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The ν-Zeros of $J_{-\nu}(x)$

By S. Conde and S. L. Kalla

Abstract. We compute the positive ν-zeros of $J_{-\nu}(x)$, regarded as a function of ν. $J_\nu(x)$ stands for the Bessel function of first kind of order ν. Some related inequalities are verified and algorithms the computer uses are described briefly.

1. Introduction. In a recent paper D. Naylor [5] has considered an integral transform adapted to the solution of certain boundary value problems connected with the Helmholtz equation in cylindrical or spherical polar coordinates, where the radial variable r varies over some infinite interval $0 \leqslant a \leqslant r < \infty$. At infinity a radiation type boundary condition is imposed.

Precisely, suppose that $f(r)$ is twice continuously differentiable for $r \geqslant a$,

$$r^{-1/2}(rf_{rr} + f_r + k^2 rf) \in L(a, \infty), \qquad \lim_{r\to\infty} r^{1/2} f(r) e^{-ikr}$$

exists and $\lim_{r\to\infty} r^{1/2}(f_r - ikf) = 0$, where k is real and positive. Let

$$G(u) = \int_a^\infty [J_u(kr)H_u^{(1)}(ka) - J_u(ka)H_u^{(1)}(kr)]\, f(r)\, \frac{dr}{r}, \tag{1.1}$$

where $a > 0$, $k > 0$; then

$$f(r) = \frac{1}{2}\int_L \frac{uJ_{-u}(kr)G(u)du}{J_{-u}(ka)} + i\pi \sum_{u=u_n'} \frac{uJ_{-u}(kr)G(u)}{\left(\frac{\partial}{\partial u}\right)J_{-u}(ka)}, \tag{1.2}$$

where L denotes the imaginary axis of the complex u-plane and the summation is extended over all the positive zeros u_n' of the function $J_{-u}(ka)$, regarded as a function of u.

Thus, to apply this interesting transform we need the positive zeros u_n' of the function $J_{-u}(ka)$ [3], [5] and [6] regarded as a function of u. As such zeros are not easily available, in this paper we give ten ν-zeros (for a particular value of the argument) to eight decimal places.

2. Tables. Tables of numerical values of the ν-zeros of $J_{-\nu}(A)$ are to be found in the microfiche supplement of this issue. The ranges for the parameter A are

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$A =$ 0.001, 0.002, 0.005 (0.005) 0.020,
0.030 (0.010) 0.100, 0.120, 0.150
0.200 (0.050) 1.000, 1.100 (0.100) 4.900,
5.000 (0.250) 9.750 10.00 (0.50) 29.50
30.00 (1.00) 99.00, 100.0 (5.0) 495.0,
500.0 (10.0) 990.0, 1000 (100) 1900,
2000 (200) 4800, 5000 (500) 9500,
10^4 (10^3) 9×10^4, 10^5 (2×10^4) 2.8×10^5,
3×10^5 (25×10^3) 10^6.

We consider the applicability of formulas on p. 506 of [6] or see [2], when x is large $x \gg |\nu|$. Thus, large zeros of $J_{-\nu}(x)$ are

$$x \sim \varphi - \frac{4\nu^2 - 1}{8\varphi} - \frac{(4\nu^2 - 1)(28\nu^2 - 31)}{384\varphi^3} - \cdots, \tag{2.1}$$

where $\varphi = (n - (2\nu + 1)/4)\pi$ and n is any integer.

Taking some values of ν from our tables, we calculate approximate x using this formula.

For example:

(i) $(A = 10)$ $n = 4$, $\nu = 1.10315023$,

$\varphi = 10.04814812$, $x = 10.04814812 - 0.04811536$

$- 0.00003052$, $x = 10.00000224 \simeq 10.0000$.

(ii) $(A = 11)$ $n = 4$, $\nu = 0.49726122$, $\varphi = 10.99987635$

$x = 10.99987635 - 0.00012415 - 0.00000051$

$x = 10.99999999 \simeq 11.0000$.

(iii) $(A = 80)$ $n = 26$, $\nu = 0.57011967$, $\varphi = 80.00046897$,

$x = 80.00046897 - 0.00046897 - (-0.00000003)$,

$x = 80.00000003 \simeq 80.0000$.

(iv) $(A = 1000)$ $n = 321$, $\nu = 4.87274935$,

$\varphi = 1000.011747$, $x = 1000.011747 - 0.01174671$

$- 0.00000016$, $x = 999.9999998 \simeq 1000.0000$.

These results reflect a complete agreement with the numerical values of our tables.

Now,

$$J_{-\nu}(x) = J_\nu(x)\cos \nu\pi - Y_\nu(x)\sin \nu\pi. \tag{2.2}$$

Hence, zeros of $J_{-\nu}(x)$ are given by the above formula. This formula is interesting in

that the zeros of $J_{-\nu}(x)$ are those of $J_\nu(x)$, when ν is a positive integer and the zeros of $J_{-\nu}(x)$ are those of $Y_\nu(x)$ when ν is half an odd integer.

It has been verified that there can be at most one ν-zero between two consecutive natural numbers. We observe that for large x, two consecutive ν-zeros differ by two, and the large ν-zeros are asymptotic to the positive integers [5].

Also, if ν is a zero of $J_{-\nu}(x)$, then from (2.2) it follows that

$$J_\nu(x) = Y_\nu(x)\tan \nu\pi. \tag{2.3}$$

3. Naylor's Inequalities. Naylor [5] has proved the following inequalities, when ν is a zero of $J_{-\nu}(ka)$,

$$|J_\nu(ka)J_{-\nu}(kr)| \leqslant \left|\frac{\sin \nu\pi}{\nu\pi}\right| \left(\frac{r}{a}\right)^\nu, \qquad r > a, \tag{3.1}$$

and

$$\left|J_\nu(ka)\frac{\partial}{\partial \nu}J_{-\nu}(ka)\right| \geqslant \frac{|\sin \nu\pi|}{2\pi}(2/ka)^{2\nu}[\Gamma(\nu)]^2. \tag{3.2}$$

Using the ν-zeros from our tables, we present here some numerical values for the results, (2.3), (3.1) and (3.2). In the following table the left-hand sides of these results are denoted by F_1, G_1, and H_1, where as the right-hand sides are denoted by F_2, G_2 and H_2, respectively. Further, $ka = A$ and $kr = R$.

A	NU	F1	F2	R	G1	G2	H1	H2
0.030	0.99977503	0.01501	0.01501	0.040	0.00013	0.00030	1.00011	0.49912
0.120	0.99640645	0.06059	0.06059	0.180	0.00299	0.00540	1.00177	0.49115
1.500	0.53778118	0.64890	0.64890	2.400	0.26138	0.75675	0.79934	0.58720
1.800	4.99991440	0.00429	0.00429	2.800	0.00013	0.00016	0.21536	0.07068
5.000	2.06369324	0.07387	0.07387	10.000	0.01875	0.12817	0.05448	0.00076
7.000	10.99941628	0.00834	0.00834	20.000	0.00051	5.49313	0.11902	0.00412
20.000	2.65903622	-0.15728	-0.15728	30.000	0.01137	0.30884	0.04799	0.00000
23.000	15.42914542	-0.18808	-0.18808	45.000	0.00969	632.43842	0.08346	0.00000
30.000	4.21532712	-0.09165	-0.09165	32.000	0.01190	0.06205	0.02207	0.00000

As one would expect, $F_1 = F_2$, $G_1 \leqslant G_2$ $(R > A)$ and $H_1 \geqslant H_2$.

4. Algorithms the Computer Uses. We have used our own routine to calculate $J_\nu(x)$, and then the false position method (Regula falsi or secant method) is used to determine the ν-zeros. The function $J_\nu(x)$ is calculated by two different methods, according to its argument.

For $x < 10$, the basic series representation

$$J_\nu(x) = \sum_{r=1}^{m} \frac{(-1)^r(x/2)^{\nu+2r}}{\Gamma(r+1)\Gamma(\nu+r+1)} \tag{4.1}$$

is used, and the value of m is chosen in such a way that the truncation error comes out to be of order 0.5×10^{-12}. When ν is a negative integer, the relation $J_{-n}(x) =$

$(-1)^n J_n(x)$ is used to avoid the poles of $\Gamma(\nu + r + 1)$.

For $x \geqslant 10$, we use the following asymptotic formula

$$J_\nu(x) = \sqrt{\frac{2}{\pi x}} \left[\cos\left(x - \frac{\nu\pi}{2} - \frac{\pi}{4}\right) \sum_{r=0}^{m} \frac{(-1)^r(\nu, 2r)}{(2x)^{2r}}\right.$$

(4.2)

$$\left. - \sin\left(x - \frac{\nu\pi}{2} - \frac{\pi}{4}\right) \sum_{r=0}^{m} \frac{(-1)^r(\nu, 2r+1)}{(2x)^{2r+1}}\right]$$

where

$$(\nu, k) = \frac{(4\nu^2 - 1)(4\nu^2 - 3^2) \cdots (4\nu^2 - (2k-1)^2)}{2^{2k}k!}; \tag{4.3}$$

and m is determined by the relation $m = 35/\ln|x|$, which leads to a truncation error of order 10^{-30} in both series.

In the calculations ν is considered to be a rational number of the form $u = N/ND$. For this particular case, we set $ND = 10^8$, and determine N with a precision of one unit, which guarantees us at precision of 10^{-8} in the tabulation of ν in the whole interval $0 \leqslant \nu \leqslant 25$ (that is, up to the first ten positive zeros).

Suppose A is given. Then by the method of false position $J_{-\nu}(A)$ is calculated to determine ν such that $J_{-\nu}(A) = 0$. For the given value of A, $J_{-\nu}(A)$ is evaluated for $\nu + 0.1 \cdot 10^{-8}$ and $\nu - 0.1 \cdot 10^{-8}$ and a change in sign for $J_{-\nu}(A)$ is noted and by linear interpolation the value of ν is confirmed.

Uniform asymptotic expansions are useful, if both ν and x are large [4].

