

172. You are given:

- (i) A random sample of five observations from a population is:

0.2 0.7 0.9 1.1 1.3

- (ii) You use the Kolmogorov-Smirnov test for testing the null hypothesis, H_0 , that the probability density function for the population is:

$$f(x) = \frac{4}{(1+x)^5}, \quad x > 0$$

- (iii) Critical values for the Kolmogorov-Smirnov test are:

Level of Significance	0.10	0.05	0.025	0.01
Critical Value	$\frac{1.22}{\sqrt{n}}$	$\frac{1.36}{\sqrt{n}}$	$\frac{1.48}{\sqrt{n}}$	$\frac{1.63}{\sqrt{n}}$

Determine the result of the test.

- (A) Do not reject H_0 at the 0.10 significance level.
- (B) Reject H_0 at the 0.10 significance level, but not at the 0.05 significance level.
- (C) Reject H_0 at the 0.05 significance level, but not at the 0.025 significance level.
- (D) Reject H_0 at the 0.025 significance level, but not at the 0.01 significance level.
- (E) Reject H_0 at the 0.01 significance level.