

Winter Camp Casino Guide

Winter Camp XXXVIII

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Chip Values

The Winter Camp Casino uses both blank colored chips and professional-weight chips emblazoned with the Winter Camp logo. None of these chips bear their denomination; Table 1 contains this year's colors and corresponding values. Several chip trees are in place on the casino floor to assist Arrowmen in evaluating their chips.

Denomination	Color
Blue	\$1
Pink	\$2.50
Red	\$5
Green	\$25
Black	\$100
Purple	\$500
Yellow	\$1000
Gray	\$5000

Table 1: Chip colors & values: Winter Camp XXXVIII

In addition, we have \$25,000 and \$100,000 chips which are labeled with their denominations and do not bear the Winter Camp logo. Million-dollar chips are held in reserve, to be used if needed, and are light blue.

Roulette

My lucky number is 4 billion. That doesn't come in real handy when you're gambling.

—Mitch Hedberg, *Strategic Grill Locations*

In the game of *roulette*, a small ball is spun on a rotating wheel and comes to rest in a numbered pocket on the wheel. *European* roulette uses a wheel divided into 37 pockets, numbered 1-36 and 0. The 0 is colored green, and the remaining 36 slots are split evenly between red and black. In *American* roulette, a 38th pocket, colored green and numbered 00, is added—see Figure 1. The Winter Camp roulette wheel is American.

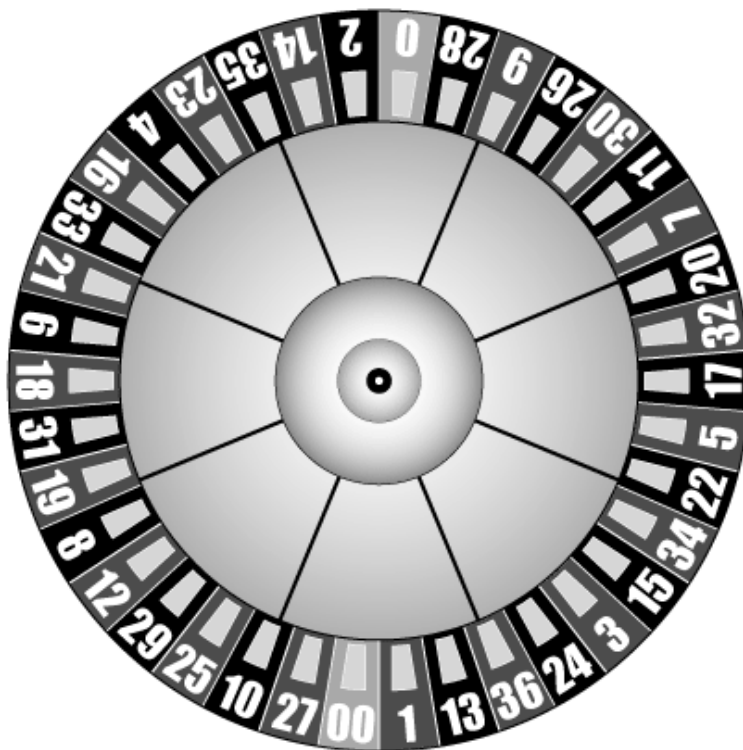


Figure 1: American roulette wheel

Players select numbers from the wheel and are paid if the ball lands in a pocket bearing one of their numbers. A variety of bets, at a range of payoffs, is available to players—see Figure 2 for an illustration of the betting layout and Table 2 for a list of payoffs.

