
Problem of the Week — October 5, 2009

A little easier than the last Problem of the Week. Enjoy!

The capacity of Ohio Stadium is 102,329. At the next home game, the system for filling the stadium will be as follows. First, all people with tickets to this sold out game will line up in a single file line outside the stadium. Because he is the president, E. Gordon Gee is first in line, and he does have a ticket. However, he enters the stadium and chooses one of the 102,329 seats at random. The second person in line then enters the stadium and sits in her assigned seat if it is not already filled. If it is filled, she sits in a random empty seat. All subsequent people in line do the same — if their seats are filled they sit in a random open seat, but if their seats are available they sit in them. You are the last person in line. What is the probability that you sit in your assigned seat? Naturally, you must prove your answer.

Solutions accepted until 4 pm 10/9/09

You may submit complete solutions to Brian Jones or Marie Snipes either via email or hard copy; however, if you submit a hard copy, it must have a time-stamp (i.e. either electronic proof of time printed or a faculty signature verifying the time submitted.)