

Rece to 9 (alternative name: *7 and Up*) is a new Player vs. Dealer table game played from an 8-deck shoe. Player and Dealer successively draw cards, trying to achieve the highest total score for their hand.

To begin, players make a mandatory Play wager, and may also make an optional “3 card Poker” wager, and a “Nine Insurance” wager.

Players each receive 1 card face up, and may stop there, or receive up to 3 additional cards successively, with the option to stop after the 2nd or 3rd card and a mandatory stop after the 4th card. At each stage, the score of the hand is obtained by adding up the numbers of the cards (with face cards counting as 0), and taking the last digit. 9 is the best score and 0 is the worst.

Players may double down at any time (as long as they take an additional card when doing so): after doubling down, there is no requirement to stop after one additional card, and redoubling is also allowed. Players may also surrender half their bet after 1, 2, or 3 cards.

Splitting two cards with the same value may also be allowed if an extra wager is made, as long as the split hands receive 1 or more additional cards.

The Dealer receives up to 3 cards, and must stop if his score is 7 or higher. The player wins even money on his Play wager if his final score is higher than the dealer’s, and loses the wager otherwise. Side bets are settled as described in the Appendix.

Although the Dealer wins ties, the player is given many other advantages: in addition to the possibilities of doubling, surrendering, or splitting, he gets to take a 4th card if he wants, and may choose to stop or continue drawing cards whatever his score is, and he receives a “premium payout” of 2 to 1 if he achieves a 1-card-to-1-card “Instant Win”, as defined below.

An “Instant Win” is one of a specified list of possible 1-card wins where the player and dealer each have 1 card. In the main version of the game, only Player 9 vs Dealer 8 counts as an Instant Win, but variations are possible which count both 9-8 and 9-7, or which count 9-8 and 9-7 and 8-7, or which do not allow any Instant Wins.

In the main version of the game, the House Edge is **2.03%** (**1.80%** if splits are allowed), and the optimal strategy for the player is to stop on 8 after 1 card, 7 after 2 cards, and 6 after 3 cards, never to double down or surrender, and to split pairs of 7s, 0s, and 1’s. If instead the player copies the dealer strategy and always stops on 7, and never splits, the House Edge goes up to 2.66%.

In the variations where there are 2, 3, or 0 Instant Wins instead of 1, the House Edges are **1.44%**, **0.85%**, and **2.63%**, respectively, if splits are not allowed, and 0.23% less if splits are allowed.

The base game is not vulnerable to card counting.

The game may be played from a single deck, or from shoes of other sizes, with small changes to the resulting House Edges and strategies.

Appendix: Optional Side Bets

The “3 Card Poker” side bet depends only on the dealer’s hand. It offers high payouts because the Dealer cannot achieve a valid 3-card Poker hand if he stops after 1 card, or after 2 unpaired cards.

The probabilities and payouts of the 3 Card Poker outcomes for an 8-deck shoe are as follows:

	Probability	Pay to 1
3 of a Kind Flush	0.0001692	100
Mini Royal Flush	0.0001719	100
Straight Flush	0.0009742	50
3 of a Kind	0.0035782	20
Straight	0.0171925	10
Flush	0.0348077	5
Pair	0.1272757	2
Loss	0.8158305	-1
House Edge		6.09%

Here, a flush with a pair is just counted as a flush, and a suited pair is no better than a regular pair. The only way a dealer hand can pay after failing to reach 3 cards is with a pair of 4’s.

The “9 Insurance” bet can be offered 3 ways: in single deck, or from a multi-deck continuous shuffler, or paying only on 2-card and 3-card dealer 9’s. A “Natural 9” for the dealer can be card-counted.

The probabilities for “Dealer 9” are as follows:

Decks	1	2	3	4	5	6	7	8
1 card	0.07692	0.07692	0.07692	0.07692	0.07692	0.07692	0.07692	0.07692
2 cards	0.06033	0.05975	0.05955	0.05946	0.0594	0.05936	0.05933	0.05931
3 cards	0.04615	0.04582	0.04572	0.04566	0.04563	0.04561	0.0456	0.04559
No nine	0.81659	0.81751	0.81781	0.81795	0.81804	0.8181	0.81814	0.81817

When offered from a continuous shuffler or a single deck, this bet should pay 4 to 1, and the House Edge is 8.30% for single deck, 8.76% for 2 decks, 8.98% for 4 decks, 9.05% for 6 decks, and 9.09% for 8 decks.

When offered from a shoe, it should only pay for 2-card or 3-card 9’s, and pay 6 to 1, and the House Edge is 4.33% for 2 decks, 4.53% for 4 decks, 4.60% for 6 decks, and 4.63% for 8 decks.