Universidad de San Carlos de Guatemala
Facultad de Ingeniería
Área de Estadística
Coordinación

FORMULARIO DE ESTADÍSTICA 1

ESTADÍSTICA DESCRIPTIVA

1.	K = 1 + 3.3 Log(n)
2.	A = (dato mayor – dato menor)/K
3.	R = Dato mayor – Dato menor
4.	$\overline{\mathbf{X}} = \frac{\sum \mathbf{x_i}}{\mathbf{n}}$
5.	$\overline{\overline{X}} = \frac{\sum (x_i * f_i)}{\sum fi}$
6.	$M_e = L_{me} + \left[\frac{n/2 - F}{f_{me}} \right] * A$
7.	$Mo = L_{mo} + \left[\frac{D_1}{D_1 + D_2} \right] * A$
8.	$i = \left(\frac{p}{100} \right) * n$
9.	$i = \left(\frac{p}{100} \right) * \sum f$
10.	$P_i = L_{pi} + \left[\frac{\left(\frac{p}{100} \right) * \sum f - F}{f_{pi}} \right] * A$
11.	RIQ = $Q_3 – Q_1$
12.	RIP = P_{90} - P_{10}
13.	$\sigma^2 = \frac{\sum (x - \mu)^2}{N}$
14.	$\sigma^2 = \frac{\sum f * (xi - \mu)^2}{N}$
15.	$S^2 = \frac{\sum (x - \overline{X})^2}{(n-1)}$

16.	$S^2 = \dfrac{\sum f * \left(xi - \overline{X}\right)^2}{\left(n-1\right)}$
17.	$CV = \dfrac{\sigma}{\mu} * 100$
18.	$CV = \dfrac{S}{\overline{X}} * 100$
19.	$Sk_1 = \dfrac{\overline{X} - Mo}{S}$
20.	$Sk_2 = \dfrac{3(\overline{X} - Me)}{S}$
21.	$Sk_3 = \dfrac{Q_3 - 2Q_2 + Q_1}{Q_3 - Q_1}$
22.	$Sk_4 = \dfrac{P_{90} - 2P_{50} + P_{10}}{P_{90} - P_{10}}$
23.	$K = \dfrac{\frac{1}{2}(Q_3 - Q_1)}{P_{90} - P_{10}}$

TEORÍA DE CONJUNTOS

24.	$P(A \cup B) = P(A) + P(B) - P(A \cap B)$
25.	$P(A \cup B \cup C) = P(A) + P(B) + P(C) - P(A \cap B) - P(A \cap C) - P(B \cap C) + P(A \cap B \cap C)$
26.	$P(A) + P(A') = 1$
27.	$P(B/A) = \dfrac{P(A \cap B)}{P(A)}$; $P(A) > 0$
28.	$P(A \cap B) = P(A/B) * P(B) = P(B/A) * P(A)$
29.	$P(A/B) = P(A)$; A y B independientes
30.	$P(A \cap B) = P(A) * P(B)$; A y B independientes
31.	$P(A_i/E) = \dfrac{P(A_i)P(E/A_i)}{P(A_1)P(E/A_1) + \cdots\cdots\cdots + P(A_K)P(E/A_K)}$

TÉCNICAS DE CONTEO

32.	$\frac{n!}{n_1 * n_2 * \cdots\cdots * n_K}$
33.	$n_1 * n_2 * \cdots\cdots * n_K$
34.	$P_r^n = \frac{n!}{(n-r)!}$
35.	$C_r^n = \frac{n!}{r!(n-r)!}$
36.	$(n-1)!$

