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28

Reactor Neutron Cross Sections in
Fine Energy Detail

J. R. Cooper
R. E. Sullivan
W. B. Henderson

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in Fine Energy Detail

J. R. Cooper
R. E. Sullivan
W. B. Henderson
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ABSTRACT

This document contains references to the data and a brief resume of the methods used in generating cross sections stored on magnetic tapes in fine energy detail. The data are used directly in bare, homogeneous reactor slowing-down calculations or can be processed to provide multi-group or multi-level cross sections in coarser energy detail for other machine programs. Cross sections for 33 elements or isotopes, the U^{235} prompt and total fission spectra, and the $Be(n,2n)$ transfer cross sections are currently available.

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1. INTRODUCTION

This report was prepared to enable persons to make use of the C-FINE nuclear data tapes and to ascertain the source and reliability of the cross section information presently contained on them. The details of the arrangement of the cross sections and other data on the tapes is covered elsewhere³, as is the use of program C-FINE²⁵, for which this information was primarily generated. As new experimental data are constantly becoming available, it is hoped that this document will facilitate evaluation of the data currently on these tapes and, where multigroup or multilevel constants are derived from the C-FINE tapes, allow corrections to be made if necessary.

The processed information, in particular that read from curves drawn between given points, and the way in which cross sections obtained by one method are connected to those generated in another manner, are susceptible to variations occasioned by judgement. It will be possible only in rare instances to exactly reproduce the data contained on the C-FINE tapes. It is felt, however, that if the procedures and references for the individual materials are followed carefully, any subjective variations introduced will be small.

2. CONTENTS OF THE C-FINE NUCLEAR DATA TAPES

At present, there are three C-FINE nuclear data tapes. An attempt was made to put the most commonly used materials on the smallest tape so that the running time of the majority of programs using the tapes would be held to a minimum. The tapes are labeled CF1B, CF2B, and CF3B in order of increasing size. CF2B is an extension of CF1B, containing more energy levels and more materials. Similarly, CF3B is an extension of CF2B. There are also master copies of each tape, labeled CF1A, CF2A, and CF3A, to be used in the event of failure of the working tape for remaking that tape. A C-FINE tape copy program (ANP Program 742) is available for this purpose.

Elements and sources are identified by code numbers. Tape CF1B contains materials 1-16, tape CF2B materials 1-23, and tape CF3B materials 1-57. Due to the nature of the tape generating program³, the numbers are not necessarily consecutive and on tape CF3B actually represent only thirty-three materials. A list of the elements in order of atomic number, currently available on one or more of the three tapes together with the

material code numbers is given in Table 1. Since a code number defines the same element, regardless of which tape it is on, only the shortest tape containing that element is indicated.

TABLE 1
Elements Available on C-FINE Tapes

<u>Atomic Number</u>	<u>Material</u>	<u>Code Number</u>	<u>Shortest Tape Containing Material</u>
1	Bound Hydrogen	2	CF1B
3	Li-6	42	CF3B
3	Li	43	CF3B
4	Be(n,2n)	4	CF1B
5	B-10	44	CF3B
5	B	45	CF3B
6	C	8	CF1B
8	O	3	CF1B
13	Al	9	CF1B
22	Ti	21	CF2B
24	Cr	14	CF1B
25	Mn	19	CF2B
26	Fe	12	CF1B
27	Co	20	CF2B
28	Ni	13	CF1B
39	Y	17	CF2B
40	Zr	15	CF1B
41	Nb	16	CF1B
42	Mo	23	CF2B
54	Xe-135	46	CF3B
62	Sm-149	52	CF3B
62	Sm	54	CF3B
63	Eu	55	CF3B
64	Gd	56	CF3B
74	W	47	CF3B
90	Th-232	49	CF3B
92	U-234	10	CF1B
92	U-235	1	CF1B
92	U-236	11	CF1B
92	U-238	5	CF1B
94	Pu-239	57	CF3B
X	F1	6	CF1B
X	Acc	7	CF1B

In addition to the above listed elements, the prompt neutron spectrum and the prompt plus delayed neutron spectrum from U^{235} fission are available. The code numbers assigned are given in Table 2.

TABLE 2

Sources Available on C-Fine Tape

<u>Tape</u>	<u>Prompt Spectrum Code</u>	<u>Prompt + Delayed Spectrum Code</u>
CF1B	2	1
CF2B	2	3
CF3B	2	3

3. SOURCES OF DATA

The vast majority of the data contained on the C-FINE nuclear data tapes was obtained directly from BNL-325²². The major source of data on the angular distribution of elastically scattered neutrons has been BNL-400¹⁹, although ANL-5567²⁹ was used on some occasions. Values for $v(E)$ and $\eta(E)$, where applicable, were obtained by fitting semi-empirical equations, as shown in Section 6, to curves drawn through points obtained primarily from ANL-5800¹. The absorption integrals given in ANL-5800¹ and elsewhere^{24, 31, 36, 39, 40, 44} were used to judge the adequacy of the absorption cross section and, in some light elements, were the basis for arbitrarily assigning values of the resonance capture widths, Γ_γ .

The spectral data for U-235 prompt, and prompt plus delayed, neutrons were taken from ANL-5800¹ and XDC 58-1-39⁸, and the beryllium (n,2n) transfer cross sections were generated using program 335 (Section 5.4). Values of ξ and $\bar{\mu}$ at high energies were obtained from formulas and programs described in Sections 4 and 5, and the constant values of ξ and $\bar{\mu}$ at lower energies are those of Kroeger's²⁸. While no attempt has been made to conduct a thorough literature survey for each isotope or element on tape, other sources of information have been used and references to these will be found included in Section 7, where the detailed sources of data for each material are given.

4. GENERAL CROSS SECTION INFORMATION

The quantities involved in generating the five cross sections, indicated by asterisk, stored on the C-FINE nuclear data tapes are identified in Table 3.

TABLE 3

Neutron Parameters

*	σ_s	Total scattering cross section.
*	σ_a	Total absorption cross section.
	ξ	Average logarithmic energy change per collision.
	$\bar{\mu}$	Average cosine of the scattering angle relative to the initial direction.
	σ_f	Cross section for neutron induced fission.
	σ_t	Total cross section for neutron induced reactions.
	ν	Average number of neutrons per fission.
	η	Average number of neutrons per absorption.
*	$\xi\sigma_s$	Slowing down power.
*	σ_{tr}	Transport cross section.
*	$\nu\sigma_f$	Fission production cross section.
	$\sigma_{n,\gamma}$	Radioactive capture cross section.
	σ_{ne}	Cross section for non-elastic reaction.
	$\sigma_{n,n'}$	Cross section for inelastic neutron scattering.
	$\sigma_{n,\alpha}$	Cross section for neutron induced alpha emission.
	$\sigma_{n,n}$	Cross section for elastic scattering of neutron.
	σ_c	Total capture cross section.
	$\sigma_{n,2n}$	Cross section for n,2n reaction.

The quantities contained on the C-FINE nuclear data tapes are microscopic cross sections. The capability for obtaining macroscopic data and combining materials is contained in the program, such as C-FINE²⁵, utilizing the tapes.

The energy range covered is from 10^7 ev (lethargy zero) to an energy corresponding to a neutron velocity of 2200 meters per second (lethargy 19.795). In addition, there are seven thermal groups representing temperatures of 3000, 2500, 2000, 1500, 1000, 500 and 68 degrees Fahrenheit. The cross sections in these thermal groups are Maxwellian averaged values reported in APEX 515¹⁵ and will not be further discussed in this report.

There are five pieces of data stored on tape for each level. These are σ_s , the scattering cross section, σ_a , the absorption cross section, $\xi\sigma_s$, the slowing down power, σ_{tr} , the transport cross section, and $\nu\sigma_f$, the fission production cross section. In order to reduce the

amount of hand calculation necessary, many combinations of data may be used as input and the tape generating program³ will compute the desired quantities. In Section 7, SOURCES OF DATA FOR INDIVIDUAL ELEMENTS, only those quantities actually used as input are discussed and the desired quantity inferred from the appropriate formula. The most common relations used in this procedure are given in Table 4.

TABLE 4
Cross Section Relations

1. $\sigma_s = \sigma_t - \sigma_a$
2. $\sigma_s = \sigma_{n,n} + \sigma_{n,n'}$
3. $\sigma_{n,n} = \sigma_t - \sigma_{ne}$
4. $\eta = v\sigma_f/\sigma_a$
5. $\xi\sigma_s = \xi \text{ elastic } \sigma_{n,n} + \xi \text{ inelastic } \sigma_{n,n'}$
6. $\sigma = (1-\bar{\mu})\text{elastic } \sigma_{n,n} + (1-\bar{\mu})\text{inelastic } \sigma_{n,n'}$
7. $\sigma_a = \sigma_{n,\gamma} + \sigma_{n,\alpha} + \sigma_{n,f} + \sigma_{n,2n}$
8. $\xi = \frac{\ln E_{\text{incident}}}{E_{\text{out}}}$
9. $\bar{\mu} = \cos \theta_{\text{lab}}$

As the cross sections of each element vary in complexity over a given energy range, it may not be necessary to enter a set of cross sections at each energy level. Consequently, the tape generating program³ has been arranged to find values for the levels between two given points by linear interpolation in lethargy. The number of points required to represent the cross section in a particular region depends strongly on the rapidity with which the cross section varies with energy. Since several different methods, described in Section 5, have been used to generate the required cross sections, it has been necessary in some instances to use somewhat arbitrary values for the cross sections at a particular energy in order to avoid discontinuities. The most common example of this is where data obtained by use of a Breit-Wigner formula is merged into the surrounding region. The levels affected have not been documented as both the size of the region and the magnitude of the correction tend to make the adjustment negligible.

5. AUXILIARY PROGRAMS

There are five auxiliary programs used to reduce the amount of data processing required for generation of the nuclear data tapes. The formulas coded, together with a brief discussion of the purpose of each program, are given below.

