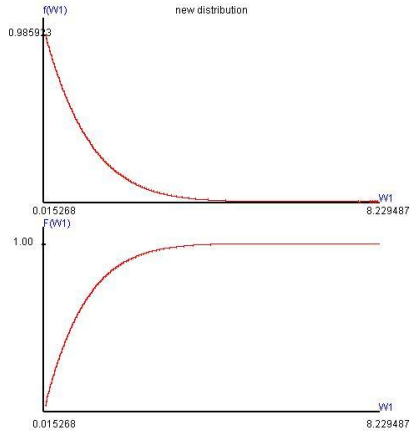
5)The maximum of samples that is transferred to the exponential.

$$X_1,...,X_n \overset{iid}{\sim} f_X(x),$$
$$n\times(1-Max(F_X(X_1),...,F_X(X_n)))\xrightarrow[n\to\infty]{} Shifted\_exponential(\lambda=1,c=0),$$

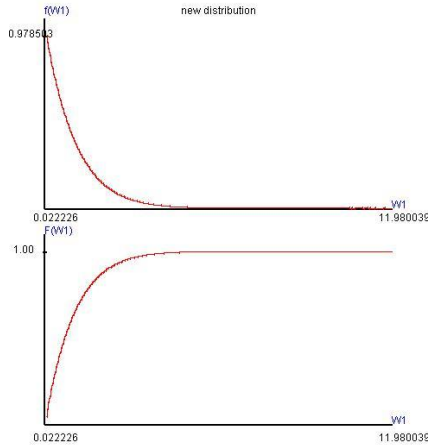
5.1) $X_1,...,X_n \overset{iid}{\sim} U(0,1)$

$$Z_1 = n\times(1-Max(X_1,...,X_n))$$

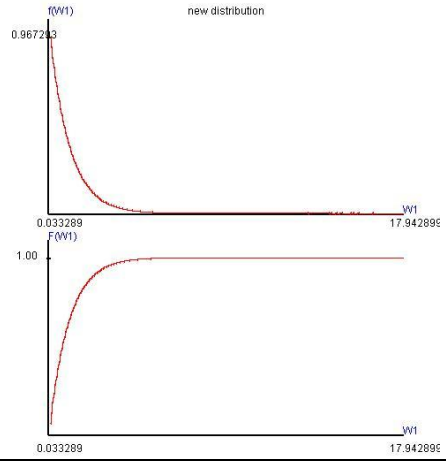
5.1.1)n=10

$f_{Z_1}(z_1), F_{Z_1}(z_1)$	coefficient	
	Mathematical Mean:	0.90897
	Geometrical Mean :	0.53446
	Harmonic Mean :	0.02391
	Variance :	0.68864
	S.D. :	0.82985
	Skewed Coef. :	1.51726
	Kurtosis Coef. :	5.77855
	MAD :	0.63721
	Range :	8.24476
	Mid_range :	4.12238
	Median :	0.66954
	Q1 :	0.28353
	Q2 :	0.66954
	Q3 :	1.29425
	IQR :	1.01072
	C.V. :	0.91295

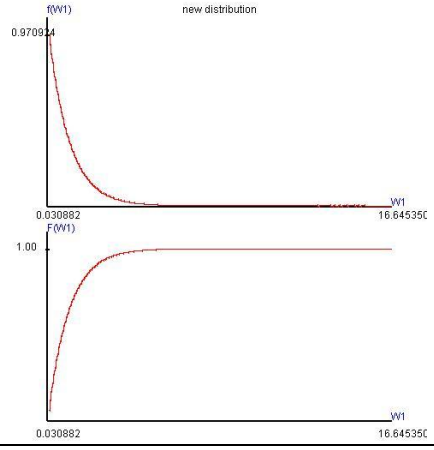
5.1.2)n=50

$f_{Z_1}(z_1), F_{Z_1}(z_1)$	coefficient	
	Mathematical Mean:	0.95232
	Geometrical Mean :	0.54772
	Harmonic Mean :	0.03347
	Variance :	0.82420
	S.D. :	0.90785
	Skewed Coef. :	1.73168
	Kurtosis Coef. :	7.05739
	MAD :	0.68360
	Range :	12.00227
	Mid_range :	6.00113
	Median :	0.68137
	Q1 :	0.28562
	Q2 :	0.68137
	Q3 :	1.33933
	IQR :	1.05372
	C.V. :	0.95331

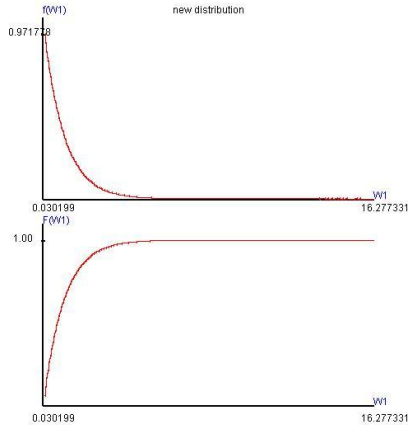
5.1.3)n=100

$f_{Z_1}(z_1), F_{Z_1}(z_1)$	coefficient
	Mathematical Mean: 0.99008 Geometrical Mean : 0.55871 Harmonic Mean : 0.04043 Variance : 0.96071 S.D. : 0.98016 Skewed Coef. : 1.94060 Kurtosis Coef. : 8.53731 MAD : 0.72478 Range : 17.97619 Mid_range : 8.98809 Median : 0.69088 Q1 : 0.28730 Q2 : 0.69088 Q3 : 1.37678 IQR : 1.08948 C.V. : 0.98998

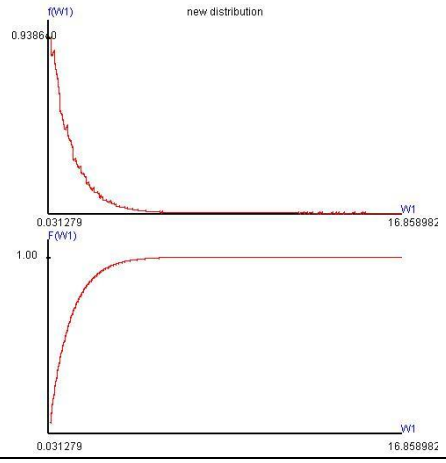
5.1.4)n=5000

$f_{Z_1}(z_1), F_{Z_1}(z_1)$	coefficient
	Mathematical Mean: 0.99774 Geometrical Mean : 0.56091 Harmonic Mean : 0.04320 Variance : 0.99125 S.D. : 0.99562 Skewed Coef. : 1.98583 Kurtosis Coef. : 8.87600 MAD : 0.73337 Range : 16.67623 Mid_range : 8.33812 Median : 0.69307 Q1 : 0.28727 Q2 : 0.69307 Q3 : 1.38419 IQR : 1.09692 C.V. : 0.99787

