MATH10282: INTRODUCTION TO STATISTICS
SEMESTER 2
QUIZ PROBLEM 8
(Deadline: Thursday 22 April 2021, 10:00am)

Suppose $X_1, \ldots, X_n$ is a random sample from a distribution specified by the cumulative distribution function $F(x) = 1 - (1-x)^a$ for $a > 0$ and $0 < x < 1$. The maximum likelihood estimator of a is

a) $-\dfrac{\sum_{i=1}^{n} \log(x_i)}{n}$.

b) $-\dfrac{\sum_{i=1}^{n} \log(1-x_i)}{n}$.

c) $-\dfrac{n}{\sum_{i=1}^{n} \log(1-x_i)}$.

d) $-\dfrac{n}{\sum_{i=1}^{n} \log(x_i)}$.

This problem is worth 1 mark. Marking scheme: 1 mark if the answer is correct, 0 mark if the answer is incorrect.

Please use Blackboard to enter your answer.