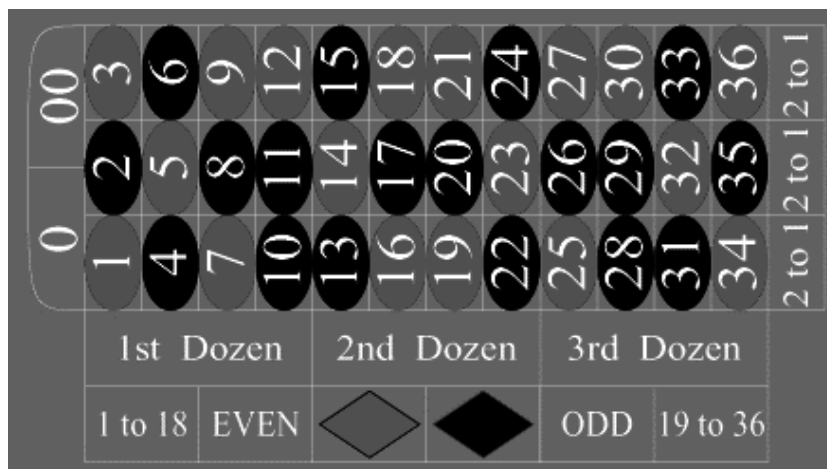


Figure 2: American roulette layout

Bet	# of numbers	Payoff
Straight	1	35 to 1
Split	2	17 to 1
Street	3	11 to 1
Corner	4	8 to 1
Basket ^a	5	6 to 1
Double street	6	5 to 1
Dozen ^b	12	2 to 1
Even-money ^c	18	1 to 1

Table 2: Roulette bets and payoffs

Notes:

a—The *basket* bet is available only on American roulette wheels and can only be made on the five-number combination 0, 00, 1, 2, and 3.

b—The *dozen* bet may be made on the numbers from 1-12, 13-24, or 25-36, or on any of the three columns on the betting layout. These columns are depicted as rows in Figure 2.

c—An *even-money* bet may be made on odd, even, red, black, low (1-18), or high (19-36) numbers. (0 and 00 are neither even nor low.)

As a convenient shortcut, it should be noted that, except for the basket bet, the payoff for a bet on n numbers is $\frac{36-n}{n}$ to 1. A winning player’s initial bet is returned with the payoff.

Chuck-a-luck/Sic bo

Chuck-a-luck is a game played with three dice. In its original form, it is not often seen in casinos anymore, but can still be found in carnivals and, in expanded form, in the casino game *sic bo*. The three dice are spun in a wire cage. Gamblers bet on the numbers from 1-6, and are paid according to how many of their number appear on the dice: the amount

wagered is matched for each die showing the selected number, so the payoff is 1-1 if one die shows the number, 2-1 if two do, and 3-1 if all three do.

Sic bo is a three-die game that expands on chuck-a-luck. The chuck-a-luck option of betting on a single number from 1-6 remains, and it is joined by a host of additional betting options. For example, one may bet on various propositions involving the sum of the three dice, the occurrence of a specific pair of numbers, or on whether or not the dice will all show the same number. Figure 3 shows a betting layout for sic bo—the two rows of betting spaces at the bottom of the layout show the chuck-a-luck betting options. At some casinos including the Mohegan Sun in Montville, Connecticut, the layout is electrified, and the sic bo dealer need only press buttons corresponding to the numbers on the three dice to light up all of the winning bets.