5.1.5)n=10000

$f_{Z_1}(z_1), F_{Z_1}(z_1)$	coefficient
	Mathematical Mean: 0.99854 Geometrical Mean : 0.56126 Harmonic Mean : 0.04496 Variance : 0.99509 S.D. : 0.99754 Skewed Coef. : 1.99317 Kurtosis Coef. : 8.94157 MAD : 0.73441 Range : 16.30753 Mid_range : 8.15377 Median : 0.69179 Q1 : 0.28807 Q2 : 0.69179 Q3 : 1.38630 IQR : 1.09823 C.V. : 0.99900

5.1.6)n=100000

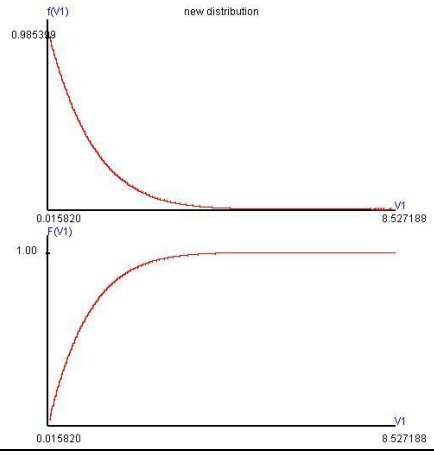
$f_{Z_1}(z_1), F_{Z_1}(z_1)$	coefficient
	Mathematical Mean: 1.00128 Geometrical Mean : 0.56446 Harmonic Mean : 0.04999 Variance : 0.99852 S.D. : 0.99926 Skewed Coef. : 1.99677 Kurtosis Coef. : 8.98901 MAD : 0.73553 Range : 16.89026 Mid_range : 8.44513 Median : 0.69537 Q1 : 0.28869 Q2 : 0.69537 Q3 : 1.39497 IQR : 1.10628 C.V. : 0.99799

[This is the problem which is the floating format can compute the 100000 times of powerful that is belonged to the maximum]

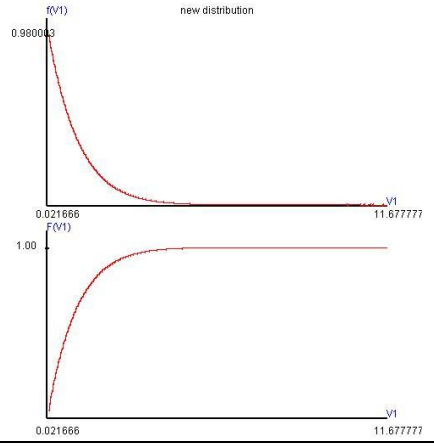
5.1.2) $X_1,...,X_n \overset{iid}{\sim} Shifted\_exponential(1,0), F_X(x) = 1-\exp(-x)$

$Z_1 = n \times (1 - Max(1-\exp(-X_1),...,1-\exp(-X_n)))$

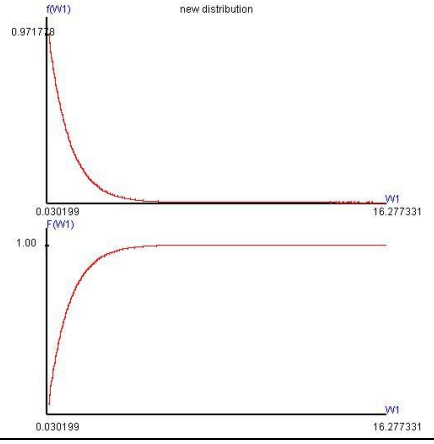
5.2.1)n=10

$f_{Z_1}(z_1), F_{Z_1}(z_1)$	coefficient	
	Mathematical Mean:	0.90900
	Geometrical Mean :	0.53450
	Harmonic Mean :	0.05781
	Variance :	0.68864
	S.D. :	0.82985
	Skewed Coef. :	1.51751
	Kurtosis Coef. :	5.78017
	MAD :	0.63720
	Range :	8.54301
	Mid_range :	4.27150
	Median :	0.66952
	Q1 :	0.28359
	Q2 :	0.66952
	Q3 :	1.29443
	IQR :	1.01084
	C.V. :	0.91292

5.2.2)n=20

$f_{Z_1}(z_1), F_{Z_1}(z_1)$	coefficient	
	Mathematical Mean:	0.95232
	Geometrical Mean :	0.54767
	Harmonic Mean :	0.05697
	Variance :	0.82440
	S.D. :	0.90797
	Skewed Coef. :	1.73272
	Kurtosis Coef. :	7.06725
	MAD :	0.68364
	Range :	11.69944
	Mid_range :	5.84972
	Median :	0.68125
	Q1 :	0.28560
	Q2 :	0.68125
	Q3 :	1.33930
	IQR :	1.05369
	C.V. :	0.95342

5.2.3)n=50

$f_{Z_1}(z_1), F_{Z_1}(z_1)$	coefficient	
	Mathematical Mean:	0.98037
	Geometrical Mean :	0.55582
	Harmonic Mean :	0.05889
	Variance :	0.92462
	S.D. :	0.96157
	Skewed Coef. :	1.88790
	Kurtosis Coef. :	8.14181
	MAD :	0.71424
	Range :	14.68154
	Mid_range :	7.34077
	Median :	0.68826
	Q1 :	0.28682
	Q2 :	0.68826
	Q3 :	1.36718
	IQR :	1.08036
	C.V. :	0.98082

6)The minimum of samples that is transferred to the exponential.

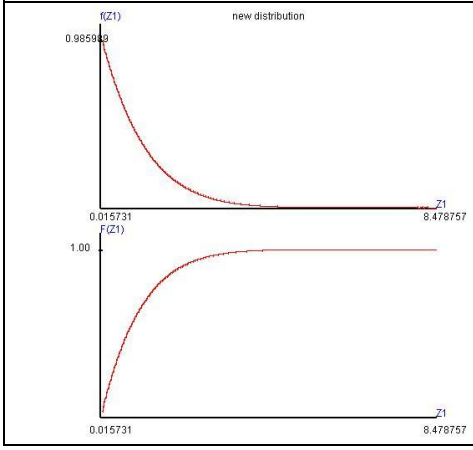
$$X_1,...,X_n \overset{iid}{\sim} f_X(x),$$

$$n \times Min(F_X(X_1),...,F_X(X_n)) \xrightarrow[n\to\infty]{} Shifted\_exponential(\lambda = 1, c = 0),$$