VARIABLES UNIDIMENSIONALES

37.	$f(x) = P(X = x) \geq 0$
38.	$\sum_x f(x) = 1$
39.	$\int_{-\infty}^{\infty} f(x)dx = 1$
40.	$F(x) = \int_{-\infty}^{\infty} f(t)dt$
41.	$F(x) = P(X \leq x) = \sum_{t \leq x} f(t)$
42.	$\mu = E(x) = \begin{cases} \sum_x xf(x) \\ \int_{-\infty}^{\infty} xf(x)dx \end{cases}$
43.	$\sigma^2 = V(x) = E(x^2) - \mu^2$
44.	$\sigma^2 = E(x-\mu) = \begin{cases} \sum (x-\mu)^2 f(x) \\ \int_{-\infty}^{\infty} (x-\mu)^2 f(x)d(x) \end{cases}$
45.	$\sigma_{g(x)} = E\left[\left(g(x) - \mu_{g(x)}\right)^2\right] = \begin{cases} \sum_x \left(g(x) - \mu_{g(x)}\right)^2 f(x) \\ \int \left(g(x) - \mu_{g(x)}\right)^2 f(x)dx \end{cases}$

TEOREMA DE TCHEBYSHEV

46.	$P(\mu-\kappa\sigma<x<\mu+\kappa\sigma)\geq 1-\frac{1}{\kappa^2}\ ;\ P(x-\mu>\kappa\sigma)<\frac{1}{\kappa}$

VARIABLES BIDIMENSIONALES

47.	$f(x,y)=P(X=x,Y=y)$
48.	$\sum_x \sum_y f(x,y)=1$
49.	$\int_{-\infty}^{\infty}\int_{-\infty}^{\infty} f(x,y)dxdy=1$
50.	$f(y/x)=\frac{f(x,y)}{g(x)}\ ;\ g(x)>0$
51.	$f(x/y)=\frac{f(x,y)}{h(y)};h(y)>0$
52.	$g(x)=\sum f(x,y)=\int_{-\infty}^{\infty} f(x,y)dy$
53.	$h(y)=\sum f(x,y)=\int_{-\infty}^{\infty} f(x,y)dx$
54.	Las variables aleatorias discretas X_1 y X_2 son independientes si: $P(X_2=x_2,X_1=x_1)=P(X_2=x_2)*P(X_1=x_1)$:
55.	Las variables aleatorias continuas X_1 y X_2 son independientes si: $f(x_1,x_2)=f(x_1)f(x_2)$
56.	$\mu_{g(x,y)}=E(g(x,y))=\begin{cases}\sum_x\sum_y g(x,y)f(x,y)\\ \int_{-\infty}^{\infty}\int_{-\infty}^{\infty} g(x,y)f(x,y)dxdy\end{cases}$
57.	$\sigma_{x,y}=E\left[(x-\mu_x)(y-\mu_y)\right]=\begin{cases}\sum_x\sum_y\left[(x-\mu_x)(y-\mu_y)\right]f(x,y)\\ \int\int\left[(x-\mu_x)(y-\mu_y)\right]f(x,y)dxdy\end{cases}$
58.	$\sigma_{x,y}=E(x,y)-\mu_x\mu_y$
59.	$\rho=\frac{\sigma_{x,y}}{\sqrt{\sigma_x^2\sigma_y^2}}$

FUNCIONES DE VARIABLES ALEATORIAS DISCRETAS

60.	$g(y) = f[w(y)]$

FUNCIONES DE VARIABLES ALEATORIAS CONTINUAS

61.	$(y) = f[w(y)]\|J\|$
62.	$J = w'(y)$
63.	$g(y) = \sum_{i=1}^{k} f[w_i(y)]\|J_i\|$ $J_i = w_i'(y)$, $i = 1, 2, \ldots, k$
64.	$J = \begin{vmatrix} \frac{\partial x1}{\partial y1} & \frac{\partial x1}{\partial y2} \\ \frac{\partial x2}{\partial y1} & \frac{\partial x2}{\partial y1} \end{vmatrix}$

