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# Statistical Inferences on Uniform Distributions: The Cases of Boundary Values Being Parameters

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**Abstract** If a continuous random variable X is uniformly distributed over the interval and if any of the two boundary values is unknown, it is necessary to make inferences related to the unknown parameter. In this work, for the unknown boundary values of X, some unbiased estimators based on certain order statistics and sample mean are suggested. These estimators are compared in terms their efficiencies. The most efficient unbiased estimator is used to provide confidence intervals and tests of hypotheses procedures for the unknown parameter (the unknown boundary value).

**Keywords** Uniform Distribution, Order Statistics, Unbiased Estimators, Efficiency, Confidence Intervals, Tests of Hypotheses

## 1. Background

The books and articles, listed in the reference list of this study with the reference numbers from[1] to[18], and many more not in the list, studied order statistics in such a way that every aspects of the topic has already been well explored.

However, there is no inferential study, as far as I am aware of, on the boundary values of the uniform distributions. This work aims at the determination of good estimators for the boundary values of uniform distributions. Based on the determined good estimator, construction of confidence intervals and procedures for the test of hypotheses are established.

For illustration, a simulation study is conducted and summaries of the simulation study are provided. The raw data and computations are provided in the appendix of this paper.

## 2. Introduction

A uniformly distributed continuous random variable, assuming real values in the interval $(\theta_1,\theta_2)$ , has the following probability density function (pdf)

$$f(x)=\frac{1}{\theta_2-\theta_1},\theta_1<x<\theta_2 \qquad (1)$$

For this distribution, the Maximum Likelihood Estimators (MLE) of $\theta_1$ and $\theta_2$ will be $Y_1$ and $Y_n$, the smallest and the largest order statistics, respectfully.

$\theta_1$ and $\theta_2$ need to be estimated for that each moment of the random variable X is , as shown below, a function of these parameters.

$$E(X^k)=\frac{1}{\theta_2-\theta_1}\int_{\theta_1}^{\theta_2} x^k dx=\frac{(\theta_2^{k+1}-\theta_1^{k+1})}{(k+1)(\theta_2-\theta_1)},k=1,2,3,... \qquad (2)$$

Let $X_1,X_2,...,X_n$ be a random sample of size n from a uniform distribution over the interval $(\theta_1,\theta_2)$ , and let $Y_i=$ ith order statistic, i=1, 2,..., n.

The pdf of ith order statistic is obtained by the following general formula, as given in almost all mathematical statistics textbooks, like the ones with the reference numbers[1],[2],[3],[4],[6], and[7].

$$f_{Yi}(y)=\frac{n!}{(i-1)!(n-i)!}\left[F(y)\right]^{(i-1)}\left[1-F(y)\right]^{(n-i)}f_Y(y) \qquad (3)$$

Where, n= size of the random sample, $F(y)$ is the cumulative distribution function (cdf) of the distribution, and $f_{Y_i}(y)$ is the pdf of the random variable ( ith order statistic) $Y_i$ .

Specifically, if the pdf given in (1) is used we obtain the following cdf.

$$F(y)=\int_{\theta_1}^{y}\frac{1}{\theta_2-\theta_1}dx=\frac{y-\theta_1}{\theta_2-\theta_1},\theta_1<y<\theta_2 \qquad (4)$$

Using the equations (3) and (4), we obtain the following pdfs for $Y_1$ and $Y_n$ .

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$$f_{Y_1}(y)=n\left[1-\frac{y_1-\theta_1}{\theta_2-\theta_1}\right]^{(n-1)}\left(\frac{1}{\theta_2-\theta_1}\right)=\frac{n}{(\theta_2-\theta_1)^n}(\theta_2-y_1)^{(n-1)},\theta_1<y_1<\theta_2 \quad (5)$$

$$f_{Y_n}(y_n)=n\left[\frac{y_n-\theta_1}{\theta_2-\theta_1}\right]^{(n-1)}\left(\frac{1}{\theta_2-\theta_1}\right)=\frac{n}{(\theta_2-\theta_1)^n}(y_n-\theta_1)^{(n-1)},\theta_1<y_n<\theta_2 \quad (6)$$

Use of the above pdfs will enable us to obtain the expected values and the variances of $Y_1$, and $Y_n$.

To take advantage of the computational simplicity lets introduce the following transformations.

$$\begin{aligned}&Let\ \ U_1=\theta_2-Y_1\rightarrow f_{U_1}(u_1)=\frac{n}{(\theta_2-\theta_1)^n}u_1^{n-1},\ 0<u_1<(\theta_2-\theta_1),\\ &and\ \ let\\ &U_n=Y_n-\theta_1\rightarrow f_{U_n}(u_n)=\frac{n}{(\theta_2-\theta_1)^n}u_n^{n-1},\ 0<u_n<(\theta_2-\theta_1)\end{aligned} \quad (7)$$

$$E(U_1)=\int_0^{\theta_2-\theta_1}u_1\frac{n}{(\theta_2-\theta_1)^n}u_1^{n-1}=\frac{n}{(\theta_2-\theta_1)^n}\left(\frac{u^{n+1}}{(n+1)}\right)\Big|_{u=0}^{(\theta_2-\theta_1)}=\frac{n(\theta_2-\theta_1)}{(n+1)} \quad (8)$$

$$E(U_1^2)=\int_0^{\theta_2-\theta_1}u_1^2\frac{n}{(\theta_2-\theta_1)^n}u_1^{n-1}=\frac{n}{(\theta_2-\theta_1)^n}\left(\frac{u^{n+2}}{(n+2)}\right)\Big|_{u=0}^{(\theta_2-\theta_1)}=\frac{n(\theta_2-\theta_1)^2}{(n+2)} \quad (9)$$

$$Var(U_1)=\frac{n(\theta_2-\theta_1)^2}{(n+2)}-\frac{n^2(\theta_2-\theta_1)^2}{(n+1)^2}=\frac{n(\theta_2-\theta_1)^2}{(n+1)^2(n+2)} \quad (10)$$

From (7) we get $Y_1=\theta_2-U_1$. It then follows that

$$\begin{aligned}E(Y_1)&=\theta_2-E(U_1)=\theta_2-\frac{n(\theta_2-\theta_1)}{(n+1)}=\frac{n\theta_1+\theta_2}{(n+1)}\\ Var(Y_1)&=Var(U_1)=\frac{n(\theta_2-\theta_1)^2}{(n+1)^2(n+2)}\end{aligned} \quad (11)$$

From (7) we observe that the pdfs of $U_1$ *and* $U_n$ are exactly the same.

Hence,

$$E(U_n)=\frac{n(\theta_2-\theta_1)}{(n+1)},\ \text{and}$$

$$Var(U_n)=\frac{n(\theta_2-\theta_1)^2}{(n+1)^2(n+2)}$$

From (7) we get $Y_n=U_n+\theta_1$. It then follows that

$$\begin{aligned}&E(Y_n)=\theta_1+E(U_n)\\ &=\theta_1+\frac{n(\theta_2-\theta_1)}{(n+1)}=\frac{n\theta_2+\theta_1}{(n+1)}\\ &Var(Y_n)=Var(U_n)\\ &=\frac{n(\theta_2-\theta_1)^2}{(n+1)^2(n+2)}\end{aligned} \quad (12)$$

Here we established the distributions, expected values, and variances of the smallest (the first) and the largest (the last) ordered statistics that are to be used in subsequent sections of this study.

# 3. Statistical Inferences Related to the Parameter of $X\sim Uniform(\theta_1,b)$ Distribution

## 3.1. Estimation of the Parameter $\theta_1$ of the Distribution $X\sim Uniform(\theta_1,b)$ by the First Order Statistic $Y_1$

A uniformly distributed continuous random variable X, over the interval $(\theta_1,b)$, where b is given constant, has the following pdf

$$f(x)=\frac{1}{b-\theta_1},\theta_1<x<b$$

The MLE of $\theta_1$ of $X \sim Uniform(\theta_1, b)$ will be $Y_1$ and its expected value and variance are from Equations given in (11),

$$E(Y_1) = \frac{n\theta_1 + \theta_2}{(n+1)} = \frac{n\theta_1 + b}{(n+1)}, \text{ and}$$
$$Var(Y_1) = \frac{n(\theta_2 - \theta_1)^2}{(n+1)^2(n+2)} = \frac{n(b-\theta_1)^2}{(n+1)^2(n+2)} \quad (3.1.1)$$

An unbiased estimator of $\theta_1$, based on the first order statistic is

$$T_1 = \frac{(n+1)Y_1 - b}{n},$$

$$Var(T_1) = \frac{(n+1)^2}{n^2} Var(Y_1) = \frac{(b-\theta_1)^2}{n(n+2)} \quad (3.1.2)$$

### 3.2. Estimation of the Parameter $\theta_1$ of the Distribution $X \sim Uniform(\theta_1, b)$ by the Last Order Statistic $Y_n$

Another estimator of $\theta_1$ of $X \sim Uniform(\theta_1, b)$ will be $Y_n$ and its expected value and variance are from Equations given in (12),

$$E(Y_n) = \frac{n\theta_2 + \theta_1}{(n+1)} = \frac{nb + \theta_1}{(n+1)}$$
$$Var(Y_n) = \frac{n(\theta_2 - \theta_1)^2}{(n+1)^2(n+2)} = \frac{n(b-\theta_1)^2}{(n+1)^2(n+2)} \quad (3.2.1)$$

By the utilization of the first equation of (3.2.1) we can obtain an unbiased estimator for $\theta_1$ as a function of the last order statistic $Y_n$

$$T_2 = (n+1)Y_n - nb$$
$$Var(T_2) = (n+1)^2 Var(Y_n) = \frac{n(b-\theta_1)^2}{(n+2)} \quad (3.2.2)$$

### 3.3. Estimation of the Parameter $\theta$ of the Distribution $X \sim Uniform(\theta_1, b)$ by $\overline{X}$

If $X \sim Uniform(\theta_1, b)$ then its pdf is $f(x) = \frac{1}{b-\theta_1}, \theta < x < b$. Then by equation (1), as given below:

$$E(X^k) = \frac{1}{\theta_2 - \theta_1} \int_{\theta_1}^{\theta_2} x^k dx = \frac{(\theta_2^{k+1} - \theta_1^{k+1})}{(k+1)(\theta_2 - \theta_1)}, k = 1, 2, 3, \ldots$$

For k=1 and $\theta_2 = b$

$$E(X) = \frac{(b^2 - \theta_1^2)}{(2)(b-\theta_1)} = \frac{b + \theta_1}{2} \quad (3.3.1)$$

For k=2 and $\theta_2 = b$,

$$E(X^2) = \frac{(b^3 - \theta_1^{31})}{(3)(\theta_2 - \theta_1)} = \frac{b^2 + b\theta_1 + \theta_1^2}{3} \quad (3.3.2)$$

From (1.3.1) and (1.3.2) and $Var(X) = \sigma^2 = E(X^2) - [E(X)]^2$ we obtain

$$Var(X) = \frac{(b-\theta_1)^2}{12}.$$

For any distribution, if the sample mean is $\overline{X}$, for any random sample of size n, the followings hold true.

$$E(\overline{X}) = E(X),$$

and

$$Var(\overline{X}) = \frac{Var(X)}{n}$$

Hence, for $X \sim Uniform(\theta_1, b)$,

$$E(\overline{X}) = \frac{(b + \theta_1)}{2} \quad (3.3.3)$$

$$Var(\overline{X}) = \frac{(b-\theta_1)^2}{12n} \quad (3.3.4)$$

From (3.3.3) an unbiased estimator of $\theta_1$ will be

$T_3 = 2(\overline{X}) - b$, and $Var(T_3) = 4Var(\overline{X}) = \frac{(b-\theta_1)^2}{3n}$ (3.3.5)

### 3.4. Estimation of the Parameter $\theta_1$ of the Distribution $X \sim Uniform(\theta_1, b)$ by the Sample Median M

If $X \sim Uniform(\theta_1, b)$ then $W = X - \theta_1$ is uniformly distributed over the interval $(0, (b-\theta_1) = \eta_1)$

To take advantage of computational simplicity, the parameter $\eta_1$ (and in turn $\theta_1$ of X), of the distribution $W \sim Uniform(0, \eta_1)$, is to be estimated by the sample median.

**Sample Median (M):**

Let $W_1, W_2, \ldots, W_n$ is a random sample of size n from

$$f(w) = \frac{1}{\eta_1}, \quad 0 < w < \eta_1$$

The sample median M, depending on if n is odd or even, is obtained as follows.

If $W_1, W_2, \ldots, W_n$ are ordered, in the order of their magnitude, we obtain the following order statistics. $U_1 < U_2 < \ldots < U_n$.

***Note:***

If a random sample of size n is taken from $X \sim Uniform(\theta_1, b)$, then the order statistics are $[Y_1, Y_2, ..., Y_n]$.

If a random sample of size n is taken from $W \sim Uniform(0, \eta_1)$, then the order statistics are $[W_1, W_2, ..., W_n] = [(Y_1 - \theta_1), (Y_2 - \theta_1), ....(Y_n - \theta_1)]$

From this observation, we can see that, obtaining sample median's distribution and its mean and variance from $[W_1, W_2, ..., W_n]$ will enable us to obtain distribution of the sample median and its mean and variance of $[Y_1, Y_2, ..., Y_n]$

If n is odd: $M = U_{(n+1)/2}$;

If n is even: $M = \dfrac{U_{n/2} + U_{(n+2)/2}}{2}$.

3.4.1. Estimation of the Parameter $\theta_1$ of the Distribution $X \sim Uniform(\theta_1, b)$ by the Sample Median n is Odd

***Theorem 3.4.1.*** If $W \sim Uniform(0, \eta_1)$ and if an odd sized random sample is taken from this distribution then for the sample median M,

$$E(M) = \frac{\eta_1}{2}, \quad E(M^2) = \frac{\eta_1^2 (n+3)}{4(n+2)} \text{ and}$$

$$Var(M) = \frac{\eta_1^2}{4(n+2)} \text{ dir.}$$

Proof:

Proof will be given by induction.

for n=1: $E(M) = E(W) = \dfrac{\eta_1}{2}$, and $Var(M) = Var(W) = \dfrac{\eta_1^2}{12} = \dfrac{\eta_1^2}{4(n+2)}$.

*For n=3*: the sample median is $M = U_2$ .The pdf of $M = U_2$ is to be obtained, by the use of (3), as follows.

Since, $f(w) = \dfrac{1}{\eta_1}, 0 < w < \eta_1$ and $F(u) = \displaystyle\int_0^u \frac{1}{\eta} dw = \frac{u}{\eta_1}, 0 < u < \eta_1$, then

$$f_M(u) = \frac{3!}{1!1!}\left[\frac{u}{\eta_1}\right]^1 \left[1 - \frac{u}{\eta_1}\right]^1 \frac{1}{\eta_1} \quad (3.4.1)$$

$$= \frac{6}{\eta_1^3}(u)(\eta_1 - u), 0 < u < \eta_1$$

$$E(M) = \int_0^{\eta_1} u \frac{6}{\eta_1^3}(u)(\eta_1 - u) du$$

$$= \frac{6}{\eta_1^3}\left[\eta_1 \frac{u^3}{3} - \frac{u^4}{4}\Big|_0^{\eta_1}\right] = \frac{6\eta_1}{12} = \frac{\eta_1}{2},$$

$$E(M^2) = \int_0^{\eta_1} u^2 \frac{6}{\eta_1^3}(u)(\eta_1 - u) du$$

$$= \frac{6}{\eta_1^3}\left[\eta_1 \frac{u^4}{4} - \frac{u^5}{5}\right]_0^{\eta_1} = \frac{6\eta_1^2}{20} = \frac{\eta_1^2 (n+3)}{4(n+2)},$$

$$Var(M) = \frac{3\eta_1^2}{10} - \frac{\eta_1^2}{4} = \frac{\eta^2}{20} = \frac{\eta_1^2}{4(n+2)}.$$

Similarly, for *n=5*, $M = U_3$ and from (3)

$$f_M(u) = \frac{5!}{2!2!}\left[\frac{u}{\eta_1}\right]^2 \left[1 - \frac{u}{\eta_1}\right]^2 \frac{1}{\eta_1}$$

$$= \frac{30}{\eta_1^5}(u^2)(\eta_1 - u)^2, 0 < u < \eta_1$$

$$E(M) = \int_0^{\eta_1} u \frac{30}{\eta_1^5}(u^2)(\eta_1 - u)^2 du$$

$$= \frac{30}{\eta_1^5}\left[\frac{\eta_1^2 u^4}{4} - \frac{2\eta_1 u^5}{5} + \frac{u^6}{6}\right]_0^{\eta} = \frac{\eta_1}{2}$$

$$E(M^2)=\int_0^{\eta_1} u^2\ \frac{30}{{\eta_1}^5}(u^2)(\eta_1-u)^2\,du=\frac{30}{{\eta_1}^5}\left[\frac{{\eta_1}^2u^5}{5}-\frac{2\eta_1u^6}{6}+\frac{u^7}{7}\right]\Bigg|_0^{\eta}=\frac{2{\eta_1}^2}{7}=\frac{{\eta_1}^2(n+3)}{4(n+2)},$$

$$Var(M)=\frac{2{\eta_1}^2}{7}-\frac{{\eta_1}^2}{4}=\frac{{\eta_1}^2}{28}=\frac{{\eta_1}^2}{4(n+2)}.$$

*For n=2m+1, then* $M=U_{(m+1)}$.

$$f_M(u)=\frac{(2m+1)!}{(m)!(m)!}\left[\frac{u}{\eta_1}\right]^{(m)}\left[1-\frac{u}{\eta_1}\right]^{(m)}\frac{1}{\eta_1}=\frac{(2m+1)!}{(m)!(m)!{\eta}^{2m+1}}(u^{(m)})(\eta_1-u)^{(m)},0<u<\eta_1$$

Now, let's assume that the following hold true for any n=2m+1.

$$E(M)=\int_0^{\eta_1} u\frac{(2m+1)!}{(m)!(m)!{\eta_1}^{2m+1}}(u)^m(\eta_1-u)^m=\frac{\eta_1}{2} \tag{3.4.2}$$

$$E(M^2)=\int_0^{\eta_1} u^2\frac{(2m+1)!}{(m)!(m)!{\eta_1}^{2m+1}}(u)^m(\eta_1-u)^m\,du=\frac{{\eta_1}^2(2m+4)}{4(2m+3)} \tag{3.4.3}$$

We need to show that for any m and for n=2m+3 the statements of the Theorem 3.4.1 are true.
For n=(2m+3) $M=U_{(m+2)}$.

$$f_M(u)=\frac{(2m+3)!}{(m+1)!(m+1)!}\left[\frac{u}{\eta_1}\right]^{(m+1)}\left[1-\frac{u}{\eta_1}\right]^{(m+1)}\frac{1}{\eta_1}=\frac{(2m+1)!}{(m+1)!(m+1)!{\eta_1}^{2m+2}}(u^{(m+1)})(\eta_1-u)^{(m+1)},0<u<\eta_1$$

$$E(M)=\int_0^{\eta_1} u\frac{(2m+3)!}{(m+1)!(m+1)!{\eta}^{2m+3}}(u^{(m+1)})(\eta_1-u)^{(m+1)}\,du.$$

If we let $(m+1)=k$ then in accordance with (3.4.2) and (3.4.3) we conclude the following.

$$E(M)=\int_0^{\eta_1} u\frac{(2k+1)!}{(k)!(k)!{\eta_1}^{2k+1}}(u^k)(\eta_1-u)^k\,du=\frac{\eta_1}{2}.$$

$$E(M^2)=\int_0^{\eta_1} u^2\frac{(2m+3)!}{(m+1)!(m+1)!{\eta_1}^{2m+3}}(u^{(m+1)})(\eta_1-u)^{(m+1)}\,du=\int_0^{\eta_1} u^2\frac{(2k+1)!}{(k)!(k)!{\eta_1}^{2k+1}}(u^k)(\eta_1-u)^k\,du$$

$$E(M^2)=\frac{{\eta_1}^2(2k+4)}{4(2k+3)}=\frac{{\eta_1}^2(2m+6)}{4(2m+5)}=\frac{{\eta_1}^2(n+3)}{4(n+2)},\ \text{(For that n = (2m+3)), and}$$

$$Var(M)=\frac{{\eta_1}^2(2m+6)}{4(2m+5)}-\frac{{\eta_1}^2}{4}=\frac{{\eta_1}^2}{4(2m+5)}=\frac{{\eta_1}^2}{4(n+2)}.$$

For the case of n being an odd number, the proof is completed.

3.4.2. Estimation of the Parameter $\theta$ of the Distribution $X\sim Uniform(\theta_1,b)$ by the Sample Median: n is even

***Theorem 3.4.2*** If $W\sim Uniform(0,\eta_1)$ and if an even sized random sample is taken from this distribution then for the sample median M,

$$E(M)=\frac{\eta_1}{2}\ ,\ E(M^2)=\frac{(n^2+4n+2){\eta_1}^2}{4(n+1)(n+2)},\text{ and }Var(M)=\frac{n{\eta_1}^2}{4(n+1)(n+2)}.$$

**Proof:**
**Note:**

If n is even, then the sample median is $M=\frac{U_{n/2}+U_{(n+2)/2}}{2}$.

To compute the expected value and the variance of M we need to have the joint pdf of $U_{n/2}, U_{(n+2)/2}$.

For any random sample taken from the distribution of $f(y)$, joint pdf of the ordered statistics $U_r$, and $U_t$, (r < t) can be obtained by the use of the following general formulation as given in[6].

$$f_{U_r,U_t}(u_r,u_t)=\frac{n!}{(r-1)!(t-r-1)!(n-t)!}\left[F(u_r)\right]^{r-1}\left[F(u_t)-F(u_r)\right]^{t-r-1}\left[F(u_t)\right]^{n-t}f(u_r)f(u_t) \qquad (3.4.4)$$

$$\textit{For n=2 :}\ M=\frac{U_1+U_2}{2}=\frac{Y_1+Y_2}{2}=\overline{Y}$$

If $W\sim Uniform(0,\eta_1)$ then, $E(Y)=E(\overline{Y})=E(M)=\frac{\eta_1}{2}$, and

$$Var(\overline{Y})=Var(M)=\frac{Var(Y)}{n}=\frac{\eta_1^{\,2}}{12n}=\frac{\eta_1^{\,2}}{24}=\frac{n\eta_1^{\,2}}{4(n+1)(n+2)}.$$

*For n=4:* $M=\frac{U_2+U_3}{2}$ . The joint pdf of $U_2$ and $U_3$ is obtained as given below.

Since, $f(u)=\frac{1}{\eta_1}$, and $F(u)=\int_0^u\frac{1}{\eta_1}dy=\frac{u}{\eta_1}, 0<u<\eta_1$ according to (3.4.5) the joint pdf is

$$f_{U_2,U_3}(u_2,u_3)=\frac{4!}{(1)!(0)!(1)!}\left[\frac{u_2}{\eta_1}\right]^1\left[1-\frac{u_3}{\eta_1}\right]^1\frac{1}{\eta_1^{\,2}}=\frac{24}{\eta_1^{\,4}}(u_2)(\eta_1-u_3),\ 0<u_2<u_3<\eta_1 \qquad (3.4.5)$$

$$E(M)=E\left(\frac{U_2+U_3}{2}\right)=\int_0^{\eta_1}\int_0^{u_3}\frac{u_2+u_3}{2}\left(\frac{24}{\eta_1^{\,4}}\right)(u_2)(\eta_1-u_3)du_2du_3=$$

$$\frac{12}{\eta^4}\int_0^{\eta_1}\left(\frac{\eta_1u_2^3}{3}+\frac{\eta_1u_3u_2^2}{2}-\frac{u_3u_2^3}{3}-\frac{u_3^2u_2^2}{2}\Big|_{u_2=0}^{u_3}\right)du_3=\frac{12}{\eta_1^{\,4}}\int_0^{\eta_1}\left(\frac{\eta_1u_3^3}{3}+\frac{\eta_1u_3^3}{2}-\frac{u_3^4}{3}-\frac{u_3^4}{2}\right)du_3=$$

$$\frac{12}{\eta_1^{\,4}}\left(\frac{\eta_1u_3^4}{12}+\frac{\eta_1u_3^4}{8}-\frac{u_3^5}{15}-\frac{u_3^5}{10}\right)\Big|_{u_3=0}^{\eta_1}=12\eta_1\left(\frac{1}{12}+\frac{1}{8}-\frac{1}{15}-\frac{1}{10}\right)=\frac{\eta_1}{2}$$

$$E(M^2)=E\left[\left(\frac{U_2+U_3}{2}\right)^2\right]=\int_0^{\eta_1}\int_0^{u_3}\left(\frac{u_2+u_3}{2}\right)^2\left(\frac{24}{\eta_1^{\,4}}\right)(u_2)(\eta_1-u_3)du_2du_3=$$

$$\frac{6}{\eta_1^{\,4}}\int_0^{\eta_1}\left(\frac{\eta_1u_2^4}{4}+\frac{2\eta_1u_3u_2^3}{3}+\frac{\eta_1u_3^2u_2^2}{2}-\frac{u_3u_2^4}{4}-\frac{2u_3^2u_2^3}{3}-\frac{u_3^3u_2^2}{2}\Big|_{u_2=0}^{u_3}\right)du_3$$

$$=\frac{6}{\eta_1^{\,4}}\int_0^{\eta_1}\left(\eta_1u_3^4\left(\frac{1}{4}+\frac{2}{3}+\frac{1}{2}\right)-u_3^5\left(\frac{1}{4}+\frac{2}{3}+\frac{1}{2}\right)\right)du_3=\frac{6}{\eta_1^{\,4}}\left(\frac{17}{12}\right)\int_0^{\eta_{11}}\left(\eta_1u_3^4-u_3^5\right)du_3$$

$$\frac{17}{2\eta_1^{\,4}}\left(\frac{\eta_1u_3^5}{5}-\frac{u_3^6}{6}\right)\Big|_{u_3=0}^{\eta_1}=\frac{17\eta_1^{\,2}}{2}\left(\frac{1}{5}-\frac{1}{6}\right)=\frac{17\eta_1^{\,2}}{60}$$

$$E(M^2)=\frac{17\eta^2}{60}\rightarrow\qquad E(M^2)=\frac{(n^2+4n+2)\eta^2}{4(n+1)(n+2)}\ ,\text{ and}$$

$$Var(M)=\frac{17\eta_1^{\,2}}{60}-\frac{\eta_1^{\,2}}{4}=\frac{\eta^{\,2}}{30}\rightarrow Var(M)=\frac{n\eta_1^{\,2}}{4(n+1)(n+2)}\ .$$

*For n=6:* $M=\frac{U_3+U_4}{2}$, the joint pdf of $U_3$ and $U_4$ is obtained as given below.:

$$f_{U_3,U_4}(u_2,u_3)=\frac{6!}{(2)!(0)!(2)!}\left[\frac{u_3}{\eta_1}\right]^2\left[1-\frac{u_4}{\eta_1}\right]^2\frac{1}{\eta_1^{\,2}}$$
$$=\frac{180}{\eta_1^{\,6}}(u_3^2)(\eta_1-u_4)^2,0<u_3<u_4<\eta_1 \tag{3.4.6}$$

$$E(M)=E\left(\frac{U_3+U_4}{2}\right)=\int_0^{\eta_1}\int_0^{u_4}\frac{u_3+u_4}{2}\left(\frac{180}{\eta_1^{\,6}}\right)(u_3^2)(\eta_1-u_4)^2\,du_2du_3=$$

$$\frac{90}{\eta_1^{\,6}}\int_0^{\eta_1}\left(\frac{\eta_1^{\,2}u_3^4}{4}+\frac{\eta_1^{\,2}u_4u_3^3}{3}-\frac{2\eta_1u_4u_3^4}{4}-\frac{2\eta_1u_4^2u_3^3}{3}+\frac{u_4^2u_3^4}{4}+\frac{u_4^3u_3^3}{3}\right)du_3=\quad\rightarrow for\ n=6,\ E(M)=\frac{\eta_1}{2}$$

$$\frac{90}{\eta^6}\left(\frac{7}{12}\right)\int_0^{\eta_1}\left(\eta_1^{\,2}u_4^4-2\eta u_4^5+u_4^6\right)du_3=\frac{105}{2\eta_1^{\,6}}\left(\frac{\eta_1^{\,2}u_4^5}{5}-\frac{2\eta_1u_4^6}{6}+\frac{u_4^7}{7}\right)\Bigg|_0^{\eta_1}$$

$$\frac{105\eta_1}{2}\left(\frac{1}{5}-\frac{1}{3}+\frac{1}{7}\right)=\frac{\eta_1}{2}$$

$$E(M^2)=E\left[\left(\frac{U_3+U_4}{2}\right)^2\right]=\int_0^{\eta_1}\int_0^{u_4}\left(\frac{u_3+u_4}{2}\right)^2\left(\frac{180}{\eta_1^{\,6}}\right)(u_3^2)(\eta_1-u_4)^2\,du_2du_3=$$

$$\frac{45}{\eta^6}\int_0^{\eta_1}\left(\frac{\eta_1^{\,2}u_3^5}{5}+\frac{2\eta_1^{\,2}u_4u_3^4}{4}+\frac{\eta_1^{\,2}u_4^2u_3^3}{3}-\frac{2\eta_1u_4u_3^5}{5}-\frac{4\eta_1u_4^2u_3^4}{4}-\frac{2\eta_1u_4^3u_3^3}{3}+\frac{u_4^2u_3^5}{5}+\frac{2u_4^2u_3^4}{4}+\frac{u_4^4u_3^3}{3}\Bigg|_{u_3=0}^{u_4}\right)du_4=$$

$$\frac{45}{\eta_1^{\,6}}\left(\frac{31}{30}\right)\int_0^{\eta_1}\left(\eta_1^{\,2}u_4^5-2\eta_1u_4^6+u_4^7\right)du_4=\frac{93}{2\eta_1^{\,6}}\left(\frac{\eta_1^{\,2}u_4^6}{6}-\frac{2\eta_1u_4^7}{7}+\frac{u_4^8}{8}\right)\Bigg|_0^{\eta_1}$$

$$\frac{93\eta_1^{\,2}}{2}\left(\frac{1}{6}-\frac{2}{7}+\frac{1}{8}\right)=\frac{31\eta_1^{\,2}}{112}$$

$$E(M^2)=\frac{31\eta_1^{\,2}}{112}\rightarrow\quad E(M^2)=\frac{(n^2+4n+2)\eta_1^{\,2}}{4(n+1)(n+2)}\ ,\text{ and}$$

$$Var(M)=\frac{31\eta_1^{\,2}}{112}-\frac{\eta_1^{\,2}}{4}=\frac{3\eta_1^{\,2}}{112}\rightarrow Var(M)=\frac{n\eta_1^{\,2}}{4(n+1)(n+2)}$$

$$For\ n=2m+2:\ M=\frac{U_{(m+1)}+U_{(m+2)}}{2}.$$

$$f_{U_{(m+1)},U_{(m+2)}}(u_{m+1},u_{m+2})=\frac{(2m+2)!}{(m)!(0)!(m)!}\left[\frac{u_{m+1}}{\eta_1}\right]^m\left[1-\frac{u_{m+2}}{\eta_1}\right]^m\frac{1}{\eta_1^{\,2}}$$

$$=\frac{(2m+2)!}{m!m!\eta_1^{\,2m+2}}(u_{m+1}^m)(\eta_1-u_{m+2})^m,0<u_{m+1}<u_{m+2}<\eta_1$$

Now, let's assume that the following, given in (3.4.7) and (3.48), hold true.

$$E(M)=\int_0^{\eta_1}\int_0^{u_{m+2}}\frac{u_{m+1}+u_{m+2}}{2}\frac{(2m+2)!}{m!m!\eta_1^{\,2m+2}}(u_{m+1}^m)(\eta_1-u_{m+2})^m\,du_{m+1}du_{m+2}=\frac{\eta_1}{2} \tag{3.4.7}$$

$$E(M^2)=\int_0^{\eta_1}\int_0^{u_{m+2}}\left(\frac{u_{m+1}+u_{m+2}}{2}\right)^2\frac{(2m+2)!}{m!m!{\eta_1}^{2m+2}}(u_{m+1}^m)(\eta_1-u_{m+2})^m\,du_{m+1}du_{m+2}=$$
$$\frac{\left[(2m+2)^2+4(2m+2)+2\right]\ {\eta_1}^2}{4\left[(2m+2)+1\right]\left[(2m+2)+2\right]}=\frac{\left[n^2+4(n+2)+2\right]{\eta_1}^2}{4(n+1)(n+2)} \quad (3.4.8)$$

We need to show that the statements of the Theorem 3.4.2 hold true for n=2m+4.

For n=2m+4, $M=\dfrac{U_{(m+2)}+U_{(m+3)}}{2}$

The joint pdf of $U_{(m+2)}$ *and* $U_{(m+3)}$ is obtained as follows.

$$f_{U_{(m+2)},U_{(m+3)}}(u_{m+2},u_{m+3})=\frac{(2m+4)!}{(m+1)!(0)!(m+)!}\left[\frac{u_{m+1}}{\eta_1}\right]^{m+1}\left[1-\frac{u_{m+2}}{\eta_1}\right]^{m+1}\frac{1}{{\eta_1}^2}$$
$$=\frac{(2m+4)!}{(m+1)!(m+1)!{\eta_1}^{2m+4}}(u_{m+2}^{m+1})(\eta_1-u_{m+3})^{m+1},0<u_{m+2}<u_{m+3}<\eta_1$$

$$E(M)=\int_0^{\eta_1}\int_0^{u_{m+3}}\frac{u_{m+2}+u_{m+3}}{2}\frac{(2m+4)!}{(m+1)!(m+1)!{\eta_1}^{2m+4}}(u_{m+1}^{m+1})(\eta_1-u_{m+2})^{m+1}\,du_{m+2}du_{m+3} \quad (3.4.9)$$

In (3.4.9 take $(m+1)=k$ , observing the identity between (3.4.7) and (3.4.10) we conclude the following.

$$E(M)=\int_0^{\eta_1}\int_0^{u_{k+2}}\frac{u_{k+1}+u_{k+2}}{2}\frac{(2k+2)!}{k!k!{\eta_1}^{2k+2}}(u_{k+1}^k)(\eta_1-u_{k+2})^k\,du_{k+1}du_{k+2}=\frac{\eta_1}{2} \quad (3.4.10)$$

Similarly,

$$E(M^2)=\int_0^{\eta_1}\int_0^{u_{m+3}}\left(\frac{u_{m+2}+u_{m+3}}{2}\right)^2\frac{(2m+4)!}{(m+1)!(m+1)!{\eta_1}^{2m+4}}(u_{m+1}^{m+1})(\eta_1-u_{m+2})^{m+1}\,du_{m+2}du_{m+3} \quad (3.4.11)$$

In (3.4.11), if we let $(m+1)=k$ , observing the identity between (3.4.8) and (3.4.12) we conclude the following.

$$E(M^2)=\int_0^{\eta_1}\int_0^{u_{k+2}}\left(\frac{u_{k+1}+u_{k+2}}{2}\right)^2\frac{(2k+2)!}{k!k!{\eta_1}^{2k+2}}(u_{k+1}^k)(\eta_1-u_{k+2})^k\,du_{k+1}du_{k+2}=$$
$$\frac{\left[(2k+2)^2+4(2k+2)+2\right]\ {\eta_1}^2}{4\left[(2k+2)+1\right]\ \left[(2k+2)+2\right]}=\frac{\left[(2m+4)^2+4(2m+4)+2\right]\ {\eta_1}^2}{4\left[(2m+4)+1\right]\ \left[(2m+4)+2\right]}=\frac{(n^2+4n+2){\eta_1}^2}{4(n+1)(n+2)} \quad (3.4.12)$$

For the case of n being an even number, the proof is completed.