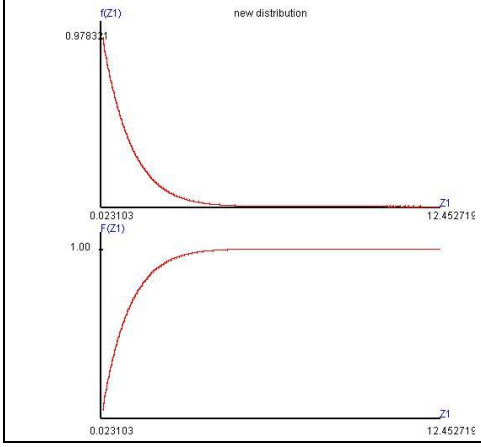
6.1) $X_1,...,X_n \overset{iid}{\sim} U(0,1)$

$$Z_1 = n \times Min(X_1,...,X_n)$$

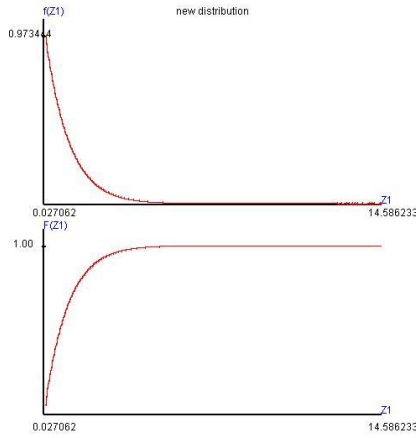
6.1.1)n=10

$f_{Z_1}(z_1), F_{Z_1}(z_1)$	coefficient	
	Mathematical Mean:	0.90905
	Geometrical Mean :	0.53454
	Harmonic Mean :	0.04242
	Variance :	0.68845
	S.D. :	0.82973
	Skewed Coef. :	1.51666
	Kurtosis Coef. :	5.77615
	MAD :	0.63714
	Range :	8.49449
	Mid_range :	4.24724
	Median :	0.66974
	Q1 :	0.28366
	Q2 :	0.66974
	Q3 :	1.29446
	IQR :	1.01080
	C.V. :	0.91274

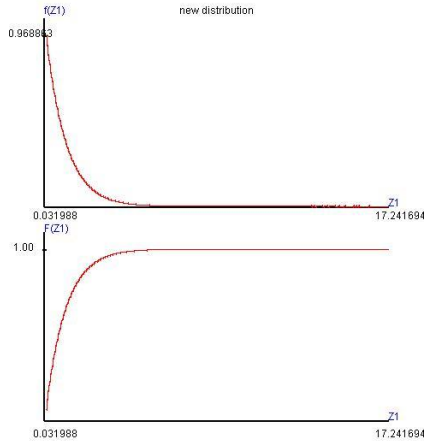
6.1.2)n=20

$f_{Z_1}(z_1), F_{Z_1}(z_1)$	coefficient	
	Mathematical Mean:	0.95237
	Geometrical Mean :	0.54766
	Harmonic Mean :	0.05203
	Variance :	0.82476
	S.D. :	0.90816
	Skewed Coef. :	1.73287
	Kurtosis Coef. :	7.06385
	MAD :	0.68377
	Range :	12.47582
	Mid_range :	6.23791
	Median :	0.68107
	Q1 :	0.28557
	Q2 :	0.68107
	Q3 :	1.33936
	IQR :	1.05379
	C.V. :	0.95358

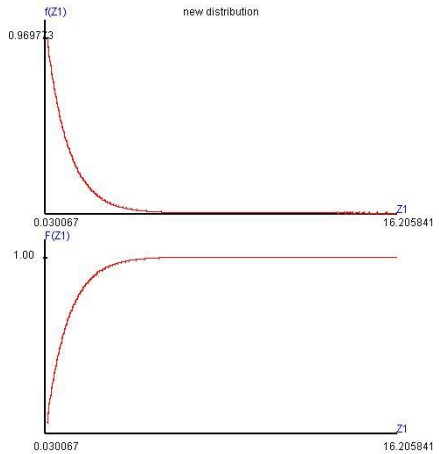
6.1.3)n=50

$f_{Z_1}(z_1), F_{Z_1}(z_1)$	coefficient
	Mathematical Mean: 0.98030 Geometrical Mean : 0.55585 Harmonic Mean : 0.05059 Variance : 0.92381 S.D. : 0.96115 Skewed Coef. : 1.88576 Kurtosis Coef. : 8.12797 MAD : 0.71405 Range : 14.61330 Mid_range : 7.30665 Median : 0.68842 Q1 : 0.28688 Q2 : 0.68842 Q3 : 1.36712 IQR : 1.08024 C.V. : 0.98047

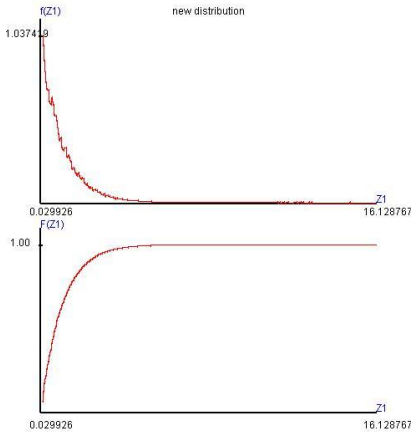
6.1.4)n=100

$f_{Z_1}(z_1), F_{Z_1}(z_1)$	coefficient
	Mathematical Mean: 0.99014 Geometrical Mean : 0.55860 Harmonic Mean : 0.05345 Variance : 0.96138 S.D. : 0.98050 Skewed Coef. : 1.94222 Kurtosis Coef. : 8.54794 MAD : 0.72489 Range : 17.27368 Mid_range : 8.63684 Median : 0.69079 Q1 : 0.28723 Q2 : 0.69079 Q3 : 1.37649 IQR : 1.08926 C.V. : 0.99026

6.1.5)n=1000

$f_{Z_1}(z_1), F_{Z_1}(z_1)$	coefficient
	Mathematical Mean: 0.99882 Geometrical Mean : 0.56029 Harmonic Mean : 0.06007 Variance : 0.99542 S.D. : 0.99771 Skewed Coef. : 1.99217 Kurtosis Coef. : 8.93264 MAD : 0.73451 Range : 16.23591 Mid_range : 8.11795 Median : 0.69366 Q1 : 0.28700 Q2 : 0.69366 Q3 : 1.38465 IQR : 1.09765 C.V. : 0.99889

6.1.6)n=10000

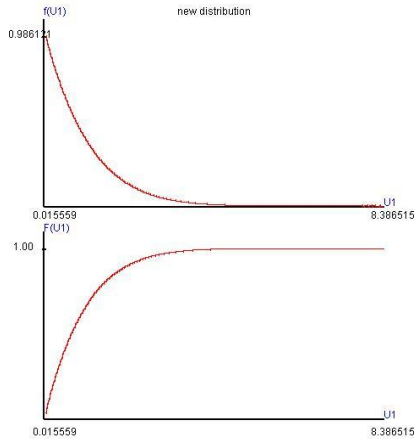
$f_{Z_1}(z_1), F_{Z_1}(z_1)$	coefficient
	Mathematical Mean: 0.99785 Geometrical Mean : 0.55407 Harmonic Mean : 0.06984 Variance : 1.00030 S.D. : 1.00015 Skewed Coef. : 1.99970 Kurtosis Coef. : 9.00652 MAD : 0.73611 Range : 16.15869 Mid_range : 8.07935 Median : 0.69033 Q1 : 0.28576 Q2 : 0.69033 Q3 : 1.37936 IQR : 1.09360 C.V. : 1.00230