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División de Postgrado
Facultad de Ingeniería
Universidad del Zulia
Maracaibo, Venezuela

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First ten positive roots of
the equation

$$J_{-\nu}(A) = 0$$

considered as a function of ν

T.1

A= 0.001

0.99999975	2.00000000	3.00000000	4.00000000	5.00000000
6.00000000	7.00000000	8.00000000	9.00000000	10.00000000

A= 0.002

0.99999900	2.00000000	3.00000000	4.00000000	5.00000000
6.00000000	7.00000000	8.00000000	9.00000000	10.00000000

A= 0.005

0.99999375	2.00000000	3.00000000	4.00000000	5.00000000
6.00000000	7.00000000	8.00000000	9.00000000	10.00000000

A= 0.010

0.99997500	2.00000000	3.00000000	4.00000000	5.00000000
6.00000000	7.00000000	8.00000000	9.00000000	10.00000000

A= 0.015

0.99994375	2.00000000	3.00000000	4.00000000	5.00000000
6.00000000	7.00000000	8.00000000	9.00000000	10.00000000

A= 0.020

0.99990000	2.00000000	3.00000000	4.00000000	5.00000000
6.00000000	7.00000000	8.00000000	9.00000000	10.00000000

A= 0.030

0.99977503	1.99999997	3.00000000	4.00000000	5.00000000
6.00000000	7.00000000	8.00000000	9.00000000	10.00000000

A= 0.040

0.99960009	1.99999992	3.00000000	4.00000000	5.00000000
6.00000000	7.00000000	8.00000000	9.00000000	10.00000000

T.2

A= 0.050

0.99937520	1.99999980	3.00000000	4.00000000	5.00000000
6.00000000	7.00000000	8.00000000	9.00000000	10.00000000

A= 0.060

0.99910040	1.99999960	3.00000000	4.00000000	5.00000000
6.00000000	7.00000000	8.00000000	9.00000000	10.00000000

A= 0.070

0.99877575	1.99999925	3.00000000	4.00000000	5.00000000
6.00000000	7.00000000	8.00000000	9.00000000	10.00000000

A= 0.080

0.99840128	1.99999872	3.00000000	4.00000000	5.00000000
6.00000000	7.00000000	8.00000000	9.00000000	10.00000000

A= 0.090

0.99797705	1.99999796	3.00000000	4.00000000	5.00000000
6.00000000	7.00000000	8.00000000	9.00000000	10.00000000

A= 0.100

0.99750312	1.99999689	3.00000000	4.00000000	5.00000000
6.00000000	7.00000000	8.00000000	9.00000000	10.00000000

A= 0.120

0.99640645	1.99999355	3.00000000	4.00000000	5.00000000
6.00000000	7.00000000	8.00000000	9.00000000	10.00000000

A= 0.150

0.99439072	1.99998430	2.99999999	4.00000000	5.00000000
6.00000000	7.00000000	8.00000000	9.00000000	10.00000000

T.3

A= 0.200

0.99304943	1.99995066	2.99999992	4.00000000	5.00000000
6.00000000	7.00000000	8.00000000	9.00000000	10.00000000

A= 0.250

0.98449490	1.99988042	2.99999969	4.00000000	5.00000000
6.00000000	7.00000000	8.00000000	9.00000000	10.00000000

A= 0.300

0.97774670	1.99975424	2.99999907	4.00000000	5.00000000
6.00000000	7.00000000	8.00000000	9.00000000	10.00000000

A= 0.350

0.96982793	1.99954942	2.99999766	3.99999999	5.00000000
6.00000000	7.00000000	8.00000000	9.00000000	10.00000000

A= 0.400

0.96076478	1.99924041	2.99999483	3.99999998	5.00000000
6.00000000	7.00000000	8.00000000	9.00000000	10.00000000

A= 0.450

0.95058609	1.99879936	2.99998959	3.99999996	5.00000000
6.00000000	7.00000000	8.00000000	9.00000000	10.00000000

A= 0.500

0.93982787	1.99819663	2.99998060	3.99999990	5.00000000
6.00000000	7.00000000	8.00000000	9.00000000	10.00000000

A= 0.550

0.92700783	1.99740142	2.99996597	3.99999978	5.00000000
6.00000000	7.00000000	8.00000000	9.00000000	10.00000000

TABLE 3 (CONTINUED)

Z	X(Z,1)	X(Z,2)	X(Z,3)	Y(Z,1)	Y(Z,2)	Y(Z,3)
-5.0	0.89405	0.95366	0.88131	1.00325	0.96737	0.88594
-4.9	0.89327	0.94982	0.87297	1.00304	0.96384	0.87648
-4.8	0.89214	0.94534	0.86498	1.00225	0.95766	0.86567
-4.7	0.89060	0.94027	0.85633	1.00077	0.95115	0.85374
-4.6	0.88864	0.93455	0.84702	0.99856	0.94370	0.84084
-4.5	0.88627	0.92825	0.83713	0.99564	0.93478	0.82649
-4.4	0.88352	0.92140	0.82671	0.99205	0.92508	0.81141
-4.3	0.88040	0.91403	0.81581	0.98780	0.91446	0.79551
-4.2	0.87689	0.90618	0.80448	0.98288	0.90297	0.77889
-4.1	0.87307	0.89793	0.79282	0.97742	0.89079	0.76175
-4.0	0.86899	0.88936	0.78092	0.97149	0.87805	0.74424
-3.9	0.86466	0.88051	0.76883	0.96513	0.86488	0.72649
-3.8	0.86011	0.87144	0.75662	0.95846	0.85127	0.70862
-3.7	0.85542	0.86223	0.74438	0.95148	0.83753	0.69079
-3.6	0.85062	0.85296	0.73218	0.94423	0.82369	0.67312
-3.5	0.84575	0.84367	0.72007	0.93698	0.80988	0.65571
-3.4	0.84083	0.83439	0.70810	0.92958	0.79610	0.63862
-3.3	0.83591	0.82520	0.69632	0.92221	0.78253	0.62196
-3.2	0.83102	0.81614	0.68479	0.91491	0.76922	0.60578
-3.1	0.82620	0.80723	0.67352	0.90772	0.75622	0.59013
-3.0	0.82143	0.79850	0.66255	0.90065	0.74356	0.57503
-2.9	0.81676	0.78998	0.65188	0.89375	0.73126	0.56051
-2.8	0.81222	0.78172	0.64157	0.88698	0.71944	0.54660
-2.7	0.80780	0.77369	0.63159	0.88044	0.70803	0.53329
-2.6	0.80350	0.76592	0.62196	0.87418	0.69706	0.52058
-2.5	0.79934	0.75841	0.61269	0.86811	0.68653	0.50845
-2.4	0.79534	0.75118	0.60378	0.86229	0.67647	0.49693
-2.3	0.79149	0.74422	0.59523	0.85672	0.66685	0.48597
-2.2	0.78778	0.73754	0.58702	0.85137	0.65767	0.47556
-2.1	0.78422	0.73111	0.57915	0.84624	0.64892	0.46567
-2.0	0.78082	0.72496	0.57162	0.84139	0.64060	0.45631
-1.9	0.77756	0.71907	0.56441	0.83676	0.63268	0.44743
-1.8	0.77444	0.71343	0.55752	0.83233	0.62514	0.43902
-1.7	0.77146	0.70803	0.55093	0.82813	0.61798	0.43105
-1.6	0.76862	0.70288	0.54464	0.82413	0.61118	0.42350
-1.5	0.76592	0.69796	0.53864	0.82034	0.60474	0.41636
-1.4	0.76333	0.69325	0.53291	0.81672	0.59866	0.40959
-1.3	0.76087	0.68876	0.52742	0.81331	0.59291	0.40319
-1.2	0.75853	0.68448	0.52219	0.81006	0.58728	0.39711
-1.1	0.75629	0.68038	0.51719	0.80696	0.58203	0.39138
-1.0	0.75416	0.67647	0.51242	0.80404	0.57705	0.38598
-0.9	0.75213	0.67274	0.50787	0.80129	0.57232	0.38073
-0.8	0.75023	0.66918	0.50352	0.79881	0.56783	0.37583
-0.7	0.74836	0.66579	0.49937	0.79611	0.56357	0.37118
-0.6	0.74661	0.66254	0.49540	0.79373	0.55952	0.36676
-0.5	0.74494	0.65944	0.49161	0.79144	0.55568	0.36257
-0.4	0.74335	0.65648	0.48799	0.78931	0.55208	0.35858
-0.3	0.74183	0.65365	0.48452	0.78726	0.54851	0.35480
-0.2	0.74038	0.65095	0.48121	0.78532	0.54519	0.35119
-0.1	0.73900	0.64837	0.47804	0.78347	0.54203	0.34777
0.0	0.73768	0.64593	0.47501	0.78170	0.53902	0.34451

A= 1.000

0.77456451	1.97653317	2.99892632	3.99997631	4.99999969
6.00000000	7.00000000	8.00000000	9.00000000	10.00000000

A= 1.100

0.73201571	1.96735982	2.99817459	3.99995067	4.99999923
5.99999999	7.00000000	8.00000000	9.00000000	10.00000000

A= 1.200

0.69685559	1.95618330	2.99705879	3.99993415	4.99999820
5.99999998	7.00000000	8.00000000	9.00000000	10.00000000

A= 1.300

0.63930108	1.94240624	2.99547224	3.99982441	4.99999609
5.99999994	7.00000000	8.00000000	9.00000000	10.00000000

A= 1.400

0.58954988	1.92746583	2.99329821	3.99969419	4.99999203
5.99999986	7.00000000	8.00000000	9.00000000	10.00000000

A= 1.500

0.53778118	1.90983071	2.99041348	3.99949034	4.99998463
5.99999970	7.00000000	8.00000000	9.00000000	10.00000000

A= 1.600

0.48415671	1.88999709	2.98669233	3.99918291	4.99997160
5.99999936	6.99999999	8.00000000	9.00000000	10.00000000

A= 1.700

0.42882222	1.86798431	2.98201056	3.99873444	4.99994977
5.99999872	6.99999998	8.00000000	9.00000000	10.00000000

T.6

A= 1.800

0.37192886	1.84383050	2.97624929	3.99809947	4.99991440
5.99999753	6.99999995	8.00000000	9.00000000	10.00000000

A= 1.900

0.31353464	1.81758836	2.96929833	3.99722445	4.99985889
5.99999544	6.99999990	8.00000000	9.00000000	10.00000000

A= 2.000

0.25380582	1.78932135	2.96105888	3.99604800	4.99977432
5.99999184	6.99999979	8.00000000	9.00000000	10.00000000