3.4.3. Unbiased Estimators of $\theta_1$ for $X\sim Uniform(\theta_1,b)$ by M

***n is odd:*** $E(M)=\dfrac{\eta_1}{2}$ , $E(M^2)=\dfrac{{\eta_1}^2(n+3)}{4(n+2)}$, and $Var(M)=\dfrac{{\eta_1}^2}{4(n+2)}$

Where $\eta_1=b-\theta_1$, hence an unbiased estimator of $\theta_1$ as function of is M

$$T_4=b-2M\ ,\ Var(T_4)=4Var(M)=\frac{(b-\theta_1)^2}{(n+2)} \quad (3.4.13)$$

***n is even:*** $E(M)=\dfrac{\eta_1}{2}$ , $E(M^2)=\dfrac{(n^2+4n+2){\eta_1}^2}{4(n+1)(n+2)}$ , and $Var(M)=\dfrac{n{\eta_1}^2}{4(n+1)(n+2)}$.

**Table 1.** Unbiased estimators of $\theta_1$ for the Distribution $X \sim Uniform(\theta_1, b)$ and their variances

| | Unbiased estimators $(T_i)$ | | | | |
|---|---|---|---|---|---|
| | $T_1 = \frac{(n+1)Y_1 - b}{n}$ | $T_2 = (n+1)Y_n - nb$ | $T_3 = 2(\overline{X}) - b$ | $T_4 = b - 2M$ (n is odd) | $T_5 = b - 2M$ (n is even) |
| $E(T_i)$ | $\theta_1$ | $\theta_1$ | $\theta_1$ | $\theta_1$ | $\theta_1$ |
| $Var(T_i)$ | $\frac{(b-\theta_1)^2}{n(n+2)}$ | $\frac{n(b-\theta_1)^2}{(n+2)}$ | $\frac{(b-\theta_1)^2}{3n}$ | $\frac{(b-\theta_1)^2}{(n+2)}$ | $\frac{n(b-\theta_1)^2}{(n+1)(n+2)}$ |

Where $\eta_1 = b - \theta_1$, hence an unbiased estimator of $\theta$ as function of is M $T_5 = a - 2M$ ,

$$Var(T_5) = 4Var(M) = \frac{n(b-\theta_1)^2}{(n+1)(n+2)} \tag{3.4.14}$$

If we give the above comparisons in a tabulated form, we obtain the following:

For n>1;

$$Var(T_1) < Var(T_3) < Var(T_5) < Var(T_4) < Var(T_2)$$

We see that, for n >1, the most efficient unbiased estimator, among the ones as given above, is $T_1 = \frac{(n+1)Y_1 - b}{n}$ .

# 4. Confidence Interval for the Parameter $\theta_1$ of the Distribution $X \sim Uniform(\theta_1, b)$

The most efficient unbiased estimator of $\theta_1$ is seen to be $T_1 = \frac{(n+1)Y_1 - b}{n}$. By the use of the pdf of $Y_1$ we can construct a $100(1-\alpha)\%$ confidence interval for $\theta_1$. As it is shown before

$$f_{Y_1}(y) = \frac{n}{(b-\theta_1)^n}(b-y)^{(n-1)}, \theta_1 < y < b.$$

By the use of following probability statement we can obtain a confidence interval for $\theta$.

$$P(y_{1L} < Y_1 < y_{1U}) = (1-\alpha) \tag{4.1}$$

$$\int_{\theta_1}^{y_{1L}} \frac{n}{(b-\theta)^n}(b-y)^{(n-1)}dy = \alpha/2 \text{ and}$$

$$\int_{\theta_1}^{y_{1U}} \frac{n}{(b-\theta_1)^n}(b-y)^{(n-1)}dy = 1-\alpha/2$$

If we let $(b-y) = w$ then the following are true:

$$dw = -dy; \quad y = \theta_1 \to w = b - \theta_1;$$

$y = y_{1L} \to w = b - y_{1L}$ , and $y = y_{1U} \to w = b - y_{1U}$.

$$\int_{\theta_1}^{y_{1L}} \frac{n}{(b-\theta_1)^n}(b-y)^{(n-1)}dy =$$

$$\int_{b-y_{1L}}^{b-\theta_1} \frac{n}{(b-\theta)^n}w^{n-1}dw = 1 - \left(\frac{b-y_{1L}}{b-\theta_1}\right)^n = \alpha/2$$

$$y_{1L} = b - (b-\theta_1)\left(1 - \frac{\alpha}{2}\right)^{1/n} \tag{4.2}$$

Similarly,

$$\int_{\theta_1}^{y_{1U}} \frac{n}{(b-\theta_1)^n}(b-y)^{(n-1)}dy =$$

$$\int_{b-y_{1U}}^{b-\theta_1} \frac{n}{(b-\theta_1)^n}w^{n-1}dw = 1 - \left(\frac{b-y_{1U}}{b-\theta_1}\right)^n = 1-\alpha/2$$

$$y_{1U} = b - (b-\theta_1)\left(\frac{\alpha}{2}\right)^{1/n} \tag{4.3}$$

If the results in (4.2) and (4.3) are substituted in (4.1)

$$P\left( b-(b-\theta_1)\left(1-\frac{\alpha}{2}\right)^{1/n} < Y_1 < b-(b-\theta_1)\left(\frac{\alpha}{2}\right)^{1/n} \right) = (1-\alpha)$$

Solving the above inequalities for $\theta_1$ we obtain the following Confidence Interval.

$$P\left( b-\frac{b-Y_1}{\left(\frac{\alpha}{2}\right)^{1/n}} < \theta_1 < b-\frac{b-Y_1}{\left(1-\frac{\alpha}{2}\right)^{1/n}} \right) = (1-\alpha) \tag{4.4}$$

A $(1-\alpha)*100\%$ confidence interval for $\theta_1$:

$$\left( b-\frac{b-Y_1}{\left(\frac{\alpha}{2}\right)^{1/n}},\ b-\frac{b-Y_1}{\left(1-\frac{\alpha}{2}\right)^{1/n}} \right) \tag{4.5}$$

## 5. Tests of Hypotheses Related to the Parameter $\theta_1$ of the Distribution

$X \sim Uniform(\theta_1, b)$

**Table 2.** Tests of Hypotheses Related to the Parameter $\theta_1$ for the Distribution $X \sim Uniform(\theta_1, b)$

| $H_0 : \theta_1 = \theta_0$<br>$H_1 : \theta_1 \neq \theta_0$ | $H_0 : \theta_1 \leq \theta_0$<br>$H_1 : \theta_1 > \theta_0$ | $H_0 : \theta_1 \geq \theta_0$<br>$H_1 : \theta_1 < \theta_0$ |
|---|---|---|
| If $Y_1 \geq y_{1U}$ or $Y_1 \leq y_{1L}$<br>$H_0$ is rejected | If $Y_1 \geq y_{1U}$ $H_0$ is rejected | If $Y_1 \leq y_{1L}$ $H_0$ is rejected |
| Don't reject $H_0$ otherwise | Don't reject $H_0$ otherwise | Don't reject $H_0$ otherwise |
| Where,<br>$y_{1L} = b-(b-\theta_0)\left(1-\frac{\alpha}{2}\right)^{1/n}$<br>and<br>$y_{1U} = b-(b-\theta_0)\left(\frac{\alpha}{2}\right)^{1/n}$ | Where,<br>$y_{1U} = b-(b-\theta_0)(\alpha)^{1/n}$ | Where<br>$y_{1L} = b-(b-\theta_0)(1-\alpha)^{1/n}$ |

If $H_0 : \theta_1 = \theta_0$ is to be tested against to any proper alternative hypothesis, a plausible test statistic is to be $Y_1 = X_{Min}$ for that the most efficient unbiased estimator is $T_1 = \frac{(n+1)Y_1 - b}{n}$, which is a linear function of $Y_1 = X_{Min}$.

If the level of significance is chosen to be $\alpha$, then the decision rules, as given in the following table, are applicable.

It is concluded that the best unbiased estimator, among the ones suggested, of the parameter $\theta_1$ for the uniform distribution over $(\theta_1, b)$ is $T_1 = \frac{(n+1)Y_1 - b}{n}$.

Since $T_1$ is a linear function of the first order statistic $Y_1$, construction of confidence interval and tests of hypotheses procedures are related to and dependent upon the observed value of the first order statistic $Y_1$ and the chosen level of significance $\alpha$.

# 6. Statistical Inferences Related to the Parameter of $X \sim Uniform(a, \theta_2)$ Distribution

### 6.1. Estimation of the Parameter $\theta_2$ of the Distribution $X \sim Uniform(a, \theta_2)$ by the First Order Statistic

$$Y_1 = X_{(Min)}$$

A uniformly distributed continuous random variable X, over the interval $(a, \theta_2)$, has the following pdf.

$$f(x) = \frac{1}{\theta_2 - a}, a < x < \theta_2$$

If $Y = X - a$ then, $Y \sim Uniform(0, (\theta_2 - a) = \eta)$ and its pdf is as given below.

$$f(y) = \frac{1}{\eta}, 0 < y < \eta .$$

If a random sample of size is taken from the distribution of Y, then the ordered statistics will be denoted by $U_1 < U_2 < ... < U_n$.

The parameter of this distribution, $\eta$, can be estimated by $U_1$. The pdf of $U_1$ is given below.

$$f_{U_1}(y) = n\left[1 - \frac{y}{\eta}\right]^{(n-1)} \frac{1}{\eta} = \frac{n}{(\eta)^n}(\eta - y)^{(n-1)}, 0 < y < \eta \tag{6.1.1}$$

$$E(U_1) = \frac{n}{(\eta)^n}\int_{\theta}^{a} y(\eta - y)^{(n-1)} dy \tag{6.1.2}$$

If we let $(\eta - y) = t$ then the following will hold true.

$$dt = -dy; \qquad y = \eta - t; \qquad y = \theta \to t = \eta - \theta_2 \qquad y = a \to t = 0 .$$

$$E(U_1) = \frac{n}{(\eta)^n}\int_0^{\eta} y(\eta - y)^{(n-1)} dy = \frac{n}{(\eta)^n}\int_0^{\eta} (\eta - t)t^{(n-1)} dt =$$

$$\frac{n}{(\eta)^n}\left[\frac{\eta t^n}{n} - \frac{t^{n+1}}{n+1}\right]_{t=0}^{(\eta)} = n\eta\left[\frac{1}{n} - \frac{1}{n+1}\right] \tag{6.1.3}$$

$$E(U_1) = \frac{\eta}{n+1}$$

Hence, an estimator of $\theta_2$ of $X \sim Uniform(a, \theta_2)$ will be $X_{(1)}$ and its expected value, from the transformation $Y = X - a$, is obtained as given below.

$$E(Y_1) = E(U_1) + a = \frac{\eta}{(n+1)} + a = \frac{(\theta_2 - a)}{(n+1)} + a = \frac{na + \theta_2}{(n+1)} \tag{6.1.4}$$

Similarly,

$$E(U_1^2) = \frac{n}{(\eta)^n}\int_0^{\eta} y^2(\eta - y)^{(n-1)} = \frac{n}{(\eta)^n}\int_0^{\eta}(\eta - t)^2 t^{(n-1)}dt =$$
$$\frac{n}{(\eta)^n}\left[\frac{\eta^2 t^n}{n} - \frac{2\eta t^{n+1}}{n+1} + \frac{t^{n+2}}{n+2}\right]_{t=0}^{(\eta)} = n\eta^2\left[\frac{1}{n} - \frac{2}{n+1} + \frac{1}{n+2}\right] \rightarrow E(U_1^2) = \frac{2\eta^2}{(n+1)(n+2)} \tag{6.1.5}$$

By using (6.1.3) and (6.1.5) we obtained the variance of $U_1$ and $Y_1$.

$$Var(U_1) = E(U_1^2) - \left[E(U_1)\right]^2 = \frac{2\eta^2}{(n+1)(n+2)} - \frac{(\eta)^2}{(n+1)^2} =$$
$$Var(Y_1) = \frac{n(\eta)^2}{(n+1)^2(n+2)} \tag{6.1.6}$$

*Since,* $Y = X - a$ , then $Var(Y_1) = Var(Y) = Var(U_1)$ .

$$Var(Y_1) = \frac{n(\eta)^2}{(n+1)^2(n+2)} = \frac{n(\theta_2 - a)^2}{(n+1)^2(n+2)} \tag{6.1.7}$$

By the utilization of (6.1.3) we can obtain an unbiased estimator for $\theta$ as a function of $Y_1$.

$$W_1 = (n+1)Y_1 - na \text{ , and } Var(W_1) = (n+1)^2 Var(Y_1) = \frac{n(\theta_2 - a)^2}{n(n+2)} \tag{6.1.8}$$

### 6.2. Estimation of the Parameter $\theta$ of the Distribution $X \sim Uniform(a, \theta_2)$ by the Last Order Statistic

$$Y_n = X_{(Max)}$$

If we want to estimate the parameter $\eta$ of $Y \sim Uniform(0, \eta)$ by $U_n$,

$$f_{U_n}(y) = n\left[\frac{y}{\eta}\right]^{(n-1)}\frac{1}{\eta} = \frac{n}{(\eta)^n}(y)^{(n-1)}, 0 < y < \eta \tag{6.2.1}$$

$$E(U_n) = \frac{n}{(\eta)^n}\int_{\theta}^{a} y(y)^{(n-1)}dy \tag{6.2.2}$$

$$E(U_n) = \frac{n}{(\eta)^n}\int_0^{\eta} y(y)^{(n-1)}dy = \frac{n}{(\eta)^n}\left[\frac{y^{n+1}}{n+1}\right]_{t=0}^{(\eta)} = \left[\frac{n\eta}{n+1}\right] \tag{6.2.3}$$

The Maximum Likelihood estimator for the parameter $\theta_2$ is $Y_n$.

*Since,* $Y = X - a$, then the following will be true.

$$E(Y_n) = E(U_n) + a = \frac{n\eta}{(n+1)} + a = \frac{n(\theta - a)}{(n+1)} + a = \frac{n\theta_2 + a}{(n+1)} \tag{6.2.4}$$

$$E(U_n^2) = \frac{n}{(\eta)^n}\int_0^{\eta} y^2(y)^{(n-1)}dy = \frac{n}{(\eta)^n}\left[\frac{y^{n+2}}{n+2}\right]_{t=0}^{(\eta)} = \left[\frac{n\eta^2}{n+2}\right] \tag{6.2.5}$$

$$Var(U_n) = E(U_n^2) - \left[E(U_n)\right]^2 = \frac{n\eta^2}{(n+2)} - \frac{(n\eta)^2}{(n+1)^2} =$$
$$Var(U_n) = \frac{n(\eta)^2}{(n+1)^2(n+2)} = Var(Y_n) \tag{6.2.6}$$
$$Var(Y_n) = Var(Y) = Var(U_n).$$

From (6.2.4) we obtain an unbiased estimator for $\theta$ as a function of $Y_n$.

$$W_2 = \frac{(n+1)Y_n - a}{n}, \text{ and } Var(W_2) = \frac{(n+1)^2 Var(X_{(n)})}{n^2} = \frac{(\theta_2 - a)^2}{n(n+2)} \tag{6.2.7}$$

### 6.3. Estimation of the Parameter $\theta_2$ of the Distribution $X \sim Uniform(a, \theta_2)$ by the Sample Mean $\overline{X}$

If $X \sim Uniform(a,\theta)$ then the pdf is $f(x) = \frac{1}{\theta_2 - a}, a < x < \theta_2$, and

$$E(X) = \int_a^\theta x \frac{1}{\theta_2 - a} dx = \frac{(\theta_2{}^2 - a^2)}{2(\theta_2 - a)} = \frac{(a+\theta_2)}{2},$$

$$E(X^2) = \int_a^\theta x^2 \frac{1}{\theta_2 - a} dx = \frac{(\theta_2{}^3 - a^3)}{3(\theta_2 - a)} = \frac{(a^2 + a\theta_2 + \theta_2{}^2)}{3},$$

$$Var(X) = \frac{(\theta - a)^2}{12}.$$

For any distribution, if the sample mean is $\overline{X}$, for any random sample of size n, the following hold true.

$$E(\overline{X}) = E(X), \text{ and } Var(\overline{X}) = \frac{Var(X)}{n}$$

$$E(\overline{X}) = \frac{(a+\theta_2)}{2} \tag{6.3.1}$$

And $Var(\overline{X}) = \frac{(\theta_2 - a)^2}{12n}$ 6.3.2)

From (4.3.1) we can obtain an unbiased estimator for $\theta$, as function of the sample mean $\overline{X}$.

$$W_3 = 2(\overline{X}) - a, \text{ and}$$

$$Var(W_3) = 4Var(\overline{X}) = \frac{(a-\theta_2)^2}{3n} \tag{6.3.3}$$

### 6.4. Estimation of the Parameter $\theta_2$ of the Distribution $X \sim Uniform(a, \theta_2)$ by the Median M

A uniformly distributed continuous random variable X, over the interval $(a, \theta_2)$, has the following pdf

$$f(x) = \frac{1}{\theta_1 - a}, a < x < \theta_2$$

If $Y = X - a$, then as it is stated in Note 1, $Y \sim Uniform(0, (\theta_2 - a) = \eta)$ and its pdf is as given below.

$$f(y) = \frac{1}{\eta}, 0 < y < \eta.$$

Estimation procedures and the findings, related to the parameter $\theta_2$ of $X \sim Uniform(a, \theta_2)$, will be exactly the same as the one given in sections 1.4.1 and 1.4.2, with the exception that $\eta = (\theta_2 - a)$

In other words, the statements of Theorem 1.4.1 and Theorem 1.4.2 hold true.

That is: if n is odd then, $E(M) = \frac{\eta}{2}$, $E(M^2) = \frac{\eta^2(n+3)}{4(n+2)}$, and $Var(M) = \frac{\eta^2}{4(n+2)}$,

If n is even, then

$$E(M) = \frac{\eta}{2}, E(M^2) = \frac{(n^2 + 4n + 2)\eta^2}{4(n+1)(n+2)} \text{ and,}$$

$$Var(M) = \frac{n\eta^2}{4(n+1)(n+2)}, \text{ where}$$

$$\eta = (\theta_2 - a)$$

The unbiased estimators of $\theta_2$ as functions of the sample median M are as follows:

$W_4 = a + 2M$ (when n is odd), $W_5 = a + 2M$ (when n is even).

The variances of these unbiased estimators are:

$$Var(W_4) = \frac{(\theta_2 - a)^2}{(n+2)}, \text{ and } Var(W_5) = \frac{n(\theta_2 - a)^2}{(n+1)(n+2)}$$

### 6.5. Comparisons of Unbiased Estimators in Terms of Their Efficiencies

The unbiased estimators and their comparisons are given in Table 3.

We see that, for n >1, the most efficient unbiased estimator among the ones given above, is $W_2 = \frac{(n+1)Y_n - a}{n}$ .

## 7. Confidence Interval for the Parameter $\theta$ of the Distribution $X \sim Uniform(a, \theta_2)$

The most efficient unbiased estimator of $\theta$ is seen to be $T_2 = \frac{(n+1)Y_n - a}{n}$. By the use of the pdf of $Y_n$ we can construct a $100(1-\alpha)\%$ confidence interval for $\theta$. As it is shown before

$$f_{Y_n}(y) = \frac{n}{(\theta_2 - a)^n}(y-a)^{(n-1)}, a < y < \theta_2 .$$

By the use of following probability statement we can obtain a confidence interval for $\theta$.

$$P(y_{nL} < Y_n < y_{nU}) = (1-\alpha)$$

$$\int_a^{y_{nL}} \frac{n}{(\theta_2 - a)^n}(y-a)^{(n-1)}dy = \alpha/2 \text{ And, } \int_a^{y_{nU}} \frac{n}{(\theta_2 - a)^n}(y-a)^{(n-1)}dy = 1-\alpha/2 \quad (7.1)$$

If we let $(y-a) = w$ then the following are true:

$$dw = dy; \quad y = a \to w = 0; \; y = y_{nL} \to w = y_{nL} - a \text{ , and } y = y_{nU} \to w = y_{nU} - a .$$

$$\int_a^{y_{nL}} \frac{n}{(\theta_2 - a)^n}(y-a)^{(n-1)}dy = \int_0^{y_{nL}-a} \frac{n}{(\theta_2 - a)^n} w^{n-1}dw = \left(\frac{y_{nL} - a}{\theta_2 - a}\right)^n = \alpha/2$$

$$y_{nL} = a + (\theta_2 - a)\left(\frac{\alpha}{2}\right)^{1/n} \quad (7.2)$$

Similarly,

$$\int_a^{y_{nU}} \frac{n}{(\theta_2 - a)^n}(y-a)^{(n-1)}dy = \int_0^{y_{nU}-a} \frac{n}{(\theta_2 - a)^n} w^{n-1}dw = \left(\frac{a - y_{nU}}{\theta_2 - a}\right)^n = 1-\alpha/2$$

$$y_{nU} = a + (\theta_2 - a)\left(1 - \frac{\alpha}{2}\right)^{1/n} \quad (7.3)$$

**Table 3.** Unbiased estimators of $\theta_2$ for the Distribution $X \sim Uniform(a, \theta_2)$ and their variances

| | Unbiased estimators $(T_i)$ | | | | |
|---|---|---|---|---|---|
| | $W_1 = (n+1)Y_1 - na$ | $W_2 = \frac{(n+1)Y_n - a}{n}$ | $W_3 = 2(\overline{X}) - a$ | $W_4 = a + 2M$ (n is odd) | $W_5 = a + 2M$ (n is even) |
| $E(W_i)$ | $\theta_2$ | $\theta_2$ | $\theta_2$ | $\theta_2$ | $\theta_2$ |
| $Var(W_i)$ | $\frac{n(\theta_2 - a)^2}{(n+2)}$ | $\frac{(\theta_2 - a)^2}{n(n+2)}$ | $\frac{(\theta_2 - a)^2}{3n}$ | $\frac{(\theta_2 - a)^2}{(n+2)}$ | $\frac{n(\theta_2 - a)^2}{(n+1)(n+2)}$ |

**Table 4.** Tests of Hypotheses Related to the Parameter $\theta$ of $X \sim Uniform(a, \theta_2)$

| $H_0 : \theta = \theta_0$<br>$H_1 : \theta \neq \theta_0$ | $H_0 : \theta \leq \theta_0$<br>$H_1 : \theta > \theta_0$ | $H_0 : \theta \geq \theta_0$<br>$H_1 : \theta < \theta_0$ |
|---|---|---|
| If $Y_n \geq y_{nU}$ or $Y_n \leq y_{nL}$<br>$H_0$ is rejected | If $Y_n \geq y_{nU}$ $H_0$ is rejected | If $Y_n \leq y_{nL}$ $H_0$ is rejected |
| Don't reject $H_0$ otherwise | Don't reject $H_0$ otherwise | Don't reject $H_0$ otherwise |
| Where, $y_{nL} = a + (\theta_0 - a)\left(\frac{\alpha}{2}\right)^{1/n}$ and<br>$y_{nU} = a + (\theta_0 - a)\left(1 - \frac{\alpha}{2}\right)^{1/n}$ | Where,<br>$y_{nU} = a + (\theta_0 - a)(1 - \alpha)^{1/n}$ | Where,<br>$y_{nL} = a + (\theta_0 - a)(\alpha)^{1/n}$ |

If the results in (7.2) and (7.3) are substituted in (7.1)

$$P\left(a + (\theta_2 - a)\left(\frac{\alpha}{2}\right)^{1/n} < Y_n < a + (\theta_2 - a)\left(1 - \frac{\alpha}{2}\right)^{1/n}\right) = (1 - \alpha).$$

Solving the above inequalities for $\theta$ , the following Confidence Interval is obtained.

$$P\left(a + \frac{Y_n - a}{\left(1 - \frac{\alpha}{2}\right)^{1/n}} < \theta_2 < a + \frac{Y_n - a}{\left(\frac{\alpha}{2}\right)^{1/n}}\right) = (1 - \alpha) \tag{7.4}$$

A $100(1-\alpha)\%$ confidence interval for $\theta_2$ is given as follows.

$$\left(a + \frac{Y_n - a}{\left(1 - \frac{\alpha}{2}\right)^{1/n}},\ a + \frac{Y_n - a}{\left(\frac{\alpha}{2}\right)^{1/n}}\right) \tag{7.5}$$

## 8. Tests of Hypotheses Related to the Parameter $\theta_2$ of the Distribution

$X \sim Uniform(a, \theta_2)$

If $H_0 : \theta = \theta_0$ is to be tested against to any proper alternative hypothesis, a plausible test statistic is to be $Y_n = X_{Max}$ for that the most efficient unbiased estimator is $W_1 = \frac{(n+1)Y_n - a}{n}$ , which is a linear function of $Y_n = X_{Max}$.

If the level of significance is chosen to be $\alpha$ , then the decision rules, as given in the following table, are applicable.

## 9. Conclusions

For uniform distributions, of the types $X \sim Uniform(\theta_1, b)$ , and $X \sim Uniform(a, \theta_2)$ , some unbiased estimators for the unknown boundary values $\theta_1$ and $\theta_2$ are suggested. Among the suggest estimators, the most efficient estimator is selected. By the use the most efficient estimators, confidence interval and tests of hypotheses procedures are established.

## 10. Simulation Study

To see the match between the established theoretical findings and the empirical results, a simulation study on a uniform distribution over the interval $(\theta_1 = 5,\ \theta_2 = 10)$ is carried out. 100 independent samples of size 100 are drawn from this uniform distribution. From each sample the first order statistic $Y_1$, the last order statistic $Y_n$, sample mean $\overline{X}$, sample medians $M(n\ is\ even)$ (for n=100), and $M(n\ is\ odd)$ for n=99) are computed. Unbiased estimator values are computed from each sample. Summary of the simulation results are given in the following Table 5.

**Table 5.** Simulation summaries

| | Mean | Variance |
|---|---|---|
| Sample Mean $(\overline{X})$ | 7,502283 | 0,021271 |
| Min $(Y_1)$ | 5,053689 | 0,003032 |
| Max $(Y_n)$ | 9,955695 | 0,001421 |
| Sample Median, M(n even) | 7,506121 | 0,061029 |
| Sample Median, M( n odd) | 7,501759 | 0,063832 |
| T1 | 5,004226 | 0,003093 |
| T2 | 5,525145 | 14,49897 |
| T3 | 5,004565 | 0,085083 |
| T4 | 5,003519 | 0,255329 |
| T5 | 5,012243 | 0,244115 |
| W1 | 10,42261 | 30,93163 |
| W2 | 10,00525 | 0,00145 |
| W3 | 10,00457 | 0,085083 |
| W4 | 10,00352 | 0,255329 |
| W5 | 10,01224 | 0,244115 |

Based on a simulation of 100 independent samples of size n=100 from a uniform distribution over the interval $(\theta_1 = 5,\ \theta_2 = 10)$, summary statistics, $\overline{X},\ Y_1, Y_n, M(neven), and M(nodd)$ of 100 observations are obtained.

Values of five different estimators for $\theta_1$, namely T1, T2, T3, T4, and T5 are computed from each sample by the use of proper summary statistics. The second and third columns of Table 5 contain the computed means and the variances of each summary statistics and of estimate values for $\theta_1$.

From Table 5, we observe that T1, T2, T3, and T5 are unbiased estimators of $\theta_1$. Among these unbiased estimators T1 is the best (the most efficient) estimator, for that it has the smallest variance.

In the same line, values of five different estimators for $\theta_2$, namely W1, W2, W3, W4, and W5 are computed from each sample by the use of proper summary statistics.

From the second and the third columns of Table 5, we observe that W1, W2, W3, W4 and W5 are unbiased estimators of $\theta_2$. Among these unbiased estimators W2 is the best estimator, for that it has the smallest variance.

By using the formula (2.5), a 95% confidence interval is computed for $\theta_1$ from each sample. Exactly 95 out of 100 confidence intervals contained the parameter value 5 of $\theta_1$.

Similar procedures are followed for $\theta_2$. By the use of the formula (5.5), 95% confidence intervals for $\theta_2$ are computed. 94 out of 100 confidence intervals contained the parameter value 10 of $\theta_2$.

Simulation study results are seen to be in accordance with the theoretical findings.

A Simulation Study on A Uniform Ditribution Over the Interval (5,10)

