## The Math Behind McDonald's Monopoly Sweepstakes Shows The Only Properties That Really Matter

## Walt Hickey Jul 17, 2013, 12:18 AM



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## McDonalds

McDonald's kicked off its annual Monopoly sweepstakes today, so of course we are thrilled to devour the stats.

Lottery probabilities are a ton of fun, and Monopoly statistics are even more interesting, so a Monopoly-themed lottery may as well be Christmas for stat geeks.

Here's how it works. Every time you purchase certain items at McDonald's over the next couple weeks - any one of 26 different menu items - you'll get to peel off a game piece comprised of two stamps.

These game stamps can correspond to either an instant prize, or they can correlate to a space on the Monopoly board. For spaces on the Monopoly board, if you get all the properties of a single color - or the Railroads you win a prize.

So, let's take a look at your odds of winning prizes by buying McDonald's.

## The Basics

Before we get into the stats, there are a few basic elements of the game you need to know.

First of all, nobody cares about the online sweepstakes games. This is the last we will mention it, ever, because it's boring. All we care about is the in-store game, where you peel game pieces and win.

- There are approximately $602,490,060$ game pieces in play.
- This means that there are 1.2 billion game stamps, or individual attempts at victory.
- There are $135,540,995$ food prizes
- There are 15,838,729 instant win prizes.
- The odds of winning a prize at the in-store game are 1 in 4 , or a 25\% probability.

Here's what all that looks like:


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## Instant Prizes

If you win a prize on McDonald's Monopoly, it is probably going to be a food prize.

There's 1 in 4.45 odds - a $22.5 \%$ chance - you win a food prize when you get a McDonald's game piece.

As we mentioned earlier, the odds you win any prize is approximately 1 in 4, a probability of $25 \%$.

So what does this mean? Well, comparing the two probabilities, 89.9\% of the prizes will be food prizes. Hope you're hungry.

In fact, 4 out of every 11 prizes allocated will be a medium fries.
So let's look at the potential food prizes:

- Medium Fries (\$1.75) - Odds 1 in 9, or $11.1 \%$ chance you win.
- Quarter Pounder w/ Cheese (\$3.60) - Odds 1 in 44 , or $2.3 \%$ chance you win.
- Small McCafe or Smoothie (\$2.40) - Odds 1 in 44, or $2.3 \%$ chance you win.
- McFlurry (\$2.55) - Odds 1 in 44, or $2.3 \%$ chance you win.
- Breakfast Sandwich (\$2.65) — Odds 1 in 22 , or $4.6 \%$ chance you win

Since there's a 25\% chance of winning an instant prize, and a $22.5 \%$ chance of winning a food prize, that means that there is roughly a $2.5 \%$ chance of winning one of the other instant prizes.

These range from a red box DVD (1 in 101 chance) to a pair of headphones (similar probability of drawing the Ace of Spades from a shuffled deck of cards four consecutive times) to \$100,000 (drawing the Ace of Spades five consecutive times).

But let's get to the real fun.

## Collect and Win Monopoly

Here's the secret to McDonald's Monopoly.
Many people assume that all the spaces are equally likely.

For instance, most people think if McDonald's wants the Brown prize probability to be 1 in $1,000,000$, they'll make the probability of drawing Baltic 1 in 1,000 and Mediterranean 1 in 1,000, making the probability of getting both 1 in 1,000,000.

Instead, McDonalds was much smarter about it. They make Baltic show up 1 in 10 times and Mediterranean show up 1 in 100,000 times.

This means that almost all the game pieces are entirely worthless, and only one game piece from every set is actually tantamount to


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winning the prize.

It's easy to get a hold of some of the worthless properties. They're outstandingly common, most with a 1 in 10 or so chance of popping up. Just hit Craigslist or something.

So here are the only game pieces that are actually very valuable. Don't trade these away:

- BROWN: Mediterranean Ave, odds 1 in 30 million wins $\$ 1,000$.
- LIGHT BLUE: Vermont Ave, odds 1 in 40 million, wins \$5,000.
- PINK: Virginia Ave, odds 1 in 200 million, wins $\$ 10,000$
- ORANGE: Tennessee Ave, odds 1 in 602 million, wins Super Bowl tickets.
- RED: Kentucky Ave, odds 1 in 15 million, wins one of 40 plane tickets for two.
- YELLOW: Ventnor Ave, odds 1 in 300 million, wins \$20,000
- GREEN: Pennsylvania Ave, odds 1 in 40 million, wins one of 15 Fiat cars.
- BLUE: Boardwalk, 1 in 602 million, wins \$1,000,000 in \$50,000 annual payments.
- RAILROADS: Short Line railroad, 1 in 150 million, wins a year's supply of gas.

So, if you find one of those pieces, you're actually special. If you find any other piece, it's basically worthless, unless you can find a guy with an actually valuable piece to sell it to.

## Check out the full stats here »

