

APPENDIX C: CRIB SHEET 3

Poker Champion
Money Heist — *Chris Marmey*

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: Average
 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

Suited Hands

AA	AK	AQ	AJ	AT	A9	A8	A7	A6	A5	A4	A3	A2
AK	KQ	KJ	KT	K9	K8	K7	K6	K5	K4	K3	K2	
AQ	QK	QJ	QT	Q9	Q8	Q7	Q6	Q5	Q4	Q3	Q2	
AJ	KJ	QJ	JT	J9	J8	J7	J6	J5	J4	J3	J2	
AT	KT	QT	JT	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

- ☐ 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)

Red 1

Red 2

Warrior 3

Red Blue 4

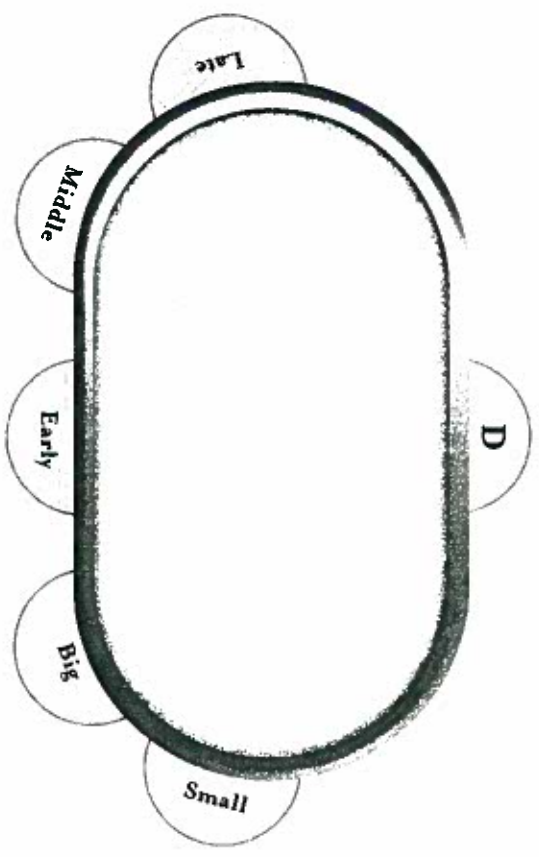
Red 5

— 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	KS	KS	K4	K3	K2
QQ	QJ	QT	Q9	Q8	Q7	Q6	Q5	Q4	Q3	Q2		
QJ	QJ	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	KS	Q7	J7	T7	97	87	77	76	75	74	73	72
A6	KS	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
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A2	K2	Q2	J2	T2	92	82	72	62	52	42	32	22

Unsuited Hands



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

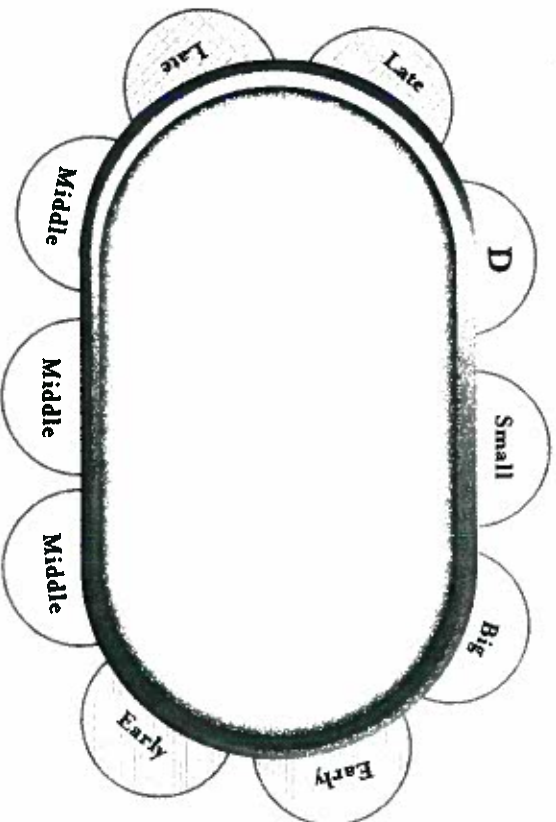
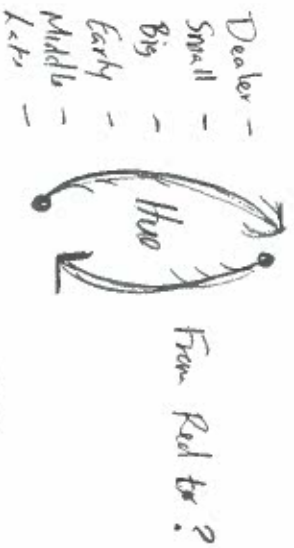
—AVERAGE GAME—

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	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
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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



