, A-J, K-Q) shows that A-K comes out slightly ahead, winning 53.23% of the time against all of these hands. Only against A-A is the A-K truly dominated. Even against K-K, the A-K will win about 31% of the time.

INTERESTING, UNEXPECTED MATCHUPS

Here are some preflop matchups whose results turn out to be interesting and unexpected:

Against A-J or 8-8, K-Q is an underdog. But look what happens against A-J and 8-8:

A♠ J♦	30.2%
K♦ Q♦	36.4%
8♠ 8♥	33.4%

K-Qs suddenly become a nice favorite! Here is the closest preflop equity race I've been able to find:

K♣ Q♣	33.3334%
K♦ Q♦	33.3334%
8♥ 4♠	33.3332%

Ask most professional poker players which of the following hands is the favorite before the flop:

J♣ T♣ vs. 5♠ 5♥

Most will answer 5-5. I know I did. I thought that every pocket pair was favored over two unpaired cards. In this case, 5-5 seems to be in the lead, but the J-T suited turns out to be a reasonable favorite:

OUTS

I use this chart to figure out the chances of winning after the flop and the turn. The Rules of Four and Two (see page 178) provide close approximations, but here are the exact values.

Note that the postflop column does not contain any adjustment for opponents' redraws, i.e., those times they pick up a backdoor flush or straight. This table assumes that if I hit my hand, it will be a winner.

Outs	Postflop		Postturn	
	Rules of 4	Exact	Rule of 2	Exact
1	4	4.5%	2	2.3%
2	8	8.8%	4	4.5%
3	12	13.0%	6	6.8%
4	16	17.2%	8	9.1%
5	20	21.2%	10	11.4%
6	24	25.2%	12	13.6%
7	28	29.0%	14	15.9%
8	32	32.7%	16	18.2%
9	36	36.4%	18	20.5%
10	40	39.9%	20	22.7%
11	44	43.3%	22	25.0%
12	48	46.7%	24	27.3%
13	52	49.9%	26	29.5%
14	56	53.0%	28	31.8%
15	60	56.1%	30	34.1%
16	64	59.0%	32	36.4%
17	68	61.8%	34	38.6%

270

PREFLOP CHANCES

The chances of being dealt . . .

A-A	0.45%
A-A or K-K	0.90%
Any pocket pair	5.90%
A-K suited	0.30%
A-K offsuit	0.90%
Any A-K	1.20%
A-A, K-K, any A-K	2.10%
Two suited cards	24.00%

If I have a pocket pair, I will flop . . .

A set	10.80%
A full house	0.70%
Four of a kind	0.20%
Set or better	11.80%

If I am suited, I will . . .

Flop a flush	0.84%
Flop a flush draw	10.90%
Flop a three-card flush	41.60%
Make flush by river	6.40%

(need two more!)

271

If I am unpaired in the hole, I will flop . . .

At least one pair	32.40%
Exactly one pair	29.00%
Two pair	2.00%
Trips	1.35%
Full house	0.10%
Quads	0.01%

(using one hole card)

(using both hole cards)

(dream on)

When the flop comes down, it will be . . .

Trips	0.24%
Paired	17.00%
Suited	5.20%
Rainbow (three suits)	40.00%
Sequenced (4-5-6)	3.50%
Two sequence (K-5-6)	40.00%
Unsequenced (2-5-Q)	56.00%

On the turn, I'll make a . . .

Full house or better after Flopping a set (seven outs)	15%
Full house after flopping two pair (four outs)	9%

Flush after flopping a four flush (nine outs)	19%
Straight after flopping two-way draw (eight outs)	17%
Straight after flopping a gut-shot (four outs)	9%
Pair after flopping two overcards (six outs)	13%

After the flop, if I go to the river, I'll make a . . .

Full house or better after flopping a set	33%
Full house or better after flopping two pair	17%
Flush after flopping a four flush	35%
Backdoor (runner-runner) flush	4.2%
Straight after flopping two-way draw	32%
Straight after flopping a gut-shot	17%
Pair or better after flopping two overcards	24%

With just the river to come, I'll make a . . .

Full house or better with a set (ten outs)	23%
Full house out of two pair (four outs)	9.1%
Flush from a four flush (nine outs)	20%
Straight with two-ways to make it (eight outs)	17%
Gut-shot straight (four outs)	8%
Pair with two overcards (six outs)	13%