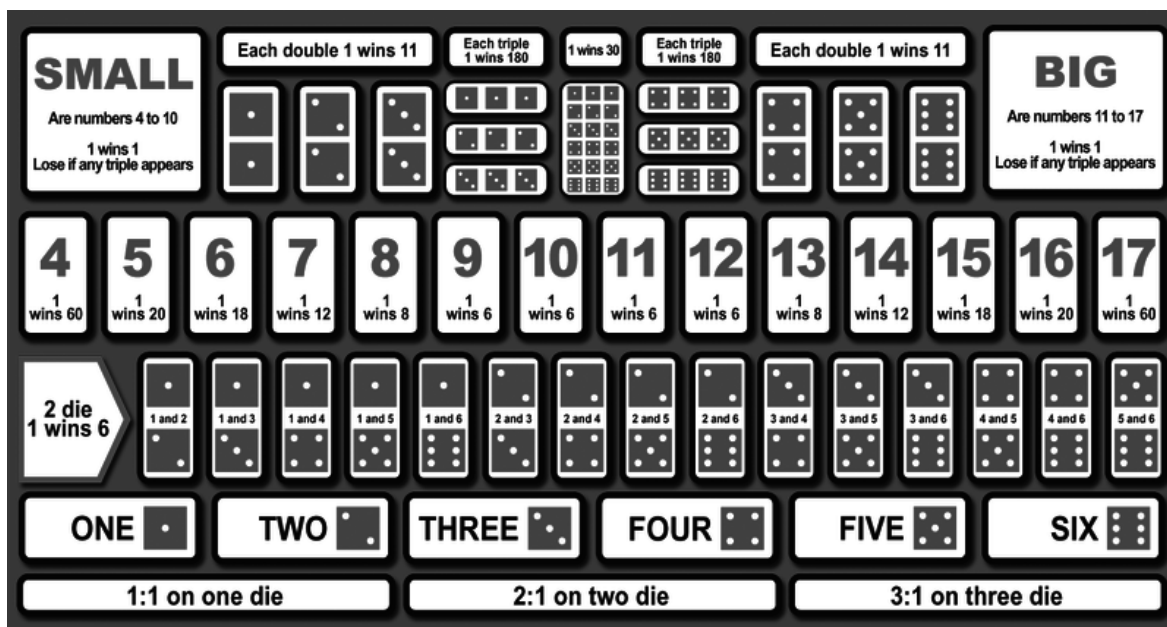


Figure 3: Sic bo betting layout

Each sic bo bet is a one-roll wager, and pays off the amount listed on the layout if the indicated combination—whether it be the sum of the dice or the specific numbers that appear—is rolled.

Craps

Craps is a popular casino game played with two six-sided dice. A game begins when the shooter rolls the two dice, which is called the *come-out* roll. If the come-out roll is 7 or 11, this is an immediate win; if 2, 3, or 12, an immediate loss.

If the come-out roll is any other number, that number becomes the *point*. The shooter then continues rolling until he either rolls the point again, or rolls a 7. All other rolls are disregarded (for the purposes of resolving this main bet; there are several other betting options that can be chosen on individual rolls). The shooter wins if he re-rolls the point before a 7, and loses if he rolls a 7 first.

There is a large collection of wagers available to a craps bettor. Figure 4 depicts all of the bets available on a standard craps layout. A full-size craps table would include a second betting field for come, pass, and field bets, placed symmetrically to the right of the illustration to duplicate the betting options at the other end of the table.