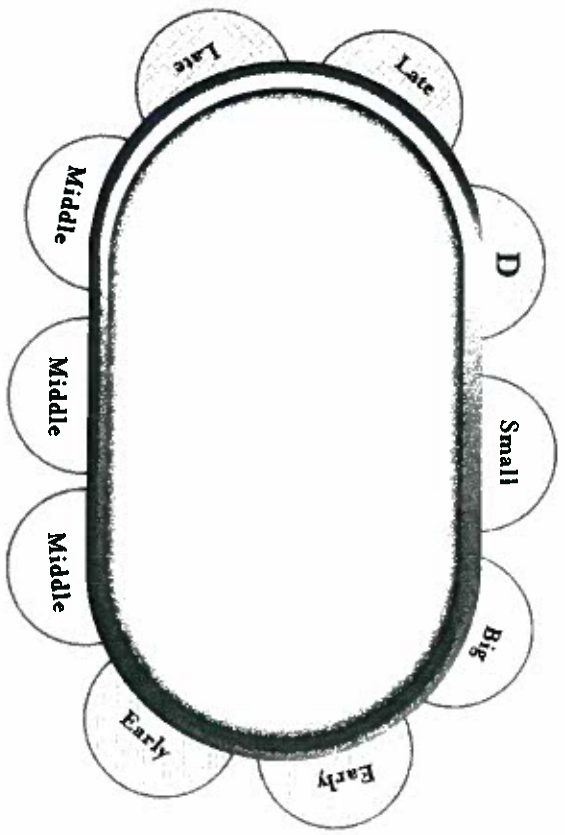
D → Red
 SB → Medium Sea Green
 Early → Navy's White
 Mid → Light Blue
 Late → Blue

— 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												
A♠	A♠	A♥	A♥	A♦	A♦	A♣	A♣	A♠	A♠	A♠	A♠	A♠
A♥	A♥	A♦	A♦	A♣	A♣	A♠	A♠	A♥	A♥	A♥	A♥	A♥
A♦	A♦	A♣	A♣	A♠	A♠	A♥	A♥	A♦	A♦	A♦	A♦	A♦
A♣	A♣	A♠	A♠	A♥	A♥	A♦	A♦	A♣	A♣	A♣	A♣	A♣
K♠	K♠	K♥	K♥	K♦	K♦	K♣	K♣	K♠	K♠	K♠	K♠	K♠
K♥	K♥	K♦	K♦	K♣	K♣	K♠	K♠	K♥	K♥	K♥	K♥	K♥
K♦	K♦	K♣	K♣	K♠	K♠	K♥	K♥	K♦	K♦	K♦	K♦	K♦
K♣	K♣	K♠	K♠	K♥	K♥	K♦	K♦	K♣	K♣	K♣	K♣	K♣
Q♠	Q♠	Q♥	Q♥	Q♦	Q♦	Q♣	Q♣	Q♠	Q♠	Q♠	Q♠	Q♠
Q♥	Q♥	Q♦	Q♦	Q♣	Q♣	Q♠	Q♠	Q♥	Q♥	Q♥	Q♥	Q♥
Q♦	Q♦	Q♣	Q♣	Q♠	Q♠	Q♥	Q♥	Q♦	Q♦	Q♦	Q♦	Q♦
Q♣	Q♣	Q♠	Q♠	Q♥	Q♥	Q♦	Q♦	Q♣	Q♣	Q♣	Q♣	Q♣
J♠	J♠	J♥	J♥	J♦	J♦	J♣	J♣	J♠	J♠	J♠	J♠	J♠
J♥	J♥	J♦	J♦	J♣	J♣	J♠	J♠	J♥	J♥	J♥	J♥	J♥
J♦	J♦	J♣	J♣	J♠	J♠	J♥	J♥	J♦	J♦	J♦	J♦	J♦
J♣	J♣	J♠	J♠	J♥	J♥	J♦	J♦	J♣	J♣	J♣	J♣	J♣
T♠	T♠	T♥	T♥	T♦	T♦	T♣	T♣	T♠	T♠	T♠	T♠	T♠
T♥	T♥	T♦	T♦	T♣	T♣	T♠	T♠	T♥	T♥	T♥	T♥	T♥
T♦	T♦	T♣	T♣	T♠	T♠	T♥	T♥	T♦	T♦	T♦	T♦	T♦
T♣	T♣	T♠	T♠	T♥	T♥	T♦	T♦	T♣	T♣	T♣	T♣	T♣
9♠	9♠	9♥	9♥	9♦	9♦	9♣	9♣	9♠	9♠	9♠	9♠	9♠
9♥	9♥	9♦	9♦	9♣	9♣	9♠	9♠	9♥	9♥	9♥	9♥	9♥
9♦	9♦	9♣	9♣	9♠	9♠	9♥	9♥	9♦	9♦	9♦	9♦	9♦
9♣	9♣	9♠	9♠	9♥	9♥	9♦	9♦	9♣	9♣	9♣	9♣	9♣
8♠	8♠	8♥	8♥	8♦	8♦	8♣	8♣	8♠	8♠	8♠	8♠	8♠
8♥	8♥	8♦	8♦	8♣	8♣	8♠	8♠	8♥	8♥	8♥	8♥	8♥
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6♠	6♠	6♥	6♥	6♦	6♦	6♣	6♣	6♠	6♠	6♠	6♠	6♠
6♥	6♥	6♦	6♦	6♣	6♣	6♠	6♠	6♥	6♥	6♥	6♥	6♥
6♦	6♦	6♣	6♣	6♠	6♠	6♥	6♥	6♦	6♦	6♦	6♦	6♦
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5♠	5♠	5♥	5♥	5♦	5♦	5♣	5♣	5♠	5♠	5♠	5♠	5♠
5♥	5♥	5♦	5♦	5♣	5♣	5♠	5♠	5♥	5♥	5♥	5♥	5♥
5♦	5♦	5♣	5♣	5♠	5♠	5♥	5♥	5♦	5♦	5♦	5♦	5♦
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4♠	4♠	4♥	4♥	4♦	4♦	4♣	4♣	4♠	4♠	4♠	4♠	4♠
4♥	4♥	4♦	4♦	4♣	4♣	4♠	4♠	4♥	4♥	4♥	4♥	4♥
4♦	4♦	4♣	4♣	4♠	4♠	4♥	4♥	4♦	4♦	4♦	4♦	4♦
4♣	4♣	4♠	4♠	4♥	4♥	4♦	4♦	4♣	4♣	4♣	4♣	4♣
3♠	3♠	3♥	3♥	3♦	3♦	3♣	3♣	3♠	3♠	3♠	3♠	3♠
3♥	3♥	3♦	3♦	3♣	3♣	3♠	3♠	3♥	3♥	3♥	3♥	3♥
3♦	3♦	3♣	3♣	3♠	3♠	3♥	3♥	3♦	3♦	3♦	3♦	3♦
3♣	3♣	3♠	3♠	3♥	3♥	3♦	3♦	3♣	3♣	3♣	3♣	3♣
2♠	2♠	2♥	2♥	2♦	2♦	2♣	2♣	2♠	2♠	2♠	2♠	2♠
2♥	2♥	2♦	2♦	2♣	2♣	2♠	2♠	2♥	2♥	2♥	2♥	2♥
2♦	2♦	2♣	2♣	2♠	2♠	2♥	2♥	2♦	2♦	2♦	2♦	2♦
2♣	2♣	2♠	2♠	2♥	2♥	2♦	2♦	2♣	2♣	2♣	2♣	2♣
A♣	A♣	A♠	A♠	A♥	A♥	A♦	A♦	A♣	A♣	A♣	A♣	A♣
A♠	A♠	A♥	A♥	A♦	A♦	A♣	A♣	A♠	A♠	A♠	A♠	A♠
A♥	A♥	A♦	A♦	A♣	A♣	A♠	A♠	A♥	A♥	A♥	A♥	A♥
A♦	A♦	A♣	A♣	A♠	A♠	A♥	A♥	A♦	A♦	A♦	A♦	A♦
A♣	A♣	A♠	A♠	A♥	A♥	A♦	A♦	A♣	A♣	A♣	A♣	A♣

