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Teves, Christopher J.; Burchenal, Joseph T.; Haluska, Daniel M.; Sommers, Paul M.
A Poisson model for “hitting for the cycle” in Major League Baseball.

J. Recreat. Math. 35(2006), No. 2, 112-116 (2009).

Summary: In a recent article in this journal, Campbell et al. showed that the Poisson probability distribution provides an excellent fit to the data on no-hit games in Major League Baseball, especially during the period 1920-1959. Hitting for the cycle (that is, when a batter hits a single, double, triple, and home run in the same game) is another rare event in Major League Baseball. And, here too, the Poisson probability distribution given by $p(X = x) = \frac{e^{-\mu} \mu^x}{x!}$, $x = 0, 1, 2, \dots$ where x denotes the number of ballplayers who “hit for the cycle” in a given season provides a remarkably good fit.

Classification: K60 A20 M90

Keywords: recreational mathematics; mathematical applications; sport; distributions; probability theory; stochastics