

PACK'S POKER

The object of the game is for the player to achieve a higher five card poker hand than the dealer by combining their five card hand with one or more of the two card packs of community cards.

Exhibit A

Rules:

Players may use one or both cards in each individual pack of community cards, or they can use just the five cards they were dealt. A single standard deck of playing cards will be used when dealing Pack's Poker.

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To start the game, player's need to place a wager on one or more of the Pack's circles and optionally any one of the Ante Bonus circles in which a Pack's bet has been made. The dealer will then deal five cards face down to each player and themselves, along with 3 separate packs of community cards, containing 2 cards in each of the packs.

After players view their cards the dealer will reveal the 1st pack of community cards. After viewing the 1st pack of community cards the dealer starting from his right will compare his hand with the two community cards, and the players hand with the two community cards to determine who has the highest hand. To win the wager placed on the Pack's Bet, players need to achieve a hand consisting of a pair or higher and must beat the dealer's hand. The higher poker hand wins. In the event of a tie, the hand is a push. This process will be repeated until each Pack is settled.

When the dealer's hand beats the player's hand, the player loses his Pack Bet wager. When the player's hand has a pair or higher and beats the dealer's hand, the player retains their Pack's Bet wager and is paid Even Money on his Pack's Bet. If the player hand ties the dealer hands it's considered a Push (no winners).

Should a player achieve a bonus hand of Three of A Kind or higher, they will receive an additional amount paid **ONLY** on the Ante Bonus spot based on the highest single payout for a hand they achieve according to the Ante Bonus pay table. If the player does not qualify for a bonus hand, the dealer will collect the Ante Bonus wager.

Should a player achieve a bonus hand or tie a bonus hand with the dealer, the player shall still receive their Ante Bonus award and retain their Ante Bonus wager.

Ante Bonus

7 Card Royal	\$25,000
6 Card Royal	\$5,000
5 Card Royal	500 to 1
Straight Flush	100 to 1
Four of A Kind	50 to 1
Full House	10 to 1
Flush	5 to 1
Straight	4 to 1
Three of A Kind	2 to 1

Packs Poker is a table game played using a standard 52-card deck, in which players try to beat the dealer with the best 5-card poker hand that can be formed from their 5-card hand and 2 community cards. The community cards are divided into two or three 2-card "packs". Each player and the dealer may use the community cards from one of the packs they bet on, along with the cards they are individually dealt, to form a 5-card Poker hand. Player hands of Three of A Kind or better (in some pay tables, Straight or Better) can earn additional bonus payouts. The game can be played with either 2 or 3 packs of community cards and a variety of Pay Tables for the bonus payouts.

Players start by making an Ante Bonus bet of unit size, or a separate Pack bet, or both, in one or more of the betting areas. Each betting area has a circle for an Ante Bonus bet and a Pack bet.

Each player starts with a hand of 5 cards dealt face down and the dealer is also dealt a 5-card hand. After players view their cards, the first 2-card pack of community cards is turned face up. Players who placed a bet on the first pack have their Pack Bet settled at even money by comparing the best 5-card hand they can make using cards from their hand and the first 2 card pack of community cards with the best hand the dealer can make. However, players must qualify with a pair or better to win this bet; if they have no pair or better but still beat or tie the dealer's hand, then the Pack Bet is pushed. (In an alternative version of the rules, the Pack Bet is lost if the player does not have a pair, even if he beats or ties the dealer's hand.)

Then the second pack of community cards is turned face up, and players who placed a bet on the second Pack Bet have that bet settled at even money by comparing the best 5-card hand they can make using cards from their 5- card hand and the second 2 card pack of community cards with the best card hand the dealer can make, where beating the dealer with less than a pair only pushes. In the 3-pack version, the same process is done for the third pack. After choosing which packs to bet on before the cards were dealt, the player does not fold or raise or make any other decisions.

The dealer determines the best 5-card poker hand that can be made from the player's 5-card hand and the 2-card pack of community cards. If this hand is Three of a Kind or better, the Ante Bonus bet is paid according to the following payable (other paytables, some of which require Straight or Better to win, are shown in the Appendix to this report):

7-card Royal Flush \$25,000 (fixed payout)

6-card Royal Flush \$5,000 (fixed payout)

5-card Royal Flush 500:1

Straight Flush 150:1

4 of a Kind 50:1

Full House 10:1

Flush 5:1

Straight 3:1

3 of a Kind 2:1

Note: all pay tables may be offered both with and without the large fixed payouts for 6-card and 7-card Royal Flushes. The analysis shows results for both versions of each pay table.