5.1 The Single Level Breit-Wigner Subroutine

The single level Breit-Wigner formulas²³ were applied in the following forms³.

$$\sigma_{s,i} = \sum_{l=1}^{\text{No. of resonances}} \left[\left\{ \frac{A_{l+1}}{A_l} \right\}^2 \frac{2.62 \times 10^6 g_l(AB)_l (\Gamma_{n,l}^0)^2}{4(E_i - E_{0,l})^2 + \Gamma_l^2} + \left\{ \frac{A_{l+1}}{A_l} \right\} \frac{6.475 \times 10^3 g_l(AB)_l \Gamma_{n,l}^0 \sqrt{\sigma_{PR,l}} (E_i - E_{0,l})}{4(E_i - E_{0,l})^2 + \Gamma_l^2} + \sigma_{PR,l} \right]$$

$$\sigma_{c,i} = \sum_{l=1}^{\text{No. of resonances}} \left\{ \frac{A_{l+1}}{A_l} \right\}^2 \frac{2.62 \times 10^6 g_l(AB)_l \Gamma_{n,l}^0 \Gamma_{c,l}}{\sqrt{E_i} \left[4(E_i - E_{0,l})^2 + \Gamma_l^2 \right]}$$

$$\sigma_{f,i} = \sum_{l=1}^{\text{No. of resonances}} \left\{ \frac{A_{l+1}}{A_l} \right\}^2 \frac{2.62 \times 10^6 g_l(AB)_l \Gamma_{n,l}^0 \Gamma_{f,l}}{\sqrt{E_i} \left[4(E_i - E_{0,l})^2 + \Gamma_l^2 \right]}$$

$$\sigma_{a,i} = \sigma_{c,i} + \sigma_{f,i}$$

i = energy lattice point

l = resonance number

g_l = statistical weight factor

A_l = atom to neutron mass ratio

AB = isotopic abundance

Γ_n^0 = reduced neutron width = $\Gamma_n / \sqrt{E_0}$

E_0 = resonance energy

Γ_c = capture width

Γ_f = fission width

$\Gamma = \Gamma_c + \Gamma_f + \Gamma_n$

σ_{PR} = resonance potential scattering cross section

Two useful relations in evaluating the importance of an absorption resonance are its integral and its contribution to $\sigma_a(.0253 \text{ ev})$. The relations are given approximately by

$$\text{Absorption Integral} = \frac{4.09 \times 10^6 g_{\ell}(AB) \Gamma_{n,\ell} \Gamma_{c,\ell}}{\Gamma_{\ell}^2 E_{O,\ell}} \text{ and}$$

$$\sigma_a(.0253 \text{ ev}) = \frac{4.09 \times 10^6 g_{\ell}(AB) \Gamma_{n,\ell} \Gamma_{c,\ell}}{\left\{ E_{O,\ell}^2 + \frac{\Gamma_{\ell}^2}{4} \right\} \sqrt{E_{O,\ell}}}$$

This subroutine was used to compute cross sections in the resonance region of almost all isotopes for which resonance parameters were available. Unless otherwise stated, the g factor used came from data in BNL-325²². This subroutine is an integral part of the tape manufacturing program and the Breit-Wigner results may be used in any specified energy range, although the expression for the scatter cross section, $\sigma_{s,i}$, is applicable to low energies only.

5.2 The 1/v Subroutine

This is also a subroutine of the tape manufacturing program and allows a $\sigma_{a,i}$ cross section proportional to $1/\sqrt{E_1}$ to be entered at any number of desired points throughout the energy range of the program by use of the formula $\sigma_a(E) = \sigma_a(E_{\text{ref.}}) \frac{\sqrt{E_{\text{ref.}}}}{E}$. The reference energy, $E_{\text{ref.}}$, is usually the energy (.0253 ev) corresponding to a neutron velocity of 2200 m/sec but may be any energy in the 1/v region.

5.3 The DAMUXI Program

This program (ANP No. 390) uses the differential elastic scattered cross section at arbitrary angles in the center of mass, such as from curves in BNL-400¹⁹, to compute by trapezoidal integration.

$$\xi_{\text{elastic}}(E) = \int_{-1}^1 \ln[E/E(\mu)] \sigma_{n,n}(E, \mu) d\mu / \int_{-1}^1 \sigma_{n,n}(E, \mu) d\mu, \text{ and}$$

$$\bar{\mu}_{\text{elastic}}(E) = \int_{-1}^1 \cos \psi \sigma_{n,n}(E, \mu) d\mu / \int_{-1}^1 \sigma_{n,n}(E, \mu) d\mu,$$

where $\mu = \cos \theta_{\text{c.m.}}$,

$$\cos \psi = \frac{1 + A\mu}{(A^2 + 2A\mu + 1)^{1/2}}, \text{ and}$$

$$E/(\mu) = \frac{(A + 1)^2}{A^2 + 2A\mu + 1}.$$

The values of ξ_{elastic} and $\bar{\mu}_{\text{elastic}}$ at isolated energy points are plotted by hand, and the values at the required energy lattice points are obtained from the graph.

5.4 The DIN Program

This program (ANP No. 335) computes the distribution of inelastically scattered neutrons from the statistical continuum model of the nuclear energy levels as given in NYO 636⁹. The values of $\xi_{\text{inelastic}}(E)$ at the required energy lattice points are computed by trapezoidally integrating

$$\xi_{\text{inelastic}}(E) = \int_u^\infty P_1(u \rightarrow u') (u' - u) du' / \int_u^\infty P_1(u \rightarrow u') du',$$

$$\text{where: } P_1(u \rightarrow u') = x^2 e^{-x},$$

$$x = E' \sqrt{\frac{a}{E}}, \text{ and}$$

a = parameter determined by experiment.

The parameter "a" is related to the nuclear temperature, T , by $T = \sqrt{E/a}$. The values of "a" were obtained from an unpublished compilation by T. J. Kostigen and are given for the appropriate elements in Section 8.

The beryllium $n, 2n$ transfer cross sections were computed from:

$$\sigma(u \rightarrow u') = \sigma_{n, 2n}(u) P_2(u \rightarrow u'), \text{ where}$$

$$P_2(u \rightarrow u') = x \left[x e^{-x} + 2 \left(\xi e^{-(\xi - x)} + x \left\{ (\xi - 1) e^{-\xi} \int_x^{\xi} \frac{e^y}{y} dy - 1 \right\} \right) \right],$$

where: $x = E' \sqrt{a/E}$ as before

$$\xi = (E - E_b) \sqrt{a/E}$$

E_b = binding energy of second neutron

a = nuclear temperature parameter as before

For convenience, this program will combine the elastic and inelastic ξ and $\bar{\mu}$ to give $\xi \sigma_s$ and σ_{tr} by

$$\xi \sigma_s = \xi_{\text{elastic}} \sigma_{n,n} + \xi_{\text{inelastic}} (\sigma_{n,n'} + \sigma_{n,2n}) \text{ and}$$

$$\sigma_{tr} = (1 - \bar{\mu}_{\text{elastic}}) \sigma_{n,n} + (1 - \frac{2}{3A}) (\sigma_{n,n'} + \sigma_{n,2n})$$

5.5 The Discrete Program

When the cross section for excitation of particular energy levels of the compound nucleus due to the n,n' process are known, this program (ANP No. 392) may be used to compute the inelastic average logarithmic energy decrement by the following formulas:

$$\xi_{\text{inelastic}} = 1 + 2 \ln(A+1) + \frac{(u-1)^2 \ln |u-1| - (u+1)^2 \ln(u+1)}{2u}, \quad |u-1| \geq 10^{-4},$$

$$\xi_{\text{inelastic}} = 1 + 2 \ln(A+1) - \frac{(u+1)^2 \ln(u+1)}{2u}, \quad |u-1| < 10^{-4}$$

$$\xi_{\text{inelastic}} = 2 \ln(A+1) - \frac{u^2}{3} - \frac{u^4}{3}, \quad u < 10^{-3},$$

$$\text{where: } u^2 = A^2 - A(A+1) \frac{E\gamma}{E_{\text{incident, lab}}}.$$

The inelastic average cosine of the scattering angle is given by:

$$\bar{\mu}_{\text{inelastic}} = \frac{2}{3u}, \quad u \geq 1,$$

$$\bar{\mu}_{\text{inelastic}} = 1 - \frac{u^2}{3}, \quad u < 1$$

For convenience σ_s , ξ_{elastic} and $\bar{\mu}_{\text{elastic}}$ are input data and the program calculates:

$$\xi \sigma_s = \xi_{\text{elastic}} \sigma_{n,n} + \xi_{\text{inelastic}} \sigma_{n,n'}, \text{ and}$$

$$\sigma_{\text{tr}} = (1 - \bar{\mu}_{\text{elastic}}) \sigma_{n,n} + (1 - \bar{\mu}_{\text{inelastic}}) \sigma_{n,n'}$$

$$\text{where } \xi_{\text{inelastic}} \sigma_{n,n'} = \sum_{i=1}^{\text{No. of levels}} \xi_{\text{inelastic}}^i \sigma_{n,n'\gamma}^i \text{ and}$$

$$(1 - \bar{\mu}_{\text{inelastic}}) \sigma_{n,n'} = \sum_{i=1}^{\text{No. of levels}} (1 - \bar{\mu}_{\text{inelastic}}^i) \sigma_{n,n'\gamma}^i$$

6. APPROXIMATIONS

Due to a lack of experimental data and also in order to reduce the time expended in processing the large amount of data used, it has been necessary to use some approximate methods in generating the cross sections used in the tape manufacturing program. Some of the more important, together with the most common procedures, are described below.

As $\bar{\mu}$ and ξ are required at every level and, in general, BNL-400¹⁹ gives only a few curves of $\sigma(\theta)$ for each element, it has been necessary to plot the points obtained from program DAMUXI and draw a smooth curve through them. For some elements where little or no data were available, the curves from neighboring elements have been used. Both ξ and $\bar{\mu}$ have usually been taken to be constant below 10^5 electron volts.

In the Breit-Wigner program, the number of points in each resonance at which each cross section is calculated has been restricted, due to the physical capacity of the tapes, to twenty-three. The points used are $E_0 \pm K\Gamma$ where $K = 0, 0.5, .75, 1.0, 1.5, 2.4, 10, 15, 50, 150$, and 500, E_0 is the resonance energy, and gamma the total width for all neutron processes. This set of points produces about 2% overprediction of the absorption integral using trapezoidal integration.

The tape generating program limits the minimum value of σ_s to avoid negative excursions due to inconsistencies between measured σ_t and σ_f curves. When $\sigma_a = \frac{\nu\sigma_f}{\eta}$, σ_a can be greater than σ_t . In order to avoid the occurrence of a negative scattering cross section due to the incomplete treatment of scattering phase shift and interference, the Breit-Wigner subroutine also contains a provision for limiting the minimum size of σ_s . Unless otherwise specified in Section 8, under the particular isotope, the minimum scattering cross section has been set at 0.1 barns.

In most cases the inelastic scattering cross section has not been measured and, unless there is a large cross section for some other known process, $\sigma_{n,n'}$ has been taken to be equal to the non-elastic cross section. Where neither is available, the approximation used is referenced under the particular isotope.

The number of neutrons per fission, ν , is used to calculate the microscopic fission production cross section $\nu\sigma_f$. The number of neutrons per absorption, η , is sometimes used to calculate the absorption cross section from

$$\eta = \frac{\nu\sigma_f}{\sigma_a}$$

at energies where only the fission cross section is known. The variation of both ν and η with energy is, therefore, required and these have been assumed to fit the formulas.

$$\nu = A + BE \quad \text{and}$$

$$\eta = A + (B + CE^D) \ln E \quad .$$

The constants in these equations have been determined by fitting curves drawn through data given in ANL-5800¹ and elsewhere^{33,35}.