Unsuited Hands

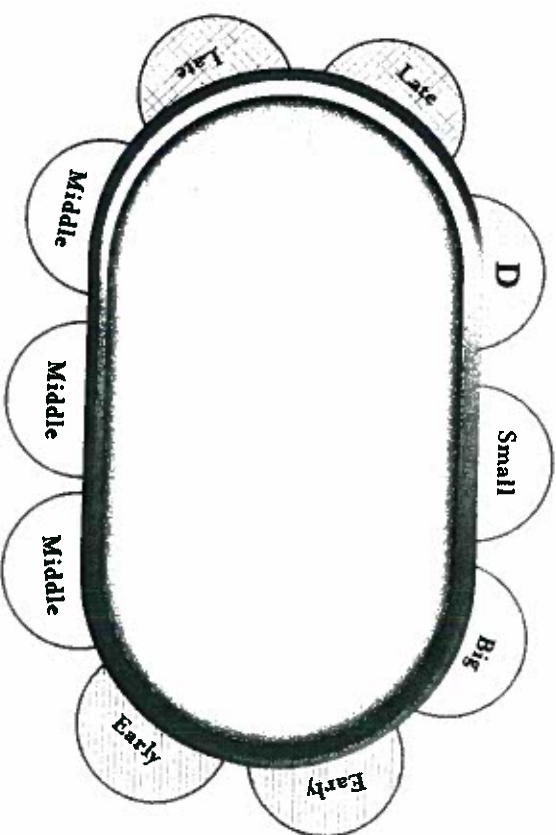


—I'M PLAYING LOOSE—

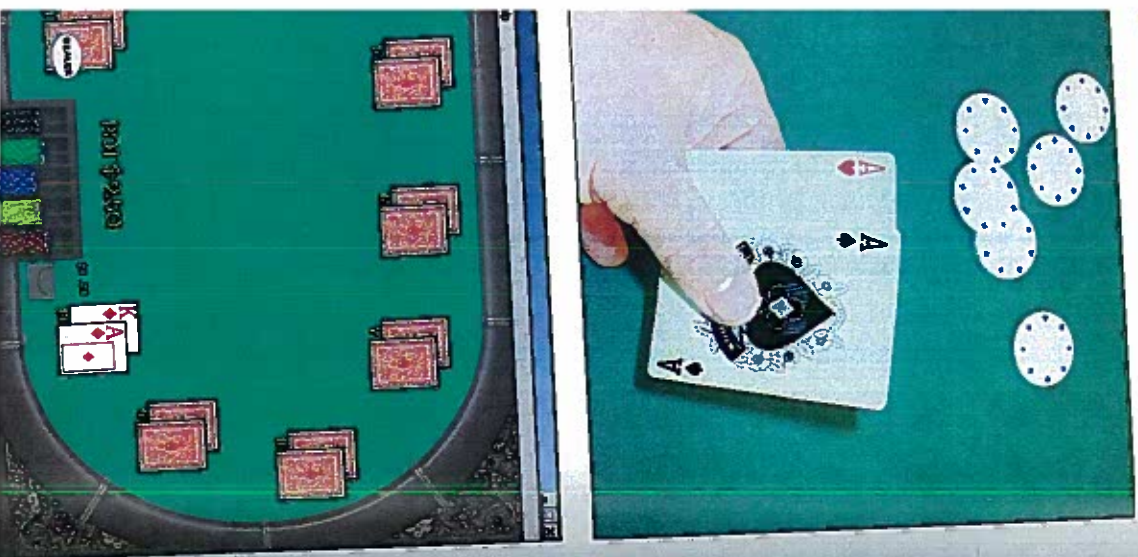
Game: Average 2 players before the flop
 Action: First to the pot, and raising
 Players: 9 - to 10-handed