| ***Sample 1*** | ***Sample 2*** | ***Sample 3*** | ***Sample 4*** | ***Sample 5*** | ***Sample 6*** | ***Sample 7*** | ***Sample 8*** | ***Sample 9*** | ***Sample 10*** |
|---|---|---|---|---|---|---|---|---|---|
| 6.76805 | 5.54758 | 8.71645 | 7.32947 | 6.26586 | 7.69478 | 8.62869 | 5.77136 | 9.49987 | 7.23937 |
| 6.64879 | 9.24694 | 5.11766 | 9.21047 | 6.51333 | 7.24894 | 9.61452 | 5.0222 | 9.40268 | 8.33267 |
| 6.18835 | 8.82961 | 5.65464 | 7.76501 | 6.00813 | 7.04285 | 5.98805 | 8.67661 | 6.39686 | 6.45668 |
| 8.92565 | 8.61381 | 6.33152 | 5.77686 | 5.65716 | 9.11983 | 5.47428 | 6.81726 | 8.08379 | 5.80943 |
| 9.27706 | 5.19226 | 9.14137 | 8.91613 | 5.50441 | 6.1482 | 9.15237 | 5.74133 | 5.70093 | 6.37832 |
| 9.69805 | 7.447 | 5.27074 | 8.73209 | 9.52611 | 9.74396 | 8.92942 | 8.69419 | 8.11978 | 7.46212 |
| 9.56789 | 9.11269 | 5.96345 | 9.34895 | 9.44353 | 8.04405 | 6.18012 | 7.64807 | 9.53177 | 7.13468 |
| 7.44082 | 7.77596 | 5.3617 | 6.7841 | 6.32015 | 5.99846 | 8.07746 | 8.43545 | 9.36648 | 5.17614 |
| 9.72813 | 9.11189 | 7.05884 | 6.63384 | 9.70685 | 8.54253 | 9.96564 | 9.85792 | 7.12269 | 8.9224 |
| 7.46514 | 7.06914 | 9.44628 | 5.96065 | 8.5456 | 6.99726 | 7.58934 | 6.05904 | 7.17869 | 5.70564 |
| 8.86561 | 5.7497 | 9.80677 | 6.44889 | 5.60188 | 6.28214 | 7.08043 | 8.17612 | 9.03821 | 6.99094 |
| 5.64825 | 8.37879 | 9.60301 | 9.26988 | 5.2388 | 6.00553 | 6.61076 | 9.29307 | 5.87516 | 9.03501 |
| 7.75676 | 6.23922 | 7.51729 | 8.14453 | 5.49739 | 9.02683 | 5.50518 | 5.32239 | 6.76773 | 6.67583 |
| 8.03505 | 5.17559 | 8.4334 | 6.97945 | 7.26849 | 9.3344 | 7.00371 | 5.67347 | 6.34599 | 9.72847 |
| 7.91383 | 5.82104 | 6.11075 | 8.0797 | 7.72618 | 5.98542 | 6.14096 | 9.38147 | 9.80645 | 6.04649 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5.27165 | 7.36576 | 9.04968 | 7.10611 | 5.02197 | 6.07066 | 9.12631 | 6.74326 | 7.08122 | 6.08235 |
| 7.5777 | 9.18829 | 5.01803 | 5.2689 | 7.79532 | 5.91644 | 6.42044 | 8.48295 | 8.37441 | 7.84362 |
| 8.67416 | 7.68485 | 9.87295 | 5.12895 | 8.99236 | 7.01728 | 7.97886 | 7.58623 | 6.07359 | 7.71055 |
| 5.27403 | 5.27586 | 7.36725 | 6.06629 | 7.00971 | 7.9662 | 9.61821 | 5.2543 | 6.21058 | 8.19278 |
| 7.0574 | 6.73858 | 7.3245 | 9.21873 | 7.81031 | 9.38243 | 7.71026 | 8.78718 | 9.44682 | 5.20389 |
| 9.87328 | 8.86696 | 9.23279 | 9.24976 | 5.99653 | 8.43504 | 8.92682 | 5.74824 | 6.78444 | 6.5277 |
| 7.16373 | 6.29781 | 8.06776 | 9.20781 | 8.69283 | 8.152 | 5.33519 | 7.59396 | 9.83634 | 6.81062 |
| 5.57791 | 8.07136 | 9.18987 | 7.23794 | 9.60694 | 7.59491 | 7.82591 | 6.98435 | 6.19687 | 5.69536 |
| 5.60227 | 6.57299 | 8.33378 | 9.75946 | 9.20069 | 6.46122 | 6.62164 | 9.47102 | 9.08496 | 8.82302 |
| 7.92689 | 8.40137 | 8.25053 | 7.68828 | 6.22544 | 7.94492 | 7.92489 | 8.54114 | 6.19162 | 7.24041 |
| 5.27507 | 6.7398 | 5.5761 | 7.31552 | 9.7343 | 6.7126 | 5.60909 | 9.00667 | 5.96167 | 8.85088 |
| 5.23583 | 6.70567 | 6.15485 | 8.7925 | 9.4837 | 5.44594 | 6.9962 | 6.8876 | 7.89363 | 6.62394 |
| 8.41925 | 5.45209 | 5.42727 | 6.77572 | 5.70472 | 8.80198 | 8.95848 | 9.03918 | 7.95832 | 5.53407 |
| 6.42925 | 7.48792 | 6.29917 | 5.4144 | 8.12612 | 8.09951 | 8.49912 | 6.17323 | 7.83436 | 9.80579 |
| 7.73869 | 5.0058 | 8.84326 | 8.7735 | 5.68494 | 9.73225 | 8.84631 | 8.54916 | 5.94561 | 5.7347 |
| 9.05125 | 6.25505 | 6.88755 | 5.56231 | 6.21997 | 6.3683 | 8.07337 | 9.86432 | 9.2897 | 7.34417 |
| 5.17675 | 5.41977 | 7.20424 | 6.90153 | 5.44206 | 8.83918 | 9.85975 | 8.25992 | 6.71686 | 6.21734 |
| 8.53267 | 9.87429 | 6.23478 | 5.78054 | 7.99312 | 8.95462 | 7.59182 | 6.21742 | 5.45427 | 7.47042 |
| 5.00688 | 5.11108 | 5.7408 | 5.67876 | 7.41248 | 6.71499 | 6.45063 | 5.04365 | 8.61655 | 9.66729 |
| 6.55685 | 6.49044 | 5.53936 | 6.65629 | 6.14796 | 8.12447 | 6.35537 | 5.14893 | 7.84643 | 8.22793 |
| 9.36141 | 7.79091 | 9.08092 | 8.26076 | 9.67676 | 7.07278 | 8.97439 | 8.51532 | 9.32552 | 5.68898 |
| 9.25425 | 9.76699 | 6.01214 | 7.98605 | 7.08992 | 8.91317 | 5.99515 | 5.83984 | 9.94706 | 6.31333 |
| 5.70783 | 8.29902 | 5.9022 | 6.96476 | 6.68713 | 8.66273 | 9.94635 | 5.76362 | 6.10951 | 9.43733 |
| 5.09335 | 8.38556 | 6.65674 | 7.80429 | 8.94538 | 6.10271 | 5.29402 | 5.33342 | 9.79042 | 6.1095 |
| 5.13942 | 6.21019 | 5.46105 | 6.39426 | 8.47895 | 6.67935 | 7.11159 | 5.19055 | 9.01288 | 8.00078 |
| 9.58752 | 6.82679 | 8.83202 | 6.98508 | 9.38232 | 7.49847 | 7.80716 | 7.75974 | 5.75598 | 5.06975 |
| 5.5504 | 5.11758 | 5.56772 | 9.0693 | 7.68216 | 9.3875 | 5.40705 | 8.41356 | 6.83629 | 5.95721 |
| 9.71618 | 5.02069 | 7.66213 | 9.0033 | 9.966 | 7.78309 | 5.51729 | 9.07735 | 7.51673 | 5.17899 |
| 9.03292 | 8.47602 | 8.83159 | 6.20887 | 5.47519 | 7.15126 | 8.86561 | 6.3694 | 8.66828 | 7.03376 |
| 9.18015 | 7.62615 | 8.6341 | 8.45812 | 9.32312 | 7.55031 | 5.57368 | 8.06073 | 7.46861 | 8.53911 |
| 5.79433 | 5.94207 | 5.24463 | 6.38624 | 5.97973 | 8.57801 | 9.05113 | 6.08959 | 6.99081 | 5.73397 |
| 5.71019 | 8.28413 | 9.88012 | 7.85481 | 9.80912 | 8.95461 | 6.62755 | 7.00377 | 5.91353 | 8.6948 |
| 6.90311 | 7.49966 | 8.89027 | 9.93639 | 5.57294 | 7.61461 | 9.62354 | 5.84489 | 6.86733 | 7.33916 |
| 6.01093 | 9.88304 | 8.05946 | 7.993 | 7.72002 | 6.92338 | 9.15678 | 7.42699 | 5.98298 | 6.47172 |
| 8.29117 | 5.24312 | 5.46054 | 6.17231 | 9.17399 | 7.52364 | 9.02832 | 9.30765 | 8.3826 | 9.01742 |
| 7.21463 | 9.3925 | 5.50457 | 9.61379 | 8.59673 | 9.09117 | 9.92957 | 9.79773 | 9.06485 | 9.59982 |
| 5.69122 | 5.14753 | 9.94336 | 7.83586 | 9.71874 | 7.21083 | 9.225 | 6.64117 | 5.16821 | 7.76513 |
| 7.39651 | 6.56979 | 8.79823 | 9.2966 | 5.71389 | 5.44684 | 9.49124 | 8.38406 | 9.94748 | 7.52972 |
| 6.21596 | 6.77723 | 5.91663 | 7.29684 | 9.18548 | 8.2596 | 7.60838 | 9.81333 | 9.8305 | 9.63577 |
| 9.3906 | 5.99472 | 7.03362 | 9.1611 | 8.75165 | 7.10397 | 7.34638 | 6.99033 | 7.57368 | 5.04623 |
| 7.59387 | 8.75147 | 7.98545 | 5.99185 | 6.43094 | 9.14706 | 5.94997 | 6.82112 | 5.62793 | 7.73832 |
| 9.52858 | 8.41175 | 6.10377 | 5.98491 | 5.12037 | 7.84236 | 6.95173 | 8.25666 | 8.2186 | 7.19077 |
| 8.45732 | 7.6749 | 9.07446 | 6.99203 | 5.66462 | 8.24431 | 6.9998 | 8.93805 | 6.90706 | 7.50859 |
| 8.72879 | 7.28557 | 8.83935 | 9.4945 | 8.69578 | 6.51762 | 7.88476 | 9.19904 | 5.10719 | 6.49467 |
| 9.24246 | 7.91863 | 9.83302 | 9.28537 | 8.35988 | 7.37135 | 6.33597 | 6.92714 | 6.14444 | 9.00411 |
| 5.69165 | 9.39004 | 8.42245 | 5.71779 | 8.40625 | 7.5988 | 9.4064 | 5.49549 | 6.13181 | 9.79494 |
| 5.10031 | 6.06409 | 6.50803 | 7.26941 | 6.18215 | 8.75021 | 9.68249 | 9.29264 | 8.51029 | 5.562 |
| 9.58141 | 6.30627 | 6.53334 | 5.14218 | 9.72103 | 8.15898 | 8.96704 | 9.89307 | 5.02439 | 8.57001 |
| 6.91086 | 9.94315 | 6.16404 | 9.90682 | 5.80761 | 8.60099 | 9.79025 | 8.48124 | 7.23672 | 6.01227 |
| 6.20842 | 5.40688 | 6.97988 | 6.79329 | 5.48799 | 5.01892 | 5.09225 | 9.47962 | 5.92262 | 5.8503 |
| 6.69155 | 6.27316 | 8.22989 | 6.74831 | 7.72835 | 6.54153 | 5.78193 | 6.57418 | 6.2449 | 8.86547 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 5.95697 | 7.76551 | 7.90296 | 5.70668 | 8.64946 | 6.7981 | 7.71549 | 9.18902 | 9.51723 | 8.56753 |
| | 9.93577 | 7.31901 | 8.89254 | 9.80263 | 9.92121 | 9.0717 | 5.80995 | 7.82189 | 8.43855 | 6.16525 |
| | 7.16884 | 8.66276 | 8.55543 | 9.54445 | 8.06204 | 5.80005 | 5.07901 | 9.15531 | 8.90324 | 5.8136 |
| | 8.46283 | 5.81383 | 9.64685 | 7.83238 | 9.79694 | 8.36708 | 6.20064 | 8.65119 | 6.50112 | 9.1347 |
| | 5.85851 | 5.1967 | 7.12017 | 9.59633 | 7.43785 | 6.95533 | 5.80334 | 7.97374 | 9.75599 | 5.10726 |
| | 9.18657 | 7.76747 | 5.66971 | 7.1275 | 6.84958 | 6.32708 | 5.90291 | 9.85473 | 5.03995 | 8.88636 |
| | 8.7727 | 7.62816 | 5.58336 | 5.07287 | 8.3718 | 9.00943 | 8.0842 | 8.00979 | 6.97971 | 9.09677 |
| | 8.48492 | 5.44725 | 6.16708 | 7.75861 | 7.20011 | 9.89235 | 7.99181 | 6.27968 | 9.17832 | 6.34832 |
| | 9.12548 | 6.98984 | 8.02112 | 5.29448 | 8.65417 | 8.72267 | 9.07287 | 5.78202 | 8.90594 | 5.90646 |
| | 6.20461 | 7.66837 | 9.89989 | 6.41731 | 8.89462 | 9.99651 | 6.04392 | 8.50089 | 5.3136 | 7.92458 |
| | 6.72527 | 9.93648 | 7.03262 | 9.20973 | 8.26263 | 8.82813 | 8.33493 | 6.17131 | 6.74357 | 8.9929 |
| | 9.16813 | 8.13906 | 6.33033 | 5.85007 | 7.30853 | 8.72447 | 9.69952 | 8.5079 | 7.59089 | 8.88475 |
| | 8.4747 | 8.93317 | 7.3922 | 9.21486 | 8.73052 | 8.6101 | 9.06945 | 7.69367 | 5.82813 | 8.1123 |
| | 8.65024 | 7.42468 | 8.8861 | 7.14189 | 7.27935 | 5.62626 | 9.63668 | 5.03305 | 8.24671 | 6.01152 |
| | 7.71479 | 9.56845 | 8.43817 | 5.03158 | 8.19117 | 7.78087 | 5.55678 | 5.18307 | 5.49367 | 7.93077 |
| | 5.14045 | 9.44141 | 6.53968 | 6.21086 | 9.56274 | 5.98351 | 9.85797 | 9.22242 | 8.19219 | 6.14648 |
| | 6.30059 | 8.23071 | 9.96084 | 7.94444 | 7.33013 | 5.96955 | 7.07558 | 5.87318 | 6.35972 | 6.69438 |
| | 7.39434 | 6.87728 | 8.30998 | 8.72429 | 6.93195 | 7.12342 | 6.59687 | 8.71186 | 7.14615 | 5.98767 |
| | 6.29302 | 8.54591 | 7.95542 | 7.19951 | 5.92623 | 7.49941 | 9.17125 | 9.70237 | 9.77916 | 5.34305 |
| | 8.41369 | 6.80944 | 5.40538 | 6.58762 | 5.38286 | 5.31034 | 5.38019 | 7.93686 | 8.39109 | 6.9979 |
| | 9.34088 | 6.46698 | 5.90569 | 6.69883 | 8.84291 | 9.55467 | 7.13152 | 8.05994 | 7.17584 | 9.91563 |
| | 7.91869 | 8.61218 | 5.20752 | 6.4563 | 6.38802 | 7.02478 | 8.93665 | 7.92058 | 9.49651 | 5.49833 |
| | 9.95304 | 5.34705 | 8.26138 | 9.7086 | 5.40095 | 8.32756 | 7.65721 | 9.7321 | 6.30201 | 7.19636 |
| | 7.68484 | 7.0938 | 7.03305 | 8.78562 | 9.55082 | 7.50063 | 7.15353 | 6.99172 | 7.11238 | 8.31738 |
| | 7.18694 | 8.22582 | 6.05332 | 6.0943 | 9.18 | 8.75612 | 6.87896 | 6.50369 | 8.14279 | 5.90053 |
| | 8.58824 | 9.27673 | 8.77767 | 9.74731 | 8.75946 | 5.93974 | 8.71412 | 7.07464 | 7.71726 | 9.86675 |
| | 7.22256 | 5.66701 | 8.33937 | 9.3796 | 6.18925 | 8.36269 | 7.69222 | 5.78746 | 8.99914 | 8.62064 |
| | 9.40729 | 7.96766 | 5.84759 | 5.77524 | 7.07049 | 5.48801 | 7.94256 | 5.11724 | 6.69397 | 9.05276 |
| | 7.25673 | 5.23763 | 7.03162 | 7.41641 | 9.60502 | 7.78779 | 6.78918 | 6.69548 | 7.71054 | 5.13194 |
| | 8.16415 | 8.86426 | 5.86231 | 6.5266 | 8.75165 | 6.25948 | 7.0017 | 8.10976 | 5.87843 | 7.07088 |
| | 5.4353 | 6.75598 | 9.11823 | 6.54247 | 8.57984 | 8.49609 | 7.58698 | 9.86311 | 6.55117 | 8.07977 |
| | 8.84267 | 5.3995 | 7.89863 | 7.53318 | 9.24741 | 9.55117 | 8.30927 | 5.85934 | 9.0229 | 9.8471 |
| | 9.49711 | 5.77565 | 9.10296 | 6.01004 | 5.19007 | 6.41281 | 9.38935 | 9.98965 | 8.14817 | 6.11669 |
| | 7.88351 | 9.52388 | 8.76388 | 7.64352 | 6.53911 | 6.2043 | 5.95083 | 7.04166 | 8.8628 | 6.00255 |
| ***Mean*** | **7.5514061** | **7.3037618** | **7.4410716** | **7.4855762** | **7.6169842** | **7.6131248** | **7.6230981** | **7.5693427** | **7.5438337** | **7.3012481** |
| ***Min*** | **5.00688** | **5.0058** | **5.01803** | **5.03158** | **5.02197** | **5.01892** | **5.07901** | **5.0222** | **5.02439** | **5.04623** |
| ***Max*** | **9.95304** | **9.94315** | **9.96084** | **9.93639** | **9.966** | **9.99651** | **9.96564** | **9.98965** | **9.94748** | **9.91563** |
| ***M(even)*** | **7.639355** | **7.39522** | **7.379725** | **7.283125** | **7.727265** | **7.606705** | **7.674715** | **7.790815** | **7.49267** | **7.193565** |
| ***M( odd)*** | **7.639355** | **7.39522** | **7.345875** | **7.253675** | **7.761835** | **7.606705** | **7.674715** | **7.871235** | **7.352665** | **7.193565** |
| ***T1*** | **4.9569488** | **4.955858** | **4.9682103** | **4.9818958** | **4.9721897** | **4.9691092** | **5.0298001** | **4.972422** | **4.9746339** | **4.9966923** |
| ***T2*** | **5.25704** | **4.25815** | **6.04484** | **3.57539** | **6.566** | **9.64751** | **6.52964** | **8.95465** | **4.69548** | **1.47863** |
| ***T3*** | **5.1028122** | **4.6075236** | **4.8821432** | **4.9711524** | **5.2339684** | **5.2262496** | **5.2461962** | **5.1386854** | **5.0876674** | **4.6024962** |
| ***T4*** | **5.27871** | **4.79044** | **4.69175** | **4.50735** | **5.52367** | **5.21341** | **5.34943** | **5.74247** | **4.70533** | **4.38713** |
| ***T5*** | **5.27871** | **4.79044** | **4.75945** | **4.56625** | **5.45453** | **5.21341** | **5.34943** | **5.58163** | **4.98534** | **4.38713** |
| ***W2*** | **10.0025704** | **9.9925815** | **10.0104484** | **9.9857539** | **10.01566** | **10.0464751** | **10.0152964** | **10.0395465** | **9.9969548** | **9.9647863** |
| ***W1*** | **5.69488** | **5.5858** | **6.82103** | **8.18958** | **7.21897** | **6.91092** | **12.98001** | **7.2422** | **7.46339** | **9.66923** |
| ***W3*** | **10.1028122** | **9.6075236** | **9.8821432** | **9.9711524** | **10.2339684** | **10.2262496** | **10.2461962** | **10.1386854** | **10.0876674** | **9.6024962** |
| ***W4*** | **10.27871** | **9.79044** | **9.69175** | **9.50735** | **10.52367** | **10.21341** | **10.34943** | **10.74247** | **9.70533** | **9.38713** |
| ***W5*** | **10.27871** | **9.79044** | **9.75945** | **9.56625** | **10.45453** | **10.21341** | **10.34943** | **10.58163** | **9.98534** | **9.38713** |
| ***LCL for LB*** | **4.819250382** | **4.818129798** | **4.830819372** | **4.844878549** | **4.834907428** | **4.831742816** | **4.894090856** | **4.835146071** | **4.837418366** | **4.860079061** |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ***UCL for LB*** | **5.005615692** | **5.004535418** | **5.016768515** | **5.030321946** | **5.020709513** | **5.01765874** | **5.077763956** | **5.020939571** | **5.023130125** | **5.044975655** |
| ***LCL for UB*** | **9.95429416** | **9.944401656** | **9.962096135** | **9.937639944** | **9.967257441** | **9.997775167** | **9.96689735** | **9.99091343** | **9.948732752** | **9.916874687** |
| ***UCL for UB*** | **10.13916351** | **10.12890186** | **10.14725661** | **10.12188784** | **10.15261051** | **10.18426701** | **10.15223699** | **10.17714922** | **10.13339458** | **10.10034773** |

A Simulation Study on A Uniform Ditribution Over the Interval (5,10) (continued)

| **Sample 11** | **Sample 12** | **Sample 13** | **Sample 14** | **Sample 15** | **Sample 16** | **Sample 17** | **Sample 18** | **Sample 19** | **Sample 20** |
|---|---|---|---|---|---|---|---|---|---|
| 7.39785 | 6.20763 | 7.25944 | 9.16618 | 9.736 | 7.62824 | 9.22624 | 5.55963 | 5.08188 | 5.26447 |
| 7.94401 | 5.69129 | 7.50581 | 8.4911 | 9.7161 | 5.81821 | 6.55312 | 6.8276 | 6.4105 | 5.84608 |
| 7.06894 | 6.13494 | 8.63681 | 8.31787 | 9.2237 | 6.7997 | 8.20013 | 7.32031 | 5.91184 | 6.74863 |
| 7.57285 | 9.33397 | 5.82982 | 9.98078 | 7.7035 | 8.83509 | 6.88446 | 9.09341 | 7.54447 | 6.9885 |
| 6.8369 | 6.91514 | 6.94853 | 8.68123 | 7.8618 | 6.14139 | 5.85179 | 6.44702 | 9.17696 | 7.19409 |
| 8.35096 | 5.78391 | 8.38171 | 5.26161 | 8.4084 | 9.44126 | 5.92579 | 9.7605 | 9.8743 | 6.69552 |
| 7.50176 | 8.27563 | 9.6654 | 9.23336 | 5.0226 | 5.61973 | 7.416 | 6.37405 | 8.16673 | 9.13798 |
| 8.39866 | 8.39755 | 5.27332 | 5.64921 | 7.5933 | 5.58701 | 8.18447 | 6.0201 | 9.40008 | 5.74566 |
| 6.99428 | 9.86785 | 5.83636 | 7.22776 | 6.3804 | 5.97779 | 9.33531 | 9.44215 | 6.2974 | 7.6175 |
| 9.99918 | 6.54547 | 9.38957 | 7.7293 | 8.943 | 5.09222 | 8.41037 | 6.13657 | 5.47198 | 6.15335 |
| 7.6526 | 7.64054 | 7.09923 | 5.3689 | 6.4189 | 7.78039 | 7.83215 | 7.2793 | 5.94635 | 9.80417 |
| 5.494 | 7.74346 | 8.93599 | 5.6543 | 9.0726 | 5.41968 | 8.61613 | 6.90328 | 6.73894 | 7.67689 |
| 7.91504 | 5.53583 | 7.62648 | 7.04771 | 8.3337 | 6.16025 | 7.40354 | 7.1197 | 8.80171 | 8.36973 |
| 5.07712 | 7.69366 | 8.5506 | 5.84612 | 8.9331 | 8.12448 | 9.4728 | 9.04545 | 5.75443 | 7.29942 |
| 7.23817 | 6.42892 | 6.04477 | 7.41749 | 8.7025 | 6.53184 | 5.26031 | 6.27699 | 6.05236 | 7.35986 |
| 7.85828 | 7.3348 | 6.84577 | 9.4722 | 5.6618 | 5.55453 | 9.36014 | 7.49751 | 7.64806 | 7.32806 |
| 7.36382 | 7.52933 | 5.97317 | 7.69992 | 9.4438 | 9.06078 | 5.07384 | 6.3336 | 5.74785 | 8.92414 |
| 8.06353 | 5.43307 | 9.85969 | 5.32654 | 7.3743 | 7.48679 | 5.44947 | 8.89453 | 6.38419 | 6.05716 |
| 6.70263 | 8.26209 | 8.86738 | 6.79479 | 5.3812 | 5.87593 | 8.76083 | 5.54261 | 5.43776 | 8.72389 |
| 9.04834 | 9.53827 | 7.7689 | 9.47768 | 8.397 | 6.64335 | 6.27355 | 6.19124 | 8.96379 | 6.41558 |
| 6.36979 | 5.64731 | 8.53807 | 7.15427 | 6.9409 | 8.11397 | 7.56165 | 5.23458 | 6.63205 | 5.37156 |
| 6.92077 | 9.54783 | 8.50996 | 7.55985 | 7.0424 | 8.24892 | 6.18634 | 6.22211 | 8.88804 | 8.69459 |
| 5.53717 | 7.53904 | 7.70199 | 5.07621 | 9.8026 | 8.84672 | 6.3397 | 9.15922 | 9.13591 | 7.05403 |
| 9.40802 | 6.04497 | 9.09425 | 7.09306 | 9.4289 | 5.23032 | 7.42046 | 8.00369 | 7.64426 | 6.63196 |
| 5.06715 | 8.48232 | 9.98652 | 5.22271 | 8.2933 | 9.3684 | 7.02774 | 7.83541 | 8.26621 | 6.79833 |
| 7.4118 | 9.02372 | 6.62458 | 7.81491 | 6.9305 | 8.16785 | 8.04377 | 7.17165 | 7.08211 | 7.78966 |
| 9.99531 | 8.48427 | 8.45951 | 8.10252 | 7.6984 | 9.73513 | 7.26051 | 9.52155 | 7.63931 | 7.27974 |
| 7.31508 | 6.23923 | 6.37046 | 6.29922 | 7.6716 | 7.67403 | 7.88892 | 8.02092 | 8.41438 | 9.06916 |
| 6.67168 | 8.03332 | 5.23003 | 6.37034 | 5.9381 | 9.13418 | 8.22346 | 6.65097 | 9.16668 | 7.24098 |
| 7.23515 | 5.9435 | 6.05655 | 8.4317 | 5.4536 | 6.23276 | 8.4368 | 9.56282 | 9.92996 | 5.52407 |
| 6.51806 | 7.85592 | 5.33177 | 6.11586 | 8.1983 | 7.76704 | 8.73137 | 5.62925 | 6.65516 | 7.26843 |
| 9.6771 | 9.82559 | 7.16112 | 8.128 | 9.2463 | 9.37293 | 8.17856 | 6.45708 | 5.79967 | 8.18539 |
| 7.4341 | 8.74451 | 6.276 | 6.58604 | 5.6991 | 9.0135 | 6.82261 | 9.98926 | 7.97095 | 6.91902 |
| 9.64631 | 8.92125 | 6.44299 | 5.29139 | 7.7926 | 8.18592 | 9.19378 | 9.35941 | 6.49807 | 9.36072 |
| 5.29207 | 9.77339 | 6.03218 | 5.36048 | 5.6051 | 5.12744 | 8.19658 | 7.43825 | 5.10703 | 8.14276 |
| 5.13412 | 8.19317 | 5.5289 | 7.38909 | 8.4656 | 5.3014 | 5.18899 | 7.05525 | 7.60794 | 8.6865 |
| 6.75019 | 6.76985 | 5.88927 | 6.19036 | 5.6172 | 5.87572 | 5.82793 | 6.10128 | 9.87141 | 6.64686 |
| 8.62868 | 7.84538 | 6.68348 | 5.76894 | 6.4758 | 9.24376 | 9.81656 | 7.8525 | 5.87902 | 8.25264 |
| 9.93939 | 5.24889 | 7.7888 | 9.05191 | 6.17 | 7.16321 | 9.88333 | 6.04879 | 9.54144 | 9.32253 |
| 9.28682 | 5.15208 | 5.71131 | 8.56557 | 9.2971 | 8.34593 | 5.52996 | 8.22105 | 5.72501 | 5.05149 |
| 8.30137 | 8.35834 | 5.14256 | 7.73196 | 8.9883 | 5.19708 | 6.27565 | 5.27873 | 9.90038 | 9.36698 |
| 9.59388 | 7.56078 | 8.47397 | 7.29452 | 8.9028 | 5.65104 | 7.5154 | 8.06941 | 6.37073 | 6.71419 |
| 8.06009 | 6.38888 | 9.37852 | 6.01287 | 9.2642 | 6.26467 | 9.93527 | 5.13417 | 6.36996 | 5.92047 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 8.51556 | 6.42493 | 6.23675 | 7.77947 | 8.5727 | 6.6845 | 5.60262 | 6.71558 | 8.53929 | 6.16471 |
| 7.02528 | 5.1305 | 8.50583 | 5.33739 | 9.4496 | 8.6685 | 9.1879 | 5.15035 | 5.04674 | 6.08422 |
| 8.86225 | 6.24247 | 9.80768 | 8.82819 | 6.1882 | 8.66858 | 8.57314 | 7.42402 | 6.37984 | 6.29987 |
| 8.27566 | 7.0474 | 6.18524 | 7.24026 | 6.6582 | 7.32217 | 5.79064 | 9.77784 | 8.10408 | 8.81119 |
| 9.93162 | 8.09323 | 8.91552 | 9.93509 | 8.6645 | 8.86669 | 6.34789 | 8.81902 | 5.46736 | 7.28297 |
| 8.37572 | 5.61883 | 8.63409 | 5.99632 | 9.3585 | 8.32184 | 7.40013 | 7.18373 | 6.22218 | 7.1285 |
| 8.65388 | 8.48995 | 9.34811 | 7.46079 | 5.4136 | 9.07994 | 8.38419 | 7.27919 | 8.81753 | 9.30363 |
| 8.69014 | 8.20422 | 7.06179 | 5.12608 | 7.1828 | 5.56435 | 6.79376 | 7.74926 | 9.51067 | 9.80786 |
| 9.53102 | 6.56193 | 7.58618 | 6.02701 | 6.6931 | 6.68482 | 5.44141 | 9.43515 | 8.79169 | 5.29862 |
| 8.46926 | 5.40281 | 6.30829 | 7.31449 | 6.2906 | 9.01565 | 5.32804 | 9.7633 | 7.19075 | 8.51201 |
| 5.34265 | 6.97902 | 5.36909 | 5.36397 | 5.0331 | 5.74077 | 8.18694 | 8.02474 | 6.70091 | 8.38229 |
| 9.06678 | 6.98001 | 9.36352 | 5.81136 | 5.2576 | 8.11496 | 5.05098 | 9.06684 | 9.47276 | 5.63144 |
| 9.23981 | 9.00532 | 7.21196 | 8.55793 | 6.5879 | 6.94823 | 9.46631 | 8.2726 | 6.20838 | 8.1244 |
| 5.66355 | 6.4169 | 6.78388 | 6.58622 | 8.7434 | 9.90656 | 8.57594 | 5.19805 | 7.23249 | 7.75632 |
| 7.22543 | 6.30703 | 7.30567 | 9.05109 | 9.9999 | 6.99865 | 8.70659 | 8.44717 | 9.91768 | 7.04789 |
| 7.81943 | 5.0073 | 8.04645 | 5.68206 | 7.5186 | 5.87804 | 6.50219 | 7.57899 | 9.60546 | 6.60042 |
| 8.93109 | 7.81565 | 7.13441 | 6.70723 | 5.4204 | 9.76292 | 8.91562 | 5.3944 | 8.32549 | 8.09718 |
| 9.65457 | 8.73707 | 7.7928 | 5.64265 | 5.8887 | 6.09697 | 7.21258 | 6.42296 | 9.48355 | 5.27488 |
| 8.5874 | 6.92289 | 8.07765 | 9.18122 | 7.552 | 6.21786 | 7.72036 | 5.08256 | 7.6745 | 5.29402 |
| 8.29896 | 9.66623 | 6.01848 | 6.25046 | 8.7183 | 6.38391 | 5.65233 | 7.37934 | 6.69772 | 6.0828 |
| 8.17236 | 5.2656 | 9.38141 | 5.34474 | 8.8397 | 5.92125 | 9.14714 | 7.48546 | 7.66778 | 8.18654 |
| 8.83367 | 6.66726 | 8.27641 | 9.39273 | 8.0676 | 6.65641 | 6.95142 | 7.07142 | 6.10548 | 6.89464 |
| 5.34083 | 6.6406 | 8.60935 | 7.92246 | 5.8396 | 9.05802 | 7.37061 | 8.07589 | 5.35419 | 5.64123 |
| 8.0906 | 7.76244 | 9.72225 | 5.5272 | 6.9759 | 9.56182 | 5.56989 | 9.81599 | 8.53576 | 6.97032 |
| 7.58749 | 9.66608 | 5.05439 | 7.15307 | 6.3469 | 9.56614 | 6.69554 | 7.47203 | 9.95491 | 9.11285 |
| 6.7169 | 9.16153 | 7.13055 | 6.82499 | 7.4483 | 6.94713 | 8.70693 | 6.42977 | 8.92406 | 7.38939 |
| 9.81761 | 9.68075 | 5.92115 | 9.92838 | 9.4644 | 9.09148 | 8.08565 | 5.02457 | 6.3539 | 6.19471 |
| 9.01024 | 6.79721 | 9.46717 | 5.93763 | 9.9809 | 8.86075 | 8.73073 | 5.89269 | 7.81358 | 8.45515 |
| 6.86641 | 8.20738 | 7.35658 | 8.13622 | 9.0001 | 7.34992 | 9.39392 | 7.37536 | 5.60076 | 8.03869 |
| 7.35323 | 8.74021 | 7.61242 | 8.42627 | 9.7001 | 8.0541 | 6.56241 | 6.8519 | 7.36086 | 6.54893 |
| 7.61803 | 6.14829 | 8.63496 | 8.8758 | 7.9314 | 9.60707 | 5.00066 | 7.58104 | 5.66064 | 9.93244 |
| 5.57868 | 5.24022 | 5.72411 | 6.26774 | 8.5974 | 5.7903 | 7.58716 | 5.77288 | 5.09175 | 8.00952 |
| 8.12611 | 8.39449 | 8.11326 | 6.8039 | 8.3532 | 7.67104 | 6.30606 | 5.45776 | 7.22413 | 6.9665 |
| 5.75729 | 7.44862 | 7.50849 | 7.644 | 8.2103 | 7.36702 | 7.35778 | 7.11629 | 6.27391 | 6.1399 |
| 7.2263 | 7.95143 | 5.89386 | 9.66861 | 5.9897 | 9.25666 | 7.40101 | 8.41466 | 8.2625 | 8.25507 |
| 6.4719 | 8.81848 | 7.11683 | 7.84421 | 8.3013 | 5.77341 | 9.59417 | 6.11447 | 8.26719 | 8.2262 |
| 8.25635 | 7.97871 | 8.26657 | 6.052 | 6.1524 | 5.90646 | 6.29579 | 7.28931 | 9.12862 | 9.76343 |
| 7.51749 | 5.81842 | 7.451 | 8.28588 | 9.4695 | 6.95256 | 6.12368 | 5.36801 | 8.03506 | 6.80507 |
| 6.8456 | 8.53818 | 8.42014 | 9.15292 | 5.9858 | 7.41112 | 7.8785 | 7.60355 | 9.95089 | 7.14803 |
| 7.46963 | 6.60374 | 8.86763 | 6.0438 | 8.804 | 7.80519 | 7.81696 | 7.96352 | 7.8157 | 6.97771 |
| 5.12147 | 7.4682 | 5.39092 | 6.26042 | 9.4348 | 7.26604 | 7.43905 | 9.63743 | 5.49536 | 8.62098 |
| 5.90402 | 5.93774 | 9.24483 | 8.04131 | 7.4353 | 5.46798 | 8.953 | 9.56017 | 9.80873 | 8.75339 |
| 7.26553 | 9.14071 | 6.7082 | 9.19207 | 5.0085 | 8.63621 | 9.71324 | 5.33261 | 6.608 | 6.61845 |
| 6.69629 | 5.42626 | 7.93621 | 7.49468 | 6.562 | 8.36234 | 6.31127 | 7.08913 | 9.29109 | 6.91747 |
| 6.22081 | 7.37053 | 8.67953 | 7.06509 | 7.426 | 8.90101 | 5.2426 | 6.2947 | 6.72996 | 7.27462 |
| 9.69949 | 5.51725 | 9.0679 | 6.41517 | 8.6747 | 9.46768 | 7.47333 | 8.89542 | 7.17449 | 7.19151 |
| 5.73183 | 6.3377 | 5.29299 | 7.00573 | 6.2077 | 9.07925 | 8.31147 | 9.63636 | 8.7862 | 8.12202 |
| 6.81631 | 8.57068 | 6.78897 | 7.74131 | 5.1666 | 9.86332 | 7.72579 | 8.10177 | 8.54152 | 5.05227 |
| 5.52755 | 9.28046 | 8.1645 | 6.69749 | 7.8452 | 5.53572 | 5.87355 | 6.78089 | 6.07446 | 5.74197 |
| 6.62158 | 5.44138 | 7.23956 | 9.61705 | 7.1616 | 6.22685 | 6.72456 | 8.43433 | 9.84138 | 6.82374 |
| 9.72252 | 8.27665 | 8.09126 | 6.84545 | 7.3639 | 7.77444 | 7.78668 | 5.32349 | 7.39328 | 9.89427 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5.32557 | 7.14012 | 7.89246 | 7.02957 | 8.7941 | 5.63638 | 7.73279 | 5.52783 | 8.55309 | 5.77849 |
| 7.44546 | 7.66052 | 5.47908 | 6.17161 | 9.1419 | 6.64577 | 7.6545 | 6.74936 | 8.00272 | 5.11153 |
| 7.89587 | 7.11172 | 8.53037 | 5.68772 | 7.6342 | 5.5546 | 8.43349 | 9.9478 | 5.4087 | 9.52389 |
| 6.83903 | 5.14611 | 6.73316 | 7.30832 | 7.605 | 6.56172 | 5.58905 | 6.02784 | 6.02485 | 8.2161 |
| 5.63146 | 5.39738 | 9.97097 | 9.10903 | 9.7046 | 8.55917 | 5.71887 | 7.70168 | 6.16477 | 7.02549 |
| 8.32613 | 9.37987 | 7.02287 | 7.08365 | 8.4832 | 9.86445 | 8.88024 | 5.78705 | 8.95264 | 9.63638 |
| **7.5828072** | **7.351035** | **7.4916724** | **7.2433333** | **7.675299** | **7.4377727** | **7.4395483** | **7.3125242** | **7.5052924** | **7.3758685** |
| **5.06715** | **5.0073** | **5.05439** | **5.07621** | **5.0085** | **5.09222** | **5.00066** | **5.02457** | **5.04674** | **5.05149** |
| **9.99918** | **9.86785** | **9.98652** | **9.98078** | **9.9999** | **9.90656** | **9.93527** | **9.98926** | **9.95491** | **9.93244** |
| **7.509625** | **7.45841** | **7.50715** | **7.15367** | **7.74805** | **7.38907** | **7.494365** | **7.279245** | **7.576205** | **7.217535** |
| **7.509625** | **7.45841** | **7.547335** | **7.15367** | **7.70095** | **7.35847** | **7.45619** | **7.284305** | **7.576205** | **7.217535** |
| **5.0178215** | **4.957373** | **5.0049339** | **5.0269721** | **4.958585** | **5.0431422** | **4.9506666** | **4.9748157** | **4.9972074** | **5.0020049** |
| **9.91718** | **-3.34715** | **8.63852** | **8.05878** | **9.9899** | **0.56256** | **3.46227** | **8.91526** | **5.44591** | **3.17644** |
| **5.1656144** | **4.70207** | **4.9833448** | **4.4866666** | **5.350598** | **4.8755454** | **4.8790966** | **4.6250484** | **5.0105848** | **4.751737** |
| **5.01925** | **4.91682** | **5.09467** | **4.30734** | **5.4019** | **4.71694** | **4.91238** | **4.56861** | **5.15241** | **4.43507** |
| **5.01925** | **4.91682** | **5.0143** | **4.30734** | **5.4961** | **4.77814** | **4.98873** | **4.55849** | **5.15241** | **4.43507** |
| **10.0491718** | **9.9165285** | **10.0363852** | **10.0305878** | **10.049899** | **9.9556256** | **9.9846227** | **10.0391526** | **10.0044591** | **9.9817644** |
| **11.78215** | **5.7373** | **10.49339** | **12.69721** | **5.8585** | **14.31422** | **5.06666** | **7.48157** | **9.72074** | **10.20049** |
| **10.1656144** | **9.70207** | **9.9833448** | **9.4866666** | **10.350598** | **9.8755454** | **9.8790966** | **9.6250484** | **10.0105848** | **9.751737** |
| **10.01925** | **9.91682** | **10.09467** | **9.30734** | **10.4019** | **9.71694** | **9.91238** | **9.56861** | **10.15241** | **9.43507** |
| **10.01925** | **9.91682** | **10.0143** | **9.30734** | **10.4961** | **9.77814** | **9.98873** | **9.55849** | **10.15241** | **9.43507** |
| **4.881785185** | **4.819686164** | **4.868545695** | **4.891185639** | **4.820931257** | **4.907797257** | **4.812796649** | **4.83760513** | **4.860608226** | **4.86553672** |
| **5.065900953** | **5.006035798** | **5.053137722** | **5.074963247** | **5.007236102** | **5.090977301** | **4.999394117** | **5.023310171** | **5.045485785** | **5.050236987** |
| **10.00044584** | **9.869082589** | **9.987782637** | **9.982041184** | **10.00116603** | **9.907802391** | **9.93651966** | **9.990523331** | **9.956164633** | **9.933688944** |
| **10.18703734** | **10.05077227** | **10.17390161** | **10.16794591** | **10.18778439** | **10.0909369** | **10.12072575** | **10.17674457** | **10.14110378** | **10.11778941** |