In general, the energy range for which cross sections were processed may be divided into three regions, each of which was handled in a different manner, as indicated below.

High Energy Region ($10^7 - 10^5$ ev)

In this region most of the cross sections, with the possible exception of σ_{ne} and σ_s , were available and varied slowly enough with energy to enable points to be obtained without use of a machine program. The procedures for obtaining ξ , and $\bar{\mu}$, $\xi\sigma_s$, and σ_{tr} have been discussed previously.

Intermediate Energy Range ($10^5 - 1$ ev)

This is the resonance region for most elements and was handled **at least in a piecewise fashion by using parameters obtained from various sources** (see the individual elements in Section 7) in the Breit-Wigner program discussed in Section 5.1. The values of ξ and μ were taken to be constant in this range. Where the Breit-Wigner treatment was piecewise, the total cross section outside the Breit-Wigner regions was available and the absorption was based on measured values of $\sigma_{n,\gamma}$ and the $1/v$ assumption.

Low Energy Region ($10_{ev} - E_{th}$)

The total cross sections were almost always given for this region and usually varied slowly with energy. The variation of the absorption cross section with energy was not often given, however, and was usually taken to decrease as $1/v$ based on a known absorption cross section at thermal energy.

There are, of course, exceptions to these general rules and the procedures then used will be found referenced under the pertinent material.

7. SOURCES OF DATA FOR INDIVIDUAL ELEMENTS

In the following pages the source of the cross section data for each element on the C-FINE nuclear data tapes is given, along with the assumptions and procedures used in filling in gaps where no data were available. As was mentioned previously, quite a bit of additional information has come to the attention of the authors since these tapes were made and references are given which would tend to improve the accuracy of the cross sections now on tape. The materials are listed in alphabetical order with each piece of data and its concomitant region of

validity indicated. Where the quantity stored on tape is not directly given, it has been computed by the machine program in accordance with the formulas given in Table 4. The lethargy and spectral data are given after the cross section data.

Accumulation

(Acc)

1. This is a fictitious element having a $1/v$ absorption cross section with $\sigma_a(E_{th}) = 1.0$, and no scattering, so that σ_s , $\xi\sigma_s$, and σ_{tr} are zero at all energies. This "element", together with fictitium, is used to mock up data for elements not actually stored on tape. Any element or combination of elements for which a $1/v$ absorption and a constant scattering cross section are reasonable assumptions can therefore be approximated.

ALUMINUM

<u>Energy Range (ev)</u>	<u>Datum</u>	<u>Comments</u>
1. $10^7 - E_{th}$	σ_t	From reference (22).
2. $10^7 - 2 \times 10^4$	σ_a	$\sigma_a = \sigma_{n,\gamma} + \sigma_{n,p} + \sigma_{n,\alpha}$ taken from reference (22)
3. $2 \times 10^4 - 5 \times 10^3$	σ_a	Taken from a smooth curve interpolated between the end points of comments 2 and 4.
4. $5 \times 10^3 - 10^2$	σ_a	A constant σ_a of 3.65×10^{-3} was used.
5. $10^2 - .0253$	σ_a	A $1/v$ absorption was used with σ_a (.0253 ev) from reference (22).
6. $10^7 - 10^5$	$\xi, \bar{\mu}$	These quantities were computed with auxiliary programs DAMUXI (Section 5.3) and DIN (Section 5.4) using data from reference (19) and an "a" of 12.35 mev^{-1} .
7. $10^5 - .0253$	$\xi, \bar{\mu}$	From reference (28).
8. $10^7 - 1.4 \times 10^6$	$\sigma_{n,n'}$	Taken to be $\sigma_{n,n'} = \sigma_{ne} - \sigma_a$ from reference (22).
9. $10^7 - 1.4 \times 10^6$	$\sigma_{n,n}$	Taken to be $\sigma_{n,n} = \sigma_s - \sigma_{n,n'}$ from reference (22).

Remarks

The computed absorption integral from 10^7 ev to the cadmium cut-off is 0.25 barns compared with 0.18 barns measured³¹. The measured value is appropriate only to about 2 Mev, however, and to this upper limit the computed value is also 0.18 barns.

BERYLLIUM

<u>Energy Range (ev)</u>	<u>Datum</u>	<u>Derivation</u>
1. $10^7 - 5 \times 10^5$	σ_t	From reference (22).
2. $5 \times 10^5 - 10^4$	σ_t	From reference (21).
3. $10^4 - .0253$	σ_t	From reference (20).
4. $10^7 - 5 \times 10^5$	σ_a	Taken to be $\sigma_n, \alpha + \sigma_{n,2n}$.
5. $5 \times 10^5 - .0253$	σ_a	Taken to be $1/v$ with σ_a (.0253 ev) = 0.01 barns.
6. $10^7 - 5 \times 10^5$	$\xi_{\text{elastic}},$ $\bar{\mu}_{\text{elastic}}$	From unpublished calculations by T. J. Kostigen. $\sigma_{n,n}$ was assumed to be negligible. The n, 2n reaction is described in remarks below.
7. $5 \times 10^5 - .0253$	$\xi, \bar{\mu}$	$\xi = .2078; (1-\bar{\mu}) = 0.9255$.
8. $10^7 - 5 \times 10^5$	$\sigma_{n,n}$	Equal to $\sigma_t - \sigma_{n,2n} - \sigma_{n,\alpha}$.
9. $10^7 - 1.85 \times 10^6$	$\sigma_{n,2n}$	From reference (22).
10. $10^7 - 4.4 \times 10^6$	$\sigma_{n,\alpha}$	From reference (42).
11. $4.4 \times 10^6 - 5 \times 10^5$	$\sigma_{n,\alpha}$	From reference (22).

Remarks

In order to account for the effects of the (n,2n) reaction in beryllium, a set of transfer cross sections has been added to the C-FINE nuclear data tapes. These transfer cross sections were computed using the DIN program (Section 5.4). The binding energy of the second neutron, E_b , is 1.665 Mev and the parameter "a" was taken to be 28.57 Mev^{-1} . Although σ_{tr} contains only the elastic scattered component, $\sigma_{n,2n}$ enters the diffusion coefficient, $D = \frac{1}{3[\Sigma_{tr} + \Sigma_a]}$, as an absorption in the same manner as the fission cross section of fertile isotopes.

BORON
(5 B)

	<u>Energy Range (ev)</u>	<u>Datum</u>	<u>Derivation</u>
1.	$10^7 - 1$	σ_t	From reference (22), page 93,
2.	$10^4 - .0253$	σ_s	Constant and equal to 4.4 barns.
3.	$10^7 - 4 \times 10^5$	σ_a	Taken to be $\sigma_{n,\alpha}$ as given in reference (22), page 93.
4.	$4 \times 10^5 - 10^4$	σ_a	From a straight line drawn between the end points of comments 3 and 5, $\sigma_a(4 \times 10^5 \text{ ev}) = 0.185$ barns and $\sigma_a(10^4 \text{ ev}) = 1.1$ barns.
5.	$10^4 - 1$	σ_a	Equal to $\sigma_a = \sigma_t - 4.4$ barns.
6.	1	σ_a	Taken to be $1/v$ with $\sigma_a(.0253) = 755$ barns. (p.19)
7.	$10^7 - 7 \times 10^5$	$\xi \sigma_s, \sigma_{tr}$	As in comment 6 of A1 with data taken from page 18-19 of reference (19) and with an "a" of 24.89 mev^{-1} .
8.	$7 \times 10^5 - .0253$	$\bar{\mu}, \xi$	Constant $\bar{\mu}$ of 0.0621 and constant ξ of 0.1756.
9.	$10^7 - 7 \times 10^5$	$\sigma_{n,n'}$	The point at 14 mev given in reference (22), page 363 for B^{11} was used to normalize the usual non-elastic shape ¹⁸ and $\sigma_{n,n'}$ taken to be $[\sigma_{n,n'}(B^{10})] \times [AB(B^{10})] + [\sigma_{n,n'}(B^{11})] \times [AB(B^{11})]$.
10.	$10^7 - 7 \times 10^5$	$\sigma_{n,n}$	Taken to be $\sigma_t - \sigma_{n,\alpha} - \sigma_{n,n'}$

BORON 10

 $(^{10}_{5}\text{B})$

<u>Energy Range (ev)</u>	<u>Datum</u>	<u>Derivation</u>
1. $10^7 - 10^4$	σ_t	Directly from reference (22).
2. $10^4 - .0253$	σ_s	Constant and equal to 4 barns.
3. $10^7 - 10^4$	σ_a	Taken to be the $\sigma_{n,\alpha}$ curve given in reference (22).
4. $10^4 - .0253$	σ_a	A $1/v$ σ_a was used with $\sigma(.0253) = 3813$ barns.
5. $10^7 - 5 \times 10^5$	$\xi \sigma_s, \sigma_{tr}$	(p.19) As in comment 6 of A1 with $a = 24.89 \text{ Mev}^{-1}$.
6. $5 \times 10^5 - .0253$	ξ	$\xi = 0.1756$
7. $5 \times 10^5 - .0253$	$\bar{\mu}$	$\bar{\mu} = 0.0621$.
8. $10^7 - 5 \times 10^5$	$\sigma_{n,n'}$	A curve shaped similar to the usual σ_{ne} curve ¹⁸ was normalized to the σ_{ne} point from reference (22), page 363, using $\sigma_{n,n'} = \sigma_{ne} - \sigma_n, T2\alpha - \sigma_{n,\alpha n'} 2\alpha$, and approaching 0 at 4.6×10^5 ev.
9. $10^7 - 5 \times 10^5$	$\sigma_{n,n}$	Equal to $\sigma_t - \sigma_{n,\alpha} - \sigma_{n,n'}$.

CARBON

 $(^{12}_6\text{C})$

<u>Energy Range (ev)</u>	<u>Datum</u>	<u>Derivation</u>
1. $10^7 - 4.8 \times 10^6$	σ_S	Taken to be equal to σ_t from reference (22).
2. $4.8 \times 10^6 - E_{th}$	σ_t	From reference (22).
3. $10^7 - .0253$	σ_a	Taken to be $1/v$ with $\sigma_a(.0253 \text{ ev}) = 3.4 \times 10^{-3}$.
4. $10^7 - 10^6$	ξ elastic, $\bar{\mu}$ elastic	From program DAMUX1 (Section 5.3) using data from Reference 19.
5. $10^7 - 4.8 \times 10^6$	ξ inelastic, $\bar{\mu}$ inelastic	From program DISCRETE (Section 5.5) using the $E_{\sqrt{2}}(4.43 \text{ Mev})$ curve in reference (22).
6. $10^6 - .0253$	$\xi, \bar{\mu}$	From reference (28).
7. $10^7 - 4.8 \times 10^6$	$\sigma_{n,n'}$	Taken to be the $\sigma_n, \sqrt{}$ curve given in reference (22).
8. $10^7 - 4.8 \times 10^6$	$\sigma_{n,n}$	Equal to $\sigma_t - \sigma_{n,n'}$.