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
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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



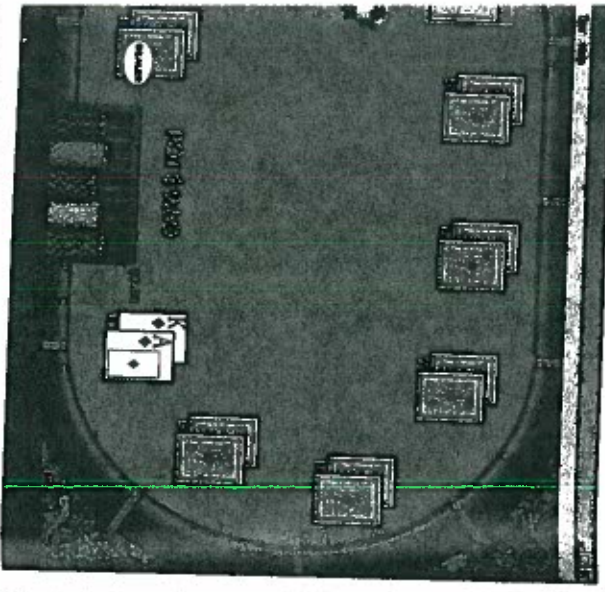
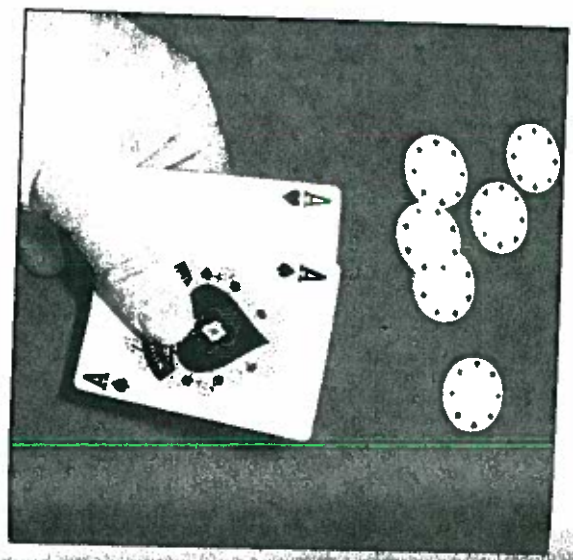
Hold'em Starting Hand Chart

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
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and the only cards you have that others can't



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AA/KK = *Dark Green*

5/4/2

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	JTs	J9s	J8s	J7s	J6s	J5s	J4s	J3s	J2s	
AT	KT	QT	JT	T9s	T8s	T7s	T6s	T5s	T4s	T3s	T2s	
A9	K9	Q9	J9	T9	98s	97s	96s	95s	94s	93s	92s	
A8	K8	Q8	J8	T8	87s	86s	85s	84s	83s	82s	81s	
A7	K7	Q7	J7	T7	76s	75s	74s	73s	72s	71s	70s	
A6	K6	Q6	J6	T6	65s	64s	63s	62s	61s	60s	59s	
A5	K5	Q5	J5	T5	54s	53s	52s	51s	50s	49s	48s	
A4	K4	Q4	J4	T4	43s	42s	41s	40s	39s	38s	37s	
A3	K3	Q3	J3	T3	32s	31s	30s	29s	28s	27s	26s	
A2	K2	Q2	J2	T2	21s	20s	19s	18s	17s	16s	15s	

*high
you*

QQ-JJ = *Green*

Pink

Each player in turn behind you can correctly play aggressively weaker and weaker hands because there are fewer 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

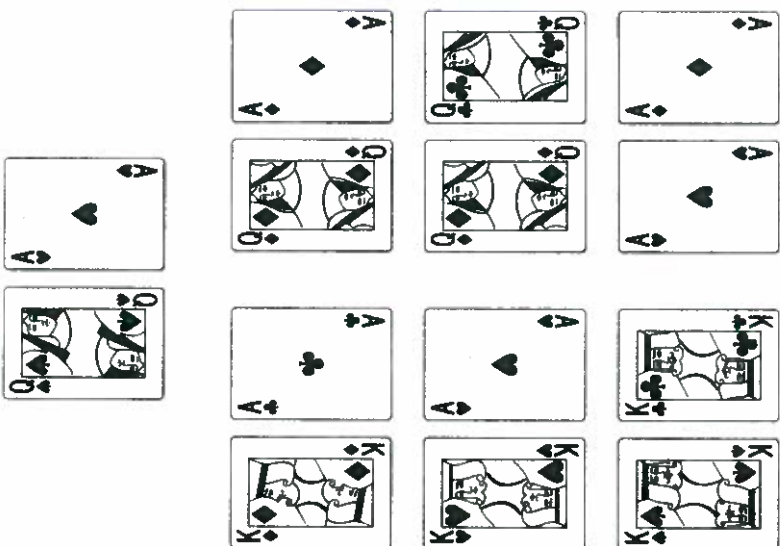
When you are in early position, the type of hands that you can play is restricted to:

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

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 $J\clubsuit 10\clubsuit$.