A= 2.100

0.19281418	1.75913043	2.95144550	3.99450153	4.99964888
5.99998588	6.99999961	7.99999999	9.00000000	10.00000000

A= 2.200

0.13065819	1.72700125	2.94038732	3.99251036	4.99946737
5.99997625	6.99999927	7.99999998	9.00000000	10.00000000

A= 2.300

0.06740402	1.69310189	2.92782856	3.98999512	4.99921064
5.99996113	6.99999868	7.99999997	9.00000000	10.00000000

A= 2.400

0.00312650	1.65748111	2.91372831	3.98687340	4.99885512
5.99993793	6.99999769	7.99999994	9.00000000	10.00000000

A= 2.500

1.62021697	2.89805992	3.98306162	4.99837247	5.99990314
6.99999607	7.99999988	9.00000000	10.00000000	11.00000000

A= 2.600

1.58138583	2.88080992	3.97847697	4.99772924	5.99985203
6.99999345	7.99999979	8.99999999	10.00000000	11.00000000

A= 2.700

1.54106159	2.86197662	3.97303920	4.99688680	5.99977841
6.99998933	7.99999963	8.99999999	10.00000000	11.00000000

A= 2.800

1.49931530	2.84156871	3.96667244	4.99580138	5.99967429
6.99994298	7.99999935	8.99999998	10.00000000	11.00000000

A= 2.900

1.45621478	2.81360360	3.95930662	4.99442434	5.99952958
6.99997338	7.99999891	8.99999997	10.00000000	11.00000000

A= 3.000

1.41182448	2.79610601	3.95087871	4.99270259	5.99933172
6.99995913	7.99999820	8.99999994	10.00000000	11.00000000

A= 3.100

1.36620546	2.77110646	3.94133359	4.99057967	5.99906536
6.99993332	7.99999708	8.99999989	10.00000000	11.00000000

A= 3.200

1.31941541	2.74463997	3.93062463	4.98799571	5.99871206
6.99990845	7.99999534	8.99999982	9.99999999	11.00000000

A= 3.300

1.27150871	2.71674493	3.91871394	4.98488934	5.99825004
6.99986619	7.99999270	8.99999970	9.99999999	11.00000000

A= 3.400

1.22253654	.68746205	3.90557229	4.98119830	5.99765393
6.99983729	7.99998875	8.99999951	9.99999998	11.00000000

A= 3.500

1.17254707	2.65683352	3.89117887	4.97686066	5.99689469
6.99972634	7.99998293	8.99999920	9.99999997	11.00000000

A= 3.600

1.12158558	2.62490228	3.87552076	4.97181597	5.99593957
6.99961656	7.99997447	8.99999873	9.99999995	11.00000000

A= 3.700

1.06969460	2.59171148	3.85859237	4.96600628	5.99475223
6.99946956	7.99996234	8.99999800	9.99999992	11.00000000

A= 3.800

1.01691415	2.55730395	3.84039464	4.95937713	5.99329295
6.99927514	7.99994519	8.99999691	9.99999986	11.00000000

A= 3.900

0.96328181	2.52172192	3.82093432	4.95187835	5.99151494
6.99902104	7.99992123	8.99999529	9.99999978	10.99999999

A= 4.000

0.90883294	2.48500666	3.80022318	4.94346472	5.98938485
6.99869271	7.99988818	8.99999292	9.99999965	10.99999993

A= 4.100

0.85360381	2.44719836	3.77827720	4.93409645	5.98684329
6.99827313	7.99984309	8.99998948	9.99999945	10.99999998

A= 4.200

0.79761674	2.40333592	3.75511589	4.92373949	5.98384552
6.99774262	7.99978230	8.99998455	9.99999915	10.99999996

A= 4.300

0.74391022	2.36845688	3.73076156	4.91236563	5.98034213
6.99737376	7.99970119	8.99997759	9.99999870	10.99999994

A= 4.400

0.68359906	2.32759737	3.70523874	4.89995251	5.97628383
6.99625631	7.99959413	8.99996785	9.99999804	10.99999993

A= 4.500

0.62543950	2.28579209	3.67857361	4.88648342	5.97162214
6.99524724	7.99945423	8.99995438	9.99999707	10.99999985

A= 4.600

0.56672631	2.24307427	3.65079356	4.87194705	5.96631017
6.99402079	7.99927322	8.99993591	9.99999568	10.99999977

A= 4.700

0.50739288	2.19947574	3.62192674	4.85633711	5.96030330
6.99254367	7.99904125	8.99991088	9.99999368	10.99999964

A= 4.800

0.44746136	2.15502691	3.59200172	4.83965193	5.95355970
6.99078028	7.99874675	8.99987726	9.99999085	10.99999946

A= 4.900

0.38695268	2.10975683	3.56104723	4.82189397	5.94604094
6.98869309	7.99837625	8.99983252	9.99998690	10.99999919

T.10

A= 5.000

0.32588669	2.06369324	3.52909189	4.80306937	5.93771229
6.98624297	7.99791425	8.99977355	9.99994141	10.99999380

A= 5.250

0.17090457	1.94523339	3.44500968	4.75140918	5.91315648
6.97826469	7.99523773	8.99953654	9.99995716	10.99999689

A= 5.500

0.01292364	1.82235778	3.35527650	4.69336002	5.88299517
6.96713165	7.99353684	8.99909887	9.99993647	10.99999243

A= 5.750

1.69540581	3.26329486	4.62920104	5.84702656	6.95223879
7.98439175	8.99433012	9.99980580	10.99998250	11.99999873

A= 6.000

1.56467980	3.16043687	4.55924719	5.80519296	6.93305805
7.98331330	8.99704253	9.99961529	10.99996150	11.99999642

A= 6.250

1.43044365	3.05604332	4.48382633	5.75755294	6.90916199
7.97477011	8.99498145	9.99927092	10.99991910	11.99999[illegible]

A= 6.500

1.29295696	2.94742455	4.40326395	5.70425078	6.88026016
7.96322461	8.99182172	9.99867509	10.99983723	11.99998419

A= 6.750

1.15241865	2.83486243	4.31787370	5.64548829	6.84617897
7.94817150	8.98717280	9.99768657	10.99968569	11.99996645

T.3

A= 0.200

0.99304943	1.99995066	2.99999992	4.00000000	5.00000000
6.00000000	7.00000000	8.00000000	9.00000000	10.00000000

A= 0.250

0.98449490	1.99988042	2.99999969	4.00000000	5.00000000
6.00000000	7.00000000	8.00000000	9.00000000	10.00000000

A= 0.300

0.97774670	1.99975424	2.99999907	4.00000000	5.00000000
6.00000000	7.00000000	8.00000000	9.00000000	10.00000000

A= 0.350

0.96982793	1.99954942	2.99999766	3.99999999	5.00000000
6.00000000	7.00000000	8.00000000	9.00000000	10.00000000

A= 0.400

0.96076478	1.99924041	2.99999483	3.99999998	5.00000000
6.00000000	7.00000000	8.00000000	9.00000000	10.00000000

A= 0.450

0.95058609	1.99879936	2.99998959	3.99999996	5.00000000
6.00000000	7.00000000	8.00000000	9.00000000	10.00000000

A= 0.500

0.93942787	1.99819663	2.99998060	3.99999990	5.00000000
6.00000000	7.00000000	8.00000000	9.00000000	10.00000000

A= 0.550

0.92700783	1.99740142	2.99996597	3.99999978	5.00000000
6.00000000	7.00000000	8.00000000	9.00000000	10.00000000

A= 9.000

1,67978942	3,37461773	4,91113298	6,31781278	7,61268823
8,80934400	9,92297825	10,97572277	11,99016031	12,99891308

A= 9,250

1,53867360	3,25412436	4,81084321	6,23769048	7,55285130
8,76939736	9,90071480	10,96614219	11,99113187	12,99820499

A= 9,500

1,39546456	3,13107332	4,70750442	6,15400881	7,48895961
8,72515608	9,87465189	10,95394657	11,98699647	12,99712340

A= 9,750

1,25025992	3,00558723	4,60126643	6,06693015	7,42118790
8,67671514	9,84446361	10,93880733	11,98114151	12,99550838

A= 10,00

1,10315023	2,87777974	4,49226823	5,97662219	7,35970874
8,62419528	9,81030740	10,92044302	11,97353492	12,99316917

A= 10,50

0,80354671	2,61561494	4,26649807	5,78692091	7,19629077
8,51787622	9,72993017	10,87320079	11,95103924	12,98535972

A= 11,00

0,49726122	2,30533774	4,03112132	5,58601284	7,02995659
8,37617191	9,63391929	10,81114184	11,91818446	12,97148059

A= 11,50

0,18482402	2,06760829	3,78694294	5,37486353	6,85182739
8,23145767	9,52312940	10,73404026	11,87198526	12,96914838

A= 12.00

1.78300502	3.53466580	5.15431594	6.66289499	8.07444570
9.34457254	10.64227744	11.81187429	12.91615304	13.96957199

A= 12.50

1.49203750	3.27440694	4.92510871	6.46403299	7.90610671
9.26128047	10.53658400	11.73762847	12.87099354	13.94704250

A= 13.00

1.19515727	3.00821131	4.68789207	6.25601091	7.72736545
9.11223415	10.41784396	11.64956225	12.81252440	13.91431109

A= 13.50

0.89276661	2.73506267	4.44324126	6.03950840	7.53900708
8.95233+21	10.29697243	11.54830807	12.74079767	13.86993189

A= 14.00

0.58522553	2.45589265	4.19166769	5.81512792	7.34173744
8.78239344	10.14485005	11.43464623	12.65598566	13.81310684

A= 14.50

0.27245772	2.17108814	3.93362818	5.58340581	7.13613+23
8.603139+2	9.99229338	11.30939562	12.55864167	13.74362434

A= 15.00

1.88099747	3.66953266	5.34482163	6.92290700	8.41522390
9.83004539	11.17335283	12.44946072	13.66170539	14.81363285

A= 15.50

1.58593551	3.39975055	5.09980600	6.70240667	8.21927744
9.65877611	11.02726303	12.32918122	13.56783852	14.74616673