CHROMIUM
(^{24}Cr)

	<u>Energy Range (ev)</u>	<u>Datum</u>	<u>Derivation</u>																																								
1.	$10^7 - 10^4$	σ_t	Directly from reference (22), page 152.																																								
2.	$10^4 - 2 \times 10^3$	$\sigma_{S.i.c.}$	From the Breit-Wigner subroutine (Section 5.1) with parameters as follows (see Remarks).																																								
			<table><tr><th><u>E_0 (ev)</u></th><th><u>Γ_n (ev)</u></th><th><u>Γ_γ (ev)</u></th><th><u>AB</u></th><th><u>$\underline{g}$</u></th></tr><tr><td>8100</td><td>1500</td><td>5.0</td><td>0.0955</td><td>.5</td></tr><tr><td>7420</td><td>1500</td><td>5.0</td><td>0.0955</td><td>.5</td></tr><tr><td>6930</td><td>1500</td><td>5.0</td><td>0.0955</td><td>.5</td></tr><tr><td>5500</td><td>1500</td><td>5.0</td><td>0.0431</td><td>1.0</td></tr><tr><td>5230</td><td>1500</td><td>5.0</td><td>0.0955</td><td>.5</td></tr><tr><td>4420</td><td>1500</td><td>5.0</td><td>0.0955</td><td>.5</td></tr><tr><td>4100</td><td>1500</td><td>5.0</td><td>0.0955</td><td>.5</td></tr></table>	<u>E_0 (ev)</u>	<u>Γ_n (ev)</u>	<u>Γ_γ (ev)</u>	<u>AB</u>	<u>$\underline{g}$</u>	8100	1500	5.0	0.0955	.5	7420	1500	5.0	0.0955	.5	6930	1500	5.0	0.0955	.5	5500	1500	5.0	0.0431	1.0	5230	1500	5.0	0.0955	.5	4420	1500	5.0	0.0955	.5	4100	1500	5.0	0.0955	.5
<u>E_0 (ev)</u>	<u>Γ_n (ev)</u>	<u>Γ_γ (ev)</u>	<u>AB</u>	<u>$\underline{g}$</u>																																							
8100	1500	5.0	0.0955	.5																																							
7420	1500	5.0	0.0955	.5																																							
6930	1500	5.0	0.0955	.5																																							
5500	1500	5.0	0.0431	1.0																																							
5230	1500	5.0	0.0955	.5																																							
4420	1500	5.0	0.0955	.5																																							
4100	1500	5.0	0.0955	.5																																							
3.	$2 \times 10^3 - .0253$	σ_t	Directly from reference (22), page 150-151.																																								
4.	$10^7 - 10^4$	σ_a	Set equal to 1/200 of the total cross section.																																								
5.	$10^4 - 2 \times 10^3$	σ_a	As in comment 2.																																								
6.	$2 \times 10^3 - .0253$	σ_a	Taken to be 1/v with σ_a (.0253 ev) equal to 3.1 barns.																																								
7.	$10^7 - 10^5$	$\xi, \bar{\mu}$	Taken to be identical to Fe in this range.																																								
8.	$10^5 - .0253$	$\xi, \bar{\mu}$	Constant $\bar{\mu} = 0.012$; $\xi = 0.6357$.																																								
9.	$10^4 - 2 \times 10^3$	σ_{PR}	Set equal to 0.3656 barns.																																								
10.	$10^7 - 1.4 \times 10^6$	$\sigma_{n,n'}$	Equal to σ_{ne} of reference (22), page 152.																																								
11.	$10^7 - 1.4 \times 10^6$	$\sigma_{n,n}$	Equal to $\sigma_s - \sigma_{n,n'}$.																																								

Remarks

The computed absorption integral is 1.8 barns compared with 1.9 barns measured absorption³¹. The contribution of Breit-Wigner resonances is about 0.3 barns and the contribution between 10 kev and 100 kev from $\sigma_a = 1/200 \sigma_t$ is about 0.1 barns. The assumption of $\Gamma_n = 1500$ ev for all Cr^{53} resonances was based on the measured value in Cr^{50} but leads to σ_a , 2200 of 43 barns compared with 18.2 ± 1.5 measured²². The lowest energy levels should be assigned smaller values of Γ_n . The assumed Γ_γ of 5 ev produces in Cr^{50} a σ_a , 2200 of 13.86 compared with 17.0 ± 1.4 measured²².

COBALT
(^{27}Co)

<u>Energy Range (ev)</u>	<u>Datum</u>	<u>Derivation</u>															
1. $10^7 - 8.28 \times 10^3$	σ_t	From reference (22).															
2. $8.28 \times 10^3 - 1.084 \times 10^2$	σ_s, σ_a	Computed from the Breit-Wigner subroutine (section 5.1) using the following parameters:															
		<table> <tr> <th><u>E_0 (ev)</u></th><th><u>Γ_n (ev)</u></th><th><u>Γ_γ (ev)</u></th></tr> <tr> <td>7.80×10^3</td><td>2.4×10^2</td><td>0.5</td></tr> <tr> <td>4.95×10^3</td><td>3.274×10^2</td><td>0.5</td></tr> <tr> <td>4.25×10^3</td><td>3.032×10^2</td><td>0.5</td></tr> <tr> <td>1.32×10^2</td><td>4.900×10^0</td><td>0.5</td></tr> </table>	<u>E_0 (ev)</u>	<u>Γ_n (ev)</u>	<u>Γ_γ (ev)</u>	7.80×10^3	2.4×10^2	0.5	4.95×10^3	3.274×10^2	0.5	4.25×10^3	3.032×10^2	0.5	1.32×10^2	4.900×10^0	0.5
<u>E_0 (ev)</u>	<u>Γ_n (ev)</u>	<u>Γ_γ (ev)</u>															
7.80×10^3	2.4×10^2	0.5															
4.95×10^3	3.274×10^2	0.5															
4.25×10^3	3.032×10^2	0.5															
1.32×10^2	4.900×10^0	0.5															
		These parameters, when inserted in the single level Breit-Wigner program gave rise to a negative scattering cross-section in several small regions. Where this occurred, a total cross-section from reference (22) was substituted.															
3. $1.084 \times 10^2 - .0253$	σ_t	From reference (22).															
4. $10^7 - 8.28 \times 10^3$	σ_a	The absorption cross-section for ^{55}Mn was used.															
5. $1.084 \times 10^2 - .0253$	σ_a	A $1/v$ absorption was used with $\sigma_a(.0253 \text{ ev})$ from reference (22).															
6. $10^7 - 10^5$	$\xi \sigma_s, \sigma_{tr}$	Assumed to be the same as for ^{55}Mn in this range.															
7. $10^5 - .0253$	$\xi, \bar{\mu}$	With a constant value equal to that given in reference (28).															
8. $8.28 \times 10^3 - 1.084 \times 10^2$	σ_{PR}	Equal to 5.98 barns.															

Remarks

The computed absorption integral to cadmium cut-off is 72.5 barns compared with measured values of 48 barns absorption³¹, 49.3 barns activation³¹, and a preliminary value of 89 barns resonance⁴⁰, plus $1/v$ contribution. Until more consistent measured values warrant changes, the computed value will be allowed to stand.

EUROPIUM
(${}_{63}\text{Eu}$)

<u>Energy Range (ev)</u>	<u>Datum</u>	<u>Derivation</u>
1. $10^7 - 10^4$	$\sigma_s, \sigma_a, \xi\sigma_s, \sigma_{tr}$	Assumed to be the same as ${}_{62}\text{Sm}^{149}$ in this range.
2. $10^4 - 24.4$	σ_t	Reference (22).
3. $24.4 - 0.3$	σ_s, σ_a	Breit-Wigner with reference (22) parameters.
4. $0.3 - .0253$	σ_t	Reference (22).
5. $10^4 - 24.4$	σ_a	Same recipe as comment 4 of ${}_{62}\text{Sm}$ with $\sigma_a/\sigma_t (10^4) = .31$ and $\sigma_a/\sigma_t (24.4) = .91$.
6. $0.3 - .0253$	σ_a	Used the Breit-Wigner results in this region to extend the σ_s/σ_a curve of reference (22), then used this curve to find σ_a knowing σ_t .
7. $10^4 - .0253$	$\xi, \bar{\mu}$	From reference (28).
8. $24.4 - 0.3$	cPR	8.002.

FICTITIUM
(Fi)

1. This is a fictitious element whose scattering cross section is 1.0 barn at all energies whose absorption cross section is zero. The "element" is assumed infinitely massive so that $\xi\sigma_s = 0$ and $\sigma_{tr} = 1.0$. The element is used, in conjunction with accumulation, to simulate the properties of materials not actually stored on tape.

GADOLINIUM
(${}_{64}\text{Gd}$)

	<u>Energy Range (ev)</u>	<u>Datum</u>	<u>Derivation</u>
1.	$10^7 - 2 \times 10^4$	$\sigma_s, \sigma_a, \xi \sigma_s, \sigma_{tr}$	Assumed to be the same as ${}^{149}\text{Sm}$ in this range.
2.	$2 \times 10^4 - 10^4$	σ_t	From last part of above to first part of comment 3, following smooth curve.
3.	$10^4 - 50.11$	σ_t	Reference 22.
4.	$50.11 - 2.01$	σ_s, σ_a	From Breit-Wigner, reference (22) parameters.
5.	$2.01 - .0253$	σ_T	Reference (22).
6.	$2 \times 10^4 - 10^4$	σ_a	Constant equal to 1.71 barns.
7.	$10^4 - 50.11$	σ_a	Same recipe as comment 4 for ${}^{62}\text{Sm}$ with $\sigma_a/\sigma_t (10^4) = .109$ and $\sigma_a/\sigma_t (50.11) = .72$.
8.	$2.01 - .0253$	σ_a	Using the Breit-Wigner calculations the σ_s/σ_a curve given in reference (22) was extended and the known σ_t used to get the absorption cross section.
9.	$2 \times 10^4 - .0253$	$\xi, \bar{\mu}$	From reference (28).
10.	$50.11 - 2.01$	σ_{PR}	8.92975.

HYDROGEN (Bound)

 (^1_1H)

<u>Energy Range (ev)</u>	<u>Datum</u>	<u>Derivation</u>
1. $10^7 - 1.0$	σ_t	From reference (22).
2. $1.0 - .0253$	σ_s	Equal to: $\frac{1}{2} [\sigma_t(\text{H}_2\text{O}) - \sigma_t(0) - 2\sigma_a(\text{H}) - \sigma_a(0)]$ from reference (22), with $\sigma_a(\text{H})$ and $\sigma_a(0)$ taken as $\frac{1}{v}$.
3. $10^7 - .0253$	σ_a	Taken to be $\frac{1}{v}$ with $\sigma_a(.0253 \text{ ev})$ from ref- erence (22).
4. $10^7 - 1.0$	$\xi, \bar{\mu}$	From reference (28).
5. $1.0 - .0253$	$\xi\sigma_s, \sigma_{tr}$	As described in reference (15).