A Simulation Study on A Uniform Ditribution Over the Interval (5,10) (continued)

| **Sample 21** | **Sample 22** | **Sample 23** | **Sample 24** | **Sample 25** | **Sample 26** | **Sample 27** | **Sample 28** | **Sample 29** | **Sample 30** |
|---|---|---|---|---|---|---|---|---|---|
| 8.32569 | 5.75325 | 6.13597 | 7.53555 | 5.11664 | 9.08224 | 9.99042 | 6.58396 | 7.01388 | 7.2635 |
| 7.46212 | 5.33049 | 5.68595 | 7.10432 | 6.19317 | 5.77521 | 9.98285 | 5.6621 | 8.41163 | 6.76243 |
| 9.59227 | 5.16567 | 6.52314 | 8.00479 | 5.28679 | 5.8814 | 6.61661 | 6.21335 | 9.86478 | 8.85571 |
| 8.39591 | 6.02589 | 8.67845 | 7.88271 | 8.92604 | 8.0815 | 7.0593 | 8.38374 | 7.44662 | 7.85309 |
| 8.3823 | 9.62654 | 7.39604 | 6.10528 | 5.07929 | 6.00122 | 5.65181 | 7.54661 | 7.17612 | 7.47679 |
| 5.7627 | 5.79353 | 7.57989 | 7.81238 | 5.0122 | 8.893 | 7.58773 | 5.40331 | 8.23479 | 7.57756 |
| 7.60945 | 6.29223 | 6.09938 | 6.84769 | 5.15296 | 9.68669 | 6.75935 | 8.80203 | 5.16679 | 8.16733 |
| 8.15443 | 6.53956 | 7.80029 | 8.98717 | 7.0657 | 9.57708 | 5.17218 | 7.92756 | 6.41966 | 7.34651 |
| 6.91606 | 7.18033 | 8.8917 | 7.64828 | 5.33753 | 5.28144 | 8.62498 | 6.78056 | 5.21995 | 7.71554 |
| 7.39946 | 6.8039 | 6.81733 | 6.9729 | 5.72004 | 5.59521 | 8.73899 | 9.45348 | 8.13322 | 8.72174 |
| 6.37475 | 9.04566 | 6.50417 | 5.16776 | 5.63193 | 9.43085 | 8.14344 | 5.93248 | 6.97278 | 6.21404 |
| 8.45752 | 6.48389 | 5.3978 | 9.86514 | 6.7095 | 6.21591 | 9.3044 | 8.95939 | 5.72177 | 9.72006 |
| 6.53484 | 8.202 | 9.93562 | 9.32914 | 7.70935 | 7.23305 | 5.49412 | 5.76469 | 9.14226 | 7.42846 |
| 5.16489 | 7.20354 | 7.53374 | 9.35638 | 6.59767 | 7.89046 | 6.77294 | 9.83523 | 7.40732 | 7.95444 |
| 9.47808 | 6.22206 | 5.58332 | 9.59478 | 7.99221 | 6.43917 | 5.89302 | 9.99247 | 6.9696 | 9.40442 |
| 9.23631 | 6.72295 | 8.34206 | 5.1359 | 6.68982 | 5.0244 | 6.02004 | 6.71983 | 6.41408 | 9.16651 |
| 5.81773 | 9.97844 | 8.1384 | 8.93292 | 5.36105 | 6.86311 | 8.6027 | 7.84583 | 8.10285 | 6.17235 |
| 9.45194 | 7.1549 | 6.49622 | 6.78082 | 7.38425 | 8.18952 | 8.76817 | 8.62527 | 7.40127 | 7.8021 |
| 6.58326 | 7.84476 | 9.88987 | 6.47946 | 8.34488 | 9.66706 | 5.26086 | 8.0864 | 9.83865 | 5.92278 |
| 7.37079 | 5.95003 | 7.18485 | 9.11627 | 6.98097 | 5.31315 | 8.45788 | 5.00991 | 5.44174 | 7.21229 |
| 9.77103 | 6.43369 | 9.70458 | 5.54783 | 9.44731 | 7.05563 | 8.59299 | 5.8155 | 6.67589 | 5.6197 |
| 9.92275 | 9.19744 | 9.79383 | 9.83196 | 9.80004 | 9.38907 | 8.59939 | 7.13723 | 8.11409 | 9.57908 |
| 8.63247 | 6.82916 | 9.66182 | 6.18629 | 7.51857 | 6.00483 | 5.62462 | 8.37601 | 8.01362 | 6.6603 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 7.85437 | 5.12673 | 7.61048 | 9.86566 | 6.05878 | 9.01645 | 8.80219 | 6.26343 | 7.85254 | 8.15468 |
| 9.85044 | 8.78166 | 9.54995 | 9.11415 | 7.20682 | 8.13201 | 5.20044 | 6.22073 | 5.5691 | 7.24427 |
| 8.35803 | 7.53815 | 7.9768 | 7.10602 | 6.23081 | 9.8711 | 5.00736 | 7.50726 | 5.88478 | 6.58255 |
| 5.21047 | 5.74051 | 8.55309 | 9.48773 | 7.79278 | 8.48275 | 9.79649 | 5.33199 | 8.9342 | 8.24775 |
| 8.8132 | 6.39609 | 5.44752 | 5.73028 | 9.52593 | 8.56755 | 7.04515 | 6.68785 | 8.18693 | 8.33047 |
| 8.0482 | 8.69522 | 6.08674 | 9.55419 | 9.87047 | 9.34426 | 6.79469 | 5.27031 | 7.55688 | 9.12237 |
| 9.4708 | 9.06963 | 8.42509 | 5.92478 | 5.52015 | 6.31504 | 6.41845 | 6.69683 | 7.66046 | 6.37926 |
| 8.37135 | 6.00814 | 8.77829 | 7.92755 | 6.22218 | 7.69534 | 7.95063 | 7.22383 | 5.67456 | 5.48947 |
| 9.35921 | 8.63166 | 7.10174 | 6.6094 | 7.27742 | 8.72676 | 6.90121 | 8.3384 | 8.44562 | 8.29378 |
| 8.13584 | 8.66406 | 7.05679 | 6.99214 | 8.53729 | 7.11442 | 6.47795 | 5.38802 | 8.41168 | 5.82682 |
| 9.70577 | 9.51162 | 6.79132 | 5.17175 | 6.7689 | 6.9018 | 5.32815 | 9.06795 | 9.07235 | 8.12531 |
| 6.30491 | 6.89919 | 9.57747 | 7.65716 | 5.16844 | 7.19381 | 5.5668 | 9.33529 | 6.08724 | 6.84524 |
| 6.84694 | 8.09432 | 8.32904 | 8.74449 | 8.89727 | 6.79455 | 5.153 | 7.97058 | 7.67589 | 7.95755 |
| 9.42759 | 9.86337 | 7.76314 | 6.66112 | 5.57856 | 8.14185 | 9.19218 | 7.50049 | 8.70145 | 9.26928 |
| 8.44692 | 9.38785 | 9.37161 | 6.63592 | 9.18742 | 7.59484 | 5.88403 | 7.24741 | 9.72363 | 5.62789 |
| 6.37371 | 9.42335 | 9.34725 | 8.29872 | 9.85391 | 5.69642 | 5.69619 | 8.42181 | 7.74294 | 6.05066 |
| 5.08498 | 8.52938 | 6.14002 | 7.36046 | 6.28566 | 8.81382 | 5.32175 | 7.98748 | 6.66847 | 8.60827 |
| 9.2007 | 7.24265 | 6.98993 | 9.79685 | 6.47539 | 8.7651 | 8.62978 | 7.87737 | 8.08682 | 9.34668 |
| 5.09686 | 6.75718 | 7.2148 | 6.28526 | 5.9538 | 7.2025 | 8.78464 | 7.52633 | 7.38987 | 9.86544 |
| 6.48897 | 7.24311 | 5.67578 | 6.59609 | 7.08098 | 5.97434 | 8.39302 | 7.84144 | 5.43232 | 8.13497 |
| 8.0231 | 9.37684 | 8.38881 | 9.14406 | 6.11128 | 7.31805 | 6.17675 | 8.30275 | 9.40497 | 5.23083 |
| 9.55717 | 7.9431 | 7.27392 | 6.21884 | 6.5125 | 8.70587 | 9.80154 | 6.98046 | 9.82169 | 9.87062 |
| 9.28342 | 8.84346 | 5.15286 | 9.65465 | 7.21903 | 7.85329 | 8.03664 | 6.97107 | 5.14758 | 7.83208 |
| 8.50767 | 6.95314 | 7.45182 | 8.6744 | 7.61861 | 7.82214 | 5.48193 | 8.27924 | 6.72037 | 7.42882 |
| 8.28484 | 8.80668 | 9.05997 | 5.92591 | 8.72074 | 7.43228 | 6.00952 | 5.312 | 9.66738 | 6.76058 |
| 6.57427 | 6.89189 | 8.5574 | 5.78803 | 8.39316 | 7.54053 | 9.95541 | 6.19337 | 6.21624 | 8.43987 |
| 8.70755 | 8.29218 | 9.46167 | 6.70254 | 9.69068 | 8.41251 | 6.43353 | 9.86517 | 9.9937 | 5.16463 |
| 5.95035 | 9.11406 | 8.32017 | 5.18303 | 7.51086 | 8.16715 | 7.39361 | 8.7723 | 7.97123 | 5.4851 |
| 9.47106 | 6.90114 | 6.62021 | 6.92079 | 7.82887 | 8.96076 | 7.76304 | 5.006 | 5.59473 | 5.74209 |
| 5.21334 | 7.91109 | 5.90649 | 5.6749 | 7.61417 | 8.77656 | 9.42714 | 7.91209 | 5.91617 | 8.24382 |
| 5.08345 | 6.73298 | 9.46502 | 5.59773 | 6.33785 | 8.03829 | 6.6409 | 8.52277 | 7.77127 | 8.0021 |
| 9.93153 | 5.9156 | 7.58929 | 7.70522 | 5.58872 | 9.29319 | 9.13734 | 5.27659 | 5.24541 | 6.10749 |
| 6.72426 | 8.7903 | 8.00611 | 9.48693 | 7.75885 | 9.44562 | 7.66871 | 9.4551 | 5.14162 | 8.62176 |
| 8.70934 | 8.26347 | 5.99589 | 6.88425 | 6.02726 | 8.07495 | 9.88452 | 7.10123 | 9.46598 | 6.69237 |
| 6.63213 | 5.32896 | 9.22016 | 9.79235 | 8.26484 | 7.65199 | 7.94584 | 5.68903 | 7.0186 | 5.45011 |
| 8.57051 | 5.35863 | 5.85238 | 6.22104 | 6.38446 | 5.79889 | 5.44857 | 7.31848 | 8.71663 | 7.20317 |
| 8.80074 | 5.34427 | 8.79146 | 5.5691 | 9.72043 | 5.81353 | 8.40854 | 5.6765 | 6.85618 | 8.19874 |
| 6.59686 | 7.80487 | 9.63725 | 6.29436 | 8.02882 | 5.55195 | 8.87062 | 8.73813 | 8.89183 | 7.3207 |
| 9.28042 | 7.09206 | 8.95505 | 8.63971 | 8.69459 | 8.34788 | 9.11057 | 5.93923 | 8.88901 | 6.43554 |
| 7.4718 | 9.70124 | 7.71218 | 9.22338 | 7.42276 | 5.80467 | 6.80978 | 5.3872 | 6.14053 | 9.00922 |
| 5.36482 | 6.39633 | 5.20002 | 9.13003 | 6.68784 | 7.53523 | 5.44916 | 7.43923 | 6.73776 | 6.59053 |
| 9.2361 | 5.36731 | 8.49363 | 6.19681 | 8.7512 | 6.38547 | 6.70923 | 9.57723 | 5.93882 | 6.84534 |
| 7.76462 | 7.72537 | 6.11152 | 7.43202 | 6.53933 | 8.44879 | 6.75255 | 9.52321 | 5.65836 | 6.57105 |
| 9.554 | 6.96495 | 9.97953 | 9.11587 | 7.46974 | 9.20809 | 6.30623 | 9.30795 | 9.57838 | 7.02036 |
| 5.90198 | 7.28968 | 8.73938 | 6.21479 | 8.55203 | 9.28329 | 6.29008 | 5.15888 | 8.02672 | 7.32017 |
| 9.56169 | 9.6815 | 8.74877 | 5.26943 | 6.62279 | 7.01126 | 6.66614 | 6.16267 | 7.01844 | 7.79521 |
| 7.74022 | 6.33242 | 9.29239 | 6.29484 | 5.76628 | 9.56238 | 8.53247 | 5.87328 | 7.33305 | 5.90003 |
| 7.94114 | 8.28761 | 8.31355 | 7.24938 | 5.22979 | 5.48585 | 5.15516 | 8.16651 | 6.85857 | 8.33192 |
| 5.00681 | 9.0607 | 6.82394 | 8.66481 | 6.99464 | 7.13776 | 7.79786 | 7.52859 | 9.36286 | 5.62292 |
| 9.41515 | 7.35261 | 8.15893 | 9.64423 | 6.52943 | 5.29951 | 8.9449 | 5.88656 | 5.92009 | 8.80299 |
| 7.68255 | 8.11154 | 5.51103 | 8.84758 | 8.84668 | 5.1523 | 8.89712 | 8.69061 | 8.56185 | 8.68377 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9.16417 | 7.00771 | 5.0861 | 5.06758 | 5.69542 | 9.75588 | 7.57315 | 9.75201 | 6.54216 | 7.16394 |
| 6.58181 | 5.37791 | 8.30916 | 6.1962 | 8.55578 | 9.70515 | 6.12634 | 9.11282 | 9.50384 | 8.09805 |
| 6.88542 | 9.96593 | 9.59138 | 8.58082 | 9.87487 | 5.59857 | 5.64299 | 9.57104 | 7.14321 | 7.11006 |
| 7.05921 | 6.86049 | 8.2182 | 6.85334 | 8.45328 | 5.07638 | 8.66818 | 9.81014 | 9.2333 | 5.44467 |
| 9.348 | 9.26233 | 5.08559 | 6.75299 | 6.25372 | 8.38338 | 6.14941 | 9.83879 | 5.6177 | 6.8766 |
| 6.15159 | 8.62186 | 5.55241 | 6.67253 | 8.33838 | 9.27209 | 9.85426 | 5.53322 | 8.97406 | 7.55892 |
| 5.36697 | 7.70981 | 7.08366 | 6.84166 | 9.12528 | 7.79355 | 5.44239 | 9.11704 | 7.02016 | 5.17327 |
| 5.67579 | 9.12153 | 5.957 | 6.52146 | 7.12082 | 8.13858 | 5.76206 | 8.2026 | 9.90825 | 6.42041 |
| 8.26166 | 5.19902 | 9.58008 | 7.51785 | 7.92083 | 9.45899 | 7.30978 | 9.3532 | 8.51319 | 9.97358 |
| 6.9554 | 7.96893 | 6.71263 | 5.93681 | 7.52358 | 9.4103 | 6.44313 | 5.71085 | 6.03751 | 7.08 |
| 9.82566 | 7.733 | 7.61559 | 8.76653 | 6.35292 | 9.91858 | 6.72181 | 6.90514 | 5.38461 | 8.02552 |
| 9.72762 | 6.63478 | 9.24999 | 6.13954 | 7.73999 | 8.36853 | 8.74962 | 6.49554 | 9.98583 | 8.80602 |
| 8.043 | 9.03275 | 5.35129 | 7.17005 | 7.29054 | 8.46986 | 6.81885 | 8.00299 | 5.51275 | 9.64817 |
| 6.92699 | 6.98176 | 6.86259 | 8.46919 | 5.85317 | 7.35454 | 9.39212 | 8.71494 | 5.65092 | 5.71094 |
| 9.93362 | 5.78553 | 6.32483 | 8.88344 | 9.8555 | 5.20436 | 6.41424 | 8.26311 | 8.21389 | 9.79654 |
| 7.76587 | 5.04796 | 8.08696 | 5.56381 | 9.6022 | 8.87437 | 6.83705 | 8.4564 | 7.94055 | 9.94701 |
| 6.59597 | 5.90034 | 5.60437 | 5.94579 | 9.24471 | 6.03496 | 7.86729 | 5.6491 | 8.40195 | 8.91079 |
| 5.94233 | 5.76951 | 5.31754 | 9.59859 | 7.35535 | 7.45189 | 8.1489 | 8.11002 | 5.15887 | 5.3046 |
| 7.61879 | 6.59192 | 9.35701 | 6.82095 | 6.54584 | 9.11542 | 7.05358 | 8.74775 | 7.70798 | 7.67933 |
| 6.145 | 9.31874 | 7.06257 | 8.60142 | 7.06093 | 8.81227 | 9.15257 | 8.27367 | 6.69281 | 6.72126 |
| 8.71196 | 9.84293 | 6.83098 | 6.25536 | 6.61502 | 9.38405 | 8.17532 | 8.17673 | 9.06596 | 6.21218 |
| 9.51708 | 7.98002 | 9.44205 | 5.99122 | 6.21299 | 5.01264 | 8.36691 | 7.75685 | 7.50646 | 7.32819 |
| 6.61961 | 7.94988 | 5.00158 | 8.55421 | 7.88629 | 7.11178 | 8.58084 | 6.90012 | 5.48261 | 7.49717 |
| 9.17986 | 5.09501 | 8.62308 | 6.22316 | 6.98922 | 6.48201 | 7.70858 | 5.7019 | 5.69332 | 6.62124 |
| 9.49229 | 5.3171 | 9.72923 | 6.56501 | 9.68348 | 5.50995 | 5.32583 | 5.07636 | 9.15882 | 9.05931 |
| 9.90961 | 6.35248 | 7.7217 | 5.64547 | 7.99413 | 5.77287 | 7.50229 | 6.77848 | 5.30039 | 6.16587 |
| **7.8319418** | **7.4174899** | **7.6170964** | **7.3924143** | **7.3113334** | **7.6170689** | **7.3575578** | **7.4658598** | **7.4299821** | **7.4715701** |
| **5.00681** | **5.04796** | **5.00158** | **5.06758** | **5.0122** | **5.01264** | **5.00736** | **5.006** | **5.14162** | **5.16463** |
| **9.93362** | **9.97844** | **9.97953** | **9.86566** | **9.87487** | **9.91858** | **9.99042** | **9.99247** | **9.9937** | **9.97358** |
| **8.0456** | **7.223095** | **7.663885** | **6.98252** | **7.212925** | **7.807845** | **7.18454** | **7.5376** | **7.42697** | **7.42864** |
| **8.03305** | **7.24288** | **7.663885** | **6.98252** | **7.212925** | **7.807845** | **7.05644** | **7.65173** | **7.47654** | **7.452805** |
| **4.9568781** | **4.9984396** | **4.9515958** | **5.0182558** | **4.962322** | **4.9627664** | **4.9574336** | **4.95606** | **5.0930362** | **5.1162763** |
| **3.29562** | **7.82244** | **7.93253** | **-3.56834** | **-2.63813** | **1.77658** | **9.03242** | **9.23947** | **9.3637** | **7.33158** |
| **5.6638836** | **4.8349798** | **5.2341928** | **4.7848286** | **4.6226668** | **5.2341378** | **4.7151156** | **4.9317196** | **4.8599642** | **4.9431402** |
| **6.0661** | **4.48576** | **5.32777** | **3.96504** | **4.42585** | **5.61569** | **4.11288** | **5.30346** | **4.95308** | **4.90561** |
| **6.0912** | **4.44619** | **5.32777** | **3.96504** | **4.42585** | **5.61569** | **4.36908** | **5.0752** | **4.85394** | **4.85728** |
| **9.9829562** | **10.0282244** | **10.0293253** | **9.9143166** | **9.9236187** | **9.9677658** | **10.0403242** | **10.0423947** | **10.043637** | **10.0233158** |
| **5.68781** | **9.84396** | **5.15958** | **11.82558** | **6.2322** | **6.27664** | **5.74336** | **5.606** | **19.30362** | **21.62763** |
| **10.6638836** | **9.8349798** | **10.2341928** | **9.7848286** | **9.6226668** | **10.2341378** | **9.7151156** | **9.9317196** | **9.8599642** | **9.9431402** |
| **11.0661** | **9.48576** | **10.32777** | **8.96504** | **9.42585** | **10.61569** | **9.11288** | **10.30346** | **9.95308** | **9.90561** |
| **11.0912** | **9.44619** | **10.32777** | **8.96504** | **9.42585** | **10.61569** | **9.36908** | **10.0752** | **9.85394** | **9.85728** |
| **4.819177751** | **4.861874071** | **4.81375122** | **4.882231344** | **4.824770295** | **4.825226829** | **4.819748419** | **4.818337313** | **4.959053591** | **4.982928253** |
| **5.005545674** | **5.046706093** | **5.00031435** | **5.066331061** | **5.010937039** | **5.01137715** | **5.006095813** | **5.004735469** | **5.140389809** | **5.163405635** |
| **9.934869242** | **9.979700591** | **9.980790867** | **9.866892034** | **9.876104366** | **9.919825434** | **9.991683625** | **9.993734144** | **9.994964455** | **9.974839361** |
| **10.11901375** | **10.16551798** | **10.16664894** | **10.04849997** | **10.05805606** | **10.10340858** | **10.17794816** | **10.18007519** | **10.18135141** | **10.16047535** |

A Simulation Study on A Uniform Ditribution Over the Interval (5,10) (continued)

| Sample 31 | Sample 32 | Sample 33 | Sample 34 | Sample 35 | Sample 36 | Sample 37 | Sample 38 | Sample 39 | Sample 40 |
|---|---|---|---|---|---|---|---|---|---|
| 7.50035 | 5.24713 | 9.8954 | 8.80255 | 8.8218 | 6.59927 | 9.76463 | 6.64735 | 9.00522 | 8.29796 |
| 9.39137 | 9.34341 | 9.58363 | 6.57885 | 7.122 | 5.22716 | 9.74086 | 5.31393 | 7.85267 | 9.30098 |
| 5.10678 | 8.88935 | 6.40569 | 8.50099 | 6.08443 | 9.05548 | 5.31031 | 5.81083 | 8.48287 | 8.96436 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6.93517 | 6.03544 | 5.52368 | 5.7983 | 7.48132 | 7.5783 | 8.14952 | 7.92606 | 9.73019 | 7.86092 |
| 8.43921 | 8.46033 | 5.95257 | 7.20855 | 9.91838 | 7.85581 | 7.56823 | 6.4932 | 5.23424 | 9.52892 |
| 8.47548 | 9.28135 | 7.33526 | 6.60288 | 6.83983 | 9.78701 | 7.11568 | 9.57081 | 9.11385 | 6.90428 |
| 8.6267 | 8.89018 | 5.46819 | 9.79767 | 7.40833 | 8.58843 | 5.92564 | 7.16664 | 8.66639 | 6.22338 |
| 6.16086 | 6.53802 | 5.32322 | 6.88292 | 8.2209 | 9.24749 | 5.9092 | 6.47112 | 8.98785 | 8.95951 |
| 6.34905 | 8.34066 | 5.07714 | 7.48032 | 8.28914 | 9.1217 | 7.68114 | 9.83668 | 9.82768 | 9.0615 |
| 6.36305 | 9.86537 | 5.17876 | 7.57962 | 5.06465 | 9.04939 | 9.92067 | 5.20862 | 7.54751 | 9.08712 |
| 5.26247 | 7.6131 | 9.12762 | 9.04396 | 6.90057 | 5.38525 | 6.12297 | 5.275 | 5.05169 | 7.04878 |
| 9.43292 | 9.65217 | 9.90705 | 6.54693 | 6.74766 | 7.84515 | 6.64887 | 5.14738 | 5.68784 | 7.15085 |
| 5.10103 | 8.12979 | 8.61176 | 7.15245 | 7.79231 | 7.44 | 5.01203 | 6.88381 | 9.1343 | 8.0252 |
| 8.36157 | 5.95266 | 6.90353 | 7.47758 | 5.73901 | 5.96571 | 5.75286 | 7.6891 | 5.99593 | 5.8456 |
| 6.91612 | 8.41876 | 8.81934 | 8.39008 | 6.29432 | 8.80102 | 7.25997 | 9.86909 | 8.03123 | 9.21003 |
| 7.31561 | 9.99863 | 8.20564 | 6.68536 | 6.72675 | 9.26345 | 7.23124 | 7.84323 | 7.41001 | 5.29254 |
| 7.88559 | 5.52625 | 9.87828 | 5.73659 | 7.30404 | 5.73118 | 6.21262 | 9.99663 | 9.97311 | 9.6172 |
| 8.75016 | 5.59702 | 8.89966 | 7.08961 | 7.71737 | 9.8482 | 6.99923 | 8.34049 | 6.04299 | 9.34101 |
| 5.46755 | 7.50067 | 7.87756 | 6.4981 | 5.93183 | 7.43826 | 8.91837 | 9.84959 | 5.44741 | 6.37042 |
| 8.78039 | 5.12196 | 5.25938 | 6.31369 | 5.18612 | 7.30355 | 8.7283 | 9.75394 | 9.80027 | 9.02646 |
| 8.9755 | 6.3974 | 9.40572 | 8.536 | 8.01396 | 6.13468 | 7.41033 | 5.45015 | 6.90211 | 7.75888 |
| 9.52359 | 8.49771 | 8.20356 | 5.22742 | 5.96029 | 7.67899 | 5.15104 | 6.18517 | 9.49309 | 7.19216 |
| 8.19882 | 6.89299 | 6.7108 | 8.98305 | 5.76676 | 6.04506 | 9.14157 | 5.87919 | 9.42711 | 5.82084 |
| 6.98004 | 9.3487 | 8.95231 | 8.31513 | 6.53649 | 9.72419 | 7.06336 | 9.17046 | 8.38205 | 9.94284 |
| 5.61322 | 8.9436 | 6.26396 | 6.98272 | 7.14582 | 5.89077 | 7.97074 | 8.60369 | 9.18188 | 5.06491 |
| 9.79137 | 5.79373 | 5.07575 | 6.28582 | 8.05085 | 7.78088 | 5.45468 | 5.49343 | 5.83014 | 8.67372 |
| 6.22033 | 6.80948 | 5.91316 | 8.39016 | 7.26063 | 7.66103 | 9.6192 | 7.43953 | 9.73846 | 7.72983 |
| 9.39838 | 8.97061 | 9.88289 | 7.07068 | 5.07646 | 5.07269 | 8.97085 | 5.81337 | 7.77438 | 9.63095 |
| 7.39763 | 9.88705 | 6.60971 | 7.49315 | 8.75298 | 6.87313 | 7.52418 | 5.70439 | 5.93907 | 5.13677 |
| 6.95253 | 7.52177 | 6.72597 | 9.05985 | 6.7729 | 9.3604 | 9.25821 | 5.07968 | 8.20215 | 7.81762 |
| 8.75217 | 5.73752 | 8.77873 | 5.80632 | 9.00841 | 5.34608 | 5.63368 | 6.90172 | 9.47084 | 9.39468 |
| 5.34833 | 6.46865 | 6.24724 | 5.57895 | 5.10476 | 7.38875 | 6.62421 | 6.46137 | 9.82975 | 6.13191 |
| 8.502 | 9.21032 | 8.34483 | 9.87609 | 7.86116 | 6.27031 | 8.40452 | 8.82969 | 8.37235 | 8.57947 |
| 5.61407 | 6.29874 | 5.7808 | 6.74338 | 7.70448 | 5.18031 | 5.63428 | 6.31334 | 9.30713 | 6.57546 |
| 7.18887 | 6.50371 | 9.72908 | 5.75651 | 6.47396 | 6.80489 | 9.56272 | 6.96724 | 7.1687 | 6.33079 |
| 8.08008 | 7.1872 | 6.66952 | 9.22244 | 6.24408 | 7.25462 | 5.54531 | 6.24603 | 8.92379 | 6.49622 |
| 9.39534 | 8.63983 | 6.09715 | 5.44615 | 5.95364 | 8.11025 | 7.1534 | 7.50291 | 9.77039 | 7.03312 |
| 7.36883 | 5.60201 | 6.13864 | 6.41581 | 7.9705 | 8.26183 | 5.86545 | 8.36105 | 6.44638 | 8.18014 |
| 5.03076 | 6.5941 | 7.11916 | 7.6769 | 7.25937 | 6.27984 | 9.9761 | 9.44285 | 6.98838 | 5.64943 |
| 7.48446 | 6.41826 | 6.8072 | 6.57661 | 5.74379 | 9.63576 | 5.07302 | 9.98667 | 6.14888 | 6.64932 |
| 6.60067 | 5.36763 | 9.22689 | 6.26972 | 7.76929 | 8.41126 | 9.79231 | 5.16177 | 7.73309 | 6.69538 |
| 9.87631 | 6.52021 | 6.68256 | 9.3851 | 7.88302 | 6.40151 | 8.59067 | 6.01476 | 9.065 | 5.3806 |
| 6.93997 | 5.16642 | 6.81449 | 5.61354 | 8.11308 | 7.27037 | 9.49548 | 9.7027 | 9.46306 | 9.92547 |
| 8.97711 | 6.75733 | 6.65952 | 8.77258 | 7.10883 | 6.69459 | 9.8485 | 9.17647 | 6.92013 | 8.2229 |
| 9.01033 | 8.63543 | 9.31001 | 9.80727 | 6.28439 | 8.81035 | 6.22439 | 8.46489 | 8.44683 | 7.22277 |
| 6.95119 | 7.676 | 7.10224 | 6.56012 | 9.11109 | 7.5507 | 8.46004 | 7.77055 | 7.19512 | 6.10208 |
| 8.27998 | 8.28741 | 9.90079 | 7.56961 | 9.82754 | 7.57486 | 5.40428 | 5.63512 | 5.67407 | 5.21846 |
| 7.52858 | 9.9158 | 5.50121 | 9.11535 | 5.63298 | 7.76186 | 8.69459 | 6.93366 | 7.44959 | 5.25495 |
| 6.92018 | 7.95367 | 8.1118 | 7.62766 | 8.54468 | 6.59354 | 6.16161 | 5.60092 | 8.87817 | 7.11485 |
| 7.698 | 5.39568 | 6.82866 | 7.16574 | 7.262 | 5.77043 | 7.10444 | 9.56848 | 7.29469 | 6.63726 |
| 5.49964 | 6.30695 | 7.14232 | 6.97931 | 7.68499 | 7.56297 | 5.24927 | 6.16807 | 8.19343 | 9.20254 |
| 5.80615 | 7.97755 | 6.29881 | 6.7675 | 7.38663 | 9.62251 | 5.33776 | 6.10377 | 9.51476 | 5.79857 |
| 8.42811 | 5.91292 | 5.96541 | 7.37976 | 6.52555 | 5.27592 | 9.75478 | 6.4022 | 7.16116 | 6.77476 |
| 9.40245 | 6.98585 | 5.50676 | 5.32682 | 9.12917 | 6.7105 | 8.67354 | 9.2487 | 5.61845 | 9.51702 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5.10785 | 9.54979 | 6.37485 | 7.34524 | 5.01416 | 5.06697 | 5.22 | 6.52407 | 9.78722 | 6.35788 |
| 5.79286 | 7.63631 | 7.14124 | 9.19054 | 5.44655 | 9.55481 | 8.31342 | 8.24977 | 8.58574 | 8.7989 |
| 6.00535 | 6.79061 | 6.69654 | 8.05914 | 8.89574 | 8.87154 | 5.66521 | 7.83562 | 5.21879 | 7.30689 |
| 8.30135 | 7.94624 | 8.25281 | 5.27925 | 9.90575 | 8.61063 | 8.65035 | 8.92262 | 7.94457 | 6.81333 |
| 5.8929 | 9.94946 | 6.47397 | 5.687 | 9.5043 | 6.8656 | 9.74509 | 5.18851 | 7.28214 | 8.57533 |
| 5.12307 | 9.03214 | 6.56241 | 8.694 | 7.54733 | 9.32573 | 7.08729 | 5.54121 | 5.28525 | 7.85561 |
| 9.09673 | 9.20852 | 5.63572 | 8.50909 | 5.74765 | 6.94556 | 7.71247 | 9.27144 | 8.69491 | 6.41712 |
| 7.09896 | 7.1381 | 9.65995 | 7.07506 | 6.56871 | 7.11553 | 7.68939 | 6.15319 | 5.38714 | 9.03766 |
| 6.70307 | 7.81267 | 7.3581 | 7.23356 | 7.5603 | 9.30252 | 6.37883 | 7.29669 | 9.64474 | 6.46283 |
| 5.74119 | 9.65478 | 9.60155 | 7.77059 | 5.55502 | 7.4182 | 6.27061 | 8.99578 | 5.59539 | 8.09088 |
| 5.63535 | 7.51114 | 7.80895 | 9.50728 | 6.28914 | 7.02888 | 8.29441 | 9.4568 | 9.36215 | 6.2991 |
| 8.14417 | 9.07637 | 7.75014 | 8.67529 | 7.9587 | 5.98642 | 8.26501 | 7.13449 | 9.49481 | 9.57277 |
| 5.0483 | 7.24265 | 8.55692 | 9.59615 | 7.70646 | 7.28453 | 5.34746 | 5.0828 | 7.90193 | 9.21734 |
| 9.04833 | 8.72591 | 7.5159 | 8.79805 | 8.30448 | 7.46856 | 6.83016 | 6.2488 | 7.98167 | 8.42516 |
| 5.49696 | 7.65268 | 9.10518 | 5.49842 | 6.38216 | 7.12359 | 5.64852 | 6.74658 | 5.78611 | 8.29595 |
| 6.90834 | 5.12963 | 6.64125 | 6.34092 | 7.73763 | 7.05909 | 8.96289 | 5.39704 | 8.93044 | 9.99625 |
| 7.72702 | 7.28399 | 8.16153 | 9.91849 | 9.47267 | 6.17608 | 5.08349 | 6.52262 | 5.57163 | 8.30925 |
| 9.48972 | 7.25995 | 7.32795 | 6.41024 | 6.46112 | 6.35974 | 6.09765 | 7.58295 | 7.9226 | 8.25202 |
| 8.15677 | 7.71819 | 7.66333 | 6.31399 | 8.45629 | 6.38887 | 6.11225 | 5.10857 | 8.51196 | 8.93596 |
| 9.43355 | 8.2281 | 5.77918 | 5.34246 | 7.68658 | 7.09204 | 7.95314 | 7.36108 | 8.06914 | 9.01574 |
| 8.57609 | 6.20476 | 9.18717 | 5.87335 | 9.88776 | 7.97843 | 8.792 | 7.35794 | 9.63873 | 8.24092 |
| 6.65405 | 8.65733 | 7.66848 | 7.85896 | 9.91895 | 9.34843 | 6.69237 | 9.96433 | 7.56576 | 9.12607 |
| 9.53108 | 8.47913 | 5.83892 | 6.07332 | 5.35934 | 5.71528 | 9.78231 | 8.48638 | 7.70619 | 9.43349 |
| 7.90557 | 7.61717 | 7.67768 | 8.91528 | 8.44884 | 6.30982 | 7.49963 | 7.61643 | 9.52309 | 5.12784 |
| 8.60646 | 9.79069 | 9.70913 | 5.49767 | 7.58413 | 6.0019 | 8.24264 | 9.08876 | 9.14056 | 6.11842 |
| 6.98536 | 5.44063 | 7.7044 | 8.87764 | 7.12364 | 8.91802 | 7.78517 | 8.29459 | 5.30002 | 7.69069 |
| 6.0887 | 6.75514 | 9.3903 | 5.93204 | 5.18948 | 9.99587 | 5.19588 | 6.36054 | 6.35852 | 7.12462 |
| 5.1886 | 5.64261 | 5.80165 | 8.53785 | 9.71369 | 9.85396 | 9.6512 | 5.81206 | 5.97774 | 6.56621 |
| 6.31121 | 6.67925 | 9.34305 | 5.37089 | 7.89786 | 5.99516 | 5.58288 | 8.43911 | 9.35734 | 7.08135 |
| 6.392 | 6.07415 | 6.96554 | 5.02307 | 5.53499 | 5.89981 | 9.12609 | 5.07862 | 8.29857 | 9.68776 |
| 7.7541 | 8.46677 | 6.76784 | 9.39449 | 6.22619 | 8.45301 | 9.12479 | 8.46252 | 6.7461 | 8.73015 |
| 6.48263 | 9.76504 | 5.36303 | 6.56167 | 6.16899 | 9.06327 | 7.78414 | 7.43133 | 8.82988 | 7.50803 |
| 6.22499 | 7.84079 | 7.9608 | 5.02901 | 6.94961 | 8.33897 | 5.37405 | 9.62391 | 9.31231 | 8.01537 |
| 6.63061 | 6.31841 | 9.77621 | 5.84552 | 7.26944 | 7.84017 | 8.09963 | 8.85667 | 9.23926 | 6.73126 |
| 9.79488 | 6.1229 | 9.91444 | 5.83367 | 8.80545 | 6.28899 | 5.90027 | 7.79591 | 6.09259 | 8.51372 |
| 8.85675 | 6.81318 | 7.85959 | 6.27168 | 9.31587 | 7.51534 | 9.88815 | 9.76111 | 9.39197 | 9.90941 |
| 8.4955 | 7.61686 | 5.12982 | 9.27654 | 5.41725 | 9.66808 | 9.84191 | 5.55896 | 8.4537 | 8.91896 |
| 5.83202 | 7.30084 | 8.99787 | 5.61518 | 5.8903 | 8.57491 | 9.3326 | 8.4068 | 7.92917 | 7.74168 |
| 7.2049 | 7.77536 | 7.74656 | 9.77974 | 7.71381 | 6.25353 | 9.5249 | 9.76764 | 9.629 | 9.91017 |
| 6.62744 | 7.4541 | 6.16705 | 8.05253 | 8.89099 | 5.8907 | 8.08662 | 8.02769 | 7.79993 | 7.12726 |
| 7.70593 | 9.29906 | 6.04552 | 9.03362 | 6.75863 | 8.08085 | 7.18897 | 8.7436 | 6.15168 | 7.0943 |
| 5.36637 | 8.00875 | 8.70935 | 5.40784 | 6.81813 | 9.39201 | 7.8435 | 7.44429 | 8.12506 | 8.24254 |
| 6.95076 | 8.39484 | 5.6508 | 7.47934 | 5.93032 | 5.95169 | 7.09552 | 8.56172 | 9.65427 | 8.64521 |
| 8.6586 | 7.77499 | 8.46304 | 9.12469 | 6.87499 | 5.61357 | 7.33172 | 8.18191 | 7.13528 | 5.85543 |
| 6.30913 | 7.79716 | 5.62634 | 6.97933 | 8.79659 | 5.61594 | 7.56762 | 6.6486 | 5.80945 | 7.8774 |
| 7.26166 | 7.84167 | 9.04309 | 5.98448 | 5.08924 | 7.77815 | 5.48356 | 8.0683 | 7.06436 | 8.12468 |
| **7.3470365** | **7.5746329** | **7.4431615** | **7.3082438** | **7.2629051** | **7.4527839** | **7.4694661** | **7.4333784** | **7.8811669** | **7.731526** |
| **5.03076** | **5.12196** | **5.07575** | **5.02307** | **5.01416** | **5.06697** | **5.01203** | **5.07862** | **5.05169** | **5.06491** |
| **9.87631** | **9.99863** | **9.91444** | **9.91849** | **9.91895** | **9.99587** | **9.9761** | **9.99663** | **9.97311** | **9.99625** |
| **7.23328** | **7.62674** | **7.235135** | **7.12103** | **7.261315** | **7.42823** | **7.511905** | **7.43543** | **8.050185** | **7.858265** |
| **7.196885** | **7.62674** | **7.14178** | **7.12103** | **7.261315** | **7.42823** | **7.511905** | **7.43543** | **8.050185** | **7.836615** |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4.9810676 | 5.0731796 | 5.0265075 | 4.9733007 | 4.9643016 | 5.0176397 | 4.9621503 | 5.0294062 | 5.0022069 | 5.0155591 |
| -2.49269 | 9.86163 | 1.35844 | 1.76749 | 1.81395 | 9.58287 | 7.5861 | 9.65963 | 7.28411 | 9.62125 |
| 4.694073 | 5.1492658 | 4.886323 | 4.6164876 | 4.5258102 | 4.9055678 | 4.9389322 | 4.8667568 | 5.7623338 | 5.463052 |
| 4.39377 | 5.25348 | 4.28356 | 4.24206 | 4.52263 | 4.85646 | 5.02381 | 4.87086 | 6.10037 | 5.67323 |
| 4.46656 | 5.25348 | 4.47027 | 4.24206 | 4.52263 | 4.85646 | 5.02381 | 4.87086 | 6.10037 | 5.71653 |
| 9.9250731 | 10.0486163 | 9.9635844 | 9.9676749 | 9.9681395 | 10.0458287 | 10.025861 | 10.0465963 | 10.0228411 | 10.0462125 |
| 8.10676 | 17.31796 | 12.65075 | 7.33007 | 6.43016 | 11.76397 | 6.21503 | 12.94062 | 10.22069 | 11.55591 |
| 9.694073 | 10.1492658 | 9.886323 | 9.6164876 | 9.5258102 | 9.9055678 | 9.9389322 | 9.8667568 | 10.7623338 | 10.463052 |
| 9.39377 | 10.25348 | 9.28356 | 9.24206 | 9.52263 | 9.85646 | 10.02381 | 9.87086 | 11.10037 | 10.67323 |
| 9.46656 | 10.25348 | 9.47027 | 9.24206 | 9.52263 | 9.85646 | 10.02381 | 9.87086 | 11.10037 | 10.71653 |
| 4.844027735 | 4.938654815 | 4.890708353 | 4.836048763 | 4.826803947 | 4.881598421 | 4.824593906 | 4.893686201 | 4.865744235 | 4.879461011 |
| 5.029501738 | 5.120724831 | 5.07450313 | 5.021809791 | 5.012897535 | 5.065720907 | 5.010766996 | 5.077373857 | 5.050437038 | 5.063660385 |
| 9.877544731 | 9.999895704 | 9.915684386 | 9.919735411 | 9.920195528 | 9.997135005 | 9.977359999 | 9.997895197 | 9.974369242 | 9.997515101 |
| 10.05955018 | 10.18646667 | 10.09911301 | 10.1033152 | 10.10379249 | 10.18360296 | 10.16309005 | 10.18439152 | 10.15998769 | 10.18399724 |