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.

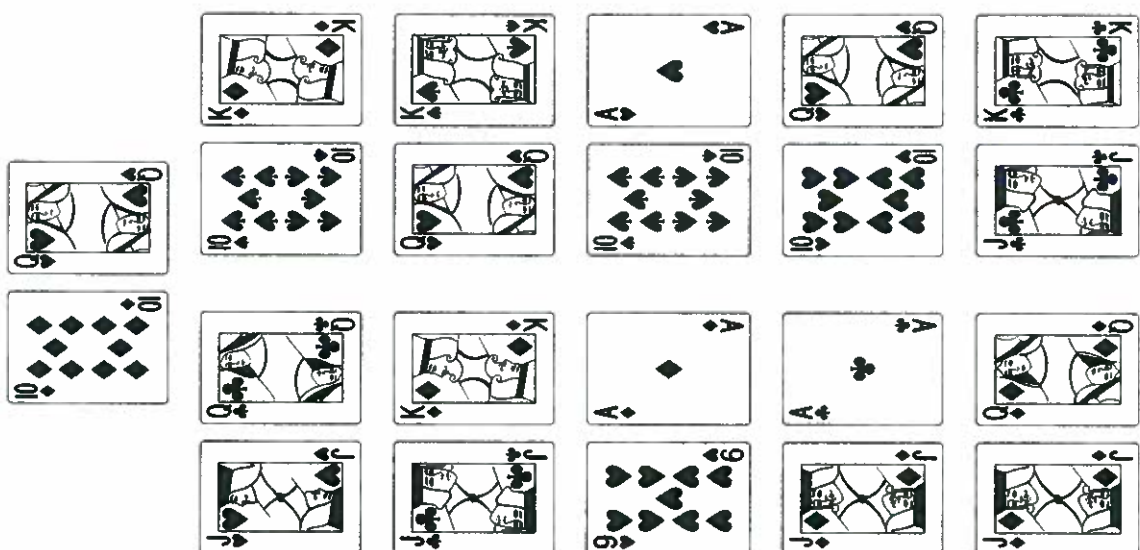
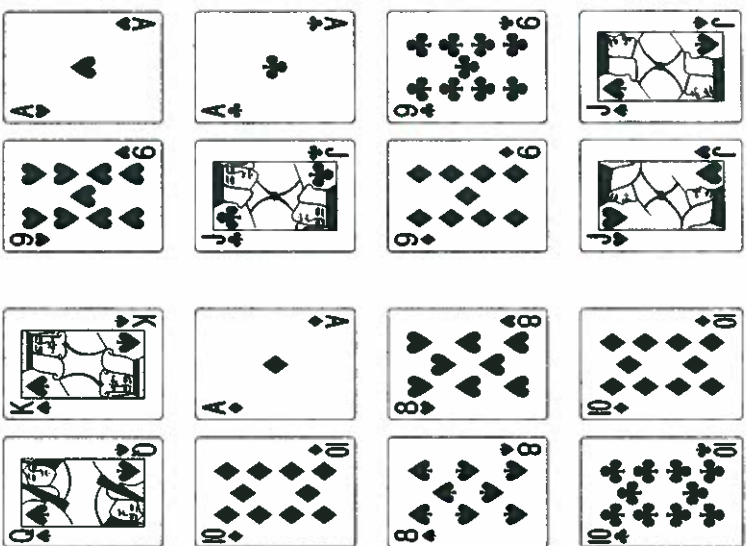
For example, a player who is last with $10\heartsuit 9\spadesuit$ cannot play if there are only one or two players in the pot. He just doesn't have the right odds to draw to the hand. But if you call in middle position with something like $K\spadesuit 10\spadesuit$, you might have induced the player 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.

