Cal Poly Department of Mathematics

Puzzle of the Week

May 15 - 21, 2009

Suppose Team A and Team B are to play a "best of n" games series, where n is an odd positive integer, and Team A has a probability $p > 1/2$ of beating Team B in any given game.

Since Team A has the edge in any given game, the greater n is the greater the over-all chances for Team A. For example if $p = .75$ then Team A has a 75% chance of winning a best of 1 series, but an 84% chance of winning a best of 3 series.

This week's puzzle asks you to find a formula for Team A's chances for a best of n series, for an arbitrary $p > 1/2$ and odd positive integer n. As a follow up calculate the smallest (odd) n so that a team with a 51% edge per game has a greater than 99% edge of winning a best of n series.

Solutions should be submitted to Morgan Sherman:

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before next Friday. Those with correct and complete solutions will have their names listed in next week's email announcement. Anybody is welcome to make a submission.