[This is the problem which is the floating format can compute the 100000 times of powerful that is belonged to the maximum]

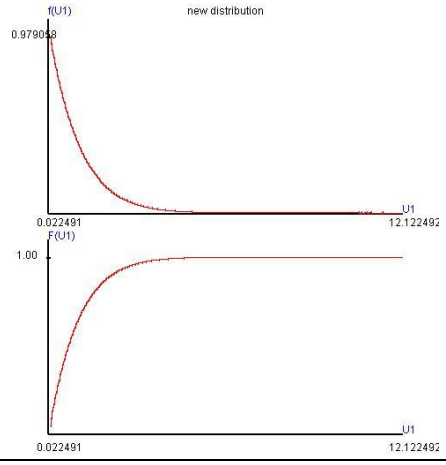
6.1.2) $X_1,...,X_n \overset{iid}{\sim} Shifted\_\exp onential(1,0), F_X(x) = 1-\exp(-x)$

$Z_1 = n \times Min(1-\exp(-X_1),...,1-\exp(-X_n))$

6.2.1)n=10

$f_{Z_1}(z_1), F_{Z_1}(z_1)$	coefficient	
	Mathematical Mean:	0.90896
	Geometrical Mean : none	
	Harmonic Mean : none	
	Variance :	0.68858
	S.D. :	0.82981
	Skewed Coef. :	1.51703
	Kurtosis Coef. :	5.77774
	MAD :	0.63721
	Range :	8.40207
	Mid_range :	4.20104
	Median :	0.66951
	Q1 :	0.28352
	Q2 :	0.66951
	Q3 :	1.29436
	IQR :	1.01084
	C.V. :	0.91292

6.2.2)n=20

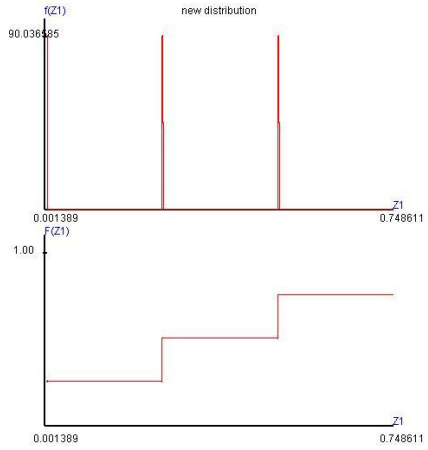
$f_{Z_1}(z_1), F_{Z_1}(z_1)$	coefficient	
	Mathematical Mean:	0.95228
	Geometrical Mean : none	
	Harmonic Mean : none	
	Variance :	0.82431
	S.D. :	0.90792
	Skewed Coef. :	1.73246
	Kurtosis Coef. :	7.06315
	MAD :	0.68361
	Range :	12.14498
	Mid_range :	6.07249
	Median :	0.68119
	Q1 :	0.28561
	Q2 :	0.68119
	Q3 :	1.33925
	IQR :	1.05363
	C.V. :	0.95341

7) $X_1,...,X_n \overset{iid}{\sim} B(1,p),$

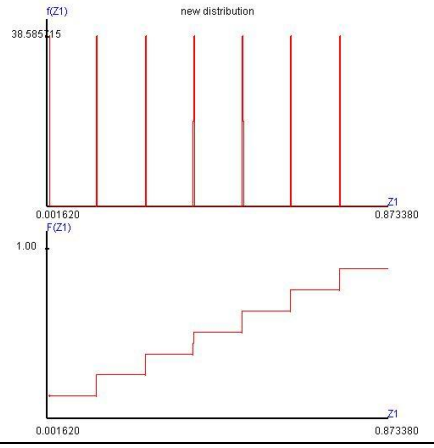
the discrete random samples functiontransfers to the continuous random variables.

7.1) $p=0.5, Z_1=\sum_{i=1}^{n}\frac{X_i}{2^i}\xrightarrow[n\to\infty]{} Uniform(0,1),$

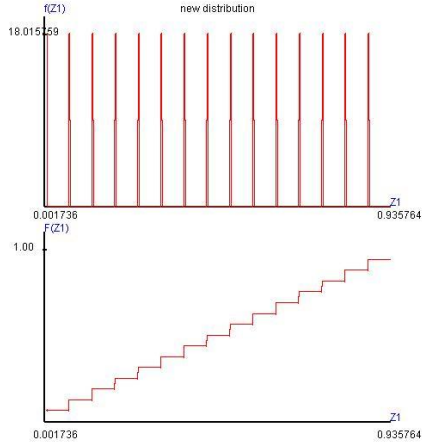
7.1.1)n=2,

$f_{Z_1}(z_1), F_{Z_1}(z_1)$	coefficient
	Mathematical Mean: 0.37496 Geometrical Mean : none Harmonic Mean : none Variance : 0.07814 S.D. : 0.27953 Skewed Coef. : 0.00012 Kurtosis Coef. : 1.63983 MAD : 0.25002 Range : 0.75000 Mid_range : 0.37500 Median : 0.25000 Q1 : 0.00000 Q2 : 0.25000 Q3 : 0.50000 IQR : 0.50000 C.V. : 0.74548

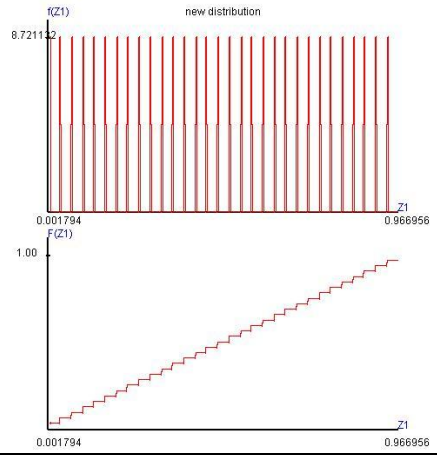
7.1.2)n=3,

$f_{Z_1}(z_1), F_{Z_1}(z_1)$	coefficient
	Mathematical Mean: 0.43748 Geometrical Mean : none Harmonic Mean : none Variance : 0.08203 S.D. : 0.28641 Skewed Coef. : 0.00005 Kurtosis Coef. : 1.76195 MAD : 0.25000 Range : 0.87500 Mid_range : 0.43750 Median : 0.37500 Q1 : 0.12500 Q2 : 0.37500 Q3 : 0.62500 IQR : 0.50000 C.V. : 0.65468