A= 16.00

1.28514795	3.17461606	4.84874722	6.47513331	8.01567191
9.47903781	10.87180918	12.19852856	13.46264763	14.66684154

A= 16.50

0.98201492	2.34443273	4.59199679	6.24149286	7.80502619
9.29152185	10.70761097	12.05818666	13.34680312	14.57639218

A= 17.00

0.67365403	2.55347714	4.32987407	6.00185290	7.58771335
9.09656566	10.53522837	11.90878651	13.22096936	14.47443249

A= 17.50

0.36132302	2.27000216	4.06267026	5.75654746	7.36411643
8.89465929	10.35516697	11.75090381	13.08577731	14.36262474

A= 18.00

0.04522193	1.97623967	3.79065169	5.50588116	7.13458370
8.68620125	10.16798381	11.58506119	12.94181260	14.24113063

A= 18.50

1.67840291	3.51436271	5.25013266	6.89943244	8.47155363
9.97379400	11.41173249	12.78961220	14.11058495	15.37693000

A= 19.00

1.37668947	3.23312814	4.98955769	6.65895308	8.25104649
9.77327076	11.23134756	12.62966568	13.97153340	15.25936902

A= 19.50

1.07127809	2.94435537	4.72439160	6.41341207	8.02493170
9.56665993	11.04429710	12.46241852	13.82447869	15.13304128

A= 20.00

0.76234012	2.65933622	4.45485155	6.16305463	7.79363614
9.35427394	10.85093709	12.28827616	13.66988095	14.99845719

A= 20.50

0.45033393	2.36624846	4.18113842	5.90810702	7.55726457
9.13640013	10.65159282	12.10760816	13.50816023	14.85608896

A= 21.00

0.13449589	2.06985728	3.90343849	5.64877857	7.31610232
8.91333275	10.44656235	11.92075211	13.33969998	14.70637031

A= 21.50

1.77071642	3.42192487	5.38526339	7.07036597	8.68522549
10.23611461	11.72831723	13.16485060	14.54969844	15.88491181

A= 22.00

1.46686932	3.33675875	5.11774190	6.82025769	8.45239364
10.02051734	11.52968746	12.98393294	14.38643690	15.73966579

A= 22.50

1.16354998	3.04839055	4.84638214	6.56596480	8.21501534
9.79998740	11.32502431	12.79724149	14.21691869	15.58762853

A= 23.00

0.85118386	2.75606088	4.57134092	6.30766167	7.97328671
9.57474830	11.11726924	12.60504725	14.04144938	15.42914542

A= 23.50

0.53898860	2.46080142	4.29276487	6.04551112	7.72738632
9.34499892	10.90364577	12.40760021	13.86039997	15.26453371

A= 24.00

0.22377468	2.16243568	4.01079133	5.77966539	7.47748345
9.11392655	10.68536134	12.20513163	13.67375949	15.09408494

A= 24.50

1.86137469	3.72554916	5.51026710	7.22373571	8.87270542
10.46260892	11.99785593	13.48203733	14.91806772	16.30828460

A= 25.00

1.55684264	3.43715945	5.23745006	6.96629072	8.63049837
10.23556640	11.78597244	13.28536526	14.73673008	16.14248036

A= 25.50

1.24382741	3.14573617	4.96134004	6.70528698	8.38445788
10.00440783	11.56966682	13.08394922	14.55030156	15.97120688

A= 26.00

0.94013105	2.85138672	4.68205543	6.44085469	8.13472701
9.76928452	11.34911244	12.87798091	14.35899511	15.79470199

A= 26.50

0.62784527	2.55421249	4.39970781	6.17311638	7.88143018
9.53014660	11.12447148	12.66763916	14.16300878	15.61318613

A= 27.00

0.31305680	2.25430927	4.11440254	5.90218757	7.62472391
9.28773085	10.89589594	12.45309114	13.96252712	15.42666405

A= 27.50

1.95176770	3.92623916	5.62817730	7.36469745	9.04158947
10.66352956	12.23449346	13.75772253	15.23592642	16.67134938

A= 28.00

1.64667366	3.53931192	5.35118866	7.10147339	8.79198476
10.42750360	12.01199306	13.54875636	15.04355111	16.48967245

A= 28.50

1.33910458	3.24171009	5.07131920	6.8351581 4	8.53909270
10.18794755	11.78572811	13.33577991	14.84090448	16.30344403

A= 29.00

1.02914477	2.94551836	4.78866139	6.56585242	8.28303293
9.94497976	11.55582870	13.11893533	14.63714237	16.11293577

A= 29.50

0.71587071	2.64681716	4.50330293	6.29365167	8.02381920
9.69471301	11.32241755	12.89835643	14.42941111	15.91800832

A= 30.00

0.40234130	2.34568292	4.21532712	6.01864646	7.76163982
9.44925401	11.09561056	12.67416931	14.21784828	15.71911239

A= 31.00

1.73640287	3.63183645	5.46056243	7.22366251	8.94115945
10.60224184	12.21544021	13.78373911	15.30967302	16.79539326

A= 32.00

1.11422000	3.03877857	4.89223935	6.68476292	8.42144172
10.10653271	11.74362573	13.33576759	14.88555482	16.39523355

A= 33.00

0.49162756	2.43668912	4.31425720	6.13056780	7.89078045
9.59921350	11.25351464	12.87478682	14.44763258	15.98047561

A= 34.00

1.82605672	3.72714426	5.56664711	7.34979873	9.08094551
10.76381927	12.40156481	13.99688580	15.55213765	17.06923331

A= 35.00

1.20732856	3.13138341	4.99352100	6.79902602	8.55233001
10.25718572	11.91679629	13.53391243	15.11090653	16.64982970

A= 36.00

0.58041515	2.52741737	4.41166575	6.23900380	8.01391569
9.74020240	11.42111243	13.05944010	14.65760090	16.21768947

A= 37.00

1.91565324	3.82151877	5.67019115	7.46620496	9.21340712
10.91538886	12.57408532	14.19285177	15.77352265	17.31795756

A= 38.00

1.29646639	3.22348294	5.09301957	6.90965935	8.67729307
10.39925251	12.07841118	13.71726140	15.31797425	16.88244633

A= 39.00

0.67020374	2.61793027	4.50788707	6.34470400	8.13231391
9.87498726	11.57293379	13.23138057	14.85163265	16.43562062

A= 40.00

0.03718690	2.00520515	3.91516171	5.77173160	7.57888816
9.34003880	11.05812772	12.73571472	14.37503661	15.97805536

A= 41.00

1.38562710	3.31518468	5.19110581	7.01740288	8.79751881
10.53443364	12.23072920	13.88868111	15.51027761	17.09727337

A= 42.00

0.75949324	2.73827295	4.60316413	6.44821695	8.24690850
10.00224729	11.71985366	13.39302240	15.03277213	16.63798462

A= 43.00

0.72784939	2.04472164	4.00822054	5.87166388	7.68856175
9.46195291	11.19448587	12.88848215	14.54599620	16.16880510

A= 44.00

1.47490662	3.40696765	5.28805424	7.12283779	8.91389620
10.66199500	12.37545120	14.05033365	15.69047326	17.29749532

A= 45.00

0.84878337	2.73847876	4.69767782	6.54995353	8.35840191
10.12572449	11.85429263	13.54619841	15.20329520	16.82723040

A= 46.00

0.21689454	2.13420956	4.10080558	5.97028566	7.79577311
9.57999443	11.32534454	13.03393750	14.70764804	16.34814438

A= 47.00

1.56499967	3.49769124	5.38407250	7.22629318	9.02710407
10.78892241	12.51388365	14.20388275	15.86360762	17.48556624

A= 48.00

0.93807403	2.89357286	4.79156556	6.65022757	8.46733313
10.24532123	11.98634765	13.69232677	15.36496518	17.00578916

A= 49.00

0.33664413	2.27367409	4.19300101	6.06782534	7.90094412
9.69481730	11.45162032	13.17328613	14.86153916	16.51792303

T.20

A= 50.00

1.65320541	3.58360096	5.47932059	7.32818347	9.13766992
10.90997432	12.64704748	14.35063091	16.02228474	17.66341070

A= 51.00

1.02736515	2.97857460	4.88493364	6.74928300	8.57412278
10.36166569	12.11387977	13.83252289	15.51917096	17.17524107

A= 52.00

0.39634049	2.35311923	4.28487218	6.16446110	8.00440530
9.80693529	11.57403574	13.30748030	15.00885996	16.67963546

A= 53.00

1.74242118	3.67933224	5.57392375	7.42873375	9.24601002
11.02775335	12.77575257	14.49161322	16.17678130	17.83256144

A= 54.00

1.11665665	3.06949911	4.97786556	6.84731231	8.67910394
10.47925688	12.23757468	13.96767681	15.66702244	17.33693011

A= 55.00

0.49599244	2.45254812	4.37647059	6.26033399	8.10641930
9.91675313	11.69316828	13.43728271	15.15057350	16.83437170

A= 56.00

1.83164539	3.76991312	5.66798147	7.52814739	9.35245730
11.14274780	12.90364991	14.62766317	16.32512560	17.99425548

A= 57.00

1.20594446	3.15335840	5.07042785	6.94446941	8.78254388
10.58649633	12.35798542	14.09850771	15.80941779	17.49194511

A= 58.00

0.57560696	2.54196326	4.46783738	6.35555716	8.20719749
10.02461651	11.80948518	13.56331171	15.28746182	16.98317572

A= 59.00

1.92047674	3.86036603	5.76157374	7.62658853	9.45728128
11.25533492	13.02226893	14.75945982	16.46815816	18.14950302

A= 60.00

1.29524055	3.24316208	5.16267415	7.04087886	8.88465957
10.69571083	12.47556311	14.22560334	15.94709212	17.64117818

A= 61.00

0.66518463	2.63136666	4.55900582	6.45022240	9.30691193
10.13078031	11.92336869	13.68607413	15.42016689	17.12680529

A= 62.00

0.03085256	2.01011420	3.95070917	5.85476565	7.72419111
9.56370253	11.36585146	13.14104480	14.88756222	16.60657084

A= 63.00

1.38453287	3.33791799	5.25464819	7.13664258	8.98562900
10.80316916	12.59367953	14.34944889	16.08065312	17.78536768

