

# DTP-Math-Circle: Session 2—Probability

Sept 16 2022

## 5 Library of Babel

Imagine that in some universe, certain intelligent creatures have a writing system that has 28 characters: 26 letters of the Roman alphabet, a full stop, and a space. They have an unusual library that houses a collection of books each containing a single "sentence". A sentence is any combination of the letters and spaces, always beginning with a letter and ending with a full stop. In every room in the library, all the books contain sentences with the same number of characters. One of the rooms has all possible books that contain sentences of 13 characters. What's the probability of finding a book in this room that says "HELLO READER."?