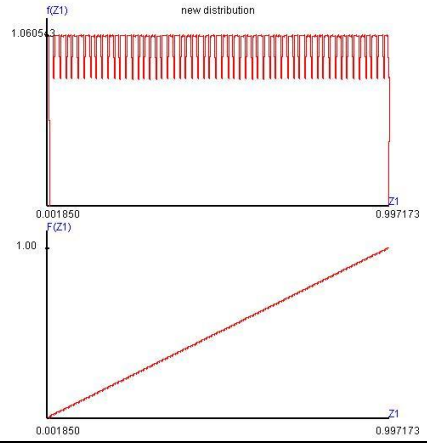
7.1.3)n=4,

$f_{Z_1}(z_1), F_{Z_1}(z_1)$	coefficient
	Mathematical Mean: 0.46877 Geometrical Mean : none Harmonic Mean : none Variance : 0.08299 S.D. : 0.28808 Skewed Coef. : -0.00023 Kurtosis Coef. : 1.79084 MAD : 0.24996 Range : 0.93750 Mid_range : 0.46875 Median : 0.50000 Q1 : 0.25000 Q2 : 0.50000 Q3 : 0.68750 IQR : 0.43750 C.V. : 0.61454

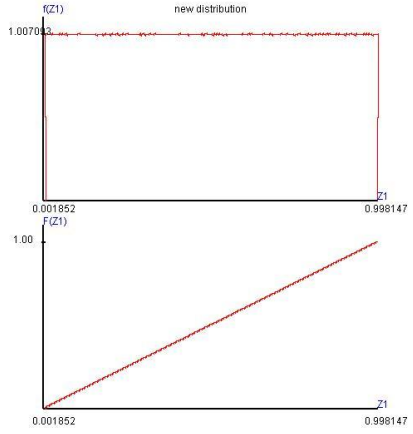
7.1.4)n=5,

$f_{Z_1}(z_1), F_{Z_1}(z_1)$	coefficient
	Mathematical Mean: 0.48439 Geometrical Mean : none Harmonic Mean : none Variance : 0.08327 S.D. : 0.28856 Skewed Coef. : -0.00014 Kurtosis Coef. : 1.79746 MAD : 0.25003 Range : 0.96875 Mid_range : 0.48438 Median : 0.50000 Q1 : 0.21875 Q2 : 0.50000 Q3 : 0.75000 IQR : 0.53125 C.V. : 0.59572

7.1.5)n=10,

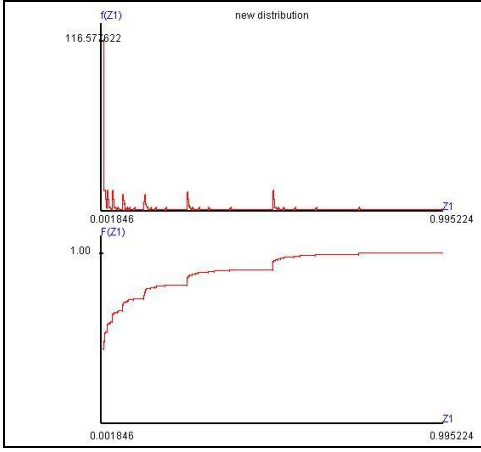
$f_{Z_1}(z_1), F_{Z_1}(z_1)$	coefficient
	Mathematical Mean: 0.49949 Geometrical Mean : none Harmonic Mean : none Variance : 0.08333 S.D. : 0.28867 Skewed Coef. : 0.00027 Kurtosis Coef. : 1.80003 MAD : 0.25000 Range : 0.99902 Mid_range : 0.49951 Median : 0.49902 Q1 : 0.24902 Q2 : 0.49902 Q3 : 0.74902 IQR : 0.50000 C.V. : 0.57794

7.1.6)n=20,

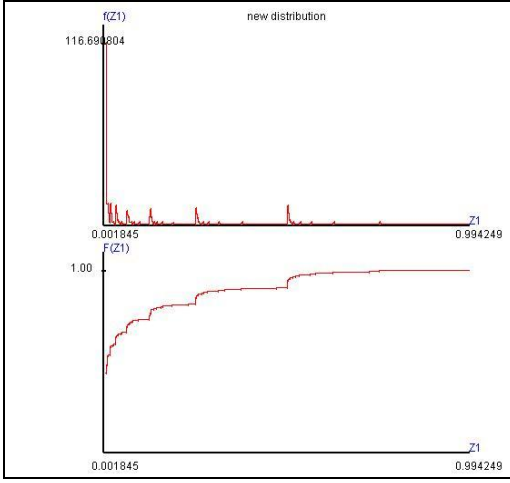
$f_{Z_1}(z_1), F_{Z_1}(z_1)$	coefficient
	Mathematical Mean: 0.49999 Geometrical Mean : none Harmonic Mean : none Variance : 0.08334 S.D. : 0.28869 Skewed Coef. : 0.00005 Kurtosis Coef. : 1.79985 MAD : 0.25002 Range : 1.00000 Mid_range : 0.50000 Median : 0.49996 Q1 : 0.24997 Q2 : 0.49996 Q3 : 0.75004 IQR : 0.50007 C.V. : 0.57739

7.2) $p = 0.1, Z_1 = \sum_{i=1}^{n} \frac{X_i}{2^i}$

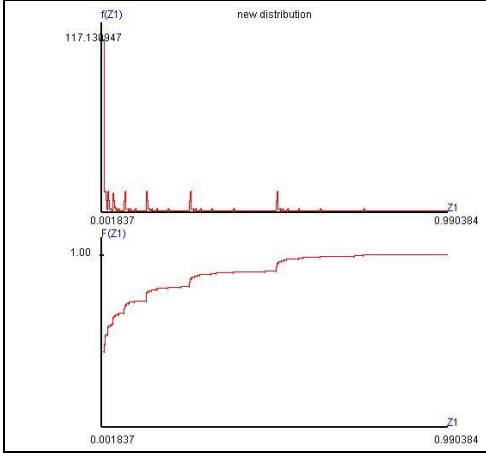
7.2.1)n=10,

$f_{Z_1}(z_1), F_{Z_1}(z_1)$	coefficient
	Mathematical Mean: 0.09994 Geometrical Mean : none Harmonic Mean : none Variance : 0.03001 S.D. : 0.17325 Skewed Coef. : 1.97890 Kurtosis Coef. : 6.06393 MAD : 0.12764 Range : 0.99707 Mid_range : 0.49854 Median : 0.00781 Q1 : 0.00000 Q2 : 0.00781 Q3 : 0.12500 IQR : 0.12500 C.V. : 1.73357

7.2.2)n=20,

$f_{Z_1}(z_1), F_{Z_1}(z_1)$	coefficient
	Mathematical Mean: 0.09996 Geometrical Mean : none Harmonic Mean : none Variance : 0.02998 S.D. : 0.17316 Skewed Coef. : 1.98000 Kurtosis Coef. : 6.06937 MAD : 0.12755 Range : 0.99609 Mid_range : 0.49805 Median : 0.00783 Q1 : 0.00008 Q2 : 0.00783 Q3 : 0.12502 IQR : 0.12494 C.V. : 1.73223