FUNCIONES GENERADORAS DE MOMENTOS

65.	r-ésimo momento alrededor del origen: $\mu'_{\gamma} = E(X^{\gamma}) = \begin{cases} \sum_{x} x^{\gamma} f(x), & si\ X\ es\ discreta \\ \int_{-\infty}^{\infty} x^{\gamma} f(x)dx, & si\ X\ es\ continua \end{cases}$
66.	Función generadora de momentos: $M_x(tx) = E(e^{tx}) = \begin{cases} \sum_{x} e^{tx} f(x), & si\ X\ es\ discreta \\ \int_{-\infty}^{\infty} e^{tx} f(x)dx, si\ X\ es\ continua \end{cases}$
67.	$\left.\frac{d^{\gamma} M_x(t)}{dt^{\gamma}}\right\|. t = 0 = \mu'_{\gamma}$

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68.	$M_{x+\alpha}(t) = e^{\alpha t} M_x(t)$
69.	$M_{\alpha x}(t) = M_x(\alpha t)$

DISTRIBUCIONES DISCRETAS

DISTRIBUCIÓN	FUNCIÓN DE PROBABILIDAD	MEDIA	VARIANZA
BINOMIAL	$b(x;n,p)=\binom{n}{x}p^x q^{n-x}$ x = 0,1,2,….	np	npq
GEOMÉTRICA	$g(x;p)=pq^{x-1}$ x = 1,2,3,…	$\frac{1}{p}$	$\frac{q}{p^2}$
HIPERGEOMÉTRICA	$h(x;N,n,k)=\frac{\binom{k}{x}\binom{N-k}{n-x}}{\binom{N}{n}}$ x = 0,1,2,…	$\frac{nk}{N}$	$n\left(\frac{k}{N}\right)\left(\frac{N-n}{N-1}\right)\left(1-\frac{k}{N}\right)$
POISSON	$p(x;\lambda t)=\frac{e^{-\lambda t}(\lambda t)^x}{x!}$ x = 0,1,2,…	λ	λ
BINOMIAL NEGATIVA	$b^*(x;k,p)=\binom{x-1}{k-1}p^k q^{x-k}$ x = k, k+1, k+2, …	$\frac{k}{p}$	$\frac{kq}{p^2}$
MULTINOMIAL	$f(x_1,x_2,\ldots x_k;p_1,p_2,\ldots p_k,n)=\frac{n!}{x_1!x_2!\ldots x_k!}p_1^{x_1}p_2^{x_2}\ldots p_k^{x_k}$ $\sum_{i=1}^{k}x_i=n$ y $\sum_{i=1}^{k}p_i=1$ x = 0,1,2,…n	np_i	np_iq_i
HIPERGEOMÉTRICA MULTIVARIADA	$f(x_1,x_2,\ldots x_k;a_1,a_2,\ldots a_k,N,n)=\frac{\binom{a_1}{x_1}\binom{a_2}{x_2}\ldots\binom{a_k}{x_k}}{\binom{N}{n}}$ con $\sum_{i=1}^{k}x_i=n$ y $\sum_{i=1}^{k}a_i=N$		

DISTRIBUCIONES CONTINUAS

DISTRIBUCIÓN	FUNCIÓN DE PROBABILIDAD	MEDIA	VARIANZA
UNIFORME	$f(y)=\left(\frac{1}{\theta_2-\theta_1}\right); \qquad \theta_1 \le y \ge \theta_2$	$\frac{(\theta_1+\theta_2)}{2}$	$\frac{(\theta_2-\theta_1)^2}{12}$
NORMAL	$n(x:\mu,\sigma)=\frac{1}{\sigma\sqrt{2\pi}}e^{-(1/2)[(x-\mu)/\sigma]^2} \quad -\infty<x<\infty$	μ	σ^2
NORMAL ESTÁNDAR	$\frac{1}{\sqrt{2\pi}}e^{-z^2/2}$	*cero*	1
EXPONENCIAL	$f(x)=\frac{1}{\beta}e^{-x/\beta}$ $\beta>0$ y $x>0$	β	β^2
GAMMA	$f(x)=\frac{1}{\beta^\alpha \Gamma\alpha}x^{\alpha-1}e^{-x/\beta}$ x > 0, α > 0, β > 0	$\alpha\beta$	$\alpha\beta^2$
BETA	$f(y)=\left[\frac{\Gamma(\alpha+\beta)}{\Gamma(\alpha)\Gamma(\beta)}\right]y^{\alpha-1}(1-y)^{\beta-1}$ 0 < y < 1	$\frac{\alpha}{\alpha+\beta}$	$\frac{\alpha\beta}{(\alpha+\beta)^2(\alpha+\beta+1)}$
WEIBULL	$f(x)=\alpha\beta x^{(\beta-1)}e^{-\alpha x^\beta}$ x > 0, α > 0, β > 0	$\alpha^{-1/\beta}\Gamma\left(1+\frac{1}{\beta}\right)$	$\alpha^{-2/\beta}\left[\Gamma\left(1+\frac{2}{\beta}\right)-\left[\Gamma\left(1+\frac{1}{\beta}\right)\right]^2\right]$