A= 64.00

0.75474499	2.72075995	4.65000310	6.54440530	8.40570411
10.23547203	12.03513459	13.80598942	15.54922088	17.26591261

A= 65.00

0.12086738	2.09935693	4.04095743	5.94761069	7.82106554
9.66290329	11.47455987	13.25733856	15.01243494	16.74093959

A= 66.00

1.47382540	3.42763255	5.34638598	7.23184473	9.08559959
10.90909440	12.70364385	14.47044855	16.21060774	17.92513023

A= 67.00

0.84427675	2.81314448	4.74085164	6.63816726	8.50369145
10.33887675	12.14504608	13.92340784	15.67506875	17.40104481

A= 68.00

0.21081758	2.18460423	4.13112315	6.04015321	7.91733362
9.76403548	11.58167971	13.37145234	15.13446736	16.87174775

A= 69.00

1.56311810	3.51731108	5.43791748	7.32655545	9.18469445
11.01367327	12.81471536	14.58894180	16.33738236	18.06098505

A= 70.00

0.93378796	2.89952136	4.83157011	6.73156119	8.60097223
10.44114472	12.25332438	14.03862420	15.79809558	17.53266288

A= 71.00

0.30371149	2.27785552	4.22121658	6.13243030	8.01298235
9.86422678	11.68740141	13.48364098	15.25398834	16.99940295

A= 72.00

1.65241046	3.63695803	5.52926774	7.42083367	9.28301726
11.11706331	12.92411316	14.70521595	16.46133829	18.19337258

A= 73.00

1.02328120	2.98889154	4.92217421	6.82463057	8.69762933
10.54242211	12.36015672	14.15188846	15.91858931	17.66115885

A= 74.00

0.39055505	2.36711032	4.31124638	6.22447325	8.10816677
9.96358526	11.79188287	13.59412091	15.37127761	17.12425659

A= 75.00

1.74170396	3.69657714	5.62045795	7.51472924	9.38065591
11.21939833	13.03202368	14.81951583	16.58278378	18.32266901

A= 76.00

1.11275863	3.07825579	5.01267717	6.91741249	8.79373314
10.64280556	12.46570272	14.26341397	16.03685360	17.78686814

A= 77.00

0.48335713	2.45536821	4.40121985	6.31633859	8.20291218
10.06726304	11.89525980	13.70307720	15.48657467	17.24660371

A= 78.00

1.83099707	3.78617159	5.71150610	7.60828462	9.47768544
11.32379275	13.13863657	14.93205137	16.70199348	18.44919762

A= 79.00

1.20222199	3.16761479	5.10309028	7.00993860	8.88934385
10.74239567	12.57009925	14.37338400	16.15311099	17.91007949

A= 80.00

0.57311967	2.54562885	4.49114323	6.40795900	8.29726596
10.16015910	11.99764872	13.81066905	15.60008578	17.36670266

A= 81.00

1.92029030	3.87574407	5.80242759	7.70153623	9.57417027
11.42134499	13.24399937	15.04300366	16.81916593	18.57323788

A= 82.00

1.29167292	3.25696911	5.19342320	7.10223607	8.93451319
10.84127476	12.67346440	14.48195683	16.26756438	18.03304296

A= 83.00

0.65484793	2.63489195	4.58102186	6.49944397	8.39126887
10.25752158	12.09915031	13.91703413	15.71198957	17.48477644

A= 84.00

0.02488406	2.03958362	3.96529693	5.89323567	7.79451545
9.67016605	11.52114018	13.34832119	15.15252972	16.93452952

A= 85.00

1.38111272	3.34631925	5.28368426	7.19432833	9.07928591
10.93951414	12.77590059	14.58926990	16.38038971	18.14997575

A= 86.00

0.74954552	2.72415724	4.67086036	6.59078033	8.48495923
10.35434954	12.19985199	14.02229217	15.82244150	17.60101937

A= 87.00

0.11494609	2.09387703	4.05483216	5.98394179	7.88724949
9.76572108	11.62325232	13.45167573	15.26076642	17.04824735

A= 88.00

1.47054254	3.43566562	5.37388067	7.28623575	9.17370049
11.03717589	12.87749705	14.69544316	16.49174069	18.26706838

A= 89.00

0.83921560	2.81342451	4.76066272	6.68198273	8.57835873
10.45069449	12.29883003	14.12654776	15.93157758	17.71560156

A= 90.00

0.20495606	2.18317052	4.14435152	6.07455592	7.97976204
9.86087750	11.71874608	13.55415368	15.36783359	17.16047113

A= 91.00

1.55996337	3.52500861	5.46401871	7.37797605	9.26779210
11.13431428	12.97333195	14.80058174	16.60175217	18.38249775

A= 92.00

0.92886089	2.90269356	4.85043244	6.77306392	8.67150325
10.54660144	12.39915128	14.22989268	16.03951726	17.82867260

A= 93.00

0.29491911	2.27746408	4.23385652	6.16503678	8.07207384
9.95567225	11.81667817	13.65583472	15.47383663	17.27133442

A= 94.00

1.64937608	3.61434852	5.55410387	7.46956479	9.36158933
11.23097698	13.07847402	14.90477821	16.71054301	18.49639121

A= 95.00

1.01849377	2.99196422	4.94017256	6.86403511	8.76441335
10.64211006	12.49737462	14.33240781	16.14636593	17.94036455

A= 96.00

0.38493970	2.36675770	4.32334850	6.25554201	8.16420312
10.05013782	11.91409859	13.75678913	15.57886859	17.38095525

A= 97.00

1.73878143	3.70368565	5.64414096	7.56101562	9.45511887
11.32720605	13.17798393	15.00811438	16.81821835	18.60887921

A= 98.00

1.10408631	3.08123634	5.02988576	6.95490615	8.85710983
10.73725531	12.59605206	14.43416472	16.25221689	18.05079447

A= 99.00

0.47472175	2.45605138	4.41282863	6.34592834	8.25616596
10.14430293	12.01135155	13.85707916	15.69301196	17.48943834

A= 100.0

1.82818009	3.79302024	5.73413425	7.65234064	9.54343377
11.42303872	13.27691549	15.11066282	16.92487157	18.72009769

A= 105.0

0.65438365	2.63463890	4.59175736	6.52651748	8.43964772
10.33183085	12.23370786	14.05588135	15.88891859	17.70335430

A= 110.0

1.46632678	3.43833709	5.38851295	7.31754921	9.22609831
11.11477384	12.98415364	14.83478256	16.66717502	18.48181722

A= 115.0

0.28918666	2.27509142	4.23966205	6.18356186	8.10741482
10.01180867	11.89729780	13.76440578	15.61362766	17.44543202

A= 120.0

1.10306301	3.08110843	5.03893180	6.97713027	8.89626724
10.79687490	12.67945661	14.54448897	16.39242372	18.22368452

A= 125.0

1.91383801	3.88473397	5.83640985	7.76940604	9.68423376
11.58137716	13.46129530	15.32442384	17.17117670	19.00194747

A= 130.0

0.73870561	2.72190104	4.68626508	6.63231645	8.56054449
10.47142117	12.36538282	14.24285177	16.10422783	17.94989162

A= 135.0

1.55124643	3.52757873	5.48595143	7.42683739	9.35068439
11.25791977	13.14994893	15.02415818	16.88391572	18.72857274

A= 140.0

0.37348312	2.36112496	4.33114716	6.28400447	8.22012916
10.13993256	12.04330640	13.93212412	15.80524198	17.66350017

A= 145.0

1.18758579	3.14864066	5.13284131	7.08060446	9.01232704
10.92838747	12.82914687	14.71495010	16.58612674	18.44299204

A= 150.0

0.00756453	1.99308424	3.97404956	5.93286242	7.87590634
9.80354616	11.71613214	13.61399788	15.49746284	17.36683281

A= 155.0

0.82305754	2.80325322	4.77757193	6.73138384	8.67004260
10.59388629	12.50323837	14.39840854	16.27969354	18.14737785

A= 160.0

1.63600906	3.61533006	5.57939826	7.52855575	9.46312986
11.38343407	13.28976859	15.18242160	17.06166938	18.92777730

A= 165.0

0.45781551	2.44667157	4.42052079	6.37969422	8.32450390
10.25526868	12.17226496	14.07577737	15.96607443	17.84341419

A= 170.0

1.27207694	3.25526508	5.22400520	7.17860449	9.11935762
11.04654737	12.96044535	14.86131254	16.74939989	18.62494884

A= 175.0

0.09197917	2.08409424	4.06198221	6.02594087	7.97625608
9.91320237	11.83704361	13.74803354	15.64641630	17.53242693

A= 180.0

0.90742695	2.89407159	4.86699231	6.82646653	8.77276087
10.70613176	12.62682597	14.53508107	16.43112595	18.31518120

A= 185.0

1.72067838	3.70218903	5.67044491	7.62573476	9.56821747
11.49822427	13.41595524	15.32163369	17.21547462	19.09768543

A= 190.0

0.54216962	2.53192225	4.50860597	6.47247253	8.42376434
10.36271498	12.28954963	14.20448548	16.10773239	17.99949182

A= 195.0

1.35654860	3.34132787	5.31346407	7.27319301	9.22074207
11.15633052	13.08017003	14.99246494	16.89341265	18.78320342

A= 200.0

0.17639389	2.16395620	4.14904495	6.11698962	8.07271156
10.01672443	11.94913451	13.87014111	15.77993684	17.67870794

A= 205.0

0.99180747	2.97955007	4.95520759	6.91499562	8.87112235
10.81178892	12.74118973	14.65951279	16.56693996	18.46364725

A= 210.0

1.80528681	3.78347143	5.75993600	7.71988345	9.66850994
11.60600516	13.53255264	15.44833000	17.35350924	19.24825695

A= 215.0

0.67653790	2.61697966	4.59584716	6.56333828	8.51964434
10.46495048	12.39943591	14.32327415	16.23663329	18.13967623

A= 220.0

1.44100740	3.42701901	5.40179161	7.36551190	9.31836061
11.26051276	13.19213788	15.11340031	17.02445934	18.92546947

A= 225.0

0.26089866	2.25371924	4.23552497	6.20640807	8.16654501
10.11610676	12.05525901	13.98416243	15.90297283	17.81184141

A= 230.0

1.07619546	3.06479879	5.04260623	7.00979011	8.96651748
10.91295033	12.84924575	14.77555620	16.69202964	18.59840975