7.2.3)n=30,

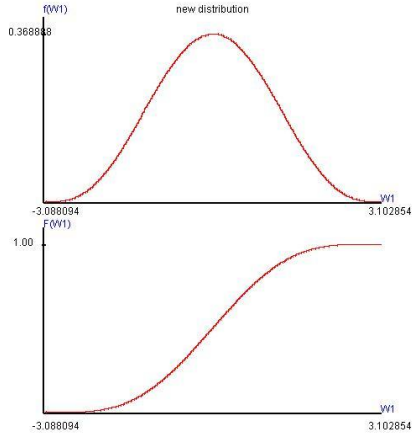
$f_{Z_1}(z_1), F_{Z_1}(z_1)$	coefficient
	Mathematical Mean: 0.09996 Geometrical Mean : none Harmonic Mean : none Variance : 0.02999 S.D. : 0.17318 Skewed Coef. : 1.98026 Kurtosis Coef. : 6.06998 MAD : 0.12756 Range : 0.99222 Mid_range : 0.49611 Median : 0.00783 Q1 : 0.00008 Q2 : 0.00783 Q3 : 0.12502 IQR : 0.12494 C.V. : 1.73244

8) Population mean is zero and Sample variance is replaced by the sample variance.

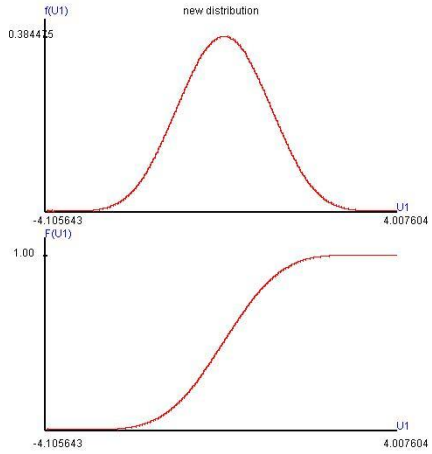
8.1) $X_1,...,X_n \overset{iid}{\sim} N(0,1), U_1 = \dfrac{\sqrt{n} \times \dfrac{X_1 + ... + X_n}{n}}{\sqrt{\dfrac{X_1^2 + ... + X_n^2}{n}}}$

$$W_1 = \frac{X_1 + ... + X_n}{\sqrt{X_1^2 + ... + X_n^2}} \xrightarrow[n \to \infty]{} N(0,1),$$

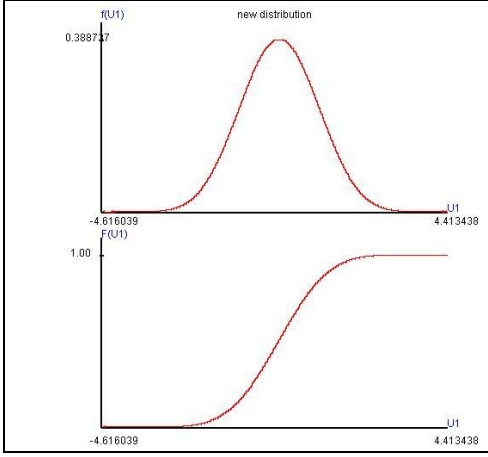
8.1.1)n=10,

$f_{W_1}(w_1), F_{W_1}(w_1)$	coefficient
	Mathematical Mean: -0.00011 Geometrical Mean : none Harmonic Mean : none Variance : 1.00010 S.D. : 1.00005 Skewed Coef. : -0.00014 Kurtosis Coef. : 2.50038 MAD : 0.81805 Range : 6.21396 Mid_range : 0.00738 Median : 0.00006 Q1 : -0.72126 Q2 : 0.00006 Q3 : 0.72114 IQR : 1.44239 C.V. : none

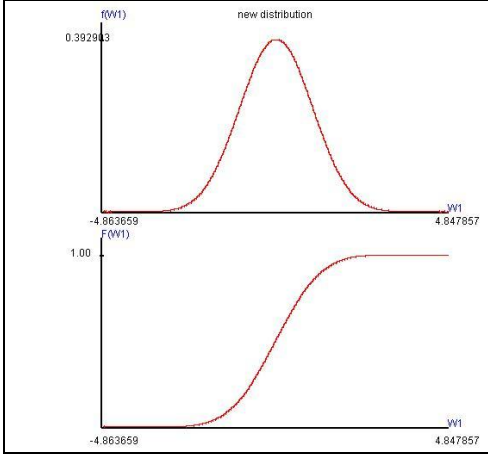
8.1.2)n=20,

$f_{U_1}(u_1), F_{U_1}(u_1)$	coefficient
	Mathematical Mean: 0.00009 Geometrical Mean : none Harmonic Mean : none Variance : 1.00008 S.D. : 1.00004 Skewed Coef. : -0.00002 Kurtosis Coef. : 2.72754 MAD : 0.80790 Range : 8.14341 Mid_range : -0.04902 Median : 0.00010 Q1 : -0.69675 Q2 : 0.00010 Q3 : 0.69680 IQR : 1.39356 C.V. : none

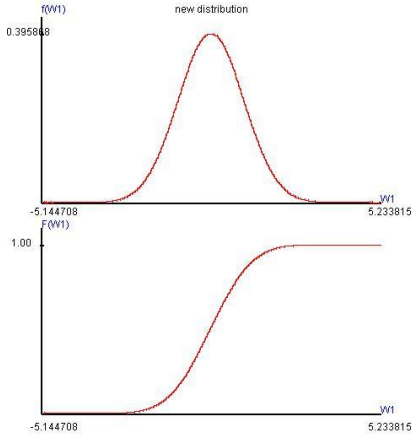
8.1.3)n=30,

$f_{U_1}(u_1), F_{U_1}(u_1)$	coefficient
	Mathematical Mean: 0.00007 Geometrical Mean : none Harmonic Mean : none Variance : 0.99990 S.D. : 0.99995 Skewed Coef. : -0.00005 Kurtosis Coef. : 2.81316 MAD : 0.80450 Range : 9.06304 Mid_range : -0.10130 Median : -0.00001 Q1 : -0.68903 Q2 : -0.00001 Q3 : 0.68928 IQR : 1.37832 C.V. : none

8.1.4)n=50,

$f_{W_1}(w_1), F_{W_1}(w_1)$	coefficient
	Mathematical Mean: 0.00001 Geometrical Mean : none Harmonic Mean : none Variance : 0.99981 S.D. : 0.99991 Skewed Coef. : -0.00015 Kurtosis Coef. : 2.88459 MAD : 0.80182 Range : 9.74762 Mid_range : -0.00790 Median : 0.00021 Q1 : -0.68321 Q2 : 0.00021 Q3 : 0.68325 IQR : 1.36646 C.V. : none