A Simulation Study on A Uniform Ditribution Over the Interval (5,10) (continued)

| Sample 41 | Sample 42 | Sample 43 | Sample 44 | Sample 45 | Sample 46 | Sample 47 | Sample 48 | Sample 49 | Sample 50 |
|---|---|---|---|---|---|---|---|---|---|
| 7.43951 | 8.24635 | 6.9857 | 9.16292 | 6.89561 | 7.05886 | 7.51524 | 6.7313 | 5.95412 | 6.07004 |
| 7.57102 | 6.56106 | 8.23664 | 7.00731 | 5.59381 | 8.01754 | 7.0963 | 7.57462 | 9.82414 | 6.72801 |
| 6.77325 | 5.08852 | 7.98663 | 9.61054 | 8.49726 | 6.19844 | 9.21696 | 8.84272 | 5.92339 | 7.96327 |
| 9.79135 | 8.41533 | 5.04852 | 9.38471 | 6.89829 | 9.90602 | 6.06974 | 5.90194 | 6.96043 | 5.49204 |
| 6.57138 | 5.62135 | 6.74215 | 8.10656 | 5.95605 | 9.29961 | 5.79917 | 7.64465 | 7.42631 | 8.85193 |
| 9.09014 | 5.55481 | 6.01842 | 7.29108 | 6.05688 | 5.97353 | 8.62974 | 6.39139 | 6.2272 | 5.3403 |
| 5.51461 | 8.87642 | 5.60244 | 5.28958 | 5.46722 | 6.99885 | 5.37584 | 6.79277 | 6.13681 | 8.23701 |
| 7.8468 | 8.89368 | 7.24821 | 8.91456 | 8.31677 | 7.62211 | 6.27116 | 9.86692 | 5.34224 | 5.56701 |
| 8.6792 | 6.3491 | 5.62216 | 5.37401 | 6.01975 | 5.19198 | 8.29397 | 9.70763 | 5.75499 | 6.55636 |
| 6.87539 | 7.61707 | 9.59302 | 8.56879 | 8.14354 | 7.35214 | 8.67519 | 8.25598 | 5.13631 | 9.40228 |
| 6.18459 | 5.94701 | 5.5542 | 5.79957 | 8.90951 | 7.75874 | 5.79837 | 6.51989 | 9.80317 | 8.57684 |
| 5.23315 | 7.54473 | 8.16906 | 9.75204 | 8.43854 | 5.53767 | 7.69683 | 8.41953 | 8.12961 | 5.312 |
| 8.90708 | 7.6082 | 8.72935 | 6.24769 | 9.70217 | 8.3059 | 5.17356 | 7.97678 | 6.79428 | 5.3863 |
| 5.83295 | 9.99723 | 9.49626 | 7.50843 | 9.83234 | 9.10314 | 6.51401 | 6.45117 | 7.75835 | 9.38284 |
| 9.32006 | 9.63741 | 5.70256 | 8.53486 | 7.29334 | 7.78092 | 8.35213 | 9.38985 | 5.96788 | 7.80611 |
| 9.3104 | 8.40734 | 7.62382 | 8.57436 | 7.67231 | 5.87987 | 5.76888 | 8.0549 | 9.74297 | 5.70827 |
| 5.67176 | 7.42233 | 5.60536 | 9.96176 | 9.27612 | 6.77939 | 5.30697 | 7.36826 | 9.06778 | 8.97023 |
| 9.79551 | 7.14915 | 6.50241 | 9.04957 | 8.81878 | 7.91764 | 5.65608 | 5.25155 | 5.74336 | 8.56599 |
| 5.21052 | 5.88984 | 9.82599 | 5.37411 | 5.8502 | 8.07446 | 6.6818 | 8.20686 | 8.95578 | 8.86164 |
| 5.9953 | 8.86643 | 9.24647 | 6.23347 | 8.56669 | 9.12914 | 5.33939 | 7.31624 | 7.48825 | 5.50116 |
| 6.65791 | 6.78691 | 6.25997 | 6.60135 | 7.94366 | 7.50505 | 7.18998 | 7.8403 | 8.35399 | 9.19841 |
| 8.56078 | 8.90699 | 6.64405 | 9.17714 | 7.94625 | 7.57455 | 7.17983 | 8.69869 | 6.37955 | 9.5397 |
| 6.73062 | 5.20994 | 9.31602 | 9.05614 | 9.44758 | 9.03226 | 8.52391 | 7.94971 | 6.63326 | 5.89869 |
| 9.41529 | 8.17317 | 7.07624 | 5.47399 | 7.36347 | 6.31873 | 8.94606 | 6.31982 | 9.9166 | 9.01191 |
| 6.07554 | 9.62733 | 9.58128 | 6.70003 | 8.14372 | 8.76728 | 8.5526 | 5.69285 | 6.89756 | 9.84497 |
| 8.01566 | 8.71194 | 6.23515 | 6.0835 | 9.74107 | 6.5938 | 5.55883 | 6.67754 | 5.19569 | 6.8125 |
| 6.83475 | 9.07548 | 6.13443 | 5.9505 | 9.18959 | 5.89701 | 5.87925 | 6.99587 | 7.23445 | 8.32718 |
| 7.9589 | 7.65341 | 7.72308 | 5.95331 | 7.29536 | 7.89416 | 9.46205 | 6.49586 | 8.3046 | 5.76099 |
| 8.51384 | 5.63138 | 8.96095 | 9.78814 | 9.09645 | 6.34093 | 6.77067 | 7.38832 | 7.46259 | 8.61816 |
| 8.92311 | 7.69951 | 6.51392 | 5.03922 | 5.66252 | 9.50021 | 9.15549 | 9.35 | 8.93735 | 7.82585 |
| 5.1192 | 6.56533 | 9.03573 | 6.73994 | 6.30135 | 6.24742 | 8.20792 | 7.84861 | 9.00198 | 7.86626 |
| 9.4041 | 5.73872 | 5.11939 | 7.01022 | 8.02802 | 7.16684 | 7.16019 | 8.01223 | 8.73716 | 7.42041 |
| 9.94098 | 9.7951 | 6.69433 | 7.07338 | 8.9592 | 8.07521 | 6.66061 | 6.96828 | 7.05565 | 5.14813 |
| 5.90571 | 7.03409 | 5.65142 | 8.92985 | 7.9998 | 8.93696 | 7.60167 | 5.83995 | 7.42758 | 9.59906 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5.38793 | 9.25165 | 5.04133 | 5.51345 | 8.69423 | 5.53007 | 7.197 | 5.49402 | 5.13618 | 7.88444 |
| 9.07852 | 5.97285 | 9.82933 | 5.29632 | 6.7193 | 8.02162 | 9.6299 | 6.24232 | 9.40428 | 6.01784 |
| 9.75015 | 8.81171 | 5.31653 | 6.94139 | 7.83926 | 8.14834 | 5.57836 | 9.22661 | 5.47605 | 9.75275 |
| 6.76399 | 9.1946 | 9.32238 | 8.47283 | 5.35729 | 5.60662 | 7.7814 | 8.73219 | 7.61303 | 7.46602 |
| 6.02291 | 5.11834 | 5.91528 | 9.12003 | 8.71052 | 9.90778 | 9.39268 | 5.95808 | 6.63507 | 6.41813 |
| 5.25138 | 8.81288 | 5.9573 | 5.49332 | 6.87346 | 5.64291 | 5.07731 | 5.60835 | 9.47975 | 7.35195 |
| 6.25045 | 7.1705 | 7.26168 | 6.15644 | 5.92243 | 8.75308 | 6.50225 | 5.93999 | 7.38841 | 5.44004 |
| 7.33451 | 6.53746 | 9.63119 | 9.74086 | 6.03286 | 5.42392 | 8.05853 | 7.09627 | 8.34702 | 8.67129 |
| 9.20082 | 7.83462 | 9.31918 | 9.26425 | 7.06266 | 8.93879 | 9.39374 | 9.63792 | 6.30204 | 8.00283 |
| 9.97497 | 7.09639 | 7.92596 | 5.88119 | 6.85013 | 6.01892 | 6.99948 | 9.70543 | 7.45196 | 8.67672 |
| 9.53287 | 9.41457 | 9.11055 | 8.86196 | 5.03096 | 6.46716 | 5.10722 | 7.29534 | 8.3244 | 7.7181 |
| 5.84091 | 7.65869 | 5.44099 | 9.90768 | 7.47179 | 9.37263 | 6.66334 | 7.57088 | 7.95822 | 7.39396 |
| 9.18119 | 7.21974 | 8.51952 | 5.89365 | 5.88786 | 6.52954 | 6.95884 | 5.76143 | 6.84519 | 9.2574 |
| 6.96248 | 6.3832 | 9.70854 | 5.70285 | 5.24924 | 9.15932 | 7.35008 | 9.51421 | 5.76095 | 7.19165 |
| 5.24717 | 6.48257 | 6.62552 | 8.78999 | 6.20273 | 5.52388 | 7.71603 | 5.84104 | 9.59808 | 6.978 |
| 6.41804 | 9.61701 | 9.65573 | 6.44594 | 5.06977 | 8.21815 | 7.5542 | 5.66472 | 7.65665 | 8.02003 |
| 5.66935 | 8.12661 | 7.20189 | 6.86661 | 6.76592 | 6.13275 | 8.78086 | 5.73257 | 6.02749 | 9.12578 |
| 7.47293 | 5.9308 | 8.20636 | 5.09093 | 5.0075 | 7.94199 | 5.88725 | 5.21135 | 9.67117 | 9.2848 |
| 6.57728 | 6.9568 | 9.94126 | 7.16476 | 9.93408 | 9.88816 | 5.27527 | 6.09702 | 9.18018 | 6.79695 |
| 5.11535 | 7.28443 | 5.64122 | 9.61041 | 5.81708 | 9.63919 | 9.11772 | 8.69824 | 8.41551 | 6.03511 |
| 9.5647 | 6.64926 | 6.33472 | 9.07005 | 8.39516 | 8.86788 | 7.67557 | 8.43853 | 9.04269 | 8.1958 |
| 5.35054 | 6.61546 | 8.239 | 9.00267 | 6.06365 | 9.02672 | 8.31096 | 9.10896 | 7.50541 | 8.59496 |
| 9.34019 | 8.65791 | 6.64103 | 9.51511 | 6.48266 | 7.0065 | 5.40455 | 7.42353 | 9.82435 | 7.5418 |
| 6.95715 | 6.33275 | 9.39788 | 8.53616 | 7.71581 | 6.27857 | 6.87064 | 7.22672 | 8.38683 | 9.87279 |
| 8.555 | 9.39175 | 9.05629 | 9.31881 | 6.08377 | 8.03252 | 8.79059 | 8.26784 | 9.44529 | 6.7277 |
| 5.51522 | 8.65433 | 6.59797 | 7.79202 | 5.82398 | 7.00401 | 6.32255 | 6.61919 | 7.32542 | 7.63007 |
| 6.98757 | 5.39166 | 6.97215 | 6.52214 | 9.80779 | 8.902 | 8.36381 | 7.18559 | 8.63179 | 7.93261 |
| 8.72711 | 6.21024 | 7.63766 | 8.87125 | 8.26993 | 9.9263 | 7.644 | 7.96486 | 5.08055 | 6.36137 |
| 9.9309 | 5.12694 | 6.95474 | 6.35751 | 9.14504 | 6.60382 | 6.32103 | 5.89882 | 5.65283 | 7.62126 |
| 7.13662 | 9.22069 | 8.40073 | 8.81758 | 8.9091 | 6.74108 | 5.85272 | 5.13041 | 9.11331 | 5.09419 |
| 8.51499 | 9.92393 | 8.20698 | 8.82897 | 8.11063 | 6.18418 | 8.03629 | 9.6953 | 9.97321 | 9.41404 |
| 6.08532 | 9.06559 | 5.81364 | 6.48222 | 9.83561 | 7.95791 | 5.81131 | 9.81686 | 5.28384 | 5.26181 |
| 7.9058 | 7.03432 | 5.36941 | 6.31882 | 6.13581 | 6.9675 | 6.07276 | 5.78281 | 8.53467 | 9.8859 |
| 8.96789 | 7.67053 | 8.83847 | 7.64882 | 8.6043 | 9.35202 | 8.08925 | 6.17718 | 5.58029 | 6.45991 |
| 8.22032 | 9.57666 | 8.98342 | 5.79114 | 7.02505 | 9.10283 | 5.18413 | 5.70371 | 6.85401 | 6.72302 |
| 6.27195 | 8.22608 | 7.36932 | 5.56267 | 6.39519 | 6.76235 | 5.13912 | 5.18073 | 6.08412 | 8.43374 |
| 9.96244 | 7.96592 | 5.40733 | 5.57619 | 6.68363 | 6.26084 | 7.68457 | 5.04036 | 9.17757 | 8.13467 |
| 8.28219 | 6.41225 | 7.00406 | 9.32312 | 6.84285 | 9.86887 | 8.0585 | 7.24348 | 9.72408 | 7.39015 |
| 5.88895 | 5.03994 | 6.60156 | 6.67636 | 6.82369 | 5.47815 | 7.0661 | 9.36929 | 6.5768 | 5.37066 |
| 7.34311 | 9.75218 | 8.88316 | 5.26618 | 8.6049 | 6.27582 | 5.14785 | 8.36003 | 5.03886 | 8.05789 |
| 8.97547 | 9.71587 | 9.3962 | 9.65488 | 5.55818 | 6.35421 | 7.37417 | 8.68283 | 6.32769 | 8.28047 |
| 5.08764 | 8.62187 | 7.78397 | 5.70435 | 8.50117 | 8.23416 | 6.96361 | 8.50785 | 6.34794 | 5.05514 |
| 8.34194 | 8.76304 | 9.21736 | 9.33399 | 9.68556 | 6.18819 | 6.93515 | 5.56871 | 8.41116 | 7.58874 |
| 7.5373 | 7.68996 | 6.42551 | 8.80661 | 7.07111 | 5.92674 | 9.76143 | 8.65908 | 9.61686 | 7.11489 |
| 7.94285 | 5.71637 | 7.79367 | 5.27705 | 9.51942 | 5.86369 | 5.65145 | 6.85014 | 8.1267 | 5.81606 |
| 8.05711 | 7.86758 | 8.41685 | 7.60925 | 8.59745 | 5.57227 | 5.42199 | 9.42663 | 6.74462 | 9.74792 |
| 9.82766 | 7.72996 | 8.79661 | 7.00486 | 5.18294 | 8.47841 | 7.12482 | 9.22974 | 7.83256 | 5.55829 |
| 8.09716 | 7.31975 | 7.75975 | 7.13936 | 8.29423 | 9.9513 | 5.81243 | 7.28782 | 5.23318 | 9.08026 |
| 8.61072 | 9.23133 | 5.7962 | 8.28836 | 5.00868 | 5.38611 | 7.28355 | 7.09029 | 5.32676 | 6.14384 |
| 7.20674 | 7.78688 | 5.68589 | 9.00133 | 9.56598 | 7.97488 | 7.78226 | 5.05105 | 5.1623 | 9.97439 |
| 7.7513 | 7.95667 | 5.4114 | 8.85065 | 7.28274 | 5.19199 | 5.75819 | 7.66748 | 5.3924 | 9.95346 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9.40413 | 8.94034 | 5.5852 | 9.99187 | 5.37086 | 6.81897 | 8.73733 | 7.86887 | 9.95678 | 9.62016 |
| 5.77088 | 5.53858 | 6.27369 | 6.48469 | 6.09167 | 5.50229 | 9.99484 | 5.17116 | 5.11626 | 7.69289 |
| 5.23131 | 5.44623 | 6.08715 | 6.07144 | 9.142 | 5.57742 | 7.46513 | 5.84182 | 9.05438 | 9.0399 |
| 9.99467 | 9.89436 | 9.15455 | 8.05391 | 8.86884 | 9.12612 | 7.9147 | 9.11843 | 9.85325 | 9.4755 |
| 9.19098 | 9.97195 | 8.06076 | 9.69721 | 5.42229 | 8.01647 | 9.3464 | 5.48021 | 9.51128 | 6.28591 |
| 7.49843 | 5.13288 | 9.63548 | 6.36749 | 5.84569 | 7.47162 | 8.90698 | 6.34547 | 7.9542 | 9.87033 |
| 7.50273 | 7.78533 | 5.61616 | 7.97225 | 9.77321 | 6.64285 | 6.17817 | 8.69537 | 5.60874 | 9.81662 |
| 5.90043 | 9.26598 | 6.68498 | 7.95444 | 8.23315 | 5.50794 | 8.61171 | 5.0466 | 5.76493 | 9.56114 |
| 6.11802 | 7.16928 | 7.13987 | 6.7704 | 6.07435 | 6.71233 | 6.38886 | 9.68132 | 6.73007 | 9.03472 |
| 7.25812 | 6.67925 | 7.27082 | 6.39514 | 8.22222 | 8.51572 | 8.83161 | 9.69489 | 5.34264 | 8.60396 |
| 8.34532 | 5.19177 | 6.70078 | 8.97641 | 8.99011 | 7.90163 | 8.92595 | 5.87858 | 8.58469 | 6.57678 |
| 7.4234 | 5.35588 | 7.41259 | 7.92591 | 7.30127 | 9.71997 | 6.73075 | 7.7946 | 5.51657 | 5.25574 |
| 5.36923 | 8.01188 | 7.1629 | 6.66586 | 5.49855 | 6.34009 | 7.96571 | 5.30967 | 5.05268 | 6.83756 |
| 6.10584 | 7.90877 | 8.89931 | 8.93062 | 5.34218 | 7.85024 | 8.8389 | 9.78126 | 9.30543 | 8.08921 |
| 8.46396 | 8.70763 | 9.60679 | 8.30677 | 6.70285 | 9.51303 | 8.00947 | 9.86259 | 6.94866 | 8.39986 |
| **7.5122486** | **7.5949586** | **7.4454103** | **7.5605038** | **7.4072754** | **7.4553969** | **7.2466371** | **7.3699762** | **7.4200566** | **7.6781372** |
| **5.08764** | **5.03994** | **5.04133** | **5.03922** | **5.0075** | **5.19198** | **5.07731** | **5.04036** | **5.03886** | **5.05514** |
| **9.99467** | **9.99723** | **9.94126** | **9.99187** | **9.93408** | **9.9513** | **9.99484** | **9.86692** | **9.97321** | **9.97439** |
| **7.48568** | **7.680245** | **7.254945** | **7.55884** | **7.298315** | **7.488335** | **7.19349** | **7.30579** | **7.426945** | **7.846055** |
| **7.48568** | **7.66461** | **7.254945** | **7.399755** | **7.33237** | **7.488335** | **7.184905** | **7.30579** | **7.43977** | **7.846055** |
| **5.0385164** | **4.9903394** | **4.9917433** | **4.9896122** | **4.957575** | **5.1438998** | **5.0280831** | **4.9907636** | **4.9892486** | **5.0056914** |
| **9.46167** | **9.72023** | **4.06726** | **9.17887** | **3.34208** | **5.0813** | **9.47884** | **-3.44108** | **7.29421** | **7.41339** |
| **5.0244972** | **5.1899172** | **4.8908206** | **5.1210076** | **4.8145508** | **4.9107938** | **4.4932742** | **4.7399524** | **4.8401132** | **5.3562744** |
| **4.97136** | **5.32922** | **4.50989** | **4.79951** | **4.66474** | **4.97667** | **4.36981** | **4.61158** | **4.87954** | **5.69211** |
| **4.97136** | **5.36049** | **4.50989** | **5.11768** | **4.59663** | **4.97667** | **4.38698** | **4.61158** | **4.85389** | **5.69211** |
| **10.0446167** | **10.0472023** | **9.9906726** | **10.0417887** | **9.9834208** | **10.000813** | **10.0447884** | **9.9155892** | **10.0229421** | **10.0241339** |
| **13.85164** | **9.03394** | **9.17433** | **8.96122** | **5.7575** | **24.38998** | **12.80831** | **9.07636** | **8.92486** | **10.56914** |
| **10.0244972** | **10.1899172** | **9.8908206** | **10.1210076** | **9.8145508** | **9.9107938** | **9.4932742** | **9.7399524** | **9.8401132** | **10.3562744** |
| **9.97136** | **10.32922** | **9.50989** | **9.79951** | **9.66474** | **9.97667** | **9.36981** | **9.61158** | **9.87954** | **10.69211** |
| **9.97136** | **10.36049** | **9.50989** | **10.11768** | **9.59663** | **9.97667** | **9.38698** | **9.61158** | **9.85389** | **10.69211** |
| **4.903045151** | **4.853552698** | **4.854994931** | **4.852805642** | **4.81989368** | **5.011306001** | **4.892326974** | **4.853988481** | **4.852432114** | **4.869323878** |
| **5.086396141** | **5.038684063** | **5.040074415** | **5.03796388** | **5.006235849** | **5.190762561** | **5.076063525** | **5.039104169** | **5.037603789** | **5.053887912** |
| **9.995934701** | **9.998495349** | **9.942511177** | **9.993133992** | **9.935329359** | **9.952553719** | **9.996104744** | **9.868152353** | **9.974469267** | **9.975649566** |
| **10.18235786** | **10.18501406** | **10.12694084** | **10.17945265** | **10.11949104** | **10.13735812** | **10.18253425** | **10.04980732** | **10.16009145** | **10.16131579** |

