

1993 Paper 2 Question 5

A single die is repeatedly thrown, and accumulating counts of 1s, 2s, ..., 6s are recorded. Find the probability that the event '*The accumulated counts of 1s, 2s, ..., 6s are equal*' will ever occur.

[Hint: you will need Stirling's approximation $n! \approx (2\pi)^{\frac{1}{2}} n^{n+\frac{1}{2}} e^{-n}$]