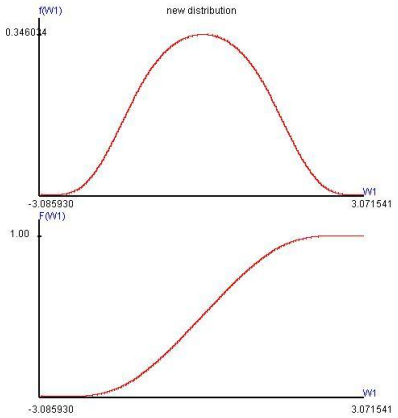
8.1.5)n=100,

$f_{W_1}(w_1), F_{W_1}(w_1)$	coefficient
	Mathematical Mean: 0.00003 Geometrical Mean : none Harmonic Mean : none Variance : 1.00014 S.D. : 1.00007 Skewed Coef. : -0.00007 Kurtosis Coef. : 2.94143 MAD : 0.79991 Range : 10.41711 Mid_range : 0.04455 Median : -0.00002 Q1 : -0.67869 Q2 : -0.00002 Q3 : 0.67876 IQR : 1.35744 C.V. : none

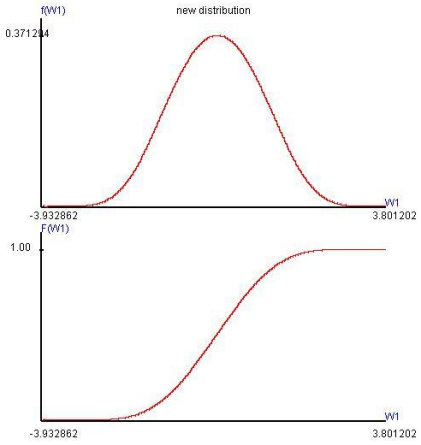
8.2) $X_1,...,X_n \overset{iid}{\sim} DE(1,0), W_1 = \sqrt{n} \times \dfrac{\dfrac{X_1+...+X_n}{n}}{\sqrt{\dfrac{X_1^2+...+X_n^2}{n}}}$

$$= \frac{X_1+...+X_n}{\sqrt{X_1^2+...+X_n^2}} \xrightarrow[n\to\infty]{} N(0,1),$$

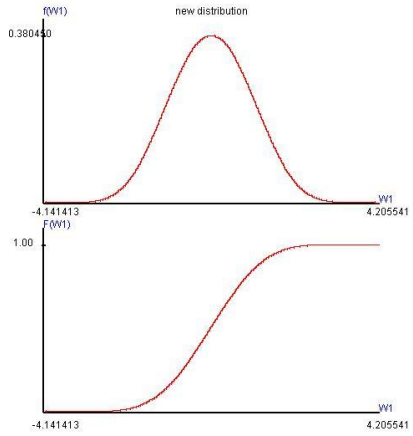
8.2.1)n=10,

$f_{W_1}(w_1), F_{W_1}(w_1)$	coefficient	
	Mathematical Mean:	0.00010
	Geometrical Mean : none	
	Harmonic Mean : none	
	Variance :	1.00001
	S.D. :	1.00000
	Skewed Coef. :	-0.00002
	Kurtosis Coef. :	2.33021
	MAD :	0.82953
	Range :	6.18036
	Mid_range :	-0.00719
	Median :	0.00026
	Q1 :	-0.75325
	Q2 :	0.00026
	Q3 :	0.75350
	IQR :	1.50675
	C.V. : none	

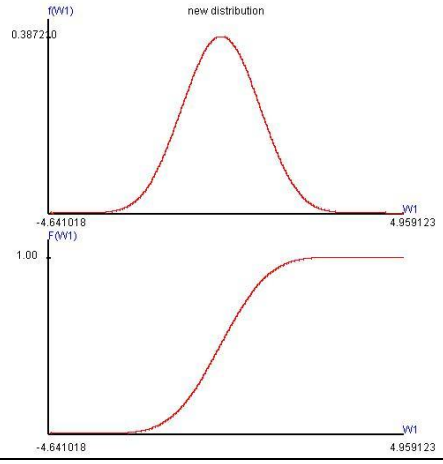
8.2.2)n=20,

$f_{W_1}(w_1), F_{W_1}(w_1)$	coefficient	
	Mathematical Mean:	-0.00033
	Geometrical Mean : none	
	Harmonic Mean : none	
	Variance :	0.99994
	S.D. :	0.99997
	Skewed Coef. :	0.00026
	Kurtosis Coef. :	2.58751
	MAD :	0.81507
	Range :	7.76282
	Mid_range :	-0.06583
	Median :	-0.00049
	Q1 :	-0.71540
	Q2 :	-0.00049
	Q3 :	0.71469
	IQR :	1.43009
	C.V. : none	

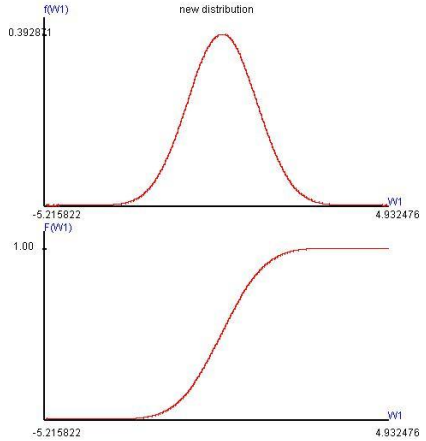
8.2.3)n=30,

$f_{W_1}(w_1), F_{W_1}(w_1)$	coefficient
	Mathematical Mean: 0.00037 Geometrical Mean : none Harmonic Mean : none Variance : 1.00003 S.D. : 1.00001 Skewed Coef. : -0.00035 Kurtosis Coef. : 2.69863 MAD : 0.80977 Range : 8.37798 Mid_range : 0.03206 Median : 0.00047 Q1 : -0.70133 Q2 : 0.00047 Q3 : 0.70218 IQR : 1.40351 C.V. : none

8.2.4)n=50,

$f_{W_1}(w_1), F_{W_1}(w_1)$	coefficient
	Mathematical Mean: -0.00052 Geometrical Mean : none Harmonic Mean : none Variance : 1.00012 S.D. : 1.00006 Skewed Coef. : 0.00083 Kurtosis Coef. : 2.80205 MAD : 0.80533 Range : 9.63583 Mid_range : 0.15905 Median : -0.00065 Q1 : -0.69181 Q2 : -0.00065 Q3 : 0.69064 IQR : 1.38245 C.V. : none