A Simulation Study on A Uniform Ditribution Over the Interval (5,10) (continued)

| **Sample 51** | **Sample 52** | **Sample 53** | **Sample 54** | **Sample 55** | **Sample 56** | **Sample 57** | **Sample 58** | **Sample 59** | **Sample 60** |
|---|---|---|---|---|---|---|---|---|---|
| 6.18441 | 9.77813 | 8.39031 | 9.65477 | 5.86795 | 8.38988 | 6.12309 | 8.57511 | 7.95065 | 5.16081 |
| 7.52938 | 8.11911 | 5.41477 | 5.11005 | 8.66089 | 8.90848 | 7.80516 | 8.0271 | 8.08311 | 9.85174 |
| 5.7298 | 7.77614 | 5.75094 | 7.25955 | 8.35071 | 6.34104 | 7.45682 | 8.94139 | 7.65799 | 8.71809 |
| 5.65407 | 6.21417 | 7.48042 | 9.61853 | 6.2657 | 5.50628 | 5.15738 | 8.23405 | 5.0672 | 7.01167 |
| 6.5132 | 7.78595 | 9.72915 | 9.85962 | 9.95137 | 7.0434 | 5.32205 | 6.69915 | 9.42174 | 7.80554 |
| 9.15284 | 8.32317 | 7.41974 | 6.26129 | 8.59548 | 8.90681 | 8.82022 | 5.16808 | 5.96558 | 6.9585 |
| 6.89479 | 6.23736 | 7.28764 | 8.06862 | 7.65048 | 8.65787 | 7.43745 | 8.99241 | 5.19813 | 7.17669 |
| 6.18415 | 5.26976 | 5.31304 | 8.36516 | 7.54241 | 8.16157 | 8.14659 | 5.7749 | 5.26771 | 5.08625 |
| 5.09403 | 8.29187 | 5.5948 | 6.40877 | 6.96558 | 9.45925 | 7.6921 | 7.50975 | 9.2622 | 9.73171 |
| 5.33161 | 8.53094 | 8.40545 | 7.06276 | 8.58653 | 8.99499 | 8.0419 | 8.66307 | 7.2801 | 7.30383 |
| 9.7353 | 8.62911 | 6.89256 | 8.69667 | 6.03224 | 6.58653 | 9.93124 | 5.46704 | 9.76989 | 8.63773 |
| 6.15844 | 9.44765 | 9.463 | 8.25846 | 6.04034 | 7.40368 | 6.68005 | 5.10564 | 6.69407 | 6.60476 |
| 8.6694 | 8.23546 | 7.00588 | 9.23245 | 7.61833 | 5.96345 | 6.88131 | 7.93937 | 7.49138 | 9.76985 |
| 5.11945 | 7.36746 | 6.33881 | 9.8266 | 8.858 | 9.70288 | 6.76729 | 9.0635 | 9.56054 | 7.13157 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6.23517 | 8.16178 | 7.25906 | 6.74165 | 9.75388 | 6.12064 | 5.58344 | 6.87522 | 7.58093 | 8.05827 |
| 7.459 | 9.85782 | 5.42105 | 7.91471 | 5.29669 | 7.81313 | 5.53362 | 6.29903 | 7.54815 | 5.36101 |
| 6.15282 | 6.12379 | 8.10728 | 9.70583 | 9.26756 | 6.41615 | 9.18958 | 7.03666 | 7.1987 | 5.93602 |
| 9.04239 | 7.09456 | 6.04791 | 5.88338 | 9.59331 | 6.60862 | 6.76693 | 5.99125 | 6.27664 | 7.29312 |
| 9.03538 | 9.69882 | 9.82677 | 5.72132 | 9.03176 | 9.57339 | 6.97337 | 7.90027 | 7.77838 | 7.97781 |
| 7.6511 | 8.3023 | 8.18709 | 6.88171 | 5.95244 | 9.5369 | 5.28247 | 6.55677 | 7.28901 | 8.93189 |
| 9.09275 | 7.85247 | 9.18903 | 5.85384 | 5.91196 | 8.43459 | 6.64867 | 9.75891 | 6.79576 | 5.64979 |
| 9.75152 | 9.62568 | 8.47905 | 7.79395 | 9.8703 | 8.12302 | 8.84026 | 8.61556 | 5.74694 | 8.86874 |
| 9.68698 | 9.98707 | 7.59699 | 6.1366 | 8.92272 | 6.54508 | 6.90207 | 7.0073 | 5.50345 | 7.58442 |
| 9.05751 | 5.42718 | 7.37152 | 8.79267 | 6.81113 | 7.50593 | 8.33312 | 9.12354 | 7.27304 | 7.31634 |
| 8.91537 | 6.86456 | 8.01292 | 7.35785 | 7.20574 | 8.8904 | 5.75667 | 5.57835 | 8.59046 | 7.94288 |
| 9.97589 | 9.21938 | 9.62568 | 6.36609 | 6.08722 | 7.97244 | 5.71647 | 6.68945 | 6.11918 | 6.63354 |
| 8.27349 | 9.7458 | 5.75795 | 7.79634 | 7.13689 | 8.4753 | 7.53441 | 5.6029 | 8.30421 | 5.18881 |
| 9.71917 | 5.41594 | 9.31332 | 8.58671 | 6.83474 | 8.97424 | 9.89658 | 6.8172 | 8.73106 | 9.23008 |
| 7.60242 | 8.57215 | 9.75298 | 7.68112 | 7.80213 | 7.05231 | 7.74282 | 6.40577 | 9.84369 | 5.15754 |
| 5.68316 | 5.83958 | 5.47859 | 6.92632 | 5.58554 | 5.19551 | 7.44682 | 5.19873 | 8.94484 | 9.31304 |
| 9.71791 | 7.00554 | 8.3692 | 8.45708 | 7.74591 | 6.45849 | 9.84977 | 6.91658 | 9.29768 | 9.33689 |
| 9.46993 | 5.51622 | 8.4123 | 9.65682 | 8.2902 | 6.75682 | 7.54487 | 7.99848 | 8.70995 | 6.43359 |
| 7.20811 | 6.91121 | 5.49088 | 8.82913 | 9.56287 | 7.67468 | 5.95003 | 5.31318 | 6.39004 | 9.40255 |
| 7.47061 | 5.69742 | 9.38112 | 8.34972 | 7.04619 | 6.63872 | 9.08162 | 6.81247 | 9.54834 | 8.34652 |
| 9.60131 | 8.62992 | 8.85575 | 9.7735 | 9.68311 | 8.02502 | 9.32612 | 8.00922 | 7.39809 | 5.01968 |
| 8.03263 | 7.5373 | 7.12965 | 6.4923 | 8.59243 | 6.24727 | 7.88883 | 5.11067 | 8.45522 | 8.00539 |
| 8.25582 | 5.46626 | 8.6622 | 5.62291 | 6.38463 | 9.26127 | 8.33275 | 7.99774 | 7.79466 | 8.03671 |
| 9.25829 | 8.41607 | 9.73467 | 7.69665 | 7.40422 | 7.86851 | 9.63212 | 6.09523 | 6.48612 | 7.50582 |
| 9.37412 | 7.437 | 8.5678 | 8.45972 | 7.98068 | 5.0729 | 8.47921 | 5.10394 | 7.90408 | 5.00043 |
| 8.67304 | 6.79355 | 7.89504 | 6.77702 | 7.6832 | 9.479 | 7.09153 | 5.27925 | 8.31455 | 8.14435 |
| 6.91964 | 9.50101 | 9.64066 | 8.56392 | 9.18037 | 6.60794 | 9.17862 | 7.56436 | 9.43766 | 8.46242 |
| 5.44453 | 9.21792 | 9.83241 | 8.5164 | 6.45945 | 6.89076 | 5.71788 | 8.09432 | 6.92333 | 8.59856 |
| 9.65478 | 5.55052 | 9.23615 | 8.99227 | 8.73246 | 9.51937 | 7.25563 | 9.00115 | 6.81002 | 5.37905 |
| 8.48216 | 9.58579 | 5.0599 | 8.42569 | 7.91049 | 5.47587 | 5.77437 | 7.82368 | 9.80094 | 7.23265 |
| 7.84001 | 7.9974 | 7.89337 | 7.97349 | 9.97144 | 8.57502 | 9.02201 | 5.83154 | 9.124 | 9.02202 |
| 8.02645 | 7.43669 | 8.99841 | 5.82342 | 7.19501 | 6.65335 | 7.64623 | 9.47926 | 7.8075 | 5.01488 |
| 8.75322 | 9.70789 | 8.17372 | 8.88025 | 7.19618 | 9.69254 | 7.99807 | 5.4627 | 6.46246 | 9.15872 |
| 8.07078 | 5.08714 | 5.98375 | 8.73024 | 8.87049 | 6.2613 | 9.58124 | 8.68369 | 7.81575 | 8.32141 |
| 6.36179 | 7.86828 | 7.98099 | 5.4947 | 9.4247 | 9.97324 | 5.01158 | 9.41777 | 9.51792 | 6.86094 |
| 7.01405 | 5.14188 | 9.98821 | 7.14922 | 7.63093 | 7.99576 | 9.5162 | 8.58829 | 9.70551 | 5.38763 |
| 8.73944 | 6.71643 | 9.54226 | 7.91017 | 6.23884 | 8.38594 | 5.28207 | 7.3914 | 9.91407 | 5.34603 |
| 6.68406 | 9.69955 | 9.07839 | 6.20943 | 8.43589 | 8.60686 | 8.63083 | 5.0309 | 6.33025 | 7.08278 |
| 6.73343 | 5.52304 | 5.09884 | 6.18011 | 9.73911 | 9.54162 | 5.58246 | 7.42872 | 8.92022 | 7.4024 |
| 8.13158 | 8.06549 | 9.81985 | 5.53223 | 6.35963 | 6.95308 | 6.91183 | 7.69949 | 8.84785 | 9.97761 |
| 9.36368 | 9.57943 | 7.61263 | 8.48922 | 5.90058 | 9.02667 | 9.49098 | 8.6505 | 6.27251 | 9.92686 |
| 9.1309 | 5.43246 | 5.14575 | 5.94565 | 8.13965 | 5.32671 | 6.5524 | 5.95253 | 9.57085 | 9.51143 |
| 9.0303 | 9.8424 | 8.99437 | 5.88844 | 9.00089 | 5.33275 | 8.37706 | 9.71518 | 5.21969 | 6.87416 |
| 8.45743 | 8.78069 | 7.37784 | 6.54968 | 5.81084 | 7.72496 | 5.30164 | 7.65904 | 8.38205 | 8.47167 |
| 8.63807 | 7.21463 | 7.46972 | 7.21539 | 8.74623 | 7.28296 | 9.98552 | 7.16415 | 9.75178 | 5.55264 |
| 7.79227 | 5.4264 | 9.90541 | 8.2935 | 5.33786 | 9.49702 | 5.22564 | 8.38841 | 7.50006 | 9.59656 |
| 6.05257 | 9.60174 | 9.95031 | 9.3927 | 7.29248 | 5.68345 | 5.41758 | 6.73481 | 5.14385 | 9.47486 |
| 7.94833 | 6.82022 | 9.76159 | 6.24078 | 6.71651 | 9.72959 | 9.75539 | 8.28903 | 9.93662 | 8.88633 |
| 6.11134 | 5.43339 | 9.56345 | 5.74677 | 6.45726 | 9.8596 | 9.23968 | 5.89602 | 7.43733 | 8.05441 |
| 6.07547 | 5.69045 | 6.67957 | 9.81997 | 9.18793 | 8.37938 | 7.93922 | 8.69046 | 9.55115 | 6.03941 |
| 7.91549 | 8.96779 | 6.30639 | 5.58669 | 9.4096 | 8.4019 | 7.34804 | 8.62317 | 7.18481 | 7.02732 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 8.06379 | 8.24225 | 6.75746 | 9.62221 | 7.84568 | 7.45376 | 5.34074 | 6.12272 | 5.98859 | 5.00399 |
| 7.84529 | 8.52141 | 8.80603 | 7.27211 | 6.58523 | 6.54437 | 6.46756 | 6.22431 | 5.79068 | 6.99358 |
| 6.45022 | 7.44071 | 7.13344 | 6.08751 | 8.90721 | 5.83905 | 7.00844 | 6.18728 | 8.2809 | 8.33084 |
| 8.52234 | 6.98186 | 9.83986 | 7.46406 | 6.08123 | 8.96479 | 9.59466 | 8.76763 | 9.35811 | 7.36208 |
| 5.88729 | 6.89956 | 5.58168 | 6.9496 | 9.26844 | 9.2954 | 5.26689 | 5.00364 | 9.74425 | 9.12353 |
| 5.77397 | 9.0892 | 8.8798 | 8.21308 | 9.85811 | 5.23356 | 8.7956 | 7.17591 | 9.33207 | 8.2156 |
| 5.69758 | 9.89164 | 9.35386 | 8.88636 | 7.32812 | 6.38681 | 9.9186 | 7.68886 | 5.53153 | 7.41705 |
| 9.08985 | 6.41588 | 7.70854 | 9.24809 | 5.74499 | 9.13703 | 7.18093 | 9.963 | 6.58589 | 8.65935 |
| 9.94847 | 6.33626 | 6.05126 | 5.84515 | 5.81283 | 6.49815 | 6.20016 | 7.44447 | 8.21266 | 8.8851 |
| 7.10877 | 5.2211 | 8.27271 | 5.7172 | 8.44278 | 5.49426 | 6.826 | 8.35574 | 7.15198 | 5.04134 |
| 6.7451 | 6.52118 | 8.5777 | 7.07207 | 8.44876 | 7.01084 | 6.52394 | 6.06689 | 8.91099 | 6.2181 |
| 5.60918 | 7.01379 | 7.90532 | 7.68582 | 9.75914 | 5.82628 | 6.52274 | 7.42524 | 5.45111 | 6.97763 |
| 5.93603 | 9.35532 | 7.96868 | 8.10172 | 8.51139 | 6.48598 | 7.02645 | 8.40771 | 7.29297 | 7.1425 |
| 5.9479 | 6.24595 | 6.3582 | 6.35956 | 9.0359 | 6.77507 | 5.47117 | 6.32987 | 7.15242 | 8.19139 |
| 8.49392 | 8.35634 | 8.64854 | 8.74886 | 6.90622 | 5.44751 | 7.06064 | 5.26536 | 5.91695 | 9.73825 |
| 9.0644 | 5.97243 | 9.50727 | 8.08037 | 8.4277 | 6.43048 | 9.13293 | 5.75442 | 6.0637 | 7.92024 |
| 9.17538 | 7.7193 | 7.7696 | 9.60945 | 9.48412 | 7.72512 | 8.02189 | 9.31978 | 6.69851 | 6.98321 |
| 7.26528 | 9.90616 | 5.2074 | 5.73383 | 8.96302 | 5.51179 | 9.9519 | 5.31713 | 6.59807 | 6.25088 |
| 9.89833 | 9.70411 | 6.02907 | 6.56174 | 5.80383 | 5.76764 | 8.04739 | 9.70067 | 6.24077 | 6.38908 |
| 6.07587 | 9.48139 | 7.22251 | 7.48862 | 9.28034 | 8.53885 | 9.82253 | 5.00517 | 7.68063 | 5.04631 |
| 7.48619 | 6.67631 | 8.52172 | 8.45061 | 7.29266 | 9.69726 | 6.91933 | 8.20324 | 7.24522 | 8.52147 |
| 9.41638 | 6.76598 | 5.67395 | 5.11093 | 5.56395 | 6.71959 | 8.03859 | 6.72585 | 7.71852 | 6.0629 |
| 5.03674 | 7.97037 | 8.47232 | 8.68307 | 5.32326 | 6.87318 | 5.51448 | 5.98817 | 6.55812 | 8.39528 |
| 6.17799 | 5.50626 | 6.83114 | 5.39618 | 6.46491 | 5.90433 | 8.43892 | 7.13247 | 9.12011 | 6.48164 |
| 8.73003 | 8.24729 | 6.55087 | 8.86766 | 6.88535 | 7.25075 | 9.8524 | 6.44582 | 5.80534 | 8.23346 |
| 6.07742 | 9.83916 | 8.36661 | 5.69918 | 7.70954 | 5.83577 | 7.51845 | 8.33377 | 9.22778 | 9.99889 |
| 6.13614 | 9.85828 | 5.34886 | 7.74584 | 7.00925 | 8.65152 | 7.2892 | 5.44521 | 9.83676 | 8.69858 |
| 6.99859 | 7.06494 | 5.21203 | 5.98081 | 5.99386 | 8.39643 | 7.58576 | 6.46653 | 6.00821 | 8.00733 |
| 6.00444 | 5.61538 | 9.96913 | 7.2796 | 9.8521 | 9.39541 | 8.95235 | 8.94116 | 5.94177 | 6.94007 |
| 8.79535 | 5.19535 | 8.30057 | 9.69229 | 7.7574 | 7.23484 | 5.5718 | 5.51957 | 5.18564 | 7.06545 |
| 8.4928 | 8.593 | 8.66926 | 8.98707 | 8.25488 | 9.19378 | 6.20976 | 5.54518 | 6.39157 | 5.7834 |
| 6.14125 | 6.84861 | 5.95863 | 6.53861 | 8.98047 | 7.56509 | 6.75978 | 9.15693 | 7.75378 | 8.9516 |
| 5.89027 | 8.47176 | 5.69369 | 6.96692 | 7.70542 | 6.92462 | 6.33232 | 5.00285 | 7.14195 | 8.84821 |
| 7.40216 | 5.35465 | 8.01998 | 9.8892 | 6.41571 | 8.75031 | 9.48606 | 9.06446 | 8.4417 | 8.79506 |
| 8.65471 | 7.53784 | 7.83349 | 9.24779 | 8.98193 | 6.70062 | 8.34643 | 7.31231 | 8.06331 | 8.35888 |
| **7.6375795** | **7.619553** | **7.7650743** | **7.5877174** | **7.7445401** | **7.5558432** | **7.5032576** | **7.2032412** | **7.622842** | **7.5631899** |
| **5.03674** | **5.08714** | **5.0599** | **5.11005** | **5.29669** | **5.0729** | **5.01158** | **5.00285** | **5.0672** | **5.00043** |
| **9.97589** | **9.98707** | **9.98821** | **9.8892** | **9.97144** | **9.97324** | **9.98552** | **9.963** | **9.93662** | **9.99889** |
| **7.81614** | **7.74772** | **7.974835** | **7.691235** | **7.727725** | **7.479845** | **7.45182** | **7.17003** | **7.56454** | **7.69498** |
| **7.81614** | **7.74772** | **7.974835** | **7.68347** | **7.727725** | **7.479845** | **7.45182** | **7.14831** | **7.524105** | **7.69498** |
| **4.9871074** | **5.0380114** | **5.010499** | **5.0611505** | **5.2496569** | **5.023629** | **4.9616958** | **4.9528785** | **5.017872** | **4.9504343** |
| **7.56489** | **8.69407** | **8.80921** | **-1.1908** | **7.11544** | **7.29724** | **8.53752** | **6.263** | **3.59862** | **9.88789** |
| **5.275159** | **5.239106** | **5.5301486** | **5.1754348** | **5.4890802** | **5.1116864** | **5.0065152** | **4.4064824** | **5.245684** | **5.1263798** |
| **5.63228** | **5.49544** | **5.94967** | **5.36694** | **5.45545** | **4.95969** | **4.90364** | **4.29662** | **5.04821** | **5.38996** |
| **5.63228** | **5.49544** | **5.94967** | **5.38247** | **5.45545** | **4.95969** | **4.90364** | **4.34006** | **5.12908** | **5.38996** |
| **10.0256489** | **10.0369407** | **10.0380921** | **9.938092** | **10.0211544** | **10.0229724** | **10.0353752** | **10.01263** | **9.9859862** | **10.0488789** |
| **8.71074** | **13.80114** | **11.0499** | **16.11505** | **34.96569** | **12.3629** | **6.16958** | **5.28785** | **11.7872** | **5.04343** |
| **10.275159** | **10.239106** | **10.5301486** | **10.1754348** | **10.4890802** | **10.1116864** | **10.0065152** | **9.4064824** | **10.245684** | **10.1263798** |
| **10.63228** | **10.49544** | **10.94967** | **10.36694** | **10.45545** | **9.95969** | **9.90364** | **9.29662** | **10.04821** | **10.38996** |
| **10.63228** | **10.49544** | **10.94967** | **10.38247** | **10.45545** | **9.95969** | **9.90364** | **9.34006** | **10.12908** | **10.38996** |
| **4.85023245** | **4.902526362** | **4.874262748** | **4.926297266** | **5.119950755** | **4.887751257** | **4.824126996** | **4.815068944** | **4.881837064** | **4.812558006** |

| 5.035483252 | 5.085896014 | 5.058649117 | 5.108811815 | 5.295499074 | 5.071652409 | 5.010316882 | 5.001584671 | 5.065950965 | 4.999164058 |
|---|---|---|---|---|---|---|---|---|---|
| 9.977149946 | 9.988332776 | 9.989473065 | 9.890437995 | 9.972698819 | 9.974499275 | 9.986782384 | 9.964256682 | 9.937870002 | 10.00015577 |
| 10.16287216 | 10.17447227 | 10.17565511 | 10.07292455 | 10.15825494 | 10.16012258 | 10.17286403 | 10.14949778 | 10.12212648 | 10.18673644 |

A Simulation Study on A Uniform Ditribution Over the Interval (5,10) (continued)

| Sample 61 | Sample 62 | Sample 63 | Sample 64 | Sample 65 | Sample 66 | Sample 67 | Sample 68 | Sample 69 | Sample 70 |
|---|---|---|---|---|---|---|---|---|---|
| 8.33386 | 8.68324 | 6.06569 | 5.71666 | 9.47765 | 9.64388 | 7.85257 | 8.53535 | 6.9447 | 7.51992 |
| 5.22478 | 6.66672 | 9.24647 | 8.52855 | 7.42982 | 5.91314 | 9.79971 | 6.09779 | 9.84141 | 9.88765 |
| 7.48819 | 5.68176 | 6.86125 | 6.59853 | 7.1176 | 8.90473 | 9.98461 | 8.18308 | 6.11857 | 8.85597 |
| 5.5882 | 7.30471 | 6.48496 | 6.38709 | 8.08738 | 7.4811 | 6.21575 | 8.14733 | 8.65565 | 5.94725 |
| 5.96085 | 7.61 | 7.11843 | 9.27331 | 5.5232 | 6.13069 | 9.88163 | 5.6077 | 9.21344 | 6.15824 |
| 8.56892 | 8.28776 | 6.39237 | 8.06907 | 5.24572 | 6.37339 | 8.76857 | 8.04366 | 8.47271 | 5.91623 |
| 8.97896 | 5.08579 | 5.9067 | 6.5079 | 7.25708 | 6.73493 | 5.04228 | 8.13771 | 5.64076 | 5.0382 |
| 8.63581 | 7.31938 | 7.69707 | 5.39935 | 8.38331 | 8.88774 | 9.96271 | 5.64265 | 5.75171 | 9.21659 |
| 8.41999 | 8.35568 | 8.50346 | 8.05188 | 5.6169 | 5.58187 | 8.41413 | 8.78208 | 9.89354 | 9.00375 |
| 9.78084 | 5.67967 | 5.90973 | 6.18974 | 5.29252 | 6.17131 | 8.56936 | 8.25032 | 8.54631 | 8.04344 |
| 7.66588 | 8.25381 | 7.05925 | 5.09671 | 5.25951 | 7.08656 | 5.81537 | 6.7704 | 9.90095 | 8.30653 |
| 6.92399 | 6.8226 | 8.71176 | 9.89 | 8.64355 | 8.75183 | 9.91843 | 6.24668 | 8.8615 | 8.68202 |
| 9.69364 | 6.14229 | 6.24036 | 7.22335 | 9.51305 | 8.18923 | 8.28014 | 6.94117 | 8.95644 | 9.05494 |
| 8.07553 | 8.2379 | 6.89813 | 6.1323 | 5.20797 | 5.4124 | 8.24999 | 6.88675 | 5.75946 | 6.48923 |
| 7.13678 | 7.19783 | 7.17464 | 6.53436 | 7.77828 | 8.99647 | 9.93548 | 5.47309 | 9.73718 | 7.18899 |
| 5.46275 | 6.68039 | 9.61244 | 9.95482 | 6.4129 | 7.81069 | 7.59375 | 8.57916 | 5.68632 | 7.90829 |
| 6.66038 | 9.71753 | 8.51766 | 8.26063 | 6.53211 | 7.87249 | 9.16573 | 6.43857 | 7.87597 | 7.84278 |
| 9.62912 | 7.73406 | 9.11933 | 8.01549 | 7.97769 | 7.60608 | 5.79438 | 6.26158 | 9.68509 | 7.04703 |
| 8.83282 | 9.94711 | 8.43322 | 7.78444 | 6.06722 | 7.6925 | 9.85857 | 9.88778 | 9.53893 | 5.43782 |
| 7.03567 | 7.52122 | 8.1134 | 7.92752 | 5.06866 | 9.39389 | 6.54179 | 8.64031 | 7.60922 | 5.00381 |
| 6.42294 | 5.56357 | 9.88218 | 5.26424 | 5.97506 | 9.10147 | 7.95108 | 7.06334 | 8.93199 | 6.85971 |
| 5.98707 | 8.87558 | 5.85202 | 9.65681 | 6.80356 | 6.43161 | 8.64349 | 9.90858 | 5.11364 | 8.55038 |
| 5.70708 | 9.87361 | 5.3156 | 9.31189 | 8.02122 | 6.86439 | 7.59885 | 8.81479 | 6.84802 | 7.67056 |
| 7.04436 | 7.07852 | 6.29023 | 6.4295 | 8.1344 | 7.75136 | 8.06189 | 6.2419 | 6.03001 | 7.14341 |
| 8.02537 | 8.66816 | 6.84858 | 8.40387 | 7.65541 | 7.20096 | 6.42981 | 7.09314 | 6.9006 | 6.04064 |
| 8.33408 | 9.05791 | 7.1658 | 9.71832 | 5.9763 | 7.16651 | 9.71811 | 6.69745 | 8.735 | 7.49907 |
| 9.42628 | 8.03253 | 9.34731 | 8.91699 | 5.66612 | 7.47388 | 9.6291 | 8.63777 | 5.11638 | 8.67552 |
| 9.00173 | 8.99835 | 8.32397 | 5.98463 | 5.33446 | 5.86943 | 9.62623 | 9.87488 | 7.67189 | 8.22861 |
| 9.05446 | 6.00548 | 8.77921 | 6.77116 | 5.99397 | 9.22114 | 5.73214 | 7.75917 | 8.59905 | 9.7921 |
| 6.69387 | 9.41124 | 6.02981 | 7.00684 | 6.0964 | 8.86051 | 7.0662 | 9.13609 | 8.35805 | 5.10605 |
| 7.67799 | 9.72483 | 9.95558 | 8.23076 | 6.76612 | 5.81739 | 9.38686 | 6.73117 | 5.72705 | 5.02207 |
| 6.16507 | 6.0107 | 6.70852 | 7.44478 | 6.21869 | 6.8646 | 5.21042 | 8.92047 | 8.23157 | 9.92693 |
| 6.58252 | 7.89609 | 5.5003 | 8.53104 | 5.69627 | 8.77941 | 7.47998 | 8.73833 | 5.95011 | 9.61862 |
| 5.81891 | 8.85887 | 9.18572 | 8.81609 | 6.10179 | 5.06915 | 8.14501 | 6.62071 | 9.63842 | 7.77983 |
| 6.65354 | 5.58709 | 8.74049 | 7.1361 | 7.39563 | 9.53942 | 6.69487 | 8.76193 | 8.53949 | 6.5275 |
| 8.76265 | 9.31455 | 6.54088 | 7.28148 | 7.12965 | 7.73246 | 8.48712 | 5.51892 | 5.79084 | 6.75708 |
| 5.33782 | 8.09744 | 6.18606 | 5.98701 | 5.07749 | 6.28199 | 7.2714 | 6.32978 | 8.89635 | 5.996 |
| 6.18056 | 6.14572 | 5.53232 | 8.04446 | 9.80377 | 6.44218 | 8.50149 | 6.16586 | 5.3252 | 6.64179 |
| 5.24491 | 8.81609 | 8.39977 | 9.23049 | 6.00862 | 5.34227 | 7.52978 | 9.9794 | 9.12934 | 9.57183 |
| 8.12176 | 9.36103 | 7.62953 | 7.55252 | 7.50491 | 5.46081 | 5.83626 | 7.39493 | 6.97651 | 6.31754 |
| 8.46138 | 5.54397 | 7.60296 | 6.51692 | 8.83076 | 6.72617 | 5.41345 | 5.35451 | 7.37735 | 9.29448 |
| 7.73663 | 8.01723 | 9.6759 | 7.55959 | 5.89533 | 8.91035 | 8.85853 | 8.22519 | 9.72636 | 6.76011 |
| 7.691 | 7.16922 | 9.5918 | 6.82171 | 9.23448 | 5.95217 | 5.84331 | 5.54358 | 7.73501 | 7.78302 |
| 9.6719 | 9.63236 | 6.66733 | 5.16886 | 8.06586 | 9.43375 | 8.80321 | 9.69027 | 5.44459 | 8.32776 |
| 5.95845 | 8.62762 | 8.8266 | 7.10326 | 6.40169 | 9.85486 | 9.02197 | 5.81885 | 7.15705 | 9.67611 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9.6524 | 7.98828 | 5.33652 | 8.88738 | 6.48217 | 8.15836 | 7.70143 | 9.91359 | 6.43033 | 5.59025 |
| 8.57258 | 9.67486 | 5.3964 | 7.99901 | 9.44993 | 6.7269 | 5.66166 | 8.8892 | 5.9972 | 7.22957 |
| 6.71769 | 7.51228 | 8.44983 | 8.91037 | 6.1252 | 9.2289 | 6.59422 | 8.22895 | 7.44405 | 5.30495 |
| 7.10466 | 9.44375 | 9.23458 | 5.7317 | 6.08369 | 8.10902 | 5.56866 | 9.85803 | 8.35293 | 8.20143 |
| 7.37815 | 7.97606 | 6.45987 | 9.7838 | 6.94581 | 5.47738 | 9.60638 | 5.24008 | 6.69014 | 8.3159 |
| 6.89403 | 9.90241 | 9.37102 | 5.91808 | 9.29558 | 7.23408 | 8.59309 | 9.45139 | 8.45893 | 8.27796 |
| 8.07724 | 5.11798 | 6.25738 | 8.99032 | 9.18478 | 9.72427 | 8.68152 | 7.43384 | 9.52185 | 5.16785 |
| 9.26927 | 5.80991 | 6.73841 | 7.21946 | 5.07955 | 9.26349 | 6.64582 | 7.55995 | 6.61926 | 5.80286 |
| 7.87828 | 5.86586 | 6.70286 | 9.79774 | 9.65022 | 7.41293 | 5.0511 | 6.71409 | 5.60402 | 7.60797 |
| 9.08609 | 5.12224 | 7.77928 | 8.84423 | 7.32385 | 5.63107 | 5.40632 | 9.53479 | 6.0485 | 8.9394 |
| 6.45729 | 8.85233 | 9.25147 | 7.11062 | 5.39416 | 6.61645 | 5.52122 | 7.56912 | 5.92528 | 5.96898 |
| 9.82111 | 8.33257 | 8.00819 | 8.30246 | 9.57709 | 8.45468 | 5.06487 | 8.60241 | 6.35751 | 7.7519 |
| 5.10976 | 7.49392 | 9.20066 | 7.00983 | 8.68987 | 6.56298 | 7.7176 | 7.06828 | 8.23075 | 6.63957 |
| 5.56465 | 8.90742 | 5.56905 | 7.77406 | 8.05317 | 9.82249 | 6.45705 | 8.01073 | 9.04162 | 7.23699 |
| 9.68031 | 7.0323 | 7.74441 | 6.99614 | 7.24063 | 9.27084 | 5.83705 | 9.13224 | 8.9959 | 7.68466 |
| 9.09526 | 9.29029 | 7.70087 | 8.3534 | 5.62464 | 5.09632 | 8.94895 | 5.9616 | 9.68823 | 6.34422 |
| 6.06885 | 7.20337 | 7.60429 | 7.75066 | 5.13508 | 9.11684 | 8.83786 | 5.5959 | 8.85802 | 9.76222 |
| 5.6508 | 7.47264 | 6.49127 | 9.87601 | 9.02235 | 9.26011 | 7.84568 | 8.04311 | 6.4105 | 9.43895 |
| 8.7526 | 8.41672 | 5.86018 | 5.39356 | 6.74129 | 6.42119 | 8.73636 | 7.9601 | 6.46076 | 8.89411 |
| 6.03644 | 5.51168 | 9.45856 | 6.21985 | 5.39194 | 7.28389 | 5.43208 | 6.13526 | 5.60217 | 9.9389 |
| 7.14275 | 8.02242 | 6.92747 | 8.18737 | 6.02965 | 6.11066 | 7.47058 | 8.68924 | 6.10157 | 9.09118 |
| 6.62505 | 5.80263 | 7.83477 | 5.88136 | 5.77446 | 6.97625 | 6.49447 | 5.66641 | 8.75575 | 8.08966 |
| 7.68236 | 7.55089 | 8.41003 | 8.4743 | 7.75783 | 9.69339 | 8.2436 | 7.72624 | 6.15137 | 7.6 |
| 9.45172 | 7.32735 | 7.37356 | 6.70466 | 8.93945 | 7.59987 | 8.35586 | 6.76774 | 6.02844 | 8.19393 |
| 6.80846 | 5.63651 | 9.36106 | 7.67725 | 9.67556 | 5.68883 | 5.15961 | 8.96271 | 6.7943 | 9.72937 |
| 6.94879 | 6.85435 | 8.45135 | 8.32445 | 6.15589 | 7.16063 | 6.13695 | 7.86882 | 9.95457 | 6.36688 |
| 8.26429 | 9.78912 | 8.92117 | 7.39889 | 6.80224 | 8.74128 | 9.40541 | 5.02507 | 6.51274 | 5.54716 |
| 7.04287 | 6.50473 | 8.63012 | 7.90356 | 8.45161 | 7.76939 | 6.76933 | 6.48022 | 5.28502 | 8.65768 |
| 7.39116 | 9.08849 | 9.43567 | 8.86959 | 9.91994 | 7.66516 | 7.47777 | 9.54715 | 5.75461 | 5.72837 |
| 9.35261 | 7.51313 | 8.9968 | 6.17384 | 8.62934 | 7.00489 | 9.77151 | 7.08121 | 5.0327 | 7.58114 |
| 8.3701 | 7.01248 | 8.26069 | 8.77181 | 5.60648 | 6.16315 | 9.77179 | 9.59441 | 5.5967 | 6.07523 |
| 5.22734 | 8.57884 | 7.23122 | 7.42776 | 6.8791 | 6.07049 | 7.39752 | 8.22299 | 9.83072 | 8.35479 |
| 9.88564 | 5.24448 | 8.49086 | 9.50934 | 6.52388 | 8.48588 | 8.50987 | 6.42765 | 8.33584 | 7.70413 |
| 8.82171 | 6.27211 | 7.36852 | 9.26275 | 7.70492 | 8.16528 | 8.53653 | 6.5852 | 9.39095 | 6.74791 |
| 7.4494 | 5.56244 | 7.28072 | 9.14924 | 8.77848 | 5.95936 | 7.40984 | 8.51579 | 7.09682 | 8.46664 |
| 7.54878 | 8.99541 | 7.26423 | 5.75228 | 5.502 | 8.62439 | 8.9575 | 6.86228 | 6.76772 | 9.48803 |
| 5.40644 | 8.73727 | 6.89228 | 6.90719 | 6.31984 | 7.31535 | 8.33738 | 7.66226 | 7.72646 | 7.8487 |
| 5.09355 | 5.16451 | 5.73235 | 9.22466 | 7.76055 | 7.44975 | 9.55632 | 5.57597 | 9.28418 | 5.86881 |
| 7.48512 | 9.85053 | 8.05566 | 9.59532 | 8.48906 | 9.73986 | 7.39477 | 8.89912 | 8.1804 | 9.76484 |
| 6.95781 | 9.22177 | 9.34607 | 6.85383 | 6.28402 | 9.03032 | 5.56995 | 6.90687 | 5.06927 | 5.71306 |
| 8.42643 | 5.16787 | 5.51558 | 5.72018 | 5.67606 | 6.7517 | 6.76827 | 9.87248 | 7.63406 | 5.3556 |
| 7.56975 | 9.78318 | 8.04863 | 9.59108 | 9.70017 | 7.41699 | 5.6624 | 9.01987 | 9.4891 | 7.51072 |
| 7.71975 | 9.21024 | 9.78256 | 5.12396 | 5.59603 | 8.501 | 5.03121 | 7.93347 | 8.5607 | 8.38311 |
| 8.29868 | 6.57621 | 7.73692 | 9.94762 | 9.98483 | 8.57225 | 8.96507 | 9.5054 | 8.07876 | 9.58421 |
| 6.13798 | 7.70321 | 8.81989 | 7.52177 | 6.64854 | 8.88791 | 9.69224 | 6.75112 | 8.19998 | 7.53558 |
| 8.9742 | 9.79037 | 9.33454 | 6.93985 | 9.50659 | 9.18756 | 8.78541 | 5.00258 | 7.04669 | 5.47221 |
| 7.82483 | 7.80348 | 7.25222 | 9.15928 | 6.09933 | 5.63777 | 9.06008 | 9.3655 | 6.91488 | 5.51542 |
| 5.97426 | 6.62957 | 9.47866 | 8.8637 | 6.24502 | 8.3928 | 7.21228 | 6.65438 | 5.48703 | 7.40783 |
| 7.50132 | 8.98723 | 6.62637 | 6.8612 | 8.44655 | 5.4352 | 6.83272 | 7.53405 | 8.19802 | 8.50561 |
| 8.73236 | 6.57317 | 7.14614 | 8.86055 | 9.10463 | 7.65611 | 9.46024 | 7.78907 | 6.04717 | 9.76321 |
| 5.59234 | 7.2335 | 7.93035 | 9.76666 | 6.554 | 9.39217 | 5.09808 | 8.90024 | 7.67306 | 6.23286 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6.98817 | 6.63232 | 5.9989 | 6.58405 | 5.91854 | 5.60315 | 9.11419 | 7.60936 | 7.77501 | 9.83863 |
| 5.02637 | 6.44252 | 6.80486 | 7.21482 | 5.11322 | 6.00649 | 5.70567 | 7.35227 | 7.35518 | 6.06713 |
| 9.84123 | 7.0811 | 7.99674 | 7.61441 | 7.64477 | 6.36329 | 9.84873 | 8.20754 | 5.66138 | 7.11614 |
| 8.2317 | 7.89465 | 8.17666 | 8.26099 | 6.81355 | 7.71657 | 5.32406 | 8.2478 | 7.6208 | 8.39845 |
| **7.5052207** | **7.6446216** | **7.6617351** | **7.6937927** | **7.1320721** | **7.5259049** | **7.6778164** | **7.6428931** | **7.4876963** | **7.5551826** |
| **5.02637** | **5.08579** | **5.3156** | **5.09671** | **5.06866** | **5.06915** | **5.03121** | **5.00258** | **5.0327** | **5.00381** |
| **9.88564** | **9.94711** | **9.95558** | **9.95482** | **9.98483** | **9.85486** | **9.98461** | **9.9794** | **9.95457** | **9.9389** |
| **7.52505** | **7.656605** | **7.69897** | **7.713955** | **6.8029** | **7.47749** | **7.849125** | **7.742705** | **7.61501** | **7.639265** |
| **7.494755** | **7.580445** | **7.69897** | **7.713955** | **6.78418** | **7.461815** | **7.89838** | **7.69425** | **7.62164** | **7.639265** |
| **4.9766337** | **5.0366479** | **5.268756** | **5.0476771** | **5.0193466** | **5.0198415** | **4.9815221** | **4.9526058** | **4.983027** | **4.9538481** |
| **-1.55036** | **4.65811** | **5.51358** | **5.43682** | **8.46783** | **-4.65914** | **8.44561** | **7.9194** | **5.41157** | **3.8289** |
| **5.0104414** | **5.2892432** | **5.3234702** | **5.3875854** | **4.2641442** | **5.0518098** | **5.3556328** | **5.2857862** | **4.9753926** | **5.1103652** |
| **4.98951** | **5.16089** | **5.39794** | **5.42791** | **3.56836** | **4.92363** | **5.79676** | **5.3885** | **5.24328** | **5.27853** |
| **5.0501** | **5.31321** | **5.39794** | **5.42791** | **3.6058** | **4.95498** | **5.69825** | **5.48541** | **5.23002** | **5.27853** |
| **9.9344964** | **9.9965811** | **10.0051358** | **10.0043682** | **10.0346783** | **9.9034086** | **10.0344561** | **10.029194** | **10.0041157** | **9.988289** |
| **7.66337** | **13.66479** | **36.8756** | **14.76771** | **11.93466** | **11.98415** | **8.15221** | **5.26058** | **8.3027** | **5.38481** |
| **10.0104414** | **10.2892432** | **10.3234702** | **10.3875854** | **9.2641442** | **10.0518098** | **10.3556328** | **10.2857862** | **9.9753926** | **10.1103652** |
| **9.98951** | **10.16089** | **10.39794** | **10.42791** | **8.56836** | **9.92363** | **10.79676** | **10.3885** | **10.24328** | **10.27853** |
| **10.0501** | **10.31321** | **10.39794** | **10.42791** | **8.6058** | **9.95498** | **10.69825** | **10.48541** | **10.23002** | **10.27853** |
| **4.83947277** | **4.901125632** | **5.139571348** | **4.91245598** | **4.883351928** | **4.883860341** | **4.844494645** | **4.814788798** | **4.846040636** | **4.816065018** |
| **5.025110627** | **5.084545672** | **5.314413863** | **5.095468437** | **5.067411335** | **5.067901459** | **5.029951852** | **5.001314603** | **5.031442229** | **5.002544914** |
| **9.886877093** | **9.948362658** | **9.956834803** | **9.95607461** | **9.986092209** | **9.8560893** | **9.985872154** | **9.980660834** | **9.955824547** | **9.940150579** |
| **10.06923077** | **10.13301067** | **10.14179895** | **10.1410104** | **10.1721481** | **10.03729414** | **10.17191983** | **10.16651405** | **10.140751** | **10.12449216** |