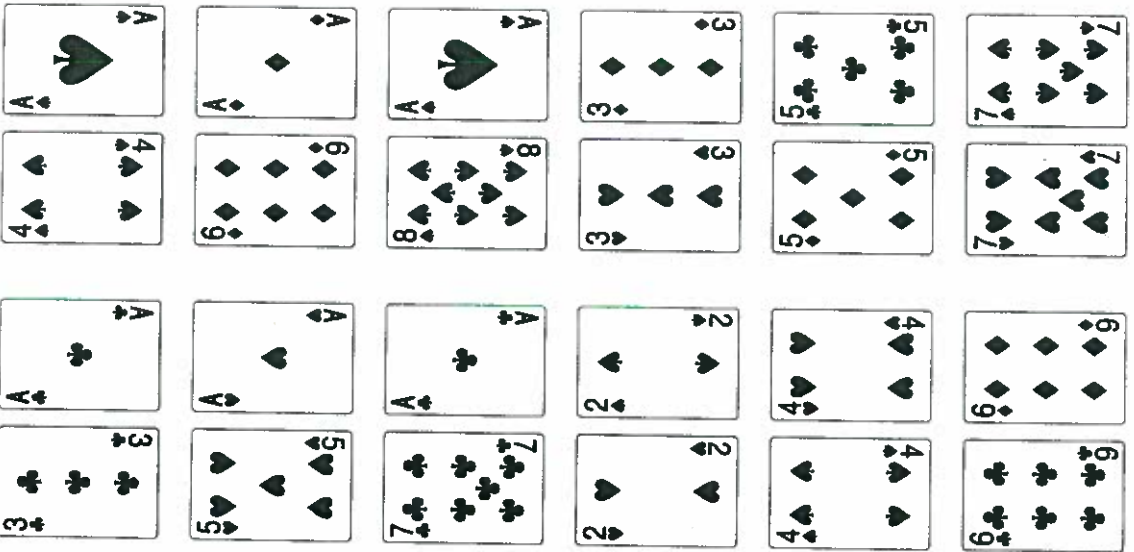
Here is the list of hands that you can play in middle position, in addition to the Early Position list:

Middle Position Hands



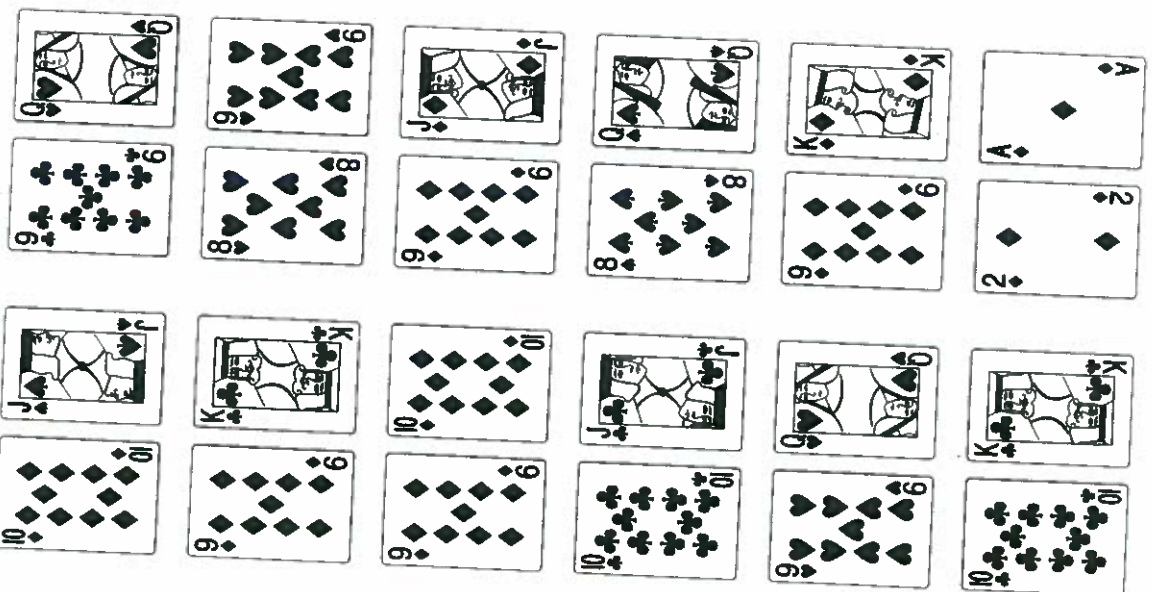
WINNER'S GUIDE TO TEXAS HOLD'EM POKER

Late Position Hands



PRACTICAL WINNING HOLD'EM CONCEPTS

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	220.00
2	K-K	0.90	109.50
3	Q-Q	1.36	72.67
4	J-J	1.81	54.25
5	A-Ks	2.11	46.36
6	10-10	2.56	38.00
7	A-K	3.02	32.15
8	A-Qs	3.77	25.52
9	K-Qs	4.07	23.56
10	A-Js	4.37	21.86
11	A-10s	4.68	20.39
12	A-Q	5.38	16.92
13	9-9	6.08	15.58
14	K-Js	6.33	14.79
15	K-Q	7.24	12.81
16	K-10s	7.54	12.26
17	A-9s	7.84	11.75
18	A-J	8.75	10.43
19	8-8	9.20	9.87
20	Q-Js	9.50	9.52
21	K-J	10.41	8.61
22	A-8s	10.71	8.34
23	A-10	11.61	7.61
24	Q-10s	11.92	7.39
25	K-9s	12.22	7.19
26	1-10s	12.52	6.99
27	A-5s	12.82	6.80
28	A-4s	13.12	6.62
29	Q-J	14.03	6.13
30	A-7s	14.33	5.98
31	K-8s	14.63	5.84
32	K-10	15.54	5.44
33	Q-9s	15.84	5.31
34	A-3s	16.14	5.20
35	A-6s	16.44	5.08
36	A-2s	16.74	4.97
37	Q-10	17.65	4.67
38	K-7s	17.95	4.57
39	7-7	18.40	4.43
40	J-9s	18.70	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	0	1	2	3	An Overcard & No Set if 1/More Paired
K♠ K♥ or K♦	77.449	21.122	1.408	0.020	22.530
Q♠ Q♥ or Q♦	58.571	35.143	6.000	0.286	41.429
J♥ J♠ or J♦	43.041	43.041	12.796	1.122	56.959
10♠ 10♥ or 10♦	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	33.000	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