LITHIUM
(${}^6_3\text{Li}$)

Energy Range (ev)	Datum	Derivation
1. $10^7 - 2 \times 10^4$	σ_t	Directly from curve, reference (22).
2. $2 \times 10^4 - 7 \times 10^1$	σ_t	From a smooth curve drawn between high and low energy points in reference (22).
3. $7 \times 10^1 - 1.0$	σ_t	Directly from reference (22).
4. $9 \times 10^3 - .0253$	σ_s	Constant and equal to 1.12 barns.
5. $10^7 - 3 \times 10^4$	σ_a	Calculated from $\sigma_{n,\alpha} ({}^6\text{Li}) \times \text{AB} ({}^6\text{Li})$.
6. $3 \times 10^4 - 9 \times 10^3$	σ_a	From a $1/v$ σ_a with $\sigma_a (0.0253 \text{ ev}) = 71.16$.
7. $9 \times 10^3 - 1.0$	σ_a	Computed from $\sigma_a = \sigma_t - \sigma_s$ above.
8. $10^7 - 5 \times 10^6$	$\xi, \bar{\mu}$	As in comment 6 of Al. (p.19)
9. $5 \times 10^6 - 4.75 \times 10^5$	$\xi, \bar{\mu}$	From programs DISCRETE (Section 5.5) and DAMUXI (Section 5.3) using data from reference (22), and reference 19, $a = 23.01 \text{ Mev}^{-1}$.
10. $4.75 \times 10^5 - .0253$	ξ	Constant equal to 0.2643.
11. $4.75 \times 10^5 - .0253$	$\bar{\mu}$	From reference (28).
12. $10^7 - 4.75 \times 10^5$	$\sigma_{n,n'}$	Taken to be $\sigma_{n,n'}$ given in reference (22) for ${}^6\text{Li}$.
13. $10^7 - 4.75 \times 10^5$	$\sigma_{n,n}$	Calculated from $\sigma_{n,n} = \sigma_t - \sigma_a - \sigma_{n,n'}$

LITHIUM 6
(${}_3\text{Li}^6$)

	<u>Energy Range (ev)</u>	<u>Datum</u>	<u>Derivation</u>
1.	$10^7 - 1 \times 10^4$	σ_t	Directly from reference (22), page 86.
2.	$10^4 - .0253$	σ_S	Constant and equal to 1.2 barns.
3.	$10^7 - 1 \times 10^4$	σ_a	Directly from reference (22), page 86 with $\sigma_a = \sigma_{n,\alpha}$.
4.	$1 \times 10^4 - .0253$	σ_a	A $1/v$ cross section with σ_a (.0253 ev) equal to 945 barns.
5.	$10^7 - 5 \times 10^6$	$\xi \sigma_S$	As in comment 9 or normal Li. (p.30)
6.	$5 \times 10^6 - 2.5 \times 10^6$	$\xi \sigma_S$	As in comment 5 but using a curve having the usual shape of the $\sigma_{n,n'}$ curve and normalized to the .478 Mev curve in ref- erence 22.
7.	$2.5 \times 10^6 - .0253$	ξ	Constant and equal to 0.2643.
8.	$10^7 - 5 \times 10^6$	σ_{tr}	As in comment 9 of normal Li. (p.30)
9.	$5 \times 10^6 - 2.5 \times 10^6$	σ_{tr}	From program DISCRETE (Section 5.5) using only the 0.478 Mev curve given in reference (22).
10.	$2.5 \times 10^6 - .0253$	$\bar{\mu}$	Constant and equal to .0969.
11.	$10^7 - 2.5 \times 10^6$	$\sigma_{n,n'}$	Equal to the $\sigma_{n,n'}$ curve in comment 6.
12.	$10^7 - 2.5 \times 10^6$	$\sigma_{n,n}$	The curve in comment 11 was taken to be σ_{ne} and then $\sigma_{n,n} = \sigma_{ne} - \sigma_a$.

IRON
(^{26}Fe)

Energy Range (ev)	Datum	Derivation															
1. $10^7 - 9 \times 10^3$	σ_t	From reference (22).															
2. $9 \times 10^3 - 6.675 \times 10^3$	$\sigma_{S i, c.}$	From Breit-Wigner subroutine (Section 5.1) with resonance parameters as follows (see Remarks)															
		<table><tr><th>E_0 (ev)</th><th>Γ_n (ev)</th><th>Γ_γ (ev)</th><th>AB</th><th>g</th></tr><tr><td>7800</td><td>1500</td><td>5.0</td><td>0.0584</td><td>1</td></tr><tr><td>7200</td><td>1500</td><td>5.0</td><td>0.0217</td><td>0.5</td></tr></table>	E_0 (ev)	Γ_n (ev)	Γ_γ (ev)	AB	g	7800	1500	5.0	0.0584	1	7200	1500	5.0	0.0217	0.5
E_0 (ev)	Γ_n (ev)	Γ_γ (ev)	AB	g													
7800	1500	5.0	0.0584	1													
7200	1500	5.0	0.0217	0.5													
3. $6.675 \times 10^3 - .0253$	σ_t	From reference (22).															
4. $10^7 - 9 \times 10^3$	σ_a	Set equal to 1/200 of the total cross section.															
5. $9 \times 10^3 - 6.675 \times 10^3$	σ_a	As in comment 2.															
6. $6.675 \times 10^3 - .0253$	σ_a	Taken to be a 1/v cross section with γ_a (.0253 ev) equal to 2.53 barns.															
7. $10^7 - 3.75 \times 10^5$	$\xi, \bar{\mu}$	As in comment 6 for Al ^(p.19) with data from p. 44-46 of reference (19) and "a" equal to 29.86 mev ⁻¹ .															
8. $3.75 \times 10^5 - 10^5$	$\xi, \bar{\mu}$	Computed with program DAMUXI (section 5.3) using data from reference 19.															
9. $10^5 - .0253$	$\xi, \bar{\mu}$	From reference (28).															
10. $10^7 - 3.75 \times 10^5$	$\sigma_{n, n'}$	Equal to σ_{ne} as given in reference (22), p. 158.															
11. $10^7 - 3.75 \times 10^5$	$\sigma_{n, n}$	Equal to $\sigma_s - \sigma_{n, n'}$															
12. $9 \times 10^3 - 6.675 \times 10^3$	σ_{PR}	Equal to 0.1890 barns.															

Remarks

The computed absorption integral is 1.5 barns compared with 2.1 barns measured absorption³¹ and 1.8 barns measured resonance⁴⁰ plus $1/v$ contribution. Comparison of computed and measured danger coefficients in an intermediate spectrum reactor⁴ shows 39% underprediction. The contribution of the two Breit-Wigner resonances is virtually negligible because of the low abundances. The assumption $\sigma_a = 1/200 \sigma_t$ contributes about 0.1 barns absorption integral between 9 Kev and 100 Kev. If the upper limit of σ_a at 2200 m/s of 2.75 barns⁴⁰ is used and if the absorption integral is brought up to 2.0 barns by arbitrarily assuming the required absorption is in the 1 Kev to 10 Kev range, the underprediction of danger coefficient is reduced to $9 \pm 8\%$, the uncertainty

IRON
($_{26}\text{Fe}$)

(Contd.)

being the estimated accuracy of the measurement. It is interesting to note that an additional resonance in Fe^{56} at 5 kev with $\Gamma_v = 4.0$ ev and $\Gamma_n = 300$ ev (analogous to the resonance in Ni^{58}) would account for the discrepancy in the absorption integral and also produce the required absorption cross section of Fe^{56} , $2.7 \pm .2$ barns²² at 2200 m/s as opposed to 2.9 calculated.

MANGANESE
(²⁵Mn)

	<u>Energy Range (ev)</u>	<u>Datum</u>	<u>Derivation</u>
1.	$10^7 - 9.81 \times 10^3$	σ_t	From reference (22).
2.	$9.81 \times 10^3 - 2.29 \times 10^2$	$\sigma_s^{i.c.}$	From the Breit-Wigner subroutine (section 5.1) with resonance parameters in reference (22).
3.	$2.29 \times 10^2 - .0253$	σ_t	From reference (22).
4.	$10^7 - 9.81 \times 10^3$	σ_a	Equal to the $\sigma_n, \sqrt{v}$ curve of reference (22) extrapolated to meet the σ_a curve in comment (5).
5.	$9.81 \times 10^3 - 2.29 \times 10^2$	σ_a	As in comment 2.
6.	$2.29 \times 10^2 - .0253$	σ_a	Taken to be $1/v$ with $\sigma_a (.0253 \text{ ev}) = 13.2$ barns.
7.	$10^7 - 10^5$	$\xi, \bar{\mu}$	Used the data for Fe (see comment 7 for Fe) ^(p.32) .
8.	$10^7 - 1.7 \times 10^5$	$\xi \sigma_s, \sigma_{tr}$	Used the formulae $\xi \sigma_s = \xi_{\text{elastic}} (\text{Fe}) \sigma_{n,n} (\text{Mn}) + \xi_{\text{inelastic}} (\text{Fe}) \sigma_{n,n'} (\text{Mn})$ $\sigma_{tr} = [1 - \bar{\mu}_{\text{elastic}} (\text{Fe})] \sigma_{n,n} (\text{Mn}) + (1 - 2/3A) \sigma_{n,n'} (\text{Mn})$
9.	$10^5 - .0253$	$\xi, \bar{\mu}$	$\bar{\mu} = 0.0122, \xi = 0.0363$.
10.	$10^7 - 1.7 \times 10^5$	$\sigma_{n,n'}$	Taken to be the sum of the cross section for the 2 levels at .17 and .9 Mev extrapolated to 10 Mev using normal smooth curve.
11.	$10^7 - 1.7 \times 10^5$	$\sigma_{n,n}$	Equal to $\sigma_s - \sigma_{n,n'}$.
12.	$9.81 \times 10^3 - 2.29 \times 10^2$	σ_{pr}	Equal to 1.998 barns.

Remarks

The computed absorption integral is 16.6 barns compared with 10.8 barns absorption³¹, 11.8 barns activation³¹, and 15.4 barns resonance⁴⁰ plus $1/v$ contribution.