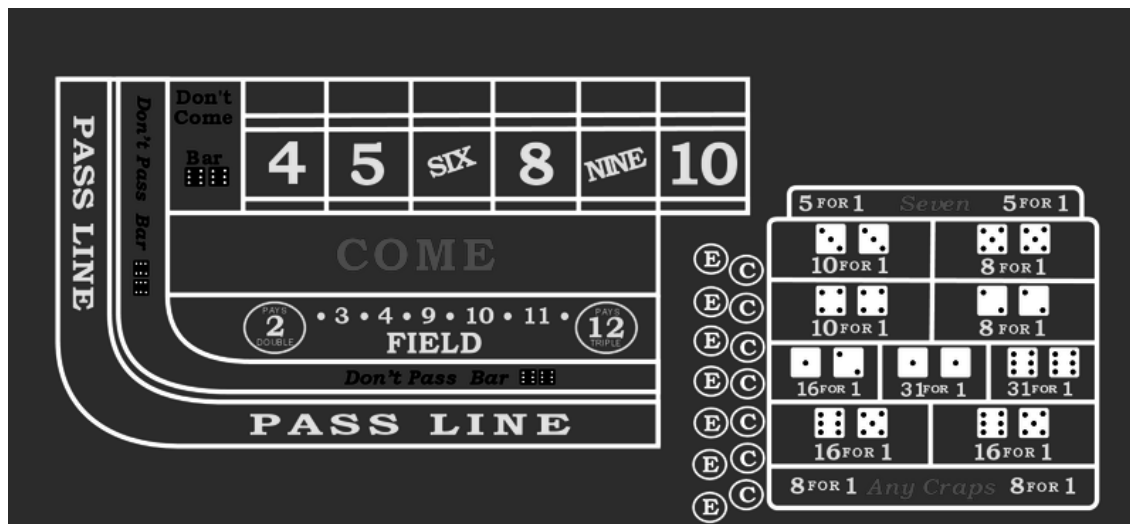


Figure 4: Craps layout

We shall focus first on the *pass* and *don't pass* bets. A pass bet is a bet that the shooter will win, and a don't pass bet is a bet that the shooter will lose. For the pass bet, there are six ways to roll a 7 and two ways to roll an 11 on the come-out roll, so the probability of winning on the come-out roll = $8/36$. If a point is established, the probability of an eventual win depends on the value of the point. Once the point is known, the only rolls that matter are those resulting in that number or in a 7. For example, if the point is 9, all we look at are the four ways to roll a 9 and the six ways to roll a 7, so there are ten rolls that will resolve the pass/don't pass question.

The don't pass line is a bet that the shooter will lose—either by throwing a losing number on the come-out roll or by establishing a point and then rolling a 7 before re-rolling it. One additional rule, the “Bar 12” rule, applies to Don't Pass: If the shooter rolls a 12 on the come-out roll, pass bets lose but don't pass bets push (tie) instead of winning.

A standard craps layout also includes spaces labeled “Come” and “Don't Come”. These wagers act and are paid exactly like Pass and Don't Pass, but may be made by a bettor at any time, without waiting for the previous point to be resolved. When a Come or Don't Come bet is made, the next roll of the dice functions as a come-out roll. If the bet is not resolved immediately by the roll of a 2, 3, 7, 11, or 12, then the chips are moved to a numbered space on the layout just above the “Come” space bearing the point rolled, where the bet can be monitored by casino personnel until it is resolved. “Don't Come” also carries the “Bar 12” rule.

These four bets all pay off at even money, and the winning bettor's chips are returned with the profit.

If Pass/Come and Don't Pass/Don't Come were the only bets available at craps, there would be a lot of downtime without much wagering, as it can potentially take many rolls

before the pass/don't pass question is resolved. To maintain the level of excitement and encourage additional wagering, a craps layout has many more betting options available to players. One class of craps wagers is *one-roll* bets, which are simply bets on what the next roll of the dice will be and thus are quickly resolved. The following one-roll bets may be found on the layout:

- The *Field* bet is made between the come and don't pass lines. This bet pays off at even money if the next roll is 3,4,9,10, or 11; and pays off at 2–1 if the next roll is a 2 or 12. All other rolls are losers.
- A very simple one-roll bet is the *Eleven* bet, which wins if the next roll is an 11 and loses otherwise. This bet pays off at 15–1, which is often listed on a craps layout as “16 for 1”; this 16-chip payout includes the chip originally wagered. This makes bets sound more lucrative without changing the odds of winning or the casino's edge.

In practice, a roll of 11 is frequently announced with a shout of “Yo!”—this is short for “yo-leven”, which is used to distinguish “eleven” from the similar-sounding “seven”.

- Similar to the Eleven bet, and located near it on the layout, are the 2,3, Seven, and 12 bets. These pay off on the result of the next roll, at 30–1, 15–1, 4–1, and 30–1, respectively.
- The “Any Craps” bet pays off if the next roll is a 2,3 or 12—these are the numbers that lose on a come-out roll. It pays off at 7–1.
- The multiple C and E spots located to the left of the center betting section in Figure 4 stand for Crap and Eleven, and are placed on the felt in such a way that they point at players who gather at the table. By using these betting spots, dice dealers can more easily keep track of which bets belong to which bettor. C and E are used for making the *Crap & Eleven* one-roll bet, which combines the “Any Craps” (2,3, or 12) bet with the Eleven bet. Any Craps pays off at 8 for 1 if the next roll is 2, 3 or 12; these are the numbers that lose for the Pass bettor on the come-out. The Eleven bet pays off at 15 for 1 if the the next roll is an 11.

