



## Introduction to Outs

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In the text and examples below, I explain what an 'Out' is, how to go from an Outs to Odds and how to go from Outs to a Percentage using the Rule of 2 and 4.

### What is an to Out

The meaning of an 'Out' is simply a card that will make our hand win.

Example 1: Consider a flop of  $9\spadesuit 4\spadesuit 2\heartsuit$  where we have  $8\spadesuit 7\spadesuit$ , otherwise known as a flush draw. There are 13 spades in a deck of 52 cards and 4 of them have been removed. Thus we have 9 remaining spades that will give us a flush; we have 9 outs.

Example 2: Consider a flop of  $8\clubsuit 7\clubsuit 2\heartsuit$  where we have  $T\heartsuit 9\heartsuit$ , otherwise known as an open-ended straight draw. Any Jack or Six will give us the straight. There are 4 Jacks and 4 Sixes in a deck of 52 cards and these 8 cards will give us a straight; we have 8 outs.

### **Caution: Do not Double Count Outs!**

Example 3: Consider a flop of  $5\diamondsuit A\clubsuit T\diamondsuit$  where we have  $4\diamondsuit 3\diamondsuit$ , otherwise known as a gutshot straight draw and flush draw. Any deuce or diamond will make a flush for us but we cannot count the 2d as an out twice. So the number of outs we have are the 9 diamonds + the 3 non-diamond deuces that will make our straight = 12 outs.

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### Going from Outs to Odds

To calculate the odds you need to win given the number of outs you have, first you must subtract the number of cards left in the deck by the outs in your hand and then divide by the outs in your hand. This will give you the odds to hit your hand with 1 card to come.

Example 4: Consider a flop of  $9\spadesuit 4\spadesuit 2\heartsuit$  where we have  $8\spadesuit 7\spadesuit$ , otherwise known as a flush draw. On the flop we have 9 outs with 47 remaining cards (52 cards in a deck - 2 cards in our hand - 3 cards on the flop).

So the odds to hit a flush draw on the turn are  $(47-9)/9$  or  $38/9$  or 4.22:1 or 4.22 to 1. Thus we need to be getting more than 4.22 to 1 Total Odds on the flop before we can call to draw to our flush on the turn.

On a blank turn, there are only 46 cards remaining in the deck so our odds change. So the odds to hit a flush draw on the river are  $(46-9)/9 = 37/9$  or 4.11 to 1. Thus we need to be getting more than 4.11 to 1 Total Odds on the flop before we can call to draw to our flush on the river.

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### Going from Outs to Percentage

There are two methods to calculate outs to percentage. You may first go from outs to odds as described in Example 4 above. Then go from odds to a percentage as described in our article [here](#). Or you may use the Rule of 2 and 4 as described below.

The Rule of 2 And 4: If there is one card to come, multiply the number of outs we have by 2 and this will give us a close approximation to the correct percentage. If there are two cards to come, multiply number of outs we have by 4 and this will give us a close approximation to the correct percentage.

Example: A flush draw has 9 Outs and using the Rule of 2 we will hit the turn 18% ( $2*9$ ) of the time; the actual percentage is 19.15% so this is a close approximation. Using the Rule of 4 we will hit our draw on either the turn or the river 36% ( $4*9$ ) of the time; the actual percentage is 34.97 so this is a close approximation.

One caveat though is that this rule does not work at all for draws with than 12 outs, but just keep in mind that any draw over 12 outs has over 45% chance of hitting.

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In this article, I've explained to you what an 'Out' is and how to use them for our play. Please use this information to further your development as a poker player and learn how to apply them on the poker table.