TEOREMA DEL LÍMITE CENTRAL

$$Z=\frac{x-\mu}{\sigma}$$

AREAS BAJO LA CURVA NORMAL

Z	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0.50000	0.49601	0.49202	0.48803	0.48405	0.48006	0.47608	0.47210	0.46812	0.46414
-0.1	0.46017	0.45620	0.45224	0.44828	0.44433	0.44038	0.43644	0.43251	0.42858	0.42465
-0.2	0.42074	0.41683	0.41294	0.40905	0.40517	0.40129	0.39743	0.39358	0.38974	0.38591
-0.3	0.38209	0.37828	0.37448	0.37070	0.36693	0.36317	0.35942	0.35569	0.35197	0.34827
-0.4	0.34458	0.34090	0.33724	0.33360	0.32997	0.32636	0.32276	0.31918	0.31561	0.31207
-0.5	0.30854	0.30503	0.30153	0.29806	0.29460	0.29116	0.28774	0.28434	0.28096	0.27760
-0.6	0.27425	0.27093	0.26763	0.26435	0.26109	0.25785	0.25463	0.25143	0.24825	0.24510
-0.7	0.24196	0.23885	0.23576	0.23270	0.22965	0.22663	0.22363	0.22065	0.21770	0.21476
-0.8	0.21186	0.20897	0.20611	0.20327	0.20045	0.19766	0.19489	0.19215	0.18943	0.18673
-0.9	0.18406	0.18141	0.17879	0.17619	0.17361	0.17106	0.16853	0.16602	0.16354	0.16109
-1.0	0.15866	0.15625	0.15386	0.15151	0.14917	0.14686	0.14457	0.14231	0.14007	0.13786
-1.1	0.13567	0.13350	0.13136	0.12924	0.12714	0.12507	0.12302	0.12100	0.11900	0.11702
-1.2	0.11507	0.11314	0.11123	0.10935	0.10749	0.10565	0.10383	0.10204	0.10027	0.09853
-1.3	0.09680	0.09510	0.09342	0.09176	0.09012	0.08851	0.08691	0.08534	0.08379	0.08226
-1.4	0.08076	0.07927	0.07780	0.07636	0.07493	0.07353	0.07215	0.07078	0.06944	0.06811
-1.5	0.06681	0.06552	0.06426	0.06301	0.06178	0.06057	0.05938	0.05821	0.05705	0.05592
-1.6	0.05480	0.05370	0.05262	0.05155	0.05050	0.04947	0.04846	0.04746	0.04648	0.04551
-1.7	0.04457	0.04363	0.04272	0.04182	0.04093	0.04006	0.03920	0.03836	0.03754	0.03673
-1.8	0.03593	0.03515	0.03438	0.03362	0.03288	0.03216	0.03144	0.03074	0.03005	0.02938
-1.9	0.02872	0.02807	0.02743	0.02680	0.02619	0.02559	0.02500	0.02442	0.02385	0.02330
