DON’T BE LURED BY LOTTERY FEVER

Your chance of winning large lottery prize is twice-around-the-country long!

ALEXANDRIA, VA, MAY 17, 2013—If you think you will win the drawing for Saturday’s estimated Powerball Lottery jackpot of $550 million, think again, says American Statistical Association (ASA) Executive Director Ronald L. Wasserstein, in a blog published on the Huffington Post.

“People begin to lose their sense of proportion when lottery prizes get huge, and they start thinking that they are going to be the big winner,” said Wasserstein, who is a former statistics professor at Washburn University and an expert on state lotteries. “In fact, the chance of winning the Powerball Lottery is so small that most of us cannot naturally grasp how tiny it is.”

A quick review of the Powerball website reveals the probability of winning the jackpot is 1 in 175,223,510. To see where that number comes from, imagine purchasing every number combination. In Powerball, a player first picks five whole numbers between 1 and 59. Mathematics shows us the number of ways to choose five distinct numbers from 1 to 59 is 5,006,386. Next, the player picks another number between 1 and 35 that is called the Powerball. So, we multiply the 5,006,386 by 35 and see that there are 175,223,510 possible Powerball combinations.

“Understanding how small ‘1 in 175 million’ is provides the key to understanding how likely—or unlikely—it is you will become the next big winner of the Powerball jackpot,” Wasserstein said.

“The problem with grasping the smallness of ‘1 in 175 million’ is that we never see 175 million distinct objects. It is easy to grasp 1 in 50, for example, because we can imagine ourselves with 49 other people in a room. We can get our minds around 1 in 75,000 by visualizing the crowd at the Super Bowl and imagining ourselves being the one person selected from that crowd to win a prize. But one in 175 million cannot be readily visualized,” he continued.

Wasserstein cited an example he regularly uses to illustrate the smallness of 1 in 175 million:

Imagine 175 million freshly minted one-dollar bills—one of which is specially marked as the “lucky dollar bill”—are laid out end to end starting in Washington, D.C. There are enough dollar bills to go all the way south to Disney World in Orlando, Florida, then go west across the country to Disneyland in Anaheim, California, then north to Portland, Oregon, then back east to Portland, Maine, and then back south to the nation’s capital to complete the loop! And yet, there would still be enough dollar bills to go all the way around this loop a second time!
To win all the money in this around-the-country, double-loop of dollar bills, a person would have to pick the specially marked “lucky dollar bill.” Now imagine that this person walks, bikes or drives around the double loop until he or she decides to stop to pick up what he or she hopes is the lucky dollar bill. The person’s chance of selecting the lucky dollar bill is one in 175 million, the same as the chance of winning the Powerball jackpot!

“My advice to people is to avoid contracting lottery fever,” said Wasserstein. “Your chance of winning this big jackpot is impossibly small. It just isn’t going to happen. Somebody will win the jackpot eventually. It is best to accept that it is going to be somebody else.”

Wasserstein said it is not his purpose or place to discourage people from buying lottery tickets. “I just want people to understand their chances as fully and accurately as possible,” he said.

*About the American Statistical Association*

The American Statistical Association is the world’s largest community of statisticians and the second-oldest continuously operating professional society in the United States. Its members serve in industry, government and academia in more than 90 countries, advancing research and promoting sound statistical practice to inform public policy and improve human welfare. For additional information about the American Statistical Association, please visit the ASA website at [www.amstat.org](http://www.amstat.org).

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