A Simulation Study on A Uniform Ditribution Over the Interval (5,10) (continued)

| **Sample 71** | **Sample 72** | **Sample 73** | **Sample 74** | **Sample 75** | **Sample 76** | **Sample 77** | **Sample 78** | **Sample 79** | **Sample 80** |
|---|---|---|---|---|---|---|---|---|---|
| 5.29534 | 5.4051 | 7.56133 | 9.96908 | 7.53051 | 8.40439 | 9.44397 | 8.96029 | 7.45155 | 5.21829 |
| 8.13335 | 8.64351 | 6.27441 | 9.64264 | 5.01363 | 9.65657 | 8.45304 | 7.76633 | 5.66789 | 8.14464 |
| 8.40473 | 7.07537 | 6.75974 | 9.26804 | 9.55263 | 6.24114 | 9.85276 | 6.6641 | 5.73502 | 7.88671 |
| 6.42903 | 9.7191 | 8.46917 | 5.33117 | 8.09644 | 7.67821 | 7.15306 | 9.30058 | 9.63164 | 8.03104 |
| 7.35789 | 7.35105 | 6.01939 | 9.11603 | 9.53862 | 6.39918 | 9.87777 | 6.37648 | 9.99317 | 8.3246 |
| 9.07897 | 7.43879 | 6.43919 | 8.78856 | 7.98232 | 6.28716 | 5.43209 | 8.01208 | 5.36995 | 6.85959 |
| 5.19804 | 7.19301 | 6.06461 | 9.7701 | 8.14539 | 7.11155 | 7.20384 | 7.92299 | 9.99581 | 7.60249 |
| 9.3609 | 9.69603 | 9.43531 | 9.99537 | 8.61534 | 5.23147 | 7.56725 | 7.12656 | 7.62644 | 8.53846 |
| 7.32324 | 8.08261 | 8.69594 | 5.5765 | 6.54041 | 5.59485 | 7.65413 | 6.99637 | 6.86903 | 5.08915 |
| 6.49733 | 9.70384 | 5.80952 | 9.18232 | 9.37328 | 6.36741 | 6.33203 | 6.42279 | 8.59711 | 6.35949 |
| 8.2815 | 8.06264 | 8.25435 | 7.31431 | 6.05274 | 8.3838 | 7.62851 | 6.35988 | 6.27148 | 8.37625 |
| 7.08181 | 6.73147 | 7.39243 | 5.56838 | 9.20858 | 5.42332 | 9.84077 | 6.5585 | 8.82488 | 5.43078 |
| 8.22865 | 9.55817 | 8.86825 | 6.11046 | 8.70642 | 5.46827 | 8.27236 | 7.72211 | 7.35678 | 7.11766 |
| 6.86189 | 9.02345 | 6.80547 | 7.11598 | 9.04168 | 9.10847 | 7.49522 | 5.0822 | 6.85479 | 5.02253 |
| 9.20473 | 5.46532 | 6.4591 | 5.58171 | 8.50471 | 9.07961 | 8.12461 | 9.31261 | 8.39975 | 7.63533 |
| 8.82527 | 8.59435 | 7.22584 | 7.95044 | 8.47582 | 8.88789 | 8.73111 | 7.02911 | 9.67798 | 6.35092 |
| 6.24431 | 6.49082 | 7.59455 | 9.8452 | 5.98017 | 8.59638 | 7.40956 | 5.47912 | 9.96034 | 5.99075 |
| 7.3967 | 8.70318 | 8.04278 | 7.32597 | 5.70607 | 5.76139 | 5.73786 | 9.07153 | 5.551 | 7.04882 |
| 8.45104 | 7.43454 | 5.98673 | 8.97214 | 5.06472 | 5.72077 | 6.36085 | 7.52864 | 5.69736 | 6.36641 |
| 8.29331 | 9.44632 | 5.2041 | 6.91434 | 8.56621 | 5.9415 | 8.58338 | 8.45853 | 8.31169 | 9.32085 |
| 5.69956 | 6.75171 | 7.9774 | 8.9045 | 8.58249 | 6.93127 | 6.92932 | 6.96405 | 8.13372 | 5.41516 |
| 5.64788 | 9.6392 | 9.73921 | 6.1765 | 6.1255 | 6.0984 | 6.74669 | 8.81287 | 7.67933 | 8.0871 |
| 8.76535 | 7.59807 | 7.07306 | 9.5935 | 6.51772 | 9.22505 | 8.75101 | 9.44544 | 5.35319 | 6.24701 |
| 6.17504 | 9.83485 | 9.55313 | 6.68909 | 5.90225 | 8.10396 | 6.06039 | 9.08815 | 5.63077 | 5.62519 |
| 5.46677 | 5.17498 | 8.69409 | 6.84149 | 7.12229 | 5.49817 | 7.52367 | 7.18283 | 9.24113 | 5.15548 |

| 9.30876 | 9.23359 | 6.7705 | 6.87347 | 5.13853 | 9.25815 | 9.84215 | 6.82382 | 6.26363 | 6.6716 |
|---|---|---|---|---|---|---|---|---|---|
| 5.01886 | 9.18277 | 7.43306 | 6.11176 | 5.99072 | 7.22315 | 9.37119 | 8.65214 | 7.63824 | 5.00687 |
| 6.78122 | 8.23928 | 5.29579 | 8.17785 | 6.02131 | 7.74553 | 5.4462 | 6.29907 | 9.74905 | 5.68926 |
| 6.32199 | 8.35536 | 5.22901 | 8.50337 | 5.97678 | 9.52302 | 6.97347 | 6.65162 | 6.2988 | 7.71424 |
| 9.19983 | 9.29061 | 7.81481 | 6.2644 | 7.24424 | 7.08041 | 7.07182 | 6.03148 | 5.29219 | 9.65871 |
| 7.43294 | 6.77657 | 7.64186 | 5.41858 | 8.88235 | 8.45258 | 8.06013 | 5.00188 | 8.14174 | 7.36088 |
| 7.24019 | 6.9096 | 6.07778 | 5.55532 | 9.49193 | 9.3221 | 6.85112 | 9.30964 | 9.79674 | 5.69013 |
| 6.39516 | 9.2279 | 6.75409 | 5.0645 | 7.9859 | 9.95811 | 6.06917 | 5.41132 | 9.07126 | 9.94433 |
| 9.43418 | 6.20271 | 5.08832 | 6.26543 | 7.33277 | 6.90591 | 8.80166 | 7.72543 | 9.21388 | 6.42476 |
| 5.39403 | 8.01287 | 9.03566 | 9.75881 | 5.44664 | 5.04796 | 7.886 | 9.22552 | 6.01976 | 6.36335 |
| 9.49724 | 9.1196 | 7.08968 | 5.16515 | 5.41742 | 6.44899 | 6.27698 | 8.03042 | 8.7927 | 8.15088 |
| 6.68395 | 8.48663 | 7.25289 | 9.67279 | 6.6861 | 9.68156 | 8.70112 | 5.46472 | 8.97166 | 9.53605 |
| 9.48292 | 9.56944 | 8.9656 | 5.20857 | 7.92094 | 5.85746 | 9.97093 | 7.80934 | 8.39553 | 9.02484 |
| 7.69481 | 5.52114 | 9.72543 | 6.95667 | 6.36609 | 8.44411 | 9.18805 | 9.90656 | 5.4816 | 9.78365 |
| 6.97065 | 5.86121 | 7.48428 | 8.96358 | 8.62657 | 5.69585 | 9.66506 | 7.44959 | 9.47504 | 7.52832 |
| 7.84423 | 5.97416 | 6.38899 | 6.01195 | 6.18012 | 6.66692 | 5.72219 | 8.07083 | 8.04304 | 5.65626 |
| 8.67949 | 5.83938 | 8.02349 | 8.15237 | 7.08351 | 7.65652 | 7.21907 | 8.33413 | 7.58703 | 7.63994 |
| 7.59177 | 5.42143 | 6.7227 | 6.29164 | 8.29775 | 5.8229 | 5.28866 | 9.01964 | 7.797 | 7.57027 |
| 5.83353 | 5.66829 | 5.75984 | 7.9705 | 9.27981 | 8.07329 | 7.90288 | 6.90913 | 7.73381 | 8.5249 |
| 7.57259 | 8.71823 | 7.68973 | 5.17854 | 5.48182 | 6.29955 | 9.29068 | 5.53494 | 9.04982 | 8.44965 |
| 8.72939 | 8.84012 | 5.26645 | 8.74519 | 7.58978 | 5.11911 | 6.0014 | 6.88681 | 5.60474 | 8.34064 |
| 7.61519 | 6.71546 | 8.03027 | 7.77736 | 9.46543 | 5.11278 | 8.00496 | 7.18887 | 6.44058 | 7.30406 |
| 6.61552 | 7.09991 | 7.25714 | 6.12316 | 5.79652 | 7.72331 | 9.40073 | 5.45892 | 7.79656 | 9.41226 |
| 7.50569 | 7.62317 | 5.57397 | 9.19012 | 8.3348 | 7.68349 | 9.49536 | 5.07539 | 7.69256 | 6.05531 |
| 7.40309 | 6.92016 | 5.87198 | 5.45002 | 5.2735 | 5.71202 | 9.77996 | 7.40817 | 7.93739 | 6.72863 |
| 7.13899 | 5.14875 | 6.63998 | 7.23377 | 7.90643 | 8.35001 | 7.01171 | 7.63708 | 9.28511 | 9.9608 |
| 7.32827 | 5.68753 | 7.11705 | 5.43795 | 6.82817 | 6.72536 | 6.93648 | 5.97862 | 5.42306 | 5.10638 |
| 8.37098 | 9.23052 | 7.50225 | 9.40986 | 9.7416 | 8.24445 | 5.92922 | 5.37878 | 9.15302 | 9.84264 |
| 6.26015 | 9.42748 | 7.81313 | 5.673 | 6.60734 | 9.9132 | 9.48578 | 5.75398 | 9.69997 | 7.18737 |
| 7.26795 | 7.48105 | 6.27431 | 5.48448 | 6.98519 | 8.55639 | 9.54436 | 7.62911 | 6.27758 | 6.62238 |
| 6.39533 | 9.02117 | 9.54595 | 5.28121 | 9.74012 | 5.34607 | 9.14299 | 7.52073 | 5.95138 | 9.0428 |
| 6.94118 | 5.38779 | 9.53261 | 7.22368 | 9.09579 | 6.1336 | 9.1414 | 7.79254 | 9.20972 | 6.21807 |
| 9.24588 | 6.50671 | 9.95373 | 8.23706 | 6.93321 | 6.28683 | 7.54942 | 8.97603 | 9.89806 | 6.68969 |
| 7.18791 | 6.2994 | 7.84705 | 5.05981 | 9.03845 | 5.07346 | 8.01857 | 7.97768 | 7.84839 | 5.08693 |
| 6.55135 | 7.19112 | 9.36113 | 7.01901 | 7.65375 | 5.23822 | 9.39849 | 9.40422 | 8.45605 | 6.53516 |
| 8.92805 | 6.08762 | 5.79588 | 6.70499 | 6.46709 | 6.80786 | 7.30701 | 8.88747 | 8.72765 | 8.15458 |
| 9.41864 | 5.48922 | 6.24726 | 8.41119 | 6.74134 | 5.82158 | 7.84158 | 5.4823 | 7.58557 | 6.04208 |
| 9.2922 | 8.6476 | 5.40192 | 8.90916 | 6.26551 | 9.62164 | 5.32289 | 9.40668 | 9.9148 | 9.36673 |
| 8.13926 | 5.44262 | 5.20668 | 5.04055 | 5.51972 | 5.19939 | 6.69828 | 7.99052 | 6.84556 | 7.19024 |
| 9.84548 | 9.98231 | 7.16447 | 9.30051 | 5.64217 | 5.85639 | 9.07011 | 9.1436 | 9.50644 | 7.72295 |
| 8.67036 | 8.00156 | 5.29431 | 9.26896 | 5.38636 | 9.80744 | 9.60842 | 8.81366 | 5.98002 | 9.12609 |
| 8.40559 | 6.43515 | 9.5363 | 7.20404 | 8.64601 | 6.07981 | 6.25599 | 9.46481 | 5.16439 | 8.17782 |
| 5.29963 | 6.6301 | 7.56778 | 5.67911 | 7.85268 | 6.98859 | 6.96277 | 6.06743 | 5.9182 | 9.13599 |
| 6.76764 | 7.13432 | 5.93226 | 8.49848 | 5.07038 | 6.54919 | 6.47136 | 6.84704 | 7.86795 | 5.49791 |
| 9.51112 | 5.32433 | 7.59292 | 6.52796 | 5.01114 | 6.23841 | 5.35863 | 9.75385 | 9.88559 | 8.64466 |
| 5.31713 | 8.5887 | 5.52494 | 5.21867 | 6.02918 | 7.02132 | 5.16717 | 7.54588 | 5.51899 | 9.64977 |
| 7.15063 | 9.75176 | 9.62152 | 6.38017 | 5.68669 | 9.83771 | 9.65791 | 9.4539 | 9.27902 | 5.33515 |
| 6.3164 | 6.99577 | 6.83246 | 5.7129 | 7.62097 | 8.81163 | 5.18835 | 9.44224 | 6.30472 | 6.27389 |
| 6.13585 | 5.63179 | 9.86054 | 6.56385 | 9.99129 | 8.48545 | 6.24447 | 5.67577 | 7.77488 | 6.33034 |
| 6.61098 | 8.03654 | 6.97019 | 9.04619 | 6.47781 | 7.72583 | 9.63305 | 8.63675 | 5.79467 | 6.38956 |
| 5.16782 | 5.54582 | 8.91361 | 8.69885 | 7.7997 | 5.67967 | 5.19931 | 9.79648 | 9.81905 | 9.76787 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9.16174 | 8.92778 | 8.74183 | 8.93347 | 9.36532 | 9.8992 | 8.14076 | 7.90319 | 5.38274 | 5.53606 |
| 6.37182 | 6.70585 | 7.40478 | 9.83507 | 7.10131 | 7.91901 | 7.2765 | 9.69637 | 8.21908 | 9.7551 |
| 6.53468 | 5.95207 | 9.07178 | 5.23307 | 7.11999 | 8.66149 | 7.31296 | 8.70332 | 5.88623 | 9.15518 |
| 5.71213 | 5.64929 | 7.97101 | 6.31872 | 5.67335 | 9.56325 | 6.10776 | 8.41779 | 6.14299 | 5.76685 |
| 6.46098 | 7.71468 | 9.0266 | 9.02425 | 7.4055 | 7.71833 | 7.08935 | 9.87207 | 8.7474 | 5.75401 |
| 8.76856 | 9.64445 | 6.92235 | 6.83029 | 9.65275 | 5.57511 | 5.5319 | 7.38721 | 7.30692 | 5.05861 |
| 6.46077 | 9.95203 | 9.81265 | 6.93899 | 8.26572 | 7.0478 | 7.88366 | 6.75284 | 7.42808 | 7.34822 |
| 7.46201 | 5.16277 | 8.00212 | 6.51628 | 7.01669 | 7.30998 | 5.59729 | 6.89631 | 5.26573 | 6.3456 |
| 9.26282 | 9.40311 | 6.9458 | 7.95059 | 6.9822 | 9.04668 | 7.81417 | 7.84466 | 9.63677 | 5.14765 |
| 8.0931 | 6.4848 | 9.70243 | 5.27327 | 5.69362 | 5.33762 | 5.90408 | 6.80198 | 8.58794 | 5.56341 |
| 7.80421 | 6.68389 | 9.01429 | 5.67524 | 6.54805 | 7.21557 | 9.28523 | 9.78314 | 5.91936 | 9.07652 |
| 5.24953 | 5.36996 | 7.28766 | 7.36066 | 6.77175 | 9.23456 | 5.79048 | 8.33375 | 7.59024 | 9.95954 |
| 6.19756 | 8.29288 | 6.70654 | 7.82556 | 7.38983 | 9.21878 | 9.0311 | 5.39392 | 5.21681 | 6.73822 |
| 5.18959 | 6.86035 | 9.25425 | 8.17053 | 6.4326 | 7.98001 | 7.25519 | 8.93437 | 8.11309 | 9.23046 |
| 7.73343 | 6.09152 | 5.17068 | 7.27204 | 5.05283 | 8.0638 | 9.66958 | 8.56582 | 5.91282 | 6.88254 |
| 7.2929 | 5.96746 | 5.21514 | 7.24319 | 6.74777 | 9.21517 | 7.55252 | 7.77992 | 9.99945 | 9.04506 |
| 9.89837 | 7.81718 | 7.4805 | 6.01874 | 7.59569 | 7.20281 | 7.44432 | 5.46889 | 8.58833 | 5.81268 |
| 6.83321 | 5.5267 | 7.69138 | 9.66579 | 5.3794 | 9.10553 | 6.04799 | 7.19692 | 9.03809 | 6.38052 |
| 9.92199 | 9.99422 | 8.23611 | 9.60179 | 6.93213 | 9.81284 | 6.03293 | 9.38214 | 7.37826 | 6.17689 |
| 8.47842 | 7.83244 | 5.77491 | 9.24496 | 7.82089 | 7.04397 | 7.29091 | 8.97133 | 6.52339 | 6.90199 |
| 8.05264 | 8.28855 | 6.24129 | 9.25083 | 7.08711 | 9.53095 | 6.37915 | 6.59197 | 6.66995 | 9.40555 |
| 6.60906 | 5.8014 | 8.29275 | 6.61656 | 6.71756 | 5.52905 | 6.10093 | 9.26536 | 7.02692 | 5.39336 |
| 6.81741 | 7.12191 | 7.66751 | 7.42123 | 6.55887 | 8.11209 | 5.1328 | 5.77956 | 8.31003 | 8.93714 |
| 7.40876 | 8.64889 | 7.81112 | 6.70283 | 6.98624 | 8.79452 | 5.3233 | 5.43018 | 6.09286 | 7.15431 |
| **7.4339031** | **7.4862798** | **7.4113813** | **7.3654428** | **7.2229253** | **7.4025258** | **7.5258677** | **7.6293368** | **7.6223947** | **7.2909781** |
| **5.01886** | **5.14875** | **5.08832** | **5.04055** | **5.01114** | **5.04796** | **5.1328** | **5.00188** | **5.16439** | **5.00687** |
| **9.92199** | **9.99422** | **9.95373** | **9.99537** | **9.99129** | **9.95811** | **9.97093** | **9.90656** | **9.99945** | **9.9608** |
| **7.34308** | **7.392795** | **7.41892** | **7.21386** | **7.0501** | **7.21936** | **7.42694** | **7.72377** | **7.713185** | **7.135985** |
| **7.34308** | **7.392795** | **7.398605** | **7.21386** | **7.0501** | **7.20919** | **7.42694** | **7.72377** | **7.754345** | **7.152515** |
| **4.9690486** | **5.1002375** | **5.0392032** | **4.9909555** | **4.9612514** | **4.9984396** | **5.084128** | **4.9518988** | **5.1160339** | **4.9569387** |
| **2.12099** | **9.41622** | **5.32673** | **9.53237** | **9.12029** | **5.76911** | **7.06393** | **0.56256** | **9.94445** | **6.0408** |
| **4.8678062** | **4.9725596** | **4.8227626** | **4.7308856** | **4.4458506** | **4.8050516** | **5.0517354** | **5.2586736** | **5.2447894** | **4.5819562** |
| **4.68616** | **4.78559** | **4.79721** | **4.42772** | **4.1002** | **4.41838** | **4.85388** | **5.44754** | **5.50869** | **4.30503** |
| **4.68616** | **4.78559** | **4.83784** | **4.42772** | **4.1002** | **4.43872** | **4.85388** | **5.44754** | **5.42637** | **4.27197** |
| **9.9712099** | **10.0441622** | **10.0032673** | **10.0453237** | **10.0412029** | **10.0076911** | **10.0206393** | **9.9556256** | **10.0494445** | **10.010408** |
| **6.90486** | **20.02375** | **13.92032** | **9.09555** | **6.12514** | **9.84396** | **18.4128** | **5.18988** | **21.60339** | **5.69387** |
| **9.8678062** | **9.9725596** | **9.8227626** | **9.7308856** | **9.4458506** | **9.8050516** | **10.0517354** | **10.2586736** | **10.2447894** | **9.5819562** |
| **9.68616** | **9.78559** | **9.79721** | **9.42772** | **9.1002** | **9.41838** | **9.85388** | **10.44754** | **10.50869** | **9.30503** |
| **9.68616** | **9.78559** | **9.83784** | **9.42772** | **9.1002** | **9.43872** | **9.85388** | **10.44754** | **10.42637** | **9.27197** |
| **4.831680562** | **4.96645152** | **4.903750704** | **4.85418562** | **4.823670462** | **4.861874071** | **4.949902157** | **4.814062493** | **4.982679234** | **4.819240006** |
| **5.017598725** | **5.147521615** | **5.087076313** | **5.039294217** | **5.00987677** | **5.046706093** | **5.131567576** | **5.000614426** | **5.163165575** | **5.005605689** |
| **9.923236298** | **9.995484587** | **9.954984334** | **9.996634878** | **9.992553845** | **9.959365444** | **9.97218869** | **9.907802391** | **10.00071591** | **9.962056125** |
| **10.10694672** | **10.18189095** | **10.13987944** | **10.18308417** | **10.17885085** | **10.14442403** | **10.15772577** | **10.0909369** | **10.18731748** | **10.14721511** |

A Simulation Study on A Uniform Ditribution Over the Interval (5,10) (continued)