The payouts shown are on a "to 1" basis: each of the player's Ante Bonus wagers is also returned if he achieves Three of a Kind or better by combining his cards with 0, 1, or 2 cards from the corresponding 2-card pack. The player may receive up to 3 Bonus payouts, which will always happen if his original 5-card hand is Three of a Kind or better. The player makes no decision after the initial wagers are made. The Pack bets are independent of each other and provide a small advantage to the House, because the player must have a qualifying hand to win. Most of the House's advantage from the player comes from the Ante Bonus bet, which pays based only on the player's cards and the Community cards and does not involve the dealer cards.

This game was analyzed using combinatorial mathematics for the Ante Bonus bet, and using a computer simulation of 52,000,000 deals to estimate the frequency of the player beating the dealer with less than "one pair or better" for the Pack bets.

There is no folding or raising and no strategy: this is a game of chance and not a game of skill. Each pack on which the player bet is independently used to compare the best 5 out of 7 cards for the player and the dealer, while for each Ante Bonus wager the dealer evaluates the best hand the player can make using that wager's corresponding pack, against a pay table.

Summary of Results:

In the base game, neither the dealer has an advantage equal to the probability that the player beats the dealer with less than "one pair or better" which is estimated to be **1.48%** (with a standard error of 0.004%).

In the alternative version of the rules, where the player loses his bet when he does not have a pair even when he beats the dealer, this advantage is **2.98%**.

On the Ante Bonus bet, the House has an advantage that depends on the pay table.

Because the payouts for 7-card and 6-card Royal Flushes are fixed dollar amounts, the House Edge Percentage varies depending on the player's initial bet. For a \$5 unit bet, with the given pay table (\$25,000/\$5,000/500/150/50/10/5/3/2) the House Edge is **5.85%** of a unit wager or \$0.292. In practice the House Edge will be the same as the theoretical advantage because the player makes no decisions and so cannot play worse than optimally (whether he bets on 1, 2, or 3 packs has no effect on the percentage of money the House wins). If the fixed payout bonuses for 6-card and 7-card Royal Flushes are not offered, the House Edge is **6.06%**.

If the player places Pack and Ante Bonus bets of equal amounts, the House Edge is the average of these two numbers, or **3.66%** (**3.77%** if the fixed payout bonuses for 6-card and 7-card Royal Flushes are not offered).

In the alternative version, with equal size bets, the House Edge is **4.41%** or **4.52%**, respectively. Other bet ratios give proportional House Edges.

Results for other pay tables are shown on the following pages. The House Edge for the Pack bets remains at **1.48%** (or **2.98%** in the alternative version) no matter what pay table is used.

Packs Poker: Straight or Better Pay Tables

	# of deals	Probability	H	I	J
7-card Royal	4	0.00000030	5000	5000	5000
6-card Royal	180	0.00000135	1000	1000	1000
Royal Flush	4,140	0.0000309	500	500	500
Straight Flush	37,260	0.0002785	150	100	100
Four of a Kind	224,848	0.0016807	75	50	50
Full House	3,473,184	0.0259610	10	10	10
Flush	4,047,644	0.0302549	6	7	8
Straight	6,180,020	0.0461938	4	5	5
Three of a Kind	6,461,620	0.0482987	-1	-1	-1
Two Pair	31,433,400	0.2349554	-1	-1	-1
One Pair	58,627,800	0.4382255	-1	-1	-1
No Pair	23,294,460	0.1741192	-1	-1	-1
Unit Bet	133,784,560				

	Per	HE w/Super	8.49%	6.44%	3.41%
7-card RF pay	Ante Bet	HEw/o Super	8.71%	6.66%	3.63%
\$25,000.00					
6-card RF pay					
\$5,000.00					

Packs Poker: Pay Tables for New Hampshire

Royal Flush	4,324	0.0000323	250	250	500	200	250	250	500	250	500	250	500
Straight Flush	37,260	0.0002785	100	100	100	100	100	150	150	100	150	100	150
Four of a Kind	224,848	0.0016807	50	50	50	50	50	50	75	50	75	50	75
Full House	3,473,184	0.0259610	10	15	10	10	10	10	15	15	15	15	10
Flush	4,047,644	0.0302549	4	3	4	5	5	5	4	5	4	5	6
Straight	6,180,020	0.0461938	3	3	3	3	3	3	2	3	2	3	4
Three of a Kind	6,461,620	0.0482987	2	2	2	2	2	2	-1	-1	-1	-1	-1
Two Pair	31,433,400	0.2349554	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
One Pair	58,627,800	0.4382255	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
No Pair	23,294,460	0.1741192	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
	133,784,560												
Per													
Ante Bet		HouseEdge	11.15%	1.20%	10.34%	8.29%	8.13%	6.73%	10.88%	9.64%	8.57%		