-2.0	0.02275	0.02222	0.02169	0.02118	0.02068	0.02018	0.01970	0.01923	0.01876	0.01831
-2.1	0.01786	0.01743	0.01700	0.01659	0.01618	0.01578	0.01539	0.01500	0.01463	0.01426
-2.2	0.01390	0.01355	0.01321	0.01287	0.01255	0.01222	0.01191	0.01160	0.01130	0.01101
-2.3	0.01072	0.01044	0.01017	0.00990	0.00964	0.00939	0.00914	0.00889	0.00866	0.00842
-2.4	0.00820	0.00798	0.00776	0.00755	0.00734	0.00714	0.00695	0.00676	0.00657	0.00639
-2.5	0.00621	0.00604	0.00587	0.00570	0.00554	0.00539	0.00523	0.00508	0.00494	0.00480
-2.6	0.00466	0.00453	0.00440	0.00427	0.00415	0.00402	0.00391	0.00379	0.00368	0.00357
-2.7	0.00347	0.00336	0.00326	0.00317	0.00307	0.00298	0.00289	0.00280	0.00272	0.00264
-2.8	0.00256	0.00248	0.00240	0.00233	0.00226	0.00219	0.00212	0.00205	0.00199	0.00193
-2.9	0.00187	0.00181	0.00175	0.00169	0.00164	0.00159	0.00154	0.00149	0.00144	0.00139
-3.0	0.00135	0.00131	0.00126	0.00122	0.00118	0.00114	0.00111	0.00107	0.00104	0.00100
-3.1	0.00097	0.00094	0.00090	0.00087	0.00084	0.00082	0.00079	0.00076	0.00074	0.00071
-3.2	0.00069	0.00066	0.00064	0.00062	0.00060	0.00058	0.00056	0.00054	0.00052	0.00050
-3.3	0.00048	0.00047	0.00045	0.00043	0.00042	0.00040	0.00039	0.00038	0.00036	0.00035
-3.4	0.00034	0.00032	0.00031	0.00030	0.00029	0.00028	0.00027	0.00026	0.00025	0.00024
-3.5	0.00023	0.00022	0.00022	0.00021	0.00020	0.00019	0.00019	0.00018	0.00017	0.00017
-3.6	0.00016	0.00015	0.00015	0.00014	0.00014	0.00013	0.00013	0.00012	0.00012	0.00011
-3.7	0.00011	0.00010	0.00010	0.00010	0.00009	0.00009	0.00008	0.00008	0.00008	0.00008
-3.8	0.00007	0.00007	0.00007	0.00006	0.00006	0.00006	0.00006	0.00005	0.00005	0.00005
-3.9	0.00005	0.00005	0.00004	0.00004	0.00004	0.00004	0.00004	0.00004	0.00003	0.00003
-4.0	0.00003	0.00003	0.00003	0.00003	0.00003	0.00003	0.00002	0.00002	0.00002	0.00002