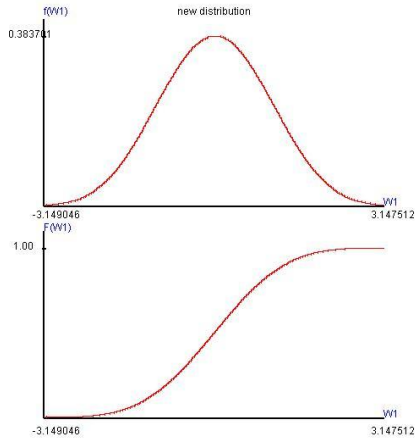
8.2.5)n=100,

$f_{W_1}(w_1), F_{W_1}(w_1)$	coefficient
	Mathematical Mean: -0.00076 Geometrical Mean : none Harmonic Mean : none Variance : 1.00000 S.D. : 1.00000 Skewed Coef. : 0.00112 Kurtosis Coef. : 2.89286 MAD : 0.80168 Range : 10.18602 Mid_range : -0.14167 Median : -0.00095 Q1 : -0.68374 Q2 : -0.00095 Q3 : 0.68193 IQR : 1.36567 C.V. : none

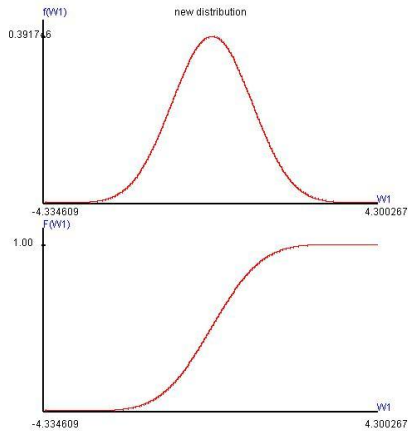
8.3) $X_1,...,X_n \overset{iid}{\sim} Arc\sin(0,1.414213562), W_1 = \sqrt{n} \times \dfrac{\dfrac{X_1+...+X_n}{n}}{\sqrt{\dfrac{X_1^2+...+X_n^2}{n}}}$

$$= \frac{X_1+...+X_n}{\sqrt{X_1^2+...+X_n^2}} \xrightarrow[n\to\infty]{} N(0,1),$$

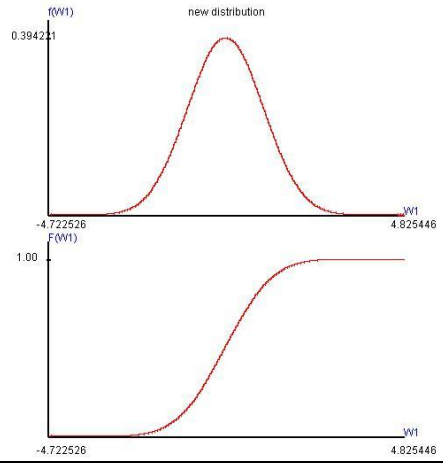
8.3.1)n=10,

$f_{W_1}(w_1), F_{W_1}(w_1)$	coefficient
	Mathematical Mean: -0.00009 Geometrical Mean : none Harmonic Mean : none Variance : 0.99993 S.D. : 0.99996 Skewed Coef. : 0.00005 Kurtosis Coef. : 2.69543 MAD : 0.80843 Range : 6.31997 Mid_range : -0.00077 Median : -0.00002 Q1 : -0.69749 Q2 : -0.00002 Q3 : 0.69727 IQR : 1.39476 C.V. : none

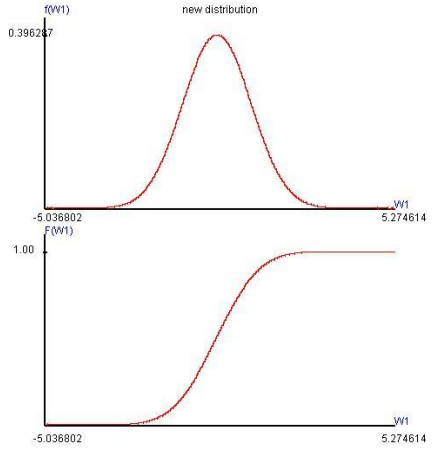
8.3.2)n=20,

$f_{W_1}(w_1), F_{W_1}(w_1)$	coefficient
	Mathematical Mean: 0.00001 Geometrical Mean : none Harmonic Mean : none Variance : 0.99999 S.D. : 1.00000 Skewed Coef. : -0.00002 Kurtosis Coef. : 2.84865 MAD : 0.80304 Range : 8.66698 Mid_range : -0.01717 Median : -0.00006 Q1 : -0.68559 Q2 : -0.00006 Q3 : 0.68570 IQR : 1.37129 C.V. : none

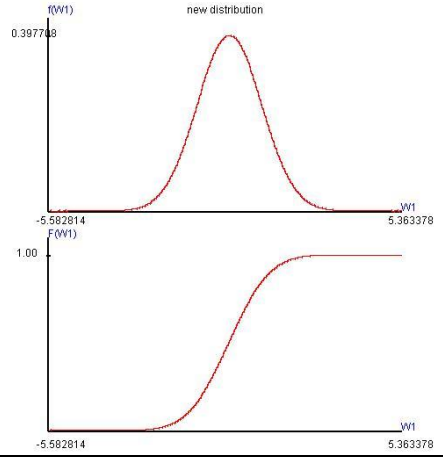
8.3.3)n=30,

$f_{W_1}(w_1), F_{W_1}(w_1)$	coefficient
	Mathematical Mean: 0.00002 Geometrical Mean : none Harmonic Mean : none Variance : 0.99986 S.D. : 0.99993 Skewed Coef. : -0.00019 Kurtosis Coef. : 2.89838 MAD : 0.80126 Range : 9.58347 Mid_range : 0.05146 Median : -0.00006 Q1 : -0.68187 Q2 : -0.00006 Q3 : 0.68190 IQR : 1.36377 C.V. : none

8.3.4)n=50,

$f_{W_1}(w_1), F_{W_1}(w_1)$	coefficient
	Mathematical Mean: 0.00003 Geometrical Mean : none Harmonic Mean : none Variance : 1.00004 S.D. : 1.00002 Skewed Coef. : -0.00035 Kurtosis Coef. : 2.94044 MAD : 0.79990 Range : 10.34975 Mid_range : 0.11891 Median : 0.00005 Q1 : -0.67873 Q2 : 0.00005 Q3 : 0.67882 IQR : 1.35755 C.V. : none

8.3.5)n=100,

$f_{W_1}(w_1), F_{W_1}(w_1)$	coefficient
	Mathematical Mean: 0.00002 Geometrical Mean : none Harmonic Mean : none Variance : 1.00007 S.D. : 1.00004 Skewed Coef. : -0.00001 Kurtosis Coef. : 2.96999 MAD : 0.79894 Range : 10.98688 Mid_range : -0.10972 Median : 0.00001 Q1 : -0.67673 Q2 : 0.00001 Q3 : 0.67668 IQR : 1.35341 C.V. : none