In practice, a player's C&E wager is split evenly between the C and E spaces; if this is not possible, as for example with a \$5 wager, the chip or chips are placed between the circles, and any fractional payoff is rounded down, in the casino's favor.

A second class of craps bets can extend over several rolls before being resolved. The *hardway* bets are one example. A hardway bet can be made at any time, whether or not a point has been established. A player making a hardway bet on an even number (4,6,8, or 10) bets that that number will be rolled “the hard way”, as doubles, before it is rolled another way or a 7 is rolled.

A hardway bet can be won if any of the following sequences of events happens:

- The number is rolled as doubles on the first roll after the bet is made.
- Neither the number nor a 7 is rolled on the first roll, and the number is rolled as doubles on the second roll.

- Neither the number nor a 7 is rolled on the first two rolls, and the number is rolled as doubles on the third roll.
- Neither the number nor a 7 is rolled on the first three rolls, and the number is rolled as doubles on the fourth roll.
- And so on, through an infinite number of possibilities. As the number of rolls increases, of course, the probability of needing that many rolls to resolve the bet decreases.

Blackjack

Contrary to many people's understanding, the object of blackjack is not to get a hand of cards totalling as close to 21 without going over. Rather, the object is to get a hand that is *closer to 21 than the dealer's hand* without going over. A novice blackjack player would do well to learn *basic strategy*, which is a set of rules for decision-making for a player to follow. Based on millions of simulated hands, basic strategy gives a player the best advice on how to play a hand, given the composition of the hand and the dealer's upcard.

If the first object listed were the point of the game, stopping on a hand of 12, as is often called for in blackjack basic strategy, would be a bad idea. However, there are times when standing on a relatively weak hand in hopes that the dealer's hand will "bust", or go over 21, is the best strategy for a player.

Basic Rules

Blackjack uses anywhere from 1 to 8 decks of cards shuffled together. Two cards are dealt to each player, and two—one face-up, called the *upcard*, and the other face-down (the *hole card*)—to the dealer. Players' cards are customarily dealt face-down from the dealer's hand in single- or double-deck games, and face up from a shoe in games using four or more decks. Each card counts its face value, with the exceptions that face cards count 10, and an ace may be counted as either 1 or 11, at the player's discretion. (In writing about blackjack, it is common to use the shorthand "ten" to refer to any card—10, jack, queen, or king—counting as 10.)

A hand containing an ace counted as 11 is called a *soft* hand, because it cannot be busted by a one-card draw—if a hand counting an ace as 11 goes over 21 upon drawing a card, the ace may simply be revalued at 1. A hand with a total of 12-16 without any aces, or with all aces counted as 1, is called a *hard* or *stiff* hand, because drawing a single card risks busting the hand. A player dealt a two-card total of 21 consisting of an ace and a 10-count card—called a *natural* or *blackjack*—wins immediately until the dealer also has a natural. Naturals pay either 3-2 or 6-5, depending on the rules of the casino. The alternate name "blackjack" for a 2-card total of 21 derives from the earliest days of the game, when a 21 consisting of the ace and jack of spades qualified for a bonus payoff.

If the dealer does not have a natural, then each player in turn has the opportunity to "hit" their hand and take additional cards in an effort to bring their total closer to 21 without going over. If a player's hand exceeds 21, this is called *busting* or *breaking*, and the bet is lost and collected at once.

Once all player hands are settled, the dealer exposes the hole card. If the dealer's hand is 16 or less, he must take additional cards. The dealer must stand on a hand of 17 or higher, although many casinos also require dealers to hit a soft 17 hand. When the dealer's hand is complete—either by busting or reaching a total of 17 or higher—the hand is compared to those of all players who have not yet busted. Player hands that are closer to 21 than the dealer's are paid off at 1-1; if the player and the dealer have the same total, the hand is called a *push*, and no money changes hands. If the dealer's completed hand is closer to 21 than the player's, the player loses and his or her wager is collected.