MOLYBDENUM

 (^{42}Mo)

<u>Energy Range (ev)</u>	<u>Datum</u>	<u>Derivation</u>
1. $10^7 - 7.15 \times 10^2$	σ_t	From reference (22).
2. $7.15 \times 10^2 - 1.9675 \times 10^1$	σ_t	From the Breit-Wigner subroutine (Section 5.1) with parameters from reference (22).
3. $1.9675 \times 10^1 - .0253$	σ_t	From reference (22) curve.
4. $10^7 - 7.15 \times 10^2$	σ_a	The curve for Mo^{100} in reference (22) was taken to be σ_a for the element.
5. $7.15 \times 10^2 - 1.9675 \times 10^1$	σ_a	As in comment 2.
6. $1.9675 \times 10^1 - .0253$	σ_a	Taken to be a $1/v$ cross section with σ_a (.0253 ev) from reference (22).
7. $10^7 - 10^4$	$\xi, 1-\bar{\mu}$	Same as Zirconium in this range.
8. $10^4 - .0253$	$\xi, \bar{\mu}$	From reference (28).
9. $7.15 \times 10^2 - 1.9675 \times 10^1$	σ_{PR}	Taken to be 6.099 barns.

Remarks

The computed absorption integral is 24.2 barns compared with 13 barns measured absorption³¹ and 20.1 barns measured resonance⁴⁰ plus $1/v$ contribution. Recent measurement³⁴ of $\sigma_{n,\gamma}$ between 1 Kev and 1 Mev show considerably larger values than used. When the new values are incorporated, the computed absorption integral is 29.7 barns. Comparison of computed and measured danger coefficients in an intermediate spectrum reactor⁴ shows that the 24.2 barn cross section integral gives 11% underprediction while the 29.7 barn cross section integral gives 17% overprediction. Since the latter correlation does not contain proper self-shielding due to the broad spectrum measurements of $\sigma_{n,\gamma}$, it is possible that 29.7 barns is realistic for the infinite dilution absorption integral. No change is planned in the cross section data now on tape until the additional absorption can be included in resonance structure.

NICKEL
(²⁸Ni)

<u>Energy Range (ev)</u>		<u>Datum</u>	<u>Derivation</u>															
1.	$10^7 - 6.2 \times 10^3$	σ_t	From reference (22), page 165.															
2.	$6.2 \times 10^3 - 1.6 \times 10^3$	$\sigma_{S i.c.}$	From Breit-Wigner subroutine (Section 5.1) with the following parameters (see Remarks).															
			<table><tr><th><u>E₀(ev)</u></th><th><u>Γ_n(ev)</u></th><th><u>Γ(ev)</u></th><th><u>AB</u></th><th><u>g</u></th></tr><tr><td>4200</td><td>1300</td><td>4</td><td>.0366</td><td>1</td></tr><tr><td>5000</td><td>300</td><td>4</td><td>.6776</td><td>1</td></tr></table>	<u>E₀(ev)</u>	<u>Γ_n(ev)</u>	<u>Γ(ev)</u>	<u>AB</u>	<u>g</u>	4200	1300	4	.0366	1	5000	300	4	.6776	1
<u>E₀(ev)</u>	<u>Γ_n(ev)</u>	<u>Γ(ev)</u>	<u>AB</u>	<u>g</u>														
4200	1300	4	.0366	1														
5000	300	4	.6776	1														
3.	$1.6 \times 10^3 - .0253$	σ_t	From reference (22).															
4.	$10^7 - 6.2 \times 10^3$	σ_a	Set equal to 1/200 of the total cross section.															
5.	$6.2 \times 10^3 - 1.6 \times 10^3$	σ_a	As in comment 2.															
6.	$1.6 \times 10^3 - .0253$	σ_a	Taken to be 1/v with σ_a (.0253 ev) from reference (22).															
7.	$10^7 - 10^5$	ξ, μ	Taken to be identical to Fe in this range.															
8.	$10^5 - .0253$	ξ, μ	From reference (28).															
9.	$10^7 - 1.33 \times 10^6$	$\sigma_{n,n'}$	Equal to σ_{ne} from reference 22.															
10.	$10^7 - 1.33 \times 10^6$	$\sigma_{n,n}$	Equal to $\sigma_s - \sigma_{n,n'}$															
11.	$6.2 \times 10^3 - 1.6 \times 10^3$	σ_{PR}	Equal to 2.91 barns.															

Remarks

The computed absorption integral is 3.2 barns compared with 4 barns measured absorption³¹, 3.2 barns measured activation²⁴, and less than 3.2 barns measured resonance⁴⁰ plus 1/v contribution. Comparison of computed and measured danger coefficients in an intermediate spectrum reactor⁴ shows 0.5% underprediction. Both the absorption integral and the danger coefficient correlations are in such good agreement that the assumptions of $\Gamma_V = 4$ ev for the two Breit-Wigner resonances and $\sigma_a = 1/200 \sigma_t$ at higher energies are perhaps justified. The computed absorption integral due to the Breit-Wigner resonances is 0.5 barns and an additional 0.2 barns is contributed by the σ_a assumption in the large resonances between 10 Kev and 100 Kev. The assumption $\Gamma_V = 4$ does not seem unreasonable since the resonance parameters for Ni⁶⁸ given in

(Cont'd)

reference 22 will then produce a 2200 m/s absorption cross section of about 3.5 barns compared with $4.4 \pm .3$ measured²². The Ni^{62} resonance produces $\sigma_a^{2200} = 18.2$ barns compared with 15 ± 2 measured²², provided all other resonances are well above 10 kev so that their contributions can be ignored.

NIOBIUM
(⁴¹Nb)

	<u>Energy Range (ev)</u>	<u>Datum</u>	<u>Derivation</u>
1.	$10^7 - 8 \times 10^2$	σ_t	From reference (22).
2.	$8 \times 10^2 - 3 \times 10^1$	σ_s i.c.	From the Breit-Wigner subroutine (Section 5.1) with parameters in reference (22) and $\Gamma_v = 0.25$ where not given.
3.	$3 \times 10^1 - .0253$	σ_t	From reference (22).
4.	$10^7 - 8 \times 10^2$	σ_a	From a smooth curve drawn through points in references (7) and (12).
5.	$8 \times 10^2 - 3 \times 10^1$	σ_a	As in comment 2.
6.	$3 \times 10^1 - .0253$	σ_a	Taken to be a $1/v$ cross section with $\sigma_a(.0253)$ from reference (22).
7.	$10^7 - 9 \times 10^5$	$\xi, \bar{\mu}$	Same as Zirconium in this range.
8.	$9 \times 10^5 - 10^4$	$\xi, \bar{\mu}$	From data in reference (29).
9.	$10^4 - .0253$	$\xi, \bar{\mu}$	Const $\xi = 0.022$, $\bar{\mu} = 0.0074$.
10.	$10^7 - .0253$	$\xi \sigma_s, \sigma_{tr}$	Used σ_s given above and comments 8 and 9.
11.	$8 \times 10^2 - 3 \times 10^1$	σ_{PR}	Taken to be 6,599 barns.

Remarks

The computed absorption integral is 7.8 barns compared with 8.3 barns measured absorption³¹ and 13.5 barns measured resonance⁴⁰ plus $1/v$ contribution. Recent measurements³⁴ of $\sigma_{n,v}$ between 1 Kev and 1 Mev show considerably larger values than used. Newer resonance parameters are also available²⁶. When the new data are incorporated, the computed absorption integral is 13.5 barns. Comparison of computed and measured danger coefficients in an intermediate spectrum reactor⁴ shows that the 7.8 barn cross section integral gives 22% underprediction while the 13.5 barn cross section integral gives 44% overprediction. Since the latter correlation does not contain proper self-shielding due to the broad spectrum measurements of $\sigma_{n,v}$, it is possible that 13.5 barns is realistic for the infinite dilution absorption integral. No change is planned in the cross section data now on tape until the additional absorption can be included in resonance structure.

OXYGEN
(80)

Energy Range (ev)	Datum	Derivation
1. $10^7 - 2 \times 10^4$	σ_t	From reference (21).
2. $2 \times 10^4 - .0253$	σ_t	From reference (21).
3. $10^7 - 5.2 \times 10^6$	σ_a	Equal to $\sigma_{n,\alpha}$ from reference (30).
4. $5.2 \times 10^6 - 3.6 \times 10^6$	σ_a	Equal to $\sigma_{n,\alpha}$ from reference (21).
5. $3.6 \times 10^6 - .0253$	σ_a	Taken to be a $1/v$ cross section with σ_a (.0253 ev) = .0002 barns.
6. $10^7 - 6.6 \times 10^6$ ξ^1 inelastic		Equal to $\ln \left[\frac{E}{E - 6.1 \times 10^6} \right]$
7. $9.4 \times 10^6 - 7.8 \times 10^6$ ξ^2 inelastic		Equal to $\ln \left[\frac{E}{E - 7 \times 10^6} \right]$
8. $10^7 - 2 \times 10^5$ ξ elastic		From reference (42).
9. $10^7 - 2 \times 10^5$ $\xi \sigma_s$		Equal to ξ elastic σ_s , elastic ξ^1 inelastic σ_s^1 , inelastic ξ inelastic σ_s^2 , inelastic.
10. $2 \times 10^5 - .0253$ ξ		Set equal to 0.1209.
11. $10^7 - 2 \times 10^5$ $\bar{\mu}_{el}$		From reference (42).
12. $10^7 - 2 \times 10^5$ $\bar{\mu}$ inelastic		Equal to 0.0.
13. $2 \times 10^5 - .0253$ $\bar{\mu}$		$(1 - \bar{\mu})$ equals 0.958.
14. $10^7 - 6.6 \times 10^6$ $(\sigma_{n,n'})_1$		From curve given in reference (22).
15. $9.4 \times 10^6 - 7.8 \times 10^6$ $(\sigma_{n,n'})_2$		From curve given in reference (22).
16. $10^7 - 6.6 \times 10^6$ $\sigma_{n,n}$		Equal to $\sigma_t - \sigma_{n,n'} \sqrt{1} - \sigma_{n,n'} \sqrt{2} - \sigma_{n,\alpha}$.