WINNER'S GUIDE TO TEXAS HOLD'EM POKER

HOLD'EM ODDS

Basic Odds for the Flop in Percentages - A

You Hold	ST Flush Kind	4 of Kind House	Full House	Straight	3 of Kind Pair	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
A♦K♦	.005	.010	.092	.837	.321	1.571	4.041	40.408
A♦K♦	.005	.010	.092	.837	.321	1.571	4.041	40.408
A♦Q♦	.005	.010	.092	.837	.321	1.571	4.041	40.408
A♦J♦	.005	.010	.092	.837	.321	1.571	4.041	40.408
A♦10♦	.005	.010	.092	.837	.321	1.571	4.041	40.408
A♦9♦	.005	.010	.092	.837	.321	1.571	4.041	40.408
A♦8♦	.005	.010	.092	.837	.321	1.571	4.041	40.408
A♦7♦	.005	.010	.092	.837	.321	1.571	4.041	40.408
A♦6♦	.005	.010	.092	.837	.321	1.571	4.041	40.408
A♦5♦	.005	.010	.092	.837	.321	1.571	4.041	40.408
A♦4♦	.005	.010	.092	.837	.321	1.571	4.041	40.408
A♦3♦	.005	.010	.092	.837	.321	1.571	4.041	40.408
A♦2♦	.005	.010	.092	.837	.321	1.571	4.041	40.408
A♦A♦	.010	.010	.092	.832	.663	1.571	4.041	40.408
K♦K♦	.010	.010	.092	.832	.663	1.571	4.041	40.408
K♦Q♦	.010	.010	.092	.832	.663	1.571	4.041	40.408
K♦J♦	.010	.010	.092	.832	.663	1.571	4.041	40.408
K♦10♦	.010	.010	.092	.832	.663	1.571	4.041	40.408
K♦9♦	.010	.010	.092	.832	.663	1.571	4.041	40.408
K♦8♦	.010	.010	.092	.832	.663	1.571	4.041	40.408
K♦7♦	.010	.010	.092	.832	.663	1.571	4.041	40.408
K♦6♦	.010	.010	.092	.832	.663	1.571	4.041	40.408
K♦5♦	.010	.010	.092	.832	.663	1.571	4.041	40.408
K♦4♦	.010	.010	.092	.832	.663	1.571	4.041	40.408
K♦3♦	.010	.010	.092	.832	.663	1.571	4.041	40.408
K♦2♦	.010	.010	.092	.832	.663	1.571	4.041	40.408

Basic Odds for the Flop in Percentages - B

You Hold	ST Flush Kind	4 of Kind House	Full House	Straight	3 of Kind Pair	Two Pair	One Pair	4-STRT
K♦K♦	—	.010	.092	.842	—	—	—	12.653
K♦Q♦	—	.010	.092	.842	—	—	—	6.107
K♦J♦	—	.010	.092	.842	—	—	—	6.204
K♦10♦	—	.010	.092	.842	—	—	—	7.071
K♦9♦	—	.010	.092	.842	—	—	—	7.184
K♦8♦	—	.010	.092	.842	—	—	—	7.393
K♦7♦	—	.010	.092	.842	—	—	—	7.510
K♦6♦	—	.010	.092	.842	—	—	—	7.393
K♦5♦	—	.010	.092	.842	—	—	—	7.510
K♦4♦	—	.010	.092	.842	—	—	—	6.429
K♦3♦	—	.010	.092	.842	—	—	—	6.531
K♦2♦	—	.010	.092	.842	—	—	—	5.464
K♦A♦	.015	.010	.092	.827	.964	1.571	4.041	20.893
Q♦Q♦	.015	.010	.092	.827	.964	1.571	4.041	21.143
Q♦K♦	.015	.010	.092	.827	.964	1.571	4.041	21.336
Q♦J♦	.010	.010	.092	.832	.963	1.571	4.041	17.173
Q♦10♦	.010	.010	.092	.832	.963	1.571	4.041	17.388
Q♦9♦	.010	.010	.092	.832	.963	1.571	4.041	13.133
Q♦8♦	.010	.010	.092	.832	.963	1.571	4.041	13.306
Q♦7♦	.010	.010	.092	.832	.963	1.571	4.041	7.071
Q♦6♦	.010	.010	.092	.832	.963	1.571	4.041	7.184
Q♦5♦	.010	.010	.092	.832	.963	1.571	4.041	8.096
Q♦4♦	.010	.010	.092	.832	.963	1.571	4.041	8.163
Q♦3♦	.010	.010	.092	.832	.963	1.571	4.041	8.357
Q♦2♦	.010	.010	.092	.832	.963	1.571	4.041	8.490
Q♦A♦	.010	.010	.092	.832	.963	1.571	4.041	7.510
Q♦K♦	.010	.010	.092	.832	.963	1.571	4.041	6.429
Q♦J♦	.010	.010	.092	.832	.963	1.571	4.041	6.531
Q♦10♦	.010	.010	.092	.832	.963	1.571	4.041	5.464
Q♦9♦	.010	.010	.092	.832	.963	1.571	4.041	5.551
Q♦8♦	.010	.010	.092	.832	.963	1.571	4.041	26.219
Q♦7♦	.010	.010	.092	.832	.963	1.571	4.041	25.531
Q♦6♦	.010	.010	.092	.832	.963	1.571	4.041	21.536
Q♦5♦	.010	.010	.092	.832	.963	1.571	4.041	21.796
Q♦4♦	.010	.010	.092	.832	.963	1.571	4.041	17.816
Q♦3♦	.010	.010	.092	.832	.963	1.571	4.041	18.041
Q♦2♦	.010	.010	.092	.832	.963	1.571	4.041	14.097
Q♦A♦	.010	.010	.092	.832	.963	1.571	4.041	14.286
Q♦K♦	.010	.010	.092	.832	.963	1.571	4.041	8.036

