MATH50010 - Probability for Statistics
Unseen Problem 5

Consider a rod of unit length. The rod is broken at two points, whose locations can be modelled as independent, uniformly distributed random variables.

1. What is the density function of the *ordered* breakpoints $(x_{(1)}, x_{(2)})$, where $x_{(1)} < x_{(2)}$?
2. What is the probability that the three segments of the rod fit together to form a triangle?