A= 235.0

1.88385444	3.87435976	5.84836142	7.81202268	9.76550194
11.70895273	13.64252437	15.56636165	17.48060526	19.38539192

A= 240.0

0.71091590	2.70190389	4.68250548	6.65288026	8.61318310
10.56356433	12.50416993	14.43514171	16.35661749	18.26873120

A= 245.0

1.52545727	3.51245151	5.48933010	7.45624453	9.41334190
11.36376510	13.29865300	15.22714059	17.14635912	19.05643626

A= 250.0

0.34522347	2.33841293	4.32159557	6.29491958	8.25852893
10.21256352	12.15715936	14.09244870	16.01856018	17.93561896

A= 255.0

1.16053474	3.14988496	5.12942593	7.09935255	9.05980184
11.01090701	12.95279766	14.88559988	16.80943641	18.72442674

A= 260.0

1.97439279	3.95996686	5.93602491	7.90270110	9.86012537
11.80842652	13.74772638	15.67814590	17.59980232	19.51280382

A= 265.0

0.79530087	2.78673246	4.76874439	6.74146807	8.70503143
10.65955495	12.60517185	14.54198819	16.47012298	18.39968429

A= 270.0

1.60990369	3.59769675	5.57629637	7.54582492	9.50640444
11.45815381	13.40118884	15.33562240	17.26156448	19.17912235

A= 275.0

0.42963931	2.42305611	4.40736753	6.38269542	8.34915946
10.30687627	12.25595946	14.19651980	16.12866528	18.05250123

A= 280.0

1.24498589	3.23485189	5.21582029	7.18803846	9.15153377
11.10649474	13.05302107	14.99120380	16.92115037	18.84296171

A= 285.0

0.06363957	2.05890954	4.04536623	6.02312476	7.99229736
9.95299345	11.90531976	13.84938041	15.78527700	17.71310870

A= 290.0

0.87969102	2.87149002	4.85467145	6.82934542	8.79561934
10.75359802	12.70338369	14.64507618	16.57877292	18.50456904

A= 295.0

1.69433929	3.68280207	5.66283448	7.63454198	9.59802745
11.55339133	13.50073170	15.44014429	17.37172264	19.29555811

A= 300.0

0.51405317	2.50766138	4.49291496	6.46991743	8.43876985
10.39957389	12.35241689	14.29740198	16.23461809	18.16415507

A= 305.0

1.32938596	3.31972876	5.30189300	7.27597794	9.24208051
11.20329540	13.15371512	15.09343007	17.02852861	18.95609711

A= 310.0

0.14810474	2.14340992	4.13060782	6.10979597	8.08106962
10.04452183	12.00024355	13.94832366	15.88884907	17.82190475

A= 315.0

0.96408511	2.95619361	4.94036034	6.91667951	8.88524240
10.84613341	12.79945498	14.74527759	16.68368982	18.61477348

A= 320.0

1.77877420	3.76780009	5.74904387	7.72259546	9.68854279
11.64697184	13.59796670	15.54160963	17.47798113	19.40715995

A= 325.0

0.59846804	2.59223746	4.57828934	6.55671210	8.52759222
10.49131425	12.44736095	14.39581325	16.33735038	18.27174990

A= 330.0

1.41378928	3.42453595	5.38771658	7.36341519	9.33171498
11.29269737	13.24644203	15.19307694	17.13252845	19.06502131

A= 335.0

0.23256241	2.22789757	4.21572675	6.19613361	8.16920000
10.13500603	12.09363013	14.04514907	15.99963832	17.92717367

A= 340.0

1.04348226	3.04395453	5.02586323	7.00358891	8.97711043
10.93750496	12.89384811	14.84321389	16.78567484	18.72130200

A= 345.0

1.86320623	3.85771403	5.83499539	7.81012792	9.77818761
11.73924488	13.69338465	15.64066636	17.58116399	19.51494616

A= 350.0

0.68288293	2.67679058	4.66352752	6.64317012	8.61579327
10.58147011	12.54027260	14.49227107	16.43753448	18.37613044

A= 355.0

1.49819238	3.48928813	5.47334325	7.45043141	9.42062481
11.38399418	13.34360885	15.29053678	17.23384461	19.17059767

A= 360.0

0.31701414	2.31237514	4.30074843	6.28229654	8.25682059
10.22466026	12.18579386	14.14028836	16.08820945	18.02962152

A= 365.0

1.13288186	3.12548204	5.11121808	7.09016003	9.06237654
11.02793493	12.98590120	14.93934009	16.88531511	18.82488954

A= 370.0

1.94763595	3.93756085	5.92074091	7.89724390	9.86713583
11.83048208	13.78734637	15.73779130	17.68187830	19.61966766

A= 375.0

0.76729783	2.76132533	4.74865657	6.72935821	8.70349562
10.67113295	12.63233310	14.58715782	16.53566768	18.47792716

A= 380.0

1.58259791	3.57199610	5.55881161	7.53710887	9.50895112
11.47440039	13.43351755	15.38636237	17.33299350	19.27346952

A= 385.0

0.40146108	2.39684460	4.38569171	6.36806593	8.34402960
10.31364389	12.27696883	14.23406337	16.18498537	18.12979165

A= 390.0

1.21728343	3.21008238	5.19645318	7.17645730	9.15015505
11.11760566	13.07886725	15.03399693	16.98305076	18.92608380

A= 395.0

0.03539037	2.03206381	4.02235323	6.00631926	7.98402176
9.95551796	11.92386642	13.88012305	15.83334319	17.78058118

A= 400.0

0.85171273	2.84584514	4.83369685	6.81532655	8.79079183
10.76014931	12.72345455	14.68076215	16.63212576	18.57759807

A= 405.0

1.66700460	3.65866803	5.64415078	7.62350970	9.59680062
11.56407839	13.52539689	15.48080908	17.43036697	19.37412172

A= 410.0

0.48590412	2.48130743	4.47057087	6.45375053	8.43090151
10.40737792	12.36733296	14.32671890	16.28029709	18.22808803

A= 415.0

1.30168661	3.29466045	5.28159006	7.26252979	9.23753306
11.20665238	13.16993935	15.12744468	17.07921823	19.02533903

A= 420.0

0.11987418	2.11649013	4.10710087	6.09174006	8.07052044
10.04843382	12.01955114	13.97192249	15.92759712	17.87762342

A= 425.0

0.93612764	2.93035265	4.91866395	6.90111360	8.87775276
10.84863173	12.81379997	14.77330609	16.72719794	18.67552253

A= 430.0

1.75141226	3.74331017	5.72938315	7.70964170	9.68425544
11.65315336	13.61642333	15.57411264	17.52626778	19.47293444

A= 435.0

0.57734393	2.56576476	4.55539691	6.53929027	8.51749386
10.49005593	12.45702391	14.41844448	16.37436353	18.32482625

A= 440.0

1.38609113	3.37922004	5.36664535	7.34841548	9.32457809
11.29516302	13.26026738	15.21988553	17.17407910	19.12289202

A= 445.0

0.20435025	2.20391518	4.19181127	6.17708637	8.15678753
10.13396103	12.09965244	14.06290657	16.02076752	17.97327871

A= 450.0

1.02054256	3.01484989	5.00356999	6.98674936	8.96443371
10.93666307	12.90349670	14.86496320	16.82111048	18.77198079

A= 455.0

1.83582071	3.82792744	5.81452623	7.79566229	9.77138006
11.74172333	13.70673516	15.66645797	17.62093350	19.57020288

A= 460.0

0.65478103	2.65021749	4.64017846	6.62470858	8.60385179
10.57765135	12.54614983	14.50938914	16.46741058	18.42025477

A= 465.0

1.47049677	3.46376412	5.45163215	7.43414429	9.41134327
11.38327120	13.34996950	15.31147898	17.26783984	19.21909164

A= 470.0

0.28881981	2.28533915	4.27649035	6.26231633	8.24285932
10.21816094	12.18826214	14.15320327	16.11302408	18.06776369

A= 475.0

1.10495748	3.09933849	5.08842458	7.07225754	9.05087847
11.02432788	12.99264567	14.95587112	16.91404294	18.86719926

A= 480.0

1.92022985	3.91252369	5.89959389	7.88148111	9.85822539
11.82986617	13.79644231	15.75799210	17.71455324	19.66616292

A= 485.0

0.73971585	2.73466634	4.72492237	6.71002414	8.69001124
10.66492267	12.63479687	14.59967169	16.55958444	18.51457190

A= 490.0

1.55490336	3.54829505	5.53656089	7.51974003	9.49787103
11.47099191	13.43914011	15.40235254	17.36066557	19.31411506

A= 495.0

0.37328384	2.36976222	4.36114285	6.34746445	8.32876516
10.30508258	12.27645373	14.24291514	16.20450279	18.16125214

A= 500.0

1.18937241	3.18381973	5.17323541	7.15765714	9.13712213
11.11166701	13.08132789	15.04614038	17.00613958	18.96136010

A= 510.0

0.82364871	2.81911186	4.80963415	6.79525195	8.77600113
10.75191704	12.72303453	14.68938798	16.65101126	18.60793781

A= 520.0

0.45774314	2.45418450	4.44577258	6.43254248	8.41452880
10.39176568	12.36428677	14.33212528	16.29531393	18.25388503

A= 530.0

0.09166574	2.08904976	4.08166503	6.06954542	8.05272438
10.03123486	12.00510940	13.97438006	15.93907851	17.89923595

A= 540.0

1.72371887	3.71732478	5.70627630	7.69060574	9.67034497
11.64552542	13.61617812	15.58233369	17.54402232	19.50127383

A= 550.0

1.35820227	3.35276418	5.34274952	7.32818949	9.30911493
11.28555625	13.25754345	15.22510617	17.18827365	19.14707476

A= 560.0

0.99250965	2.98799474	4.97897848	6.96549109	8.94756738
10.92572180	12.89849839	14.86742084	16.83201747	18.79231625

A= 570.0

0.62665007	2.62302715	4.61497569	6.60252494	8.58570375
10.56454064	12.53906375	14.50930086	16.47527942	18.43702654

A= 580.0

0.26063195	2.25787141	4.25075281	6.23930447	8.22355437
10.20353011	12.17925897	14.15076789	16.11808346	18.08123196