| **Sample 81** | **Sample 82** | **Sample 83** | **Sample 84** | **Sample 85** | **Sample 86** | **Sample 87** | **Sample 88** | **Sample 89** | **Sample 90** |
|---|---|---|---|---|---|---|---|---|---|
| 9.07633 | 6.22709 | 8.93142 | 5.47879 | 6.10295 | 8.43147 | 7.2103 | 6.31087 | 9.48339 | 7.79791 |
| 7.46731 | 8.72773 | 5.75841 | 9.42928 | 9.83704 | 9.53598 | 8.15276 | 6.07963 | 7.78439 | 8.53862 |
| 9.54953 | 6.3204 | 7.05294 | 5.08947 | 9.129 | 7.80631 | 8.99794 | 6.12574 | 6.73973 | 5.4044 |
| 8.66916 | 6.54669 | 9.65735 | 8.9706 | 8.08936 | 8.84479 | 5.2176 | 8.43857 | 7.93393 | 8.05026 |
| 7.51807 | 8.65697 | 7.78018 | 9.56596 | 9.241 | 6.38432 | 7.57764 | 8.03424 | 8.46759 | 5.00375 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9.96887 | 5.04526 | 9.53446 | 8.64266 | 7.15972 | 7.0115 | 7.83808 | 6.70294 | 9.18522 | 8.87111 |
| 8.38447 | 8.38428 | 8.45902 | 9.86237 | 5.54774 | 5.17332 | 8.92935 | 5.85837 | 7.97042 | 7.83184 |
| 9.38132 | 6.99789 | 9.25827 | 9.4047 | 8.60551 | 9.31576 | 6.95524 | 9.38951 | 6.30501 | 7.14173 |
| 8.36909 | 5.31679 | 8.42918 | 6.30254 | 7.89914 | 8.26666 | 8.75799 | 7.99675 | 9.14121 | 8.11533 |
| 7.77458 | 8.37596 | 5.97245 | 8.10285 | 7.79995 | 9.42587 | 9.51766 | 7.26872 | 9.86295 | 8.04864 |
| 6.90223 | 8.95205 | 9.77229 | 7.80857 | 9.80924 | 6.70765 | 9.91338 | 7.35814 | 5.009 | 6.08199 |
| 5.82569 | 9.4997 | 9.09686 | 8.74921 | 9.60492 | 5.60625 | 5.32293 | 8.13181 | 6.07887 | 7.19997 |
| 7.18163 | 7.20617 | 6.23193 | 8.92224 | 9.94783 | 8.37003 | 6.53386 | 5.96027 | 8.94818 | 5.16562 |
| 8.05876 | 8.4156 | 8.61153 | 6.18517 | 5.20607 | 7.26223 | 8.90202 | 7.8827 | 5.79591 | 6.77074 |
| 5.87638 | 7.28407 | 7.19134 | 6.04779 | 9.52896 | 5.91006 | 9.66275 | 5.54028 | 6.20219 | 7.7689 |
| 9.10323 | 8.84522 | 8.4695 | 9.078 | 8.89641 | 7.40409 | 6.57756 | 7.35032 | 9.74279 | 6.11562 |
| 9.90434 | 9.42639 | 9.9566 | 9.83461 | 9.88311 | 5.71111 | 8.74113 | 5.5964 | 8.56765 | 8.07186 |
| 8.5548 | 9.00009 | 8.08694 | 5.61178 | 8.26934 | 7.72908 | 7.07537 | 6.99856 | 6.9398 | 7.65009 |
| 9.6689 | 9.37422 | 8.89694 | 7.5591 | 7.09802 | 5.69839 | 8.76348 | 6.16627 | 9.72531 | 8.38185 |
| 9.41526 | 7.44896 | 8.10825 | 5.51063 | 9.25145 | 7.51541 | 7.30225 | 9.98795 | 5.50996 | 6.3232 |
| 7.95134 | 7.79711 | 5.10071 | 6.09557 | 7.74172 | 5.94703 | 6.43373 | 6.03625 | 7.4332 | 5.91577 |
| 6.38257 | 6.69303 | 8.5814 | 9.62237 | 5.10002 | 5.14785 | 9.04101 | 8.30514 | 8.19413 | 6.38583 |
| 9.328 | 5.34615 | 9.44272 | 8.90035 | 7.74304 | 5.6909 | 5.44873 | 9.05099 | 9.89202 | 8.88471 |
| 8.63928 | 7.43681 | 8.18744 | 5.89068 | 8.72103 | 5.17332 | 5.76046 | 8.09659 | 5.8363 | 8.34229 |
| 6.36035 | 5.93942 | 6.74264 | 8.29132 | 9.87873 | 5.68508 | 6.05138 | 6.26417 | 6.53717 | 7.18014 |
| 9.1778 | 7.34451 | 8.38875 | 5.70707 | 6.09284 | 8.0057 | 8.72497 | 9.57313 | 8.0811 | 6.88493 |
| 7.84861 | 9.60068 | 6.06075 | 5.63802 | 9.32194 | 5.63218 | 5.61786 | 7.04585 | 5.54464 | 5.2163 |
| 7.42323 | 7.14332 | 6.73482 | 7.12835 | 5.29601 | 9.64634 | 7.94475 | 7.99345 | 5.24456 | 9.67143 |
| 8.38202 | 6.26412 | 9.76778 | 7.3215 | 7.91254 | 6.75369 | 9.53715 | 8.36737 | 8.36967 | 9.402 |
| 8.59521 | 5.1949 | 7.71135 | 5.92932 | 6.72905 | 6.66515 | 7.30941 | 7.41085 | 7.22859 | 5.09414 |
| 9.14654 | 5.70358 | 6.94673 | 7.97583 | 8.30065 | 7.25863 | 8.9871 | 6.10168 | 5.22925 | 9.04202 |
| 6.48628 | 9.7911 | 8.64303 | 9.98503 | 7.96757 | 9.18777 | 7.13643 | 5.74402 | 9.18795 | 6.21718 |
| 9.72725 | 6.04504 | 6.15704 | 6.06796 | 5.79659 | 8.32379 | 5.51952 | 6.67743 | 9.22809 | 6.2912 |
| 9.86748 | 6.26325 | 8.65568 | 8.59173 | 5.00006 | 8.74246 | 8.50563 | 8.06583 | 6.79274 | 9.79693 |
| 7.78651 | 6.64519 | 9.82113 | 5.63412 | 7.50837 | 8.60388 | 8.36815 | 7.63878 | 8.30585 | 9.00874 |
| 5.33484 | 9.06685 | 7.7032 | 7.25081 | 6.83956 | 6.92026 | 6.74168 | 7.2335 | 5.54603 | 9.94135 |
| 5.61297 | 7.24213 | 5.7096 | 8.694 | 7.07634 | 7.93477 | 5.71694 | 8.19622 | 6.66306 | 7.8148 |
| 7.65203 | 8.21584 | 8.1421 | 5.74423 | 9.88209 | 7.33768 | 9.06258 | 9.91354 | 8.76814 | 6.50362 |
| 8.54449 | 9.56977 | 5.7193 | 6.16355 | 6.8599 | 8.43264 | 8.57104 | 6.77622 | 8.88427 | 6.22265 |
| 5.60707 | 9.10991 | 5.31822 | 5.22034 | 9.89144 | 5.24844 | 8.68051 | 8.13552 | 7.51829 | 7.05126 |
| 8.67859 | 6.90821 | 7.81467 | 9.83428 | 5.78034 | 8.35468 | 6.40224 | 5.7264 | 9.55292 | 5.62758 |
| 5.10407 | 7.28666 | 5.55307 | 7.11502 | 9.58049 | 8.44556 | 8.87585 | 7.38827 | 7.81382 | 8.15318 |
| 9.75566 | 7.65528 | 9.63027 | 5.88568 | 6.24805 | 8.20787 | 5.63741 | 8.69578 | 8.71738 | 8.83658 |
| 7.70969 | 9.88787 | 5.97344 | 5.23668 | 8.66446 | 5.19056 | 9.77257 | 9.38541 | 7.02226 | 6.37527 |
| 8.00113 | 8.60451 | 7.56841 | 8.46417 | 6.78324 | 8.15205 | 6.46249 | 9.45046 | 5.2789 | 6.67137 |
| 8.54376 | 7.26556 | 9.45059 | 7.24374 | 6.10959 | 8.01725 | 6.82612 | 6.00114 | 9.018 | 5.23073 |
| 8.57918 | 8.50753 | 6.11825 | 5.04661 | 8.89777 | 9.38925 | 8.19598 | 7.53332 | 6.68263 | 8.92021 |
| 9.07103 | 7.97208 | 5.77974 | 6.20954 | 9.06049 | 5.37434 | 7.77542 | 7.54264 | 6.76916 | 8.79001 |
| 9.26989 | 7.73261 | 7.14549 | 6.76127 | 6.52816 | 8.37528 | 6.8716 | 5.30078 | 8.10329 | 5.84675 |
| 5.56392 | 8.52953 | 8.75197 | 7.62647 | 9.63035 | 7.71954 | 5.03854 | 6.76783 | 6.69635 | 9.04063 |
| 7.18519 | 8.48438 | 5.79384 | 9.12714 | 8.79869 | 8.59304 | 5.48052 | 9.83521 | 9.55592 | 5.26622 |
| 8.93471 | 9.51167 | 9.86274 | 7.45957 | 7.4274 | 8.81161 | 5.75054 | 9.13476 | 7.4893 | 7.40221 |
| 7.23625 | 9.13255 | 8.91991 | 9.03222 | 6.7582 | 7.68769 | 8.8713 | 5.32851 | 6.29813 | 6.11422 |
| 7.30418 | 9.70645 | 7.00452 | 5.11274 | 9.93808 | 6.3142 | 7.21214 | 6.25381 | 8.79968 | 8.78798 |
| 5.70224 | 7.12702 | 5.70682 | 9.64889 | 7.44847 | 6.63399 | 6.27472 | 6.68976 | 9.02834 | 7.3203 |
| 7.8031 | 9.26786 | 9.00692 | 7.05711 | 5.37352 | 5.44855 | 5.96876 | 6.8745 | 8.90409 | 9.49288 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 8.22638 | 9.99282 | 5.99494 | 7.98889 | 5.80891 | 9.84553 | 9.91278 | 9.39287 | 5.21566 | 6.76083 |
| 8.98805 | 5.33242 | 6.29257 | 6.61824 | 5.03523 | 8.11681 | 9.22959 | 9.48408 | 9.17563 | 8.75787 |
| 9.18522 | 7.26111 | 5.63285 | 5.38287 | 8.97046 | 9.3195 | 9.35613 | 8.79452 | 8.61452 | 9.60473 |
| 5.37536 | 7.18578 | 7.1684 | 9.36659 | 7.06847 | 8.24906 | 6.87939 | 5.35755 | 7.6583 | 9.85092 |
| 8.69515 | 9.27406 | 8.42417 | 6.15972 | 8.5622 | 9.09463 | 9.76368 | 5.58893 | 5.77243 | 6.57097 |
| 6.18468 | 6.67535 | 8.82219 | 9.80014 | 7.28625 | 9.92803 | 7.46238 | 8.487 | 9.92058 | 8.59864 |
| 9.015 | 7.41978 | 5.10039 | 9.17704 | 5.06473 | 5.11896 | 6.98448 | 8.92485 | 7.82697 | 9.20877 |
| 6.23037 | 6.52546 | 7.27584 | 9.11296 | 8.22946 | 7.45643 | 7.73959 | 7.05418 | 7.0088 | 8.24658 |
| 9.34539 | 8.41991 | 5.33893 | 8.64336 | 8.37211 | 7.97283 | 9.43204 | 6.66904 | 8.72435 | 7.84374 |
| 8.48799 | 8.40256 | 8.45211 | 8.46259 | 5.94704 | 5.2207 | 6.55709 | 5.22487 | 9.85847 | 7.80304 |
| 7.29593 | 7.37494 | 8.2561 | 6.75092 | 7.94508 | 7.91946 | 8.33038 | 7.13965 | 9.0289 | 6.9178 |
| 8.67699 | 7.08657 | 7.12942 | 9.03059 | 8.87441 | 5.25413 | 6.12891 | 9.54423 | 7.47211 | 6.71345 |
| 7.22994 | 7.42033 | 6.68438 | 6.61835 | 9.28037 | 7.6746 | 8.20667 | 9.26325 | 6.48228 | 6.87201 |
| 7.78658 | 9.35449 | 5.25175 | 8.4785 | 6.78095 | 9.40123 | 5.56376 | 5.88447 | 7.66836 | 8.73826 |
| 5.80629 | 6.34893 | 6.05232 | 7.49887 | 6.8357 | 5.75933 | 9.72439 | 8.37426 | 7.98882 | 6.40707 |
| 7.30855 | 8.53711 | 6.31937 | 8.79807 | 8.26445 | 6.65658 | 6.90127 | 5.04827 | 7.39614 | 8.36559 |
| 8.41501 | 5.77193 | 8.65249 | 9.96891 | 8.69938 | 6.99918 | 7.78425 | 6.39136 | 8.00812 | 6.41539 |
| 5.98222 | 5.1469 | 9.71738 | 5.93387 | 5.10037 | 5.12661 | 8.92279 | 8.63533 | 8.98703 | 9.44222 |
| 8.18762 | 7.95081 | 8.33455 | 7.31054 | 7.23103 | 8.19221 | 5.45183 | 7.4644 | 7.19731 | 9.62582 |
| 9.21356 | 7.90997 | 9.68697 | 9.06071 | 9.2253 | 6.41638 | 5.1527 | 7.31179 | 8.54084 | 5.32475 |
| 7.0458 | 6.62475 | 7.03171 | 6.55648 | 7.14657 | 6.08043 | 8.42496 | 6.84821 | 9.4327 | 5.7495 |
| 5.5853 | 5.4036 | 9.48263 | 8.36331 | 5.9696 | 8.73767 | 5.10864 | 7.11747 | 8.14308 | 9.81236 |
| 8.12823 | 8.13646 | 8.55005 | 7.41726 | 8.02554 | 9.05935 | 8.95674 | 6.87275 | 8.39471 | 8.17648 |
| 9.56013 | 8.10491 | 8.64901 | 8.69259 | 7.8158 | 7.57775 | 9.75613 | 7.33403 | 5.03069 | 5.27356 |
| 6.77433 | 7.00529 | 9.77188 | 9.04303 | 6.7092 | 7.16666 | 7.45141 | 5.79434 | 7.29223 | 5.45911 |
| 8.12497 | 5.61858 | 7.8484 | 9.57103 | 5.62544 | 6.58559 | 6.34629 | 7.48521 | 8.14389 | 9.36212 |
| 8.60444 | 5.44335 | 7.1199 | 6.53212 | 5.50608 | 5.19065 | 6.37115 | 6.97049 | 8.85598 | 8.77562 |
| 7.61063 | 7.29401 | 7.30566 | 7.65378 | 8.95417 | 8.50668 | 6.69215 | 5.037 | 8.87605 | 5.01347 |
| 5.39954 | 8.69618 | 7.3053 | 9.25626 | 7.27645 | 8.8889 | 5.82267 | 9.86805 | 8.90112 | 8.66835 |
| 9.42613 | 7.43183 | 7.10642 | 7.62359 | 6.76323 | 9.17422 | 6.24667 | 5.59745 | 5.62909 | 9.16497 |
| 9.57625 | 9.58287 | 5.35302 | 7.1753 | 6.65114 | 5.35956 | 5.59339 | 5.4509 | 6.65904 | 8.12805 |
| 9.95597 | 7.2754 | 8.39801 | 5.11721 | 7.33697 | 8.85338 | 8.58702 | 5.04665 | 5.6132 | 8.20784 |
| 7.31365 | 8.58626 | 9.68817 | 5.57323 | 5.95172 | 9.25482 | 8.73844 | 5.93622 | 6.93194 | 8.23233 |
| 5.24302 | 9.94828 | 6.47925 | 5.73817 | 7.96237 | 8.05379 | 6.69024 | 9.32954 | 7.22746 | 9.64555 |
| 9.96533 | 7.12839 | 7.67128 | 7.38048 | 9.1061 | 7.37199 | 9.51538 | 5.92175 | 6.49251 | 8.13069 |
| 7.34558 | 8.00808 | 6.31561 | 5.76741 | 6.90026 | 5.02683 | 9.65726 | 9.8701 | 6.62672 | 9.11493 |
| 6.71969 | 6.36953 | 9.81843 | 8.09429 | 8.34533 | 8.98084 | 5.5026 | 8.20076 | 8.83492 | 9.18321 |
| 5.4686 | 9.56864 | 6.76206 | 5.09924 | 7.9987 | 6.67188 | 5.23925 | 8.71601 | 6.2656 | 9.31354 |
| 7.41439 | 9.87928 | 5.30882 | 8.61303 | 7.39773 | 9.78339 | 9.65924 | 6.22194 | 9.36869 | 5.01302 |
| 9.00601 | 5.08797 | 9.66356 | 8.11113 | 8.22486 | 7.66119 | 5.12186 | 9.0265 | 7.63114 | 8.17037 |
| 5.44717 | 8.8959 | 6.73766 | 5.52687 | 5.91976 | 8.06607 | 9.04503 | 8.5356 | 6.61399 | 7.3298 |
| 5.30261 | 8.55193 | 9.20313 | 8.29471 | 9.38746 | 6.28996 | 9.92739 | 5.42419 | 5.12521 | 5.42682 |
| 9.4693 | 6.03858 | 7.75878 | 6.44164 | 7.99109 | 9.06713 | 8.60666 | 7.29492 | 5.51489 | 6.56011 |
| 7.01584 | 8.98609 | 9.00099 | 7.42043 | 6.81574 | 7.5904 | 5.18286 | 8.72836 | 7.54818 | 8.53305 |
| **7.840856** | **7.691014** | **7.6778775** | **7.5009392** | **7.6395676** | **7.4588462** | **7.5225205** | **7.3637649** | **7.6330737** | **7.5759014** |
| **5.10407** | **5.04526** | **5.10039** | **5.04661** | **5.00006** | **5.02683** | **5.03854** | **5.037** | **5.009** | **5.00375** |
| **9.96887** | **9.99282** | **9.9566** | **9.98503** | **9.94783** | **9.92803** | **9.92739** | **9.98795** | **9.92058** | **9.94135** |
| **8.029945** | **7.55212** | **7.76948** | **7.47922** | **7.771495** | **7.681145** | **7.456895** | **7.303355** | **7.726375** | **7.82332** |
| **8.029945** | **7.55212** | **7.735065** | **7.528985** | **7.807875** | **7.681145** | **7.52001** | **7.303355** | **7.726375** | **7.82332** |
| **5.0551107** | **4.9957126** | **5.0513939** | **4.9970761** | **4.9500606** | **4.9770983** | **4.9889254** | **4.98737** | **4.95909** | **4.9537875** |
| **6.85587** | **9.27482** | **5.6166** | **8.48803** | **4.73083** | **2.73103** | **2.66639** | **8.78295** | **1.97858** | **4.07635** |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5.681712 | 5.382028 | 5.355755 | 5.0018784 | 5.2791352 | 4.9176924 | 5.045041 | 4.7275298 | 5.2661474 | 5.1518028 |
| 6.05989 | 5.10424 | 5.47013 | 5.05797 | 5.61575 | 5.36229 | 5.04002 | 4.60671 | 5.45275 | 5.64664 |
| 6.05989 | 5.10424 | 5.53896 | 4.95844 | 5.54299 | 5.36229 | 4.91379 | 4.60671 | 5.45275 | 5.64664 |
| 10.0185587 | 10.0427482 | 10.006166 | 10.0348803 | 9.9973083 | 9.9773103 | 9.9766639 | 10.0378295 | 9.9697858 | 9.9907635 |
| 15.51107 | 9.57126 | 15.13939 | 9.70761 | 5.00606 | 7.70983 | 8.89254 | 8.737 | 5.909 | 5.37875 |
| 10.681712 | 10.382028 | 10.355755 | 10.0018784 | 10.2791352 | 9.9176924 | 10.045041 | 9.7275298 | 10.2661474 | 10.1518028 |
| 11.05989 | 10.10424 | 10.47013 | 10.05797 | 10.61575 | 10.36229 | 10.04002 | 9.60671 | 10.45275 | 10.64664 |
| 11.05989 | 10.10424 | 10.53896 | 9.95844 | 10.54299 | 10.36229 | 9.91379 | 9.60671 | 10.45275 | 10.64664 |
| 4.920092551 | 4.859072611 | 4.916274266 | 4.860473341 | 4.812174102 | 4.839950055 | 4.852100089 | 4.85050222 | 4.821450046 | 4.816002764 |
| 5.102830301 | 5.04400541 | 5.099149369 | 5.045355752 | 4.998793965 | 5.025570743 | 5.037283708 | 5.035743318 | 5.007736228 | 5.002484899 |
| 9.970128168 | 9.994084232 | 9.957855061 | 9.98629226 | 9.949082841 | 9.929277827 | 9.928637665 | 9.989212999 | 9.921825941 | 9.9426012 |
| 10.15558836 | 10.18043835 | 10.14285728 | 10.17235562 | 10.13375773 | 10.11321369 | 10.11254964 | 10.17538534 | 10.10548374 | 10.12703422 |

A Simulation Study on A Uniform Ditribution Over the Interval (5,10) (continued)

| Sample 91 | Sample 92 | Sample 93 | Sample 94 | Sample 95 | Sample 96 |
|---|---|---|---|---|---|
| 5.86572 | 9.13582 | 9.92336 | 9.02606 | 8.32079 | 8.35625 |
| 9.04363 | 5.6464 | 8.95248 | 6.20083 | 7.81803 | 5.15256 |
| 8.66985 | 9.32944 | 9.54133 | 6.31972 | 6.33105 | 5.18741 |
| 8.65893 | 6.23357 | 6.21029 | 6.07032 | 5.156 | 5.24429 |
| 7.31984 | 9.96533 | 7.1128 | 6.08748 | 9.92731 | 8.64478 |
| 6.13777 | 7.84763 | 8.37369 | 8.29732 | 5.56943 | 7.89334 |
| 5.10856 | 6.2574 | 9.3278 | 9.06103 | 6.48706 | 5.16776 |
| 8.3243 | 5.34829 | 6.04274 | 8.5992 | 8.47424 | 7.36028 |
| 9.69419 | 6.37833 | 8.50027 | 8.37377 | 9.53429 | 8.6986 |
| 7.33633 | 6.98037 | 8.411 | 6.71552 | 6.46917 | 7.80143 |
| 8.43794 | 6.00619 | 6.10002 | 7.45449 | 5.59396 | 8.04843 |
| 8.26051 | 7.41828 | 7.8871 | 9.89547 | 9.74559 | 6.92853 |
| 8.35463 | 6.14928 | 9.62454 | 8.61974 | 8.01633 | 6.35648 |
| 8.83131 | 5.92827 | 5.42501 | 8.09416 | 7.94183 | 8.87483 |
| 8.47461 | 7.24523 | 7.95075 | 8.72966 | 6.82337 | 9.20996 |
| 8.45167 | 9.26223 | 9.42486 | 8.51323 | 7.862 | 8.08856 |
| 7.9084 | 6.13401 | 8.1216 | 8.31812 | 7.25036 | 8.75127 |
| 7.50068 | 5.69459 | 6.18948 | 8.40196 | 8.81836 | 8.11296 |
| 7.51844 | 8.6257 | 8.21662 | 7.221 | 8.87436 | 8.12392 |
| 7.48881 | 5.28283 | 6.86155 | 5.97045 | 5.96877 | 8.68363 |
| 8.9915 | 5.6318 | 6.04671 | 6.83479 | 6.12325 | 5.8468 |
| 8.93084 | 6.88242 | 7.93402 | 6.53323 | 9.82366 | 8.93326 |
| 6.7716 | 9.90217 | 9.31641 | 9.50011 | 5.39753 | 8.28776 |
| 5.93379 | 7.26842 | 5.81641 | 6.92787 | 8.29695 | 8.69209 |
| 8.10334 | 8.95291 | 7.82231 | 9.47038 | 7.45759 | 8.75926 |
| 9.91705 | 8.11124 | 5.57305 | 7.79777 | 8.39773 | 6.67366 |
| 9.18388 | 6.17943 | 5.67291 | 9.40558 | 8.84358 | 9.78651 |
| 8.35432 | 5.15284 | 5.50311 | 5.44203 | 5.72602 | 6.91125 |
| 7.51931 | 8.72996 | 8.43469 | 9.3203 | 9.64756 | 6.87958 |
| 5.68985 | 7.14541 | 8.00684 | 5.64337 | 6.88585 | 5.84195 |
| 9.04888 | 9.5941 | 7.00703 | 9.90737 | 8.348 | 8.11501 |
| 7.33399 | 8.23909 | 5.56518 | 5.54059 | 6.08967 | 9.52512 |
| 7.96985 | 7.04011 | 6.82435 | 5.59351 | 5.43279 | 7.42408 |
| 9.26438 | 7.30276 | 9.85036 | 6.61649 | 7.64762 | 5.70815 |
| 6.89913 | 8.74842 | 8.37378 | 8.67246 | 9.49837 | 7.95319 |
| 7.65159 | 6.20507 | 9.23769 | 5.91164 | 6.26615 | 5.2339 |

| | | | | | |
|---|---|---|---|---|---|
| 9.71752 | 7.43167 | 8.39145 | 5.43253 | 6.73935 | 9.32309 |
| 8.15593 | 8.19124 | 6.00996 | 5.46631 | 7.32051 | 6.62743 |
| 7.78713 | 5.17834 | 5.15968 | 8.07533 | 6.37032 | 9.47532 |
| 7.84396 | 7.27345 | 9.77918 | 6.82975 | 5.95845 | 6.16939 |
| 6.1413 | 7.46559 | 8.38298 | 5.74795 | 5.58061 | 5.88661 |
| 8.81012 | 7.18406 | 9.68431 | 5.49727 | 6.05596 | 5.70989 |
| 9.74056 | 9.09032 | 5.07699 | 8.9039 | 8.03717 | 9.37978 |
| 7.5583 | 8.27282 | 8.92244 | 6.36074 | 7.30441 | 6.36012 |
| 9.4902 | 6.5142 | 9.78872 | 6.9561 | 7.2033 | 8.63422 |
| 6.60529 | 6.66159 | 6.96212 | 9.4697 | 7.3725 | 6.55171 |
| 5.87705 | 7.892 | 5.33919 | 6.51344 | 6.46308 | 6.25676 |
| 6.08031 | 8.28815 | 9.11105 | 8.2719 | 7.1645 | 9.85544 |
| 7.84844 | 5.47504 | 6.16136 | 8.93055 | 8.52803 | 8.57674 |
| 9.09614 | 8.07122 | 7.14447 | 9.2174 | 9.72313 | 9.20112 |
| 7.70841 | 5.21424 | 9.35447 | 8.0174 | 9.65122 | 9.69076 |
| 6.51518 | 7.69133 | 6.51391 | 8.00974 | 7.16047 | 8.55198 |
| 5.07027 | 8.65295 | 5.1765 | 9.47664 | 7.93638 | 6.73614 |
| 6.64277 | 7.02979 | 9.97077 | 7.6124 | 6.19742 | 8.39844 |
| 8.44305 | 6.01492 | 8.14348 | 7.66167 | 5.29104 | 8.80795 |
| 6.97692 | 8.53164 | 8.61289 | 8.8483 | 6.38396 | 6.81859 |
| 5.5855 | 8.89811 | 8.58016 | 7.25241 | 9.33989 | 6.56283 |
| 8.82062 | 5.1131 | 8.16859 | 5.63221 | 5.27245 | 7.67655 |
| 8.33591 | 5.12164 | 7.05508 | 6.44184 | 7.02534 | 7.88164 |
| 9.2979 | 8.68988 | 9.27228 | 9.34844 | 9.335 | 7.57438 |
| 9.71805 | 6.04889 | 7.72917 | 5.06334 | 5.31684 | 8.79569 |
| 7.6126 | 7.75411 | 5.57882 | 7.00005 | 8.99788 | 7.25569 |
| 9.65659 | 7.94325 | 5.49581 | 6.0681 | 7.17909 | 5.34649 |
| 6.71937 | 9.28436 | 6.81028 | 6.18412 | 8.20189 | 9.34453 |
| 5.71262 | 9.02465 | 6.57436 | 8.25482 | 9.17856 | 8.40376 |
| 8.39577 | 7.25704 | 8.6201 | 5.9777 | 7.34209 | 8.45199 |
| 7.39871 | 5.14884 | 9.28114 | 7.78681 | 6.5373 | 5.00843 |
| 5.22456 | 8.58504 | 9.6408 | 9.27244 | 8.08614 | 7.96656 |
| 8.89719 | 8.81921 | 7.58059 | 5.10885 | 5.35376 | 6.98271 |
| 6.84458 | 8.92073 | 6.55887 | 8.27278 | 5.29776 | 7.29433 |
| 5.92116 | 8.37494 | 7.85216 | 9.68456 | 7.49348 | 8.25419 |
| 8.56835 | 8.01447 | 5.30782 | 7.6975 | 9.61352 | 6.63628 |
| 5.91579 | 9.57159 | 7.9622 | 9.60373 | 8.84222 | 6.83221 |
| 5.10213 | 9.26724 | 9.67652 | 8.55332 | 5.24183 | 5.74419 |
| 7.02156 | 8.08377 | 7.17982 | 6.10646 | 7.33902 | 6.95325 |
| 6.21123 | 5.67665 | 5.05615 | 5.5194 | 7.92216 | 8.10212 |
| 6.71114 | 9.27757 | 7.30917 | 6.88397 | 8.96757 | 9.10216 |
| 6.36315 | 9.13549 | 7.71975 | 6.47669 | 6.02399 | 8.84095 |
| 6.95813 | 9.89787 | 9.53642 | 8.83447 | 8.47992 | 9.13579 |
| 5.10689 | 5.73173 | 5.97953 | 6.50463 | 6.33939 | 6.58964 |
| 5.67011 | 9.23312 | 6.90265 | 8.1055 | 7.59999 | 5.02374 |
| 8.53045 | 7.50885 | 5.77513 | 9.95609 | 5.09864 | 8.37032 |
| 5.08424 | 5.09385 | 7.02799 | 7.33499 | 6.40422 | 7.95074 |
| 9.75538 | 9.40583 | 7.72641 | 7.47409 | 5.49103 | 7.84894 |
| 7.4949 | 7.93969 | 7.07998 | 7.16771 | 6.36073 | 8.6891 |
| 6.43358 | 6.798 | 7.11137 | 6.3902 | 7.81645 | 9.46907 |
| 9.31756 | 9.75418 | 7.67978 | 8.21611 | 6.76287 | 7.81748 |

| | | | | | |
|---|---|---|---|---|---|
| 5.73522 | 8.71442 | 7.82624 | 8.38104 | 7.01808 | 8.26516 |
| 6.53467 | 6.85715 | 8.85128 | 9.32542 | 7.40197 | 7.84465 |
| 5.74598 | 8.78821 | 5.21513 | 5.60309 | 6.2175 | 8.49354 |
| 8.22455 | 5.90085 | 8.03437 | 5.88735 | 9.68126 | 8.26842 |
| 9.68162 | 8.91189 | 7.49925 | 6.36036 | 8.17312 | 5.74127 |
| 6.30008 | 6.55256 | 9.84196 | 8.16357 | 5.97884 | 6.61848 |
| 6.12873 | 8.92951 | 9.34479 | 5.07719 | 6.94334 | 5.1727 |
| 7.07208 | 9.06227 | 7.6745 | 9.3218 | 5.45887 | 6.86871 |
| 8.8666 | 7.43472 | 8.8224 | 9.27425 | 9.21156 | 6.6648 |
| 5.14106 | 7.59071 | 5.66978 | 6.69994 | 6.65606 | 7.02232 |
| 5.92786 | 9.75104 | 8.55321 | 8.47856 | 8.93543 | 6.29558 |
| 7.92396 | 5.0605 | 8.51211 | 6.12383 | 8.32792 | 6.86106 |
| 5.46176 | 5.96106 | 5.46517 | 5.55743 | 5.25943 | 6.62341 |
| **7.5018816** | **7.5296848** | **7.6000715** | **7.488132** | **7.3283083** | **7.5491417** |
| **5.07027** | **5.0605** | **5.05615** | **5.06334** | **5.09864** | **5.00843** |
| **9.91705** | **9.96533** | **9.97077** | **9.95609** | **9.92731** | **9.85544** |
| **7.538805** | **7.54978** | **7.77574** | **7.543245** | **7.277385** | **7.846795** |
| **7.58545** | **7.54978** | **7.77574** | **7.543245** | **7.277385** | **7.846795** |
| **5.0209727** | **5.011105** | **5.0067115** | **5.0139734** | **5.0496264** | **4.9585143** |
| **1.62205** | **6.49833** | **7.04777** | **5.56509** | **2.65831** | **-4.60056** |
| **5.0037632** | **5.0593696** | **5.200143** | **4.976264** | **4.6566166** | **5.0982834** |
| **5.1709** | **5.09956** | **5.55148** | **5.08649** | **4.55477** | **5.69359** |
| **5.07761** | **5.09956** | **5.55148** | **5.08649** | **4.55477** | **5.69359** |
| **9.9662205** | **10.0149833** | **10.0204777** | **10.0056509** | **9.9765831** | **9.9039944** |
| **12.09727** | **11.1105** | **10.67115** | **11.39734** | **14.96264** | **5.85143** |
| **10.0037632** | **10.0593696** | **10.200143** | **9.976264** | **9.6566166** | **10.0982834** |
| **10.1709** | **10.09956** | **10.55148** | **10.08649** | **9.55477** | **10.69359** |
| **10.07761** | **10.09956** | **10.55148** | **10.08649** | **9.55477** | **10.69359** |
| **4.885022428** | **4.874885294** | **4.870371831** | **4.877832015** | **4.914458505** | **4.820858627** |
| **5.069021743** | **5.059249269** | **5.054898167** | **5.062089988** | **5.097398926** | **5.007166084** |
| **9.918295047** | **9.966587272** | **9.972028649** | **9.957344932** | **9.928557645** | **9.856669446** |
| **10.10182109** | **10.15191534** | **10.15755976** | **10.14232812** | **10.11246663** | **10.03789593** |

A Simulation Study on A Uniform Ditribution Over the Interval (5,10) (continued)

| **Sample 97** | **Sample 98** | **Sample 99** | **Sample 100** |
|---|---|---|---|
| 6.06981 | 7.196 | 6.26284 | 7.8831 |
| 9.32288 | 6.3471 | 9.21827 | 8.70313 |
| 7.48206 | 5.5979 | 5.66504 | 9.28785 |
| 5.55559 | 8.9968 | 9.67986 | 5.68158 |
| 6.947 | 7.4866 | 6.61298 | 5.95971 |
| 5.91696 | 6.8486 | 6.75368 | 7.04876 |
| 9.33183 | 5.4834 | 7.73034 | 9.27037 |
| 6.13787 | 8.7877 | 8.30374 | 6.8351 |
| 7.91341 | 7.3681 | 5.10907 | 8.98629 |
| 5.61384 | 5.5579 | 7.51722 | 9.66273 |
| 9.87432 | 5.1294 | 8.15625 | 8.05645 |
| 9.92302 | 9.1291 | 8.57707 | 8.20657 |
| 6.03787 | 7.27 | 9.22589 | 7.6988 |
| 9.72749 | 6.2725 | 5.20106 | 6.38067 |
| 8.09217 | 8.2146 | 7.54133 | 9.60089 |
| 6.23279 | 7.2335 | 5.3949 | 7.06617 |

| | | | |
|---|---|---|---|
| 8.43305 | 7.0493 | 7.31186 | 5.0671 |
| 5.49295 | 8.5185 | 6.88068 | 7.80063 |
| 8.56085 | 6.4932 | 9.53571 | 5.31537 |
| 7.27365 | 6.4598 | 6.97175 | 5.88511 |
| 6.90708 | 5.8214 | 7.61343 | 6.67453 |
| 7.18443 | 7.6224 | 5.0642 | 9.90066 |
| 9.4264 | 6.9188 | 9.54913 | 5.46897 |
| 6.0879 | 6.3237 | 6.29712 | 7.24598 |
| 5.66977 | 9.6747 | 9.38268 | 5.17785 |
| 7.12944 | 6.8755 | 9.1996 | 8.46317 |
| 5.70038 | 7.1885 | 7.23291 | 9.3592 |
| 7.82778 | 5.7789 | 8.92291 | 7.85412 |
| 7.29484 | 5.0599 | 9.63473 | 6.73056 |
| 7.62466 | 6.9333 | 6.36501 | 9.20233 |
| 5.83423 | 5.7463 | 5.39357 | 5.70454 |
| 8.25272 | 5.2885 | 5.99405 | 5.09388 |
| 5.51224 | 5.6281 | 9.57646 | 9.42176 |
| 7.39638 | 5.9825 | 9.99017 | 7.65081 |
| 8.83294 | 6.6391 | 7.7901 | 5.14826 |
| 5.28796 | 8.035 | 9.48686 | 5.03304 |
| 8.17813 | 9.0869 | 7.56432 | 8.14471 |
| 7.64573 | 8.536 | 6.88738 | 8.72843 |
| 7.70506 | 9.42 | 7.02482 | 6.23009 |
| 6.16992 | 6.6216 | 8.55453 | 9.32639 |
| 7.57258 | 8.2968 | 5.28664 | 7.84153 |
| 8.7078 | 5.9088 | 5.65771 | 7.28903 |
| 8.33025 | 9.3744 | 5.87207 | 5.27575 |
| 5.72844 | 6.2502 | 6.4284 | 7.56508 |
| 6.32623 | 7.8262 | 6.0977 | 8.174 |
| 8.79575 | 9.3025 | 6.42639 | 7.77993 |
| 7.9307 | 9.7544 | 9.99122 | 8.17368 |
| 8.35479 | 7.9114 | 5.19999 | 6.1531 |
| 5.90778 | 8.7225 | 7.94356 | 7.13526 |
| 8.04123 | 8.9966 | 9.27531 | 5.6579 |
| 7.37065 | 9.0767 | 8.66941 | 9.92382 |
| 5.54969 | 9.6716 | 7.19476 | 7.44799 |
| 7.85046 | 8.0562 | 6.08785 | 5.15208 |
| 9.62641 | 7.4477 | 9.78405 | 8.02122 |
| 7.68202 | 7.1621 | 9.04268 | 8.50513 |
| 7.51337 | 7.3528 | 5.80391 | 6.21122 |
| 5.69447 | 8.8631 | 6.96021 | 9.57822 |
| 5.86206 | 9.6208 | 8.87941 | 6.69874 |
| 6.61621 | 5.9569 | 5.5584 | 9.50193 |
| 6.65144 | 8.4801 | 8.25181 | 6.95405 |
| 8.36578 | 9.7359 | 8.23355 | 6.22647 |
| 8.09951 | 5.133 | 7.71347 | 9.06748 |
| 6.13185 | 7.0257 | 6.93728 | 7.48149 |
| 5.87743 | 8.9391 | 8.12423 | 5.65091 |
| 7.30891 | 9.3774 | 5.58766 | 6.79316 |
| 7.10725 | 7.654 | 6.47934 | 9.08146 |
| 9.83079 | 9.5668 | 6.35068 | 5.83882 |

| | | | | | |
|---|---|---|---|---|---|
| 6.92512 | 6.6621 | 5.00661 | 9.82196 | | |
| 9.11534 | 8.4111 | 8.17905 | 6.12704 | | |
| 8.18818 | 9.0767 | 8.79637 | 8.13823 | | |
| 6.48844 | 5.6448 | 7.49101 | 9.54837 | | |
| 9.70725 | 5.3183 | 7.1652 | 7.82948 | | |
| 9.6157 | 7.207 | 7.50207 | 9.77303 | | |
| 6.259 | 8.6083 | 6.00227 | 7.87994 | | |
| 8.22683 | 6.7875 | 6.34944 | 6.07921 | | |
| 6.72646 | 6.0566 | 9.87433 | 7.84758 | | |
| 5.47933 | 7.7005 | 6.65184 | 9.38024 | | |
| 5.82503 | 8.0103 | 6.45383 | 5.42378 | | |
| 9.36158 | 8.145 | 5.14453 | 9.9326 | | |
| 9.37292 | 8.0809 | 6.31914 | 6.50298 | | |
| 9.81604 | 7.4179 | 5.37785 | 5.25003 | | |
| 5.98888 | 7.0782 | 7.88375 | 6.43828 | | |
| 8.08137 | 5.4684 | 7.20134 | 7.69912 | | |
| 7.16463 | 5.9356 | 6.76466 | 5.2247 | | |
| 7.40421 | 5.7293 | 6.96203 | 6.99122 | | |
| 8.51 | 8.3009 | 6.53925 | 9.4795 | | |
| 6.22441 | 6.515 | 9.75635 | 8.72266 | | |
| 8.6553 | 5.2525 | 6.88367 | 8.73144 | | |
| 5.08693 | 5.9486 | 8.11424 | 5.93893 | | |
| 6.74125 | 9.9999 | 7.10754 | 7.14105 | | |
| 5.42597 | 6.3915 | 8.75378 | 5.44901 | | |
| 7.10294 | 5.6972 | 8.27718 | 7.25408 | | |
| 5.74783 | 8.5311 | 5.83878 | 8.9644 | | |
| 6.35642 | 5.0193 | 9.85545 | 7.90506 | | |
| 9.47188 | 5.0379 | 6.45491 | 6.85422 | | |
| 5.25334 | 8.4727 | 7.26275 | 8.52135 | | |
| 8.91317 | 5.0021 | 8.39853 | 5.36629 | | |
| 7.91003 | 5.0652 | 9.01336 | 9.01209 | | |
| 7.77594 | 6.9555 | 8.0859 | 9.74762 | | |
| 9.78677 | 9.9591 | 7.20513 | 9.88968 | Mean | Var |
| **7.3914974** | **7.315718** | **7.4168335** | **7.5100028** | **7.502282583** | **0.021270717** |
| **5.08693** | **5.0021** | **5.00661** | **5.03304** | **5.0536892** | **0.003032216** |
| **9.92302** | **9.9999** | **9.99122** | **9.9326** | **9.9556945** | **0.001421328** |
| **7.383515** | **7.2015** | **7.21902** | **7.674805** | **7.5061214** | **0.06102876** |
| **7.383515** | **7.19775** | **7.24783** | **7.607945** | **7.50175925** | **0.063832164** |
| **5.0377993** | **4.952121** | **4.9566761** | **4.9833704** | **5.004226092** | **0.003093163** |
| **2.22502** | **9.9899** | **9.11322** | **3.1926** | **5.5251445** | **14.49896702** |
| **4.7829948** | **4.631436** | **4.833667** | **5.0200056** | **5.004565166** | **0.085082868** |
| **4.76703** | **4.3955** | **4.49566** | **5.21589** | **5.0035185** | **0.255328655** |
| **4.76703** | **4.403** | **4.43804** | **5.34961** | **5.0122428** | **0.244115039** |
| **9.9722502** | **10.049899** | **10.0411322** | **9.981926** | **10.00525145** | **0.001449897** |
| **13.77993** | **5.2121** | **5.66761** | **8.33704** | **10.4226092** | **30.93163269** |
| **9.7829948** | **9.631436** | **9.833667** | **10.0200056** | **10.00456517** | **0.085082868** |
| **9.76703** | **9.3955** | **9.49566** | **10.21589** | **10.0035185** | **0.255328655** |
| **9.76703** | **9.403** | **9.43804** | **10.34961** | **10.0122428** | **0.244115039** |
| **4.902308471** | **4.81429076** | **4.818970236** | **4.846393412** | | |
| **5.085685961** | **5.000834481** | **5.005345623** | **5.031782316** | | |
| **9.924266558** | **10.00116603** | **9.992483827** | **9.933848984** | | |

| | | | | | |
|---|---|---|---|---|---|
| **10.10801543** | **10.18778439** | **10.17877822** | **10.11795542** | | |

LCL=Lower Confidence Limit; UCL=Upper Confidence Limit; LB=Lower Bound ; UB= Upper Bound

| | ***Mean*** | ***Var*** |
|---|---|---|
| ***Mean*** | ***7.502282583*** | ***0.021270717*** |
| ***Min*** | ***5.0536892*** | ***0.003032216*** |
| ***Max*** | ***9.9556945*** | ***0.001421328*** |
| ***M(even)*** | ***7.5061214*** | ***0.06102876*** |
| ***M( odd)*** | ***7.50175925*** | ***0.063832164*** |
| ***T1*** | ***5.004226092*** | ***0.003093163*** |
| ***T2*** | ***5.5251445*** | ***14.49896702*** |
| ***T3*** | ***5.004565166*** | ***0.085082868*** |
| ***T4*** | ***5.0035185*** | ***0.255328655*** |
| ***T5*** | ***5.0122428*** | ***0.244115039*** |
| ***W1*** | ***10.4226092*** | ***30.93163269*** |
| ***W2*** | ***10.00525145*** | ***0.001449897*** |
| ***W3*** | ***10.00456517*** | ***0.085082868*** |
| ***W4*** | ***10.0035185*** | ***0.255328655*** |
| ***W5*** | ***10.0122428*** | ***0.244115039*** |

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