How Pocket Pairs Fare When Everybody Plays to the End

No. of Players	AA	KK	QQ	JJ	TT	99	88	77	66	55	44	33	22
2	88	85	82	79	77	74	71	68	65	63	60	57	55
3	76	72	68	64	60	56	52	48	45	43	40	37	34
4	68	63	58	54	50	46	43	39	36	33	30	26	22
7	44	39	34	30	27	25	23	21	20	19	17	16	15
10	34	30	26	22	20	18	16	14	13	12	11	10	10

1. This table lists the percentage chance of winning against random hands when you hold the specified pair in the pocket against the specified number of opponents and everyone plays to the end.

2. You will flop a set 10.776 percent of the time but if you miss, you'll still make your set by the river an additional 8.4 percent of the time.

3. Remember, if someone else has A♥ A♠ in the pocket and you also have a pair in the pocket, it doesn't matter if your pair is K♦ K♥ or 2♣ 2♠. You still need to improve to win the hand.

The following charts give the percent chance that you will win the hand when you hold the specified cards against the specified number of players and you all play to the end. Although this situation does not exactly represent what actually happens in actual hold'em games, it does serve to illustrate the relative values of all the hands. For example, when you hold K♥ J♦, your winning percentages are 61 percent in a two-handed game, 43 percent in a three-handed game, 35 percent in a four-handed game, 21 percent in a seven-handed game and 15 percent in a ten-handed game.

Winning Percentages for Four (4) Players (Add 3 percent for suited cards)

A	K	Q	J	T	9	8	7	6	5	4	3	2
41	39	38	37	36	34	33	31	30	29	28	27	27
-	36	35	33	31	30	28	26	25	24	23	22	23
-	-	34	32	30	28	26	25	23	21	20	19	19
-	-	-	30	28	26	25	24	22	21	20	19	18
-	-	-	-	27	25	24	22	21	20	19	18	17
-	-	-	-	-	23	22	21	21	20	19	18	17
-	-	-	-	-	-	22	21	21	19	18	17	16
-	-	-	-	-	-	-	21	21	19	18	17	16
-	-	-	-	-	-	-	-	21	19	18	17	16
-	-	-	-	-	-	-	-	-	19	18	17	16
-	-	-	-	-	-	-	-	-	-	18	16	15
-	-	-	-	-	-	-	-	-	-	-	16	14

Winning Percentages for Seven (7) Players

A	K	Q	J	T	9	8	7	6	5	4	3	2
27	25	24	23	21	20	18	17	16	15	14	13	13
-	22	21	19	18	16	15	14	13	12	11	10	9
-	-	20	18	16	15	14	13	12	11	10	9	8
-	-	-	17	15	14	13	12	11	10	9	8	7
-	-	-	-	14	13	12	11	10	9	8	7	7
-	-	-	-	-	12	11	10	10	9	8	7	7
-	-	-	-	-	-	11	10	10	9	8	7	7
-	-	-	-	-	-	-	10	10	9	8	7	7
-	-	-	-	-	-	-	-	10	9	8	7	7
-	-	-	-	-	-	-	-	-	9	8	7	7
-	-	-	-	-	-	-	-	-	-	8	7	6
-	-	-	-	-	-	-	-	-	-	-	7	6
-	-	-	-	-	-	-	-	-	-	-	-	6

Winning Percentages for Ten (10) Players

A	K	Q	J	T	9	8	7	6	5	4	3	2
21	19	17	16	15	14	13	12	11	10	9	8	8
-	17	15	14	13	12	11	10	9	8	7	6	7
-	-	14	13	11	10	9	8	7	6	5	4	4
-	-	-	11	10	10	9	8	7	6	5	4	4
-	-	-	-	10	9	8	7	6	5	4	3	3
-	-	-	-	-	9	8	7	6	5	4	3	3
-	-	-	-	-	-	8	7	6	5	4	3	3
-	-	-	-	-	-	-	8	7	6	5	4	3
-	-	-	-	-	-	-	-	7	6	5	4	3
-	-	-	-	-	-	-	-	-	6	5	4	3
-	-	-	-	-	-	-	-	-	-	5	4	3
-	-	-	-	-	-	-	-	-	-	-	4	3
-	-	-	-	-	-	-	-	-	-	-	-	3

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%

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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	(need two more!)
	6.40%

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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	(using both hole cards) 1.35%
Full house	0.10%
Quads	0.01%
	(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%