Example 1. *Suppose that two players are facing the dealer in a blackjack game dealt from a single deck. Player 1 is dealt $Q\spadesuit 8\clubsuit$ and player 2's hand is $6\heartsuit 4\heartsuit$. The dealer's upcard is the $3\heartsuit$.*

Player 1 chooses to stand on her total of 18, and player 2 hits his 10, drawing the $2\heartsuit$ and bringing his total to 12. He draws a fourth card, the $10\diamondsuit$, and busts with 22, losing his bet. The dealer turns over the $K\heartsuit$ for a 13, and must draw. His third card is the $2\diamondsuit$, bringing his total to 15. Since this is still less than 17, he draws again and receives the $2\clubsuit$. His total is 17, and he stops. Player 1 wins with her 18. ■

Additional Rules

Depending on the casino, players may be offered several options during play to make additional bets that offer the chance of winning more money (or, in the case of surrender, losing less money). These are not options available to the dealer.

- If the player's first two cards are the same—as in a pair of 8's or aces—they may be *split* to form the first card of two separate hands. The player must match his bet on the new hand, and the two hands are played out separately. Some casinos allow players to split two 10-count cards, such as a jack and queen, and a standard casino rule allows the player to draw only one additional card to each hand after splitting aces. If a third card matching the first two is drawn to a split hand, many casinos allow that hand to be split again, although some do not allow resplitting of aces. Most casinos have a limit on the number of times a given hand may be split: a maximum of four separate hands is common.
- The player has the option to *double down*—to double his or her initial bet after the first two cards are dealt. This represents a chance for the player to get more money in play upon receiving a good initial hand, but this opportunity comes at a cost: only one additional card may be drawn to a doubled hand. Candidates for double-down hands are hands totalling 9, 10, or 11, as well as certain soft hands. Casinos may place restrictions on which hands may be doubled; some, for example, restrict doubles to 10's and 11's. Some casinos do not allow players to double down after splitting pairs. It is also possible to “double down for less”: to increase the bet by less than the full amount originally wagered—this is only recommended if you absolutely cannot afford to double your bet, as doubling for less means taking less than full advantage of a situation where you have the edge over the house.

- If the dealer's face-up card is an ace, players have the opportunity to make an *insurance* bet. This is a separate bet of up to half their initial wager, and pays 2-1 if the dealer has a natural. Of course, if the dealer does have 21, the main hand loses (unless the player also has a natural), and this is the reason for the name—the player is “insuring” the main hand against a dealer 21.

Basic Strategy

Given the player's cards and the dealer's upcard, basic strategy gives the best choice for the player: when to hit, stand, double down, or split pairs for the best long-term results. The key word here is *long-term*: basic strategy, for example, tells a player to hit rather than stand when holding 15 against a dealer 8. Note that the only way a player 15 can win is if the dealer busts, since a completed dealer hand will always be 17 or greater. While hitting a 15 will certainly bust some hands—more often than not, in fact—computer simulation indicates that this action is best for the player, in the sense that, over a lifetime of gambling, you will win more (or lose less, which is effectively the same thing) by hitting and taking the chance of busting than by standing and hoping the dealer will bust.

The goal of basic strategy is simple: to get the most money in play, via double downs and splitting pairs, when conditions favor the player, and to minimize exposure by forgoing these options when conditions are less favorable. If the dealer's upcard indicates that his hand is likely to bust—say, a 4, 5, or 6—then we double down and split pairs more frequently, and do not risk busting ourselves. When the hand is strong—a ten or ace showing, for example—then we take more risks as we try to compete against a hand that is more likely to be close to 21, and we don't invest additional money under the less favorable circumstances.