PLUTONIUM

(94Pu²³⁹)

Energy Range (ev)	Datum	Derivation												
1. 10 ⁷ - 54	σ_t, σ_f	From reference (22).												
2. 54 - .0253	$\sigma_s, \sigma_a, \sigma_f$	Breit-Wigner (Section 5.1) with reference (22) parameters plus 2 bound levels in reference (6).												
3. 10 ⁷ - 10 ⁶	σ_a	The curve for $\sigma_{n,\gamma}$ of Th ²³² normalized to meet comment 4. Then $\sigma_a = \sigma_{n,\gamma}(\text{Th}^{232}) + \sigma_f(\text{Pu}^{235})$.												
4. 10 ⁶ - 54	σ_a	$\eta = \sigma_f / \sigma_a$												
5. 10 ⁷ - 2x10 ⁵	$\xi, \bar{\mu}$	Computed from programs DIN(Section 5.4) ₁ and DAMUXI(Section 5.3) using "a" = 20 mev and differential elastic scatter curves as follows from reference (28).												
		<table><tr><th>Isotope</th><th>Mev</th></tr><tr><td>90Th²³²</td><td>1.0</td></tr><tr><td>94Pu²³⁹</td><td>0.5</td></tr><tr><td>94Pu²³⁹</td><td>1.0</td></tr><tr><td>92U</td><td>0.08</td></tr><tr><td>92U</td><td>2.5</td></tr></table>	Isotope	Mev	90Th ²³²	1.0	94Pu ²³⁹	0.5	94Pu ²³⁹	1.0	92U	0.08	92U	2.5
Isotope	Mev													
90Th ²³²	1.0													
94Pu ²³⁹	0.5													
94Pu ²³⁹	1.0													
92U	0.08													
92U	2.5													
6. 10 ⁷ - 2x10 ⁵	$\sigma_{n,n'}$	Used $\sigma_{n,n'} = \sigma_{n,n'} + \sigma_{n,2n}$ from reference (18).												
7. 10 ⁷ - 2x10 ⁵	$\sigma_{n,n}$	A smooth curve was drawn through points given in reference (22) for $\sigma_{ne} \sigma_t - \sigma_{ne} = \sigma_{n,n}$.												
8. 2x10 ⁵ - .0253	$\xi, \bar{\mu}$	Constant $\xi = 8.5 \times 10^{-3}$, $\bar{\mu} = 0.0028$.												
9. 10 ⁷ - .0253	γ	$\gamma = 2.88 + .105 E(\text{Mev})$.												
10. 10 ⁶ - 54	η	$\eta = 1.50 + (0.039 + 1.416 \times 10^{-3} E^{0.266}) \ln E(\text{ev})$ from fit to reference (1) data.												
11. 54 - .0253	σ_{PR}	10.02.												

Remarks

The minimum value of $\sigma_s = \sigma_t - \frac{\sigma_f}{\eta}$ between 10⁵ev and 54ev was set at 10 barns.

The values of $\sigma_s = \sigma_t - \sigma_a$ (10⁷ev to 10⁶ev) and $\sigma_s = \sigma_t - \frac{\sigma_f}{\eta}$ (10⁶ev to 2x10⁵ev) are not necessarily consistent with $\sigma_{n,n'} + \sigma_{n,n}$ over this range. The value of σ_s on tape is relatively unimportant since only $\xi \sigma_s$ and σ_{tr} are used in most calculations. The values of $\xi \sigma_s$ and σ_{tr} are consistent with $\sigma_{n,n'}$ and $\sigma_{n,n}$.

SAMARIUM

(62Sm)

<u>Energy Range (ev)</u>	<u>Datum</u>	<u>Derivation</u>																
1. $10^7 - 10^4$	$\sigma_s, \sigma_a, \xi \sigma_s, \sigma_{tr}$	Assumed to be same as ${}_{62}\text{Sm}^{149}$ in this range.																
2. $10^4 - 10^2$	σ_t	From reference (22).																
3. $10^2 - .0253$	σ_s, σ_a	From Breit-Wigner, reference 22 parameters plus the following. <table><tr><th><u>$E_0(\text{ev})$</u></th><th><u>$\Gamma_n(\text{ev})$</u></th><th><u>$\Gamma_\gamma(\text{ev})$</u></th><th><u>ABUNDANCE</u></th></tr><tr><td>8.1</td><td>1.098/-1</td><td>7.79/-2</td><td>0.2663</td></tr><tr><td>44.5</td><td>1.003/-2</td><td>6.3/-2</td><td>0.0747</td></tr><tr><td>20.3</td><td>2.87/-2</td><td>6.3/-2</td><td>0.0747</td></tr></table>	<u>$E_0(\text{ev})$</u>	<u>$\Gamma_n(\text{ev})$</u>	<u>$\Gamma_\gamma(\text{ev})$</u>	<u>ABUNDANCE</u>	8.1	1.098/-1	7.79/-2	0.2663	44.5	1.003/-2	6.3/-2	0.0747	20.3	2.87/-2	6.3/-2	0.0747
<u>$E_0(\text{ev})$</u>	<u>$\Gamma_n(\text{ev})$</u>	<u>$\Gamma_\gamma(\text{ev})$</u>	<u>ABUNDANCE</u>															
8.1	1.098/-1	7.79/-2	0.2663															
44.5	1.003/-2	6.3/-2	0.0747															
20.3	2.87/-2	6.3/-2	0.0747															
4. $10^4 - 10^2$	σ_a	The value of $\sigma_a/\sigma_t(10^4\text{ev})$ was determined from data as in comment 1 to be 0.117. The value of $\sigma_a/\sigma_t(10^2\text{ev})$ was determined as an average value of σ/σ_r in the resonances near 100 ev to be 0.31. A straight line variation of σ_a/σ_t vs energy on log-log paper between these points was assumed, then $\sigma_a = \left(\frac{\sigma_a}{\sigma_t}\right) \sigma_t$.																
5. $10^4 - .0253$	$\xi, \bar{\mu}$	Reference (28).																
6. $10^2 - .0253$	σ_{PR}	17.645.																

SAMARIUM 149
(${}_{62}\text{Sm}^{149}$)

<u>Energy Range (ev)</u>	<u>Datum</u>	<u>Derivation</u>
1. $10^7 - 10^4$	σ_t	From the curve in reference (22) for Sm extended to $\sigma_t (10^4) = 16.4$ barns.
2. $10^4 - 10^2$	σ_t	Straight line on reference (22) log-log graph paper from last point in comment 1 to $\sigma_t (10^2) = 200$ to mesh with Breit-Wigner region.
3. $10^2 - .0253$	σ_s, σ_a	Breit-Wigner with resonance parameters from reference (22).
4. $10^7 - 10^4$	σ_a	From a smooth curve drawn through points given in reference (11).
5. $10^4 - 10^2$	σ_a	Straight line from last point of comment 4 to $\sigma_a (10 \text{ ev}) = 1.95$.
6. $10^7 - 10^5$	$\xi \sigma_s, \sigma_{tr}$	Assumed to be same as Xe^{135} in this range.
7. $10^5 - .0253$	$\xi, \bar{\mu}$	Constant $\xi = 0.0134$; $\bar{\mu} = 0.0045$.
8. $10^2 - .0253$	σ_{PR}	8.002.

THORIUM
($_{90}\text{Th}^{232}$)

	<u>Energy Range (ev)</u>	<u>Datum</u>	<u>Derivation</u>
1.	$10^7 - 2.356 \times 10^2$	$\sigma_t, \sigma_a, \sigma_f$	From reference (22). $\sigma_{n,\gamma}$ was extrapolated to meet the Breit-Wigner σ_a at 2.356×10^2 ev. $\sigma_f = 0$ below 10^6 ev.
2.	$2.35 \times 10^2 - 2.18457 \times 10^1$	σ_s, σ_a	From Breit-Wigner program (Section 5.1) using parameters from reference 22.
3.	$2.18457 \times 10^1 - .0253$	σ_t	Reference (22).
4.	$2.18457 \times 10^1 - .0253$	σ_a	A $1/v$ cross section with $\sigma_a(.0253 \text{ ev}) = 7.56$ barns.
5.	$10^7 - 5 \times 10^5$	$\xi, \bar{\mu}$	Same as Pu^{239} in this range.
6.	$5 \times 10^5 - .0253$	$\xi, \bar{\mu}$	$\xi = 8.5 \times 10^{-3}$; $\bar{\mu} = 0.0028$.
7.	$10^7 - 10^6$	✓	$1.85 + .144E$ (Mev). Data from reference 1. Slope assumed to be the same as for U^{238} .
8.	$10^7 - 5.0 \times 10^5$	$\sigma_{n,n'}$	Taken to be $\sigma_{n,n'} + \sigma_{n,2n'}$ from reference (18).
9.	$10^7 - 5.0 \times 10^5$	$\sigma_{n,n}$	$\sigma_{n,n} = \sigma_t - \sigma_f - \sigma_{n,\gamma}$, data from reference (22).
10.	$2.356 \times 10^2 - 2.18457 \times 10^1$	σ_{PR}	12.6 barns.

TITANIUM

(22Ti)

<u>Energy Range (ev)</u>		<u>Datum</u>	<u>Derivation</u>																																																
1.	$10^7 - 10^4$	σ_t	Directly from reference (22), page 146.																																																
2.	$10^4 - 2.9 \times 10^3$	σ_s	From Breit-Wigner subroutine (Section 5.1) with the following parameters:																																																
			<table> <tr> <th><u>E_0 (ev)</u></th><th><u>Γ n (ev)</u></th><th><u>$\Gamma \sqrt{v}$ (ev)</u></th><th><u>AB</u></th></tr> <tr><td>2.55×10^5</td><td>4080</td><td>1.0</td><td>0.7345</td></tr> <tr><td>1.92×10^5</td><td>3510</td><td>1.0</td><td>0.7345</td></tr> <tr><td>1.20×10^5</td><td>1740</td><td>1.0</td><td>0.7345</td></tr> <tr><td>5.45×10^4</td><td>2340</td><td>1.0</td><td>0.7345</td></tr> <tr><td>3.85×10^4</td><td>1970</td><td>1.0</td><td>0.7345</td></tr> <tr><td>2.35×10^4</td><td>1230</td><td>1.0</td><td>0.7345</td></tr> <tr><td>1.75×10^4</td><td>7000</td><td>1.0</td><td>0.7345</td></tr> <tr><td>8.90×10^3</td><td>188</td><td>1.0</td><td>0.08</td></tr> <tr><td>7.80×10^2</td><td>354</td><td>1.0</td><td>0.7345</td></tr> <tr><td>3.82×10^3</td><td>186</td><td>1.0</td><td>0.7345</td></tr> <tr><td>3.00×10^3</td><td>50</td><td>1.0</td><td>0.7345</td></tr> </table>	<u>E_0 (ev)</u>	<u>Γ n (ev)</u>	<u>$\Gamma \sqrt{v}$ (ev)</u>	<u>AB</u>	2.55×10^5	4080	1.0	0.7345	1.92×10^5	3510	1.0	0.7345	1.20×10^5	1740	1.0	0.7345	5.45×10^4	2340	1.0	0.7345	3.85×10^4	1970	1.0	0.7345	2.35×10^4	1230	1.0	0.7345	1.75×10^4	7000	1.0	0.7345	8.90×10^3	188	1.0	0.08	7.80×10^2	354	1.0	0.7345	3.82×10^3	186	1.0	0.7345	3.00×10^3	50	1.0	0.7345
<u>E_0 (ev)</u>	<u>Γ n (ev)</u>	<u>$\Gamma \sqrt{v}$ (ev)</u>	<u>AB</u>																																																
2.55×10^5	4080	1.0	0.7345																																																
1.92×10^5	3510	1.0	0.7345																																																
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3.85×10^4	1970	1.0	0.7345																																																
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3.82×10^3	186	1.0	0.7345																																																
3.00×10^3	50	1.0	0.7345																																																
3.	$2.9 \times 10^3 - .0253$	σ_t	Directly from reference (22), page 144-145.																																																
4.	$10^7 - 10^4$	σ_a	From a smooth curve drawn through points given in reference (22), page 363-364 and matching the end point of comment 5, $\sigma_a(10^4 \text{ ev}) = 1.13 \times 10^{-2}$ barns.																																																
5.	$10^4 - 2.9 \times 10^3$	σ_a	As in comment 2.																																																
6.	$2.9 \times 10^3 - .0253$	σ_a	A $1/v$ cross section with $\sigma_a(.0253) = 5.8$ barns.																																																
7.	$10^7 - 7 \times 10^5$	$\xi \sigma_s, \sigma_{tr}$	(p.19) As in comment 6 of A1 with data from page 41 of reference (28) and with "a" equal to 21 Mev^{-1} .																																																
8.	$7 \times 10^5 - .0253$	$\xi, \bar{\mu}$	Both constant with $\xi = 0.0415$ and $\bar{\mu} = 0.0140$.																																																
9.	$10^7 - 7 \times 10^5$	$\sigma_{n,n'}$	Taken to be σ_{ne} as given on page 146 of reference (22).																																																
10.	$10^7 - 7 \times 10^5$	$\sigma_{n,n}$	Taken to be $\sigma_s - \sigma_{n,n'}$.																																																
11.	$10 - 2.9 \times 10^3$	σ_{PR}	Equal to 4.3834 barns.																																																

Remarks

The computed absorption integral is 3.7 barns compared with 3.0 barns measured absorption³¹.