A= 590.0

1.89253683	3.88632071	5.87584225	7.86117856	9.84220641
11.81910223	13.79184215	15.76045196	17.72495716	19.68538293

A= 600.0

1.52703214	3.52168958	5.51215001	7.49843973	9.48058468
11.45861351	13.43254257	15.40240588	17.36822519	19.33002495

A= 610.0

1.16136550	3.15686895	5.14823876	7.13550042	9.11867911
11.09779974	13.07288688	15.04396485	17.01105766	18.97418906

A= 620.0

0.79554455	2.79186775	4.78411878	6.77232238	8.75650301
10.73668483	12.71289172	14.68514727	16.65347493	18.61789746

A= 630.0

0.42957648	2.42669436	4.41979975	6.40891667	8.39406886
10.37527980	12.35257268	14.32597043	16.29549573	18.26117099

A= 640.0

0.06346802	2.06135665	4.05529075	6.04529364	8.03138839
10.01359780	11.99194443	13.96645055	15.93713822	17.90402922

A= 650.0

1.69586202	3.69060030	5.68146303	7.66847261	9.65165121
11.63102076	13.60660292	15.57841913	17.54649060	19.51083829

A= 660.0

1.33021741	3.32573645	5.31743402	7.30533191	9.28945168
11.26981465	13.24644191	15.21935430	17.18857246	19.15411680

A= 670.0

0.96442939	2.96070675	4.95321524	6.94197606	8.92701018
10.90833834	12.88598107	14.85995865	16.83029117	18.79699850

A= 680.0

0.59850414	2.59551834	4.58881485	6.57841428	8.56433706
10.54660337	12.52523318	14.50024625	16.47166214	18.43950020

A= 690.0

0.23244747	2.23017794	4.22424051	6.21465527	8.20144209
10.18462061	12.16421030	14.14023040	16.11269995	18.08163781

A= 700.0

1.86469190	3.85949950	5.85070725	7.83833448	9.82240036
11.80292383	13.77992364	15.75341835	17.72342634	19.68996578

A= 710.0

1.49906623	3.49459867	5.48657796	7.47502297	9.45995234
11.44138454	13.41933785	15.39383036	17.36487997	19.33250443

A= 720.0

1.13330660	3.12954450	5.12227477	7.11151580	9.09728575
11.07960263	13.05848427	15.03394829	17.00601217	18.97469319

A= 730.0

0.76741838	2.76434313	4.75780463	6.74782077	8.73440930
10.71758775	12.69737352	14.67378381	16.64683565	18.61654591

A= 740.0

0.40140668	2.39900039	4.39317411	6.38394530	8.37133124
10.35534906	12.33601570	14.31334797	16.28736248	18.25807570

A= 750.0

0.03527630	2.03352179	4.02838947	6.01989639	8.00835940
9.99289521	11.97442037	13.95265126	15.92760411	17.99929499

A= 760.0

1.66791256	3.66345664	5.65568070	7.64460120	9.63023445
11.61259659	13.59170363	15.56757140	17.54021559	19.50965176

A= 770.0

1.30217765	3.29838123	5.29130455	7.28096370	9.26737459
11.25055299	13.23051453	15.20727466	17.18084872	19.15125191

A= 780.0

0.93632180	2.93316858	4.92677395	6.91715360	8.90432307
10.88829776	12.86909293	14.84672371	16.82120505	18.79255181

A= 790.0

0.57034949	2.56782379	4.56209461	6.55317726	8.54108693
10.52583868	12.50744740	14.48592786	16.46129471	18.43356244

A= 800.0

0.20426498	2.20235168	4.19727195	6.18904075	8.17767292
10.16318316	12.14558604	14.12489601	16.10112736	18.07429427

A= 810.0

1.83675686	3.83231115	5.82474983	7.81408741	9.80033926
11.78351661	13.76363659	15.74071218	17.71475724	19.68578553

A= 820.0

1.47104369	3.46721712	5.46031001	7.45033651	9.43731069
11.42124647	13.40215766	15.38005793	17.35496085	19.32687986

A= 830.0

1.10521436	3.10199457	5.09572651	7.08642603	9.07410687
11.05878266	13.04046690	15.01917296	16.99491413	18.96770355

A= 840.0

0.73927384	2.73664797	4.73100434	6.72236150	8.71073290
10.69613188	12.67857162	14.65806525	16.63462573	18.60826593

A= 850.0

0.37323494	2.37118158	4.36614825	6.35814821	8.34719462
10.33330052	12.31647883	14.29674238	16.27410386	18.24857589

A= 860.0

0.00708828	2.00559948	4.00116280	5.99379121	7.98349759
9.97029470	11.95419519	13.93521162	15.91335642	17.88864192

A= 870.0

1.63490557	3.63605234	5.62929533	7.61964713	9.60712026
11.59172708	13.57347990	15.55239090	17.52847215	19.50173564

A= 880.0

1.27410356	3.27082101	5.26466516	7.25564833	9.24378277
11.22905060	13.21155387	15.19121450	17.16807433	19.14214539

A= 890.0

0.90319701	2.90547279	4.89990511	6.89150604	8.88028757
10.86626157	12.84943985	14.82983409	16.80745588	18.78231673

A= 900.0

0.54218932	2.54031148	4.53501940	6.52722491	8.51663976
10.50327558	12.48714392	14.46825625	16.44662391	18.42225820

A= 910.0

0.17908375	2.17444071	4.17001207	6.16280941	8.15284424
10.14012796	12.12467189	14.10648727	16.08559523	18.06197687

A= 920.0

1.80876397	3.80488698	5.79826378	7.78890567	9.77682383
11.76202933	13.74453320	15.72434636	17.70147962	19.67594376

A= 930.0

1.44298459	3.43964782	5.43359213	7.42482856	9.41336808
11.39922157	13.38239982	15.36291353	17.34077332	19.31598975

A= 940.0

1.07710577	3.07429816	5.06879835	7.06061720	9.04976543
11.03625372	13.02009266	15.00129273	16.97986437	18.95581791

A= 950.0

0.71113057	2.70884138	4.70388622	6.69627570	8.68602037
10.67313069	12.65761704	14.63948972	16.61875895	18.59543487

A= 960.0

0.34506194	2.34328077	4.33885932	6.33180803	8.32213723
10.30985718	12.29497807	14.27751000	16.25746299	18.23484702

A= 970.0

1.97761944	3.97372113	5.96721799	7.95812016	9.94643772
11.93218364	13.91535886	15.89598221	17.87406046	19.84960331

A= 980.0

1.61186040	3.60847495	5.60250921	7.59397315	9.58287663
11.56922947	13.55304140	15.53432207	17.51308108	19.48932795

A= 990.0

1.24600656	3.24312398	5.23768521	7.22970002	9.21917809
11.20612906	13.19056248	15.17248783	17.15191453	19.12885192

A= 1000.

0.88306068	2.87767129	4.87274935	6.86530445	8.85534610
10.84288377	12.82792681	14.81048455	16.79056624	18.76819103

A= 1100.

1.21789352	3.21533110	5.21046686	7.20330783	9.19386277
11.18213922	13.16814494	15.15188764	17.13337499	19.11261461

A= 1200.

1.55569750	3.55299092	5.54817422	7.54125406	9.53223705
11.52112978	13.50793879	15.49267058	17.47533160	19.45592828

A= 1300.

1.89347927	3.89065074	5.88587453	7.87915630	9.87050171
11.85991636	13.84740584	15.83297569	17.81663144	19.79837856

A= 1400.

0.23236325	2.23124361	4.22831057	6.22356906	8.21702397
10.20868318	12.19854252	14.18661581	16.17290485	18.15741441

A= 1500.

0.57332548	2.56899399	4.56597040	6.56125897	8.55486397
10.54678966	12.53704024	14.52561992	16.51253289	18.49778330

A= 1600.

0.90824984	2.90673305	4.90363023	6.89894512	8.89269149
10.88484305	12.87543353	14.86445662	16.85191600	18.83781534

A= 1700.

1.24614302	3.24446278	5.24129006	7.23662818	9.23048048
11.22285024	13.21374078	15.20315536	17.19109724	19.17756969

A= 1800.

1.58401024	3.58218474	5.57894989	7.57430866	9.56826407
11.56081891	13.55197628	15.54173904	17.53011011	19.51709240

A= 1900.

1.92185560	3.91990016	5.91660473	7.91198698	9.90603456
11.89875514	13.89015133	15.88022578	17.86898110	19.85641990

A= 2000.

0.26048425	2.25968238	4.25761001	6.25426956	8.24966344
10.24379405	12.23666377	14.22827499	16.21863008	18.20773141

A= 2200.

0.93641009	2.93529036	4.93301607	6.92958924	8.92501184
10.91928586	12.91241329	14.90439608	16.89523620	18.88493561

A= 2400.

1.61223473	3.61085022	5.60840773	7.60490891	9.60035546
11.59476902	13.58809127	15.58038386	17.57162845	19.56182667

A= 2600.

0.28361225	2.28238156	4.28037310	6.28378830	8.28022859
10.27569539	12.27019013	14.26371421	16.25626905	18.24785606

A= 2800.

0.96456002	2.96366728	4.96186692	6.95916017	8.95554827
10.95103244	12.94561390	14.93929388	16.93207359	18.92395425

A= 3000.

1.64042390	3.63930413	5.63733750	7.63452509	9.63086795
11.62636717	13.62102380	15.61483892	17.60781358	19.59994885

A= 3200.

0.31574331	2.31621964	4.31490129	6.31278921	8.30988434
10.30618763	12.30170002	14.29642244	16.29035583	18.28350112

A= 3400.

0.99270510	2.99195928	4.99046576	6.98822537	8.98523894
10.98150732	12.97703132	14.97181179	16.96584956	18.95914544

A= 3600.

1.66359540	3.66765219	5.66600300	7.66364857	9.66058966
11.65682700	13.65236134	15.64719341	17.64132396	19.63475373

A= 3800.

0.34487598	2.34442554	4.34330576	6.34151732	8.33906088
10.33593711	12.33214668	14.32769026	16.32256851	18.31678210

A= 4000.

1.02384749	3.02020455	5.01892590	7.01701215	9.01446391
11.01128178	13.00746637	15.00301827	16.99793808	18.99222641

A= 4200.