ÁREAS BAJO LA CURVA NORMAL

Z	0	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0.50000	0.50399	0.50798	0.51197	0.51595	0.51994	0.52392	0.52790	0.53188	0.53586
0.1	0.53983	0.54380	0.54776	0.55172	0.55567	0.55962	0.56356	0.56749	0.57142	0.57535
0.2	0.57926	0.58317	0.58706	0.59095	0.59483	0.59871	0.60257	0.60642	0.61026	0.61409
0.3	0.61791	0.62172	0.62552	0.62930	0.63307	0.63683	0.64058	0.64431	0.64803	0.65173
0.4	0.65542	0.65910	0.66276	0.66640	0.67003	0.67364	0.67724	0.68082	0.68439	0.68793
0.5	0.69146	0.69497	0.69847	0.70194	0.70540	0.70884	0.71226	0.71566	0.71904	0.72240
0.6	0.72575	0.72907	0.73237	0.73565	0.73891	0.74215	0.74537	0.74857	0.75175	0.75490
0.7	0.75804	0.76115	0.76424	0.76730	0.77035	0.77337	0.77637	0.77935	0.78230	0.78524
0.8	0.78814	0.79103	0.79389	0.79673	0.79955	0.80234	0.80511	0.80785	0.81057	0.81327
0.9	0.81594	0.81859	0.82121	0.82381	0.82639	0.82894	0.83147	0.83398	0.83646	0.83891
1.0	0.84134	0.84375	0.84614	0.84849	0.85083	0.85314	0.85543	0.85769	0.85993	0.86214
1.1	0.86433	0.86650	0.86864	0.87076	0.87286	0.87493	0.87698	0.87900	0.88100	0.88298
1.2	0.88493	0.88686	0.88877	0.89065	0.89251	0.89435	0.89617	0.89796	0.89973	0.90147
1.3	0.90320	0.90490	0.90658	0.90824	0.90988	0.91149	0.91309	0.91466	0.91621	0.91774
1.4	0.91924	0.92073	0.92220	0.92364	0.92507	0.92647	0.92785	0.92922	0.93056	0.93189
1.5	0.93319	0.93448	0.93574	0.93699	0.93822	0.93943	0.94062	0.94179	0.94295	0.94408
1.6	0.94520	0.94630	0.94738	0.94845	0.94950	0.95053	0.95154	0.95254	0.95352	0.95449
1.7	0.95543	0.95637	0.95728	0.95818	0.95907	0.95994	0.96080	0.96164	0.96246	0.96327
1.8	0.96407	0.96485	0.96562	0.96638	0.96712	0.96784	0.96856	0.96926	0.96995	0.97062
1.9	0.97128	0.97193	0.97257	0.97320	0.97381	0.97441	0.97500	0.97558	0.97615	0.97670
2.0	0.97725	0.97778	0.97831	0.97882	0.97932	0.97982	0.98030	0.98077	0.98124	0.98169
2.1	0.98214	0.98257	0.98300	0.98341	0.98382	0.98422	0.98461	0.98500	0.98537	0.98574
2.2	0.98610	0.98645	0.98679	0.98713	0.98745	0.98778	0.98809	0.98840	0.98870	0.98899
2.3	0.98928	0.98956	0.98983	0.99010	0.99036	0.99061	0.99086	0.99111	0.99134	0.99158
2.4	0.99180	0.99202	0.99224	0.99245	0.99266	0.99286	0.99305	0.99324	0.99343	0.99361
2.5	0.99379	0.99396	0.99413	0.99430	0.99446	0.99461	0.99477	0.99492	0.99506	0.99520
2.6	0.99534	0.99547	0.99560	0.99573	0.99585	0.99598	0.99609	0.99621	0.99632	0.99643
2.7	0.99653	0.99664	0.99674	0.99683	0.99693	0.99702	0.99711	0.99720	0.99728	0.99736
2.8	0.99744	0.99752	0.99760	0.99767	0.99774	0.99781	0.99788	0.99795	0.99801	0.99807
2.9	0.99813	0.99819	0.99825	0.99831	0.99836	0.99841	0.99846	0.99851	0.99856	0.99861
3.0	0.99865	0.99869	0.99874	0.99878	0.99882	0.99886	0.99889	0.99893	0.99896	0.99900
3.1	0.99903	0.99906	0.99910	0.99913	0.99916	0.99918	0.99921	0.99924	0.99926	0.99929
3.2	0.99931	0.99934	0.99936	0.99938	0.99940	0.99942	0.99944	0.99946	0.99948	0.99950
3.3	0.99952	0.99953	0.99955	0.99957	0.99958	0.99960	0.99961	0.99962	0.99964	0.99965
3.4	0.99966	0.99968	0.99969	0.99970	0.99971	0.99972	0.99973	0.99974	0.99975	0.99976
3.5	0.99977	0.99978	0.99978	0.99979	0.99980	0.99981	0.99981	0.99982	0.99983	0.99983
3.6	0.99984	0.99985	0.99985	0.99986	0.99986	0.99987	0.99987	0.99988	0.99988	0.99989
3.7	0.99989	0.99990	0.99990	0.99990	0.99991	0.99991	0.99992	0.99992	0.99992	0.99992
3.8	0.99993	0.99993	0.99993	0.99994	0.99994	0.99994	0.99994	0.99995	0.99995	0.99995
3.9	0.99995	0.99995	0.99996	0.99996	0.99996	0.99996	0.99996	0.99996	0.99997	0.99997
4.0	0.99997	0.99997	0.99997	0.99997	0.99997	0.99997	0.99998	0.99998	0.99998	0.99998

