

Mathscapes
March 2026

Title

March Matchness

Real world event

NCAA Basketball March Madness

Problem

At the very beginning of the NCAA Division I men's basketball tournament, known as March Madness, there are 68 teams. Assume that all teams in the tournament are of equal ability, so the seeding becomes random and they are of equal strength. In each game, each team wins with probability $1/2$.

What is the probability that Team One plays Team 50 at some point in the tournament?

The structure of the NCAA tournament bracket is:

<https://www.ncaa.com/news/basketball-men/mml-official-bracket/2026-01-28/2026-ncaa-tournament-print-table-bracket-schedule-march-madness>

Solution

At first, this looks horrible. The 68 teams have 4 teams split off as the “first four”, and then there is a mysterious structure afterward. However, it turns out that there is a very clean symmetry-based explanation to get an answer of $1/34$.

First, consider the final matchup in the entire tournament. It involves the last two remaining teams. Since the seeding is uniformly random, and the teams are also all of equal strength, every pair of teams has equal probability of being those final two teams. The number of (unordered) pairs of teams is exactly $68 \times 67 / 2$, because there are 68 ways to choose one team, 67 ways to choose a different team, but that double-counts the pairs because choosing Team A and then Team B gives the same pair as choosing Team B and then Team A. (This is often called “68 choose 2”.)

So, the probability that the final matchup is between Team One and Team 50 is exactly $2 / (68 \times 67)$.

Now consider any other particular matchup in the tournament. By the same logic, the probability that Teams One and 50 are the two teams in that particular matchup is also exactly $2 / (68 \times 67)$.

There are exactly $68 - 1 = 67$ matchups in the tournament. For each of them individually, we can define an Event: that Teams One and 50 are the two teams in that particular individual matchup. The answer to the whole question is the probability that at least one of the Events occurs.

Still, by the previous logic, each 67 of these Events individually occurs with probability $2 / (68 \times 67)$.

Crucially, it is impossible for more than one Event to occur, because the outcome of a Team One vs Team 50 matchup is the permanent elimination of one of the two teams.

Therefore, the probability that at least one of the Events occurs equals the sum of all 67 individual event probabilities. (There is no possibility of overlap between the Events.) The answer is then

$$67 \times (2 / (68 \times 67)) = 2 / 68 = 1 / 34.$$