Table 3 contains the complete basic strategy for a multideck game. A simplified strategy, suitable for beginners, can be stated in a few straightforward rules:

1. **Always split 8's and aces.** 16 is a very weak hand, and turning it into two hands starting at 8 gives you a fighting chance against the dealer. You may not win both hands, but your chance of breaking even, by winning one of the two new hands, increases. A player hand starting with an ace has a 52% edge over the casino; splitting a pair of aces gives you two such hands.
2. **Never split 4's, 5's, or 10's.** 8 may not be the best starting hand, but two hands starting with a 4 is a weaker situation. Splitting 5's means breaking up a hand of 10, which is a good total to draw to. Indeed, most of the time, a basic strategy player should double down on 5-5. Splitting 10's can be tempting, since starting a hand with a 10 gives you a 13% advantage over the house, but it means turning your back on a very strong hand of 20.
3. **Always double down on 11, and double down on 10 except against a 10 or ace.** With a full show, holding an 11 gives you a 4/13 chance of drawing one card and getting a unbeatable 21. If you hit a 10 with one card, you have that same 4/13 chance of drawing a ten and reaching 20, and if you draw an ace ($p = 1/13$), you have a 21. In either case, you have a strong hand, and it's time to get more money in play.

Player's Hand	Dealer's upcard										
	2	3	4	5	6	7	8	9	T	A	
No pair or ace	17+	S	S	S	S	S	S	S	S	S	S
	16	S	S	S	S	S	H	H	H	H	H
	15	S	S	S	S	S	H	H	H	H	H
	14	S	S	S	S	S	H	H	H	H	H
	13	S	S	S	S	S	H	H	H	H	H
	12	H	H	S	S	S	H	H	H	H	H
	11	D	D	D	D	D	D	D	D	D	H
	10	D	D	D	D	D	D	D	D	H	H
	9	H	D	D	D	D	D	H	H	H	H
8-	H	H	H	H	H	H	H	H	H	H	
Soft hand, no pair	A/9	S	S	S	S	S	S	S	S	S	S
	A/8	S	S	S	S	S	S	S	S	S	S
	A/7	S	DS	DS	DS	DS	S	S	H	H	H
	A/6	H	D	D	D	D	H	H	H	H	H
	A/5	H	H	D	D	D	H	H	H	H	H
	A/4	H	H	D	D	D	H	H	H	H	H
	A/3	H	H	H	D	D	H	H	H	H	H
	A/2	H	H	H	D	D	H	H	H	H	H
Pair	A/A	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP
	T/T	S	S	S	S	S	S	S	S	S	S
	9/9	SP	SP	SP	SP	SP	S	SP	SP	S	S
	8/8	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP
	7/7	SP	SP	SP	SP	SP	SP	H	H	H	H
	6/6	H	SP	SP	SP	SP	H	H	H	H	H
	5/5	D	D	D	D	D	D	D	D	H	H
	4/4	H	H	H	H	H	H	H	H	H	H
	3/3	H	H	SP	SP	SP	SP	H	H	H	H
	2/2	H	H	SP	SP	SP	SP	H	H	H	H

Never take insurance.

Table 3: Basic strategy for 6-deck blackjack

Key:

D: Double down

DS: Double down if permitted, otherwise stand

H: Hit

S: Stand

SP: Split

4. **Hit any soft hand with a total less than 19.** A soft hand gives you two chances at improving your holdings. If drawing a card puts your total over 21, revalue the ace as 1 and follow the basic or simplified strategy for your new hand.
5. **If the upcard is 2-6, stand on any hard count of 12 or higher.** In short, don't risk busting when facing a weak dealer upcard.
6. **Against an upcard is 7 or better, stand only if your hand is 17 or higher.** The dealer is now more likely to have a strong hand, and you'll have to risk busting to improve your hand and have the best chance of winning.
7. **Never take insurance.**

There are some places where this simplified strategy conflicts with basic strategy, but novices may find these rules easier to remember at first.