TABLA T-STUDENT

g.l.	0.050	0.025	0.0125	0.010	0.005	0.0025	0.0005
1	6.3137	12.7060	25.4520	31.8210	63.6560	127.3200	636.5800
2	2.9200	4.3027	6.2054	6.9645	9.9250	14.0890	31.6000
3	2.3534	3.1824	4.1765	4.5407	5.8408	7.4532	12.9240
4	2.1318	2.7765	3.4954	3.7469	4.6041	5.5975	8.6101
5	2.0150	2.5706	3.1634	3.3649	4.0321	4.7733	6.8685
6	1.9432	2.4469	2.9687	3.1427	3.7074	4.3168	5.9587
7	1.8946	2.3646	2.8412	2.9979	3.4995	4.0294	5.4081
8	1.8595	2.3060	2.7515	2.8965	3.3554	3.8325	5.0414
9	1.8331	2.2622	2.6850	2.8214	3.2498	3.6896	4.7809
10	1.8125	2.2281	2.6338	2.7638	3.1693	3.5814	4.5868
11	1.7959	2.2010	2.5931	2.7181	3.1058	3.4966	4.4369
12	1.7823	2.1788	2.5600	2.6810	3.0545	3.4284	4.3178
13	1.7709	2.1604	2.5326	2.6503	3.0123	3.3725	4.2209
14	1.7613	2.1448	2.5096	2.6245	2.9768	3.3257	4.1403
15	1.7531	2.1315	2.4899	2.6025	2.9467	3.2860	4.0728
16	1.7459	2.1199	2.4729	2.5835	2.9208	3.2520	4.0149
17	1.7396	2.1098	2.4581	2.5669	2.8982	3.2224	3.9651
18	1.7341	2.1009	2.4450	2.5524	2.8784	3.1966	3.9217
19	1.7291	2.0930	2.4334	2.5395	2.8609	3.1737	3.8833
20	1.7247	2.0860	2.4231	2.5280	2.8453	3.1534	3.8496
21	1.7207	2.0796	2.4138	2.5176	2.8314	3.1352	3.8193
22	1.7171	2.0739	2.4055	2.5083	2.8188	3.1188	3.7922
23	1.7139	2.0687	2.3979	2.4999	2.8073	3.1040	3.7676
24	1.7109	2.0639	2.3910	2.4922	2.7970	3.0905	3.7454
25	1.7081	2.0595	2.3846	2.4851	2.7874	3.0782	3.7251
26	1.7056	2.0555	2.3788	2.4786	2.7787	3.0669	3.7067
27	1.7033	2.0518	2.3734	2.4727	2.7707	3.0565	3.6895
28	1.7011	2.0484	2.3685	2.4671	2.7633	3.0470	3.6739
29	1.6991	2.0452	2.3638	2.4620	2.7564	3.0380	3.6595
30	1.6973	2.0423	2.3596	2.4573	2.7500	3.0298	3.6460
40	1.6839	2.0211	2.3289	2.4233	2.7045	2.9712	3.5510
50	1.6759	2.0086	2.3109	2.4033	2.6778	2.9370	3.4960
60	1.6706	2.0003	2.2990	2.3901	2.6603	2.9146	3.4602
70	1.6669	1.9944	2.2906	2.3808	2.6479	2.8987	3.4350
80	1.6641	1.9901	2.2844	2.3739	2.6387	2.8870	3.4164
90	1.6620	1.9867	2.2795	2.3685	2.6316	2.8779	3.4019
100	1.6602	1.9840	2.2757	2.3642	2.6259	2.8707	3.3905
∞	1.6454	1.9608	2.2425	2.3276	2.5775	2.8091	3.2938

/meab