1.69675681	3.69593974	5.69451738	7.69249029	9.68985900
11.68662408	13.68278605	15.67834548	17.67330290	19.66765885

A= 4400.

0.37300960	2.37261243	4.37163710	6.37008413	8.36795401
10.36524724	12.36196431	14.35810574	16.35367201	18.34866361

A= 4600.

1.04898826	3.04842136	5.04730158	7.04562937	9.04340519
11.04062950	13.03730276	15.03342542	17.02899794	19.02402076

A= 4800.

1.72491191	3.72418946	5.72293728	7.72115579	9.71884541
11.71600655	13.71263965	15.70874511	17.70432335	19.69937479

A= 5000.

0.40114383	2.40078714	4.39992163	6.39854767	8.39666565
10.39427597	12.39137901	14.38797516	16.38406480	18.37964831

A= 5500.

0.09126596	2.09101340	4.09029817	6.08912061	8.08748103
10.08537974	12.08281708	14.07979336	16.07630890	18.07236401

A= 6000.

1.78121074	3.78062079	5.77960693	7.77816944	9.77630858
11.77402463	13.77131785	15.76818851	17.76463688	19.76066323

A= 6500.

1.47138583	3.47090189	5.47002659	7.46876015	9.46710290
11.46505477	13.46261629	15.45978759	17.45656890	19.45296044

A= 7000.

1.16154344	3.16115039	5.16039387	7.15927408	9.15779121
11.15594547	13.15373705	15.15116614	17.14823296	19.14493769

A= 7500.

0.85168707	2.85137279	4.85071923	6.84972656	8.84839495
10.84672457	12.84471560	14.84236820	16.83968256	18.83665883

A= 8000.

0.54181933	2.54157399	4.54101053	6.54012911	8.53892988
10.53741298	12.53557857	14.53342681	16.53095783	18.52817180

A= 8500.

0.23194222	2.23175772	4.23127378	6.23049053	8.22940813
10.22802668	12.22634634	14.22436724	16.22208950	18.21951327

A= 9000.

1.92192589	3.92151364	5.92081768	7.91983913	9.91857812
11.91703475	13.91520916	15.91310147	17.91071178	19.90804022

A= 9500.

1.61208381	3.61173381	5.61111595	7.61023035	9.60907710
11.60765632	13.60596812	15.60401259	17.60178986	19.59930002

A=10000.

1.30223030	3.30193724	5.30138968	7.30058774	9.29953150
11.29822106	13.29665653	15.29483799	17.29276555	19.29043930

A=20000.

1.10453721	3.10440324	5.10414199	7.10375348	9.10323773
11.10259476	13.10182461	15.10092729	17.09990283	19.09875125

A=30000.

0.90682290	2.90674198	4.90657619	6.90632554	8.90599005
10.90556972	12.90506457	14.90447461	16.90379985	18.90304029

A=40000.

0.70910328	2.70904888	4.70893083	6.70874913	8.70850379
10.70819481	12.70782220	14.70738597	16.70688612	18.70632266

A=50000.

0.51138155	2.51134306	4.51125365	6.51111332	8.51092207
10.51367991	12.51038684	14.51004286	16.50964799	18.50920221

A=60000.

0.31365875	2.31363087	4.31356056	6.31344731	8.31329263
10.31309501	12.31285497	14.31257251	16.31224762	18.31188032

A=70000.

0.11593535	2.11591505	4.11585837	6.11576533	8.11563591
10.11547012	12.11526796	14.11502943	16.11475454	18.11444329

A=80000.

1.91819695	3.91815050	5.91807223	7.91796214	9.91782021
11.91764647	13.91744090	15.91720351	17.91693430	19.91663328

A=90000.

1.72047733	3.72043885	5.72037207	7.72027700	9.72015364
11.72000200	13.71982206	15.71961384	17.71937734	19.71911255

A= 100000.

1,52275666	3,52272458	5,52266695	7,52258391	9,52247540
11,52230144	13,52218201	15,52199713	17,52178678	19,52155099

A= 120000.

1,12731318	3,12729061	5,12724682	7,12718181	9,12709558
11,12698814	13,12685948	15,12670960	17,12653850	19,12634619

A= 140000.

0,73186789	2,73185214	4,73181820	6,73176607	8,73169576
10,73160726	12,73150057	14,73137570	16,73123264	18,73107139

A= 160000.

0,33642146	2,33641062	4,33638427	6,33634181	8,33628343
10,33620914	12,33611893	14,33601281	16,33589077	18,33575284

A= 180000.

1,94096762	3,94094681	5,94091186	7,94086277	9,94079953
11,94072214	13,94063061	15,94052493	17,94040511	19,94027114

A= 200000.

1,54552308	3,54550687	5,54547794	7,54543627	9,54538187
11,54531474	13,54523487	15,54514228	17,54503694	19,54491890

A= 220000.

1,15007758	3,15006514	5,15004112	7,15000553	9,14995836
11,14989962	13,14982931	15,14974742	17,14965396	19,14954892

A= 240000.

0,75463136	2,75462205	4,75460213	6,75457160	8,75453046
10,75447871	12,75441636	14,75434339	16,75425982	18,75416563

A= 260000.

0,35918458	2,35917792	4,35916147	6,35913523	8,35909919
10,35905336	12,35899773	14,35893232	16,35885711	18,35877210

A= 280000.

1,96373298	3,96371950	5,96369693	7,96366526	9,96362450
11,96357465	13,96351570	15,96344764	17,96337053	19,96328430

A= 300000.

1,56828738	3,56827648	5,56825709	7,56822922	9,56819285
11,56814800	13,56809466	15,56803284	17,56796252	19,56788372

A= 325000.

0,07398078	2,07397657	4,07396453	6,07394465	8,07391693
10,07388139	12,07383800	14,07378679	16,07372773	18,07366085

A= 350000.

0,57967127	2,57966552	4,57965250	6,57963220	8,57960463
10,57956978	12,57952766	14,57947826	16,57942159	18,57935764

A= 375000.

1,08536137	3,08535429	5,08534042	7,08531976	9,08529230
11,08525806	13,08521703	15,08516921	17,08511460	19,08505319

A= 400000.

1,59105115	3,59104290	5,59102829	7,59100731	9,59097997
11,59094625	13,59090618	15,59085973	17,59080692	19,59074775

A= 425000.

0,09674396	2,09674067	4,09673140	6,09671613	8,09669487
10,09666761	12,09663437	14,09659518	16,09654991	18,09649869

A= 450000.

0,60243451	2,60242997	4,60241978	6,60240393	8,60238242
10,60235525	12,60232242	14,60228394	16,60223979	18,60218999

A= 475000.

1,10812874	3,10811909	5,10810808	7,10809171	9,10806997
11,10804288	13,10801043	15,10797261	17,10792943	19,10788090

A= 500000.

1,61381471	3,61380805	5,61379631	7,61377946	9,61375753
11,61373050	13,61369838	15,61366117	17,61361886	19,61357147

A= 525000.

0,11950716	2,11950445	4,11949688	6,11948447	8,11946720
10,11944508	12,11941812	14,11938630	16,11934963	18,11930812

A= 550000.

0,62519775	2,62519390	4,62518559	6,62517257	8,62515492
10,62513264	12,62510573	14,62507419	16,62503801	18,62499721

A= 575000.

1,13088807	3,13088335	5,13087321	7,13086063	9,13084263
11,13082019	13,13079333	15,13076204	17,13072632	19,13068618

A= 600000.

1,63657816	3,63657257	5,63656273	7,63654865	9,63653032
11,63650775	13,63648093	15,63644987	17,63641457	19,63637502

A= 625000.

0,14227038	2,14226805	4,14226165	6,14225117	8,14223662
10,14221800	12,14219530	14,14216853	16,14213768	18,14210276

A= 650000.

0.64796099	2.64795776	4.64795062	6.64793955	8.64792457
10.64790567	12.64788286	14.64785612	16.64782547	18.64779090

A= 675000.

1.15365137	3.15364731	5.15363948	7.15362787	9.15361249
11.15359334	13.15357041	15.15354371	17.15351324	19.15347900

A= 700000.

1.65934155	3.65933672	5.65932824	7.65931613	9.65930038
11.65928099	13.65925797	15.65923130	17.65920100	19.65916706

A= 725000.

0.16503360	2.16503156	4.16502800	6.16501693	8.16500434
10.16498825	12.16496864	14.16494552	16.16491889	18.16488874

A= 750000.

0.67072923	2.67072139	4.67071516	6.67070553	8.67069251
10.67067610	12.67065628	14.67063307	16.67060647	18.67057647

A= 775000.

1.17641466	3.17641108	5.17640622	7.17639807	9.17638864
11.17636392	13.17634392	15.17632063	17.17629405	19.17626419

A= 800000.

1.68210891	3.68210084	5.68209319	7.68208255	9.68206874
11.68205173	13.68203155	15.68200818	17.68198163	19.68195190

A= 825000.

0.18779683	2.18779500	4.18779008	6.18778207	8.18777098
10.18775680	12.18773953	14.18771918	16.18769576	18.18766921

A= 850000.

0.69348747	2.69348493	4.69347940	6.69347087	8.69345935
10.69344483	12.69342731	14.69340680	16.69338329	18.69335679

A= 875000.

1.19917793	3.19917473	5.19916862	7.19915960	9.19914767
11.19913283	13.19911508	15.19909442	17.19907085	19.19904437

A= 900000.

1.70486824	3.70486441	5.70485775	7.70484827	9.70483595
11.70482081	13.70480284	15.70478203	17.70475840	19.70473194

A= 925000.

0.21056006	2.21055839	4.21055397	6.21054680	8.21053688
10.21052420	12.21050877	14.21049058	16.21046965	18.21044596

A= 950000.

0.71625071	2.71624841	4.71624343	6.71623577	8.71622543
10.71621240	12.71619670	14.71617832	16.71615725	18.71613351

A= 975000.

1.22194120	3.22193830	5.22193279	7.22192466	9.22191393
11.22190058	13.22188462	15.22186604	17.22184486	19.22182107

A=1000000.

1.72763155	3.72762808	5.72762206	7.72761349	9.72760238
11.72758872	13.72757251	15.72755376	17.72753246	19.72750862