Baccarat

Baccarat (bah-kuh-RAH, from the Italian *baccara*, “zero”) is a card game similar to blackjack that is often played in the high-limit area of casinos and is favored by many high rollers, among whom it is not unusual to risk tens of thousands of dollars on a single hand. In either case, the rules are simple: gamblers bet on which of two hands—called the *Player* and the *Banker*—will be closer to 9. These bets are paid at 1-1. A third option is to bet that the two hands will tie, which pays off at 8-1. If the hand is a tie, bets on Banker and on Player are also ties, and no money is won or lost on them.

Winter Camp offers a version of baccarat called *EZ Baccarat*. In EZ Baccarat, if the Banker hand is a three-card total of 7, then a Banker bet pushes rather than wins against a lower Player hand. A Player wager still loses against a three-card 7 if the Player hand is 0-6.

Two cards, from a shoe (a box that holds multiple decks of playing cards) containing six to eight decks, are initially dealt to each hand. The Union Plaza Casino in downtown Las Vegas (now the Plaza) experimented briefly with what was billed as “the world’s largest baccarat shoe”, which held 144 decks, or 7488 cards, but this novelty was short-lived. With a single deck of cards measuring about 1.6 centimeters thick, this monster shoe measured about 7.5 feet long, held nearly 30 pounds of cards, and would certainly have been a challenge for the dealers to use.

Hand values are computed by counting each card at its face value, with aces counting 1 and face cards 0. If the sum of the cards exceeds 9, then the tens digit is dropped. For example, a hand consisting of a 7 and a 5 has value 2. Unlike in blackjack, a baccarat hand does not “bust” if it exceeds the highest possible hand value of 9.

If either hand has a value of 8 or 9, the hand is called a *natural*, and no further cards are drawn. If there are no naturals, an intricate set of rules dictates when either hand may receive a third card. The Player hand, which always goes first, draws a third card if its value is 5 or less. If the Player stands with 6 or 7, the Banker hand draws a third card if its value is 5 or less. If the Player draws a third card, the Banker hand’s action is determined by its value and the value of the Player’s third card. Table 4 shows the standard set of rules.

Banker's hand	Banker draws if Player's 3rd card is
0-2	Any
3	Not an 8
4	2-7
5	4-7
6	6 or 7
7	None

Table 4: Baccarat rules for the Banker hand

Since the rules of baccarat are fixed, it is entirely a game of chance. Contrary to the image of baccarat as presented in popular culture, such as when James Bond plays the game in six movies, skill plays no part in the play of the game. The replacement of baccarat by Texas Hold'em in the 2006 version of *Casino Royale* represents something of a betrayal of the Bond legend even as it tapped into a wave of poker popularity.

Example 2. *Suppose that the cards dealt to the Player hand are $K\heartsuit$ and $7\diamondsuit$, and that the Banker hand receives $7\spadesuit$ and $6\diamondsuit$. The Player hand totals 7, and so does not draw a third card. Since the Banker's total is 3, which is less than 5, a third card is dealt to the Banker hand. If this card is the $Q\heartsuit$, the hand remains a 3, and so the Player wins, 7-3. ■*

Example 3. *In the next hand, suppose the Player's hand is $9\heartsuit$ and $2\heartsuit$, for a total of 1, and the banker is dealt $K\spadesuit$ and $4\heartsuit$, totalling 4. The Player hand draws a third card, the $6\spadesuit$, for a total of 7. Since the Player's third card was a 6, a Banker hand of 4 is required to draw a third card. If that card is the $6\clubsuit$, the Banker hand is now 0, and Player wins, 7-0. ■*

These rules include some cases where the Banker hand is required to draw another card even though it's beating the Player hand already. For example, suppose that the Player hand is A-3, totalling 4. The Player takes a third card and draws a 7, bringing that hand's total to 1. If the Banker's hand is 9-6, for a total of 5, the Banker leads but must nonetheless take another card since the Player's third card was a 7. It is also possible for the Banker hand to be denied a third card even if it's tied with the Player hand, as in the case where the Player has 2-3 and draws an 8 for a total of 3, and the Banker holds 3-K. Because the Banker has 3 and the Player's third card was an 8, no further card will be drawn to the Banker hand, and the round ends in a tie.