TUNGSTEN

(74W)

	<u>Energy Range (ev)</u>	<u>Datum</u>	<u>Derivation</u>
1.	$10^7 - 2.56 \times 10^2$	σ_t	From reference (22).
2.	$2.56 \times 10^2 - 3.675$	σ_s, σ_a	From the Breit-Wigner subroutine (Section 5.1) using parameters given in reference (22).
3.	$3.675 - .0253$	σ_t	From reference (22).
4.	$10^7 - 2.56 \times 10^2$	σ_a	The curve given in reference (22) was extrapolated to meet the Breit-Wigner Curve.
5.	$3.675 - .0253$	σ_a	Taken to be $1/v$ with $\sigma(.0253 \text{ ev}) = 19.2 \text{ barns}$.
6.	$10^7 - 2 \times 10^5$	$\xi, \bar{\mu}$	As in comment 6 for Al with $\sigma_a^{(p.19)} = 25 \text{ mev}^{-1}$ and using the following curves from reference (19).

<u>Element</u>	<u>Energy (mev)</u>
W	1.0
W	4.1
Au	0.5
Ta	7.0

7.	$2 \times 10^5 - .0253$	$\xi, \bar{\mu}$	From reference (28).
8.	$10^7 - 2 \times 10^5$	$\sigma_{n,n'}$	Extrapolated the σ_{ne} curve in reference (22) to the threshold of the 115 Kev γ ray and used this curve as $\sigma_{n,n'}$.
9.	$10^7 - 2 \times 10^5$	$\sigma_{n,n}$	Equal to $\sigma_s - \sigma_{n,n'}$.
10.	$2.56 \times 10^2 - 3.675$	σ_{PR}	Taken to be 5.6962 barns.

Remarks

The computed absorption integral is 336 barns compared with 355 barns measured activation³¹ and 340 barns measured resonance⁴⁰ plus $1/v$ contribution.

URANIUM 234
($_{92}\text{U}^{234}$)

<u>Energy Range (ev)</u>	<u>Datum</u>	<u>Derivation</u>
1. $10^7 - 3 \times 10^5$	σ_t	From reference (18).
2. $3 \times 10^5 - 7 \times 10^2$	σ_t	Smooth curve drawn between end points of comments 1 and 3.
3. $7 \times 10^2 - 3.9 \times 10^2$	σ_t	Reference (22).
4. $3.9 \times 10^2 - .0253$	σ_s	Breit-Wigner using parameters from reference (22) plus bound levels from reference (32).
5. $10^7 - 3.9 \times 10^2$	σ_a	Equal to $\sigma_{n,\gamma}(\text{U}^{238}) + \sigma_f(234)$.
6. $3.9 \times 10^2 - .0253$	σ_a	Breit-Wigner as above.
7. $10^7 - 7 \times 10^4$	σ_f	Reference (22).
8. $10^7 - 8 \times 10^4$	$\xi, \bar{\mu}$	Same as U^{238} in this range.
9. $8 \times 10^4 - .0253$	$\xi, \bar{\mu}$	$\xi = 8.594914 \times 10^{-3}$; $1 - \bar{\mu} = 0.00712680$.

URANIUM 235

 $(_{92}\text{U}^{235})$

	<u>Energy Range (ev)</u>	<u>Datum</u>	<u>Derivation</u>
1.	$10^7 - 1.9 \times 10^6$	σ_t	From reference (22).
2.	$1.9 \times 10^6 - 3.5 \times 10^1$	σ_t	From reference (21).
3.	$3.5 \times 10^1 - .0253$	$\sigma_s, \sigma_a, \sigma_f$	Computed with the Breit-Wigner program (Section 5.1) using resonance parameters from reference (23).
4.	$10^7 - 3.5 \times 10^1$	σ_a	Set equal to $\sqrt{\sigma_f/\eta}$.
5.	$10^7 - 1.4 \times 10^4$	σ_f	From reference (17).
6.	$1.4 \times 10^4 - 3.5 \times 10^1$	σ_f	From reference (21).
7.	$10^7 - 6 \times 10^4$	$\xi, \bar{\mu}$	Using auxiliary programs DIN (Section 5.4) and DAMUXI (Section 5.3) with data from references (5) and (19) and with "a" equal to 29 Mev-l.
8.	$6 \times 10^4 - 4 \times 10^4$	$\bar{\mu}$	As in comment 7.
9.	$6 \times 10^4 - .0253$	ξ	Equal to 8.558×10^{-3} .
10.	$4 \times 10^4 - .0253$	$\bar{\mu}$	$(1-\bar{\mu})$ equal to 0.99714.
11.	$10^7 - .0253$	$\checkmark$	Set equal to $2.47 + .145E(\text{Mev})$ in accord with references (41) and (1).
12.	$10^7 - 3.5 \times 10^1$	η	Set equal to $1.35 + (.05646 + 1.257 \times 10^{-5} E^{.4894}) \ln E(\text{Mev})$ references (1) and (35).
13.	$10^7 - 4 \times 10^4$	$\sigma_{n,n'}$	Set equal to $\sigma_{ne} - \sigma_a$ from reference (22).
14.	$10^7 - 4 \times 10^4$	$\sigma_{n,n}$	Set equal to $\sigma_s - \sigma_{n,n'}$ from reference (22).
15.	$3.5 \times 10^1 - .0253$	σ_{PR}	Equal to 10.34 barns.

Remarks

The empirical formula for η produces too much capture from 1 Mev to 10 Mev and the inelastic cross section is too low as a consequence.

The computed fission integral is 325 barns compared with measured values of 274^{13} and 271^2 .

The computed absorption integral is 460 barns compared with a measured value of 370⁴⁴.

More recent resonance parameter measurements¹⁴ give a computed fission integral of 274 barns in excellent agreement with the measured values, however, the corresponding absorption integral is 462 barns. The average value of $1 + \alpha = \frac{\bar{\sigma}_a}{\bar{\sigma}_f}$ produced by these parameters is much too large. The measured absorption integral of 370 barns is more reasonable for a fission integral of 274 barns. The reason for the discrepancy in the absorption integral is unknown, but it precludes using these cross sections for intermediate spectrum reactor calculations, since gross underprediction of multiplication constant results.

The value of ν_{th} of 2.47 should be reduced to 2.43 in accordance with reference 22, however no change in the cross section data now on tape is contemplated until the fission and absorption integrals are brought into agreement with measured values, especially since experiment correlation¹⁶ with the present cross sections has produced an empirical correction to the multiplication constant, namely a reduction in k of 4% of the non-thermal fission fraction in fully enriched oralloy systems.

URANIUM 236

 $(_{92}\text{U}^{236})$

<u>Energy Range (ev)</u>	<u>Datum</u>	<u>Derivation</u>
1. $10^7 - 5 \times 10^5$	σ_t	Reference (18).
2. $5 \times 10^5 - 7 \times 10^2$	σ_t	Smooth curve drawn between end points of comments 1 and 3.
3. $7 \times 10^2 - 4 \times 10^2$	σ_t	Reference (22).
4. $4 \times 10^2 - .0253$	σ_s, σ_a	Resonance parameters from reference (22) and reference (21) plus bound levels given in reference (32).
5. $10^7 - 4 \times 10^2$	σ_a	$\sigma_{n,\gamma}(238) + \sigma_f(236)$.
6. $10^7 - 4.5 \times 10^5$	σ_f	Reference (22).
7. $10^7 - 4.5 \times 10^5$	$\xi, \bar{\mu}$	Same as U^{238} in this range.
8. $4.5 \times 10^5 - .0253$	$\xi, \bar{\mu}$	$\xi = 8.52212/-3; 1-\bar{\mu} = .9971512$.

URANIUM 238

 $(_{92}\text{U}^{238})$

	Energy Range (ev)	Datum	Derivation
1.	$10^7 - 5.45 \times 10^2$	σ_t	Taken from natural U in reference (22).
2.	$5.45 \times 10^2 - .0253$	σ_s, σ_a	Using Breit-Wigner program (Section 5.1) with Γ taken to be upper limit of quoted values in reference 22.
3.	$10^7 - 5.45 \times 10^2$	σ_a	Taken to be $\sigma_a = \sigma_{n,\gamma} + \sigma_f$ from reference (22). $\sigma_{n,\gamma}$ extrapolated from 2.5×10^3 to 5.45×10^2 .
4.	$10^7 - 5.9 \times 10^5$	σ_f	From reference (22).
5.	$10^7 - 4.5 \times 10^4$	ξ_{elastic}	Taken to be 8.4×10^{-3} .
6.	$10^7 - 4.5 \times 10^4$	ξ_{elastic}	(p.19) As in comment 6 of A1 with "a" = 29 mev^{-1} .
7.	$4.5 \times 10^4 - .0253$	ξ	Taken to be 8.4×10^{-3} .
8.	$10^7 - 2.4787 \times 10^4$	$\bar{\mu}$	As in comment 6.
9.	$2.4787 \times 10^4 - .0253$	$1 - \bar{\mu}$	Set equal to 0.9972 from reference (15).
10.	$10^7 - 4.5 \times 10^4$	$\sigma_{n,n'}$	$\sigma_{n,n'} = \sigma_{ne} - \sigma_a$ with σ_{ne} taken from reference (43).
11.	$10^7 - 4.5 \times 10^4$	$\sigma_{n,n}$	Taken to be $\sigma_{n,n} = \sigma_s - \sigma_{n,n'}$.
12.	$5.45 \times 10^2 - .0253$	σ_{PR}	Taken to be 11.43 barns.
13.	$10^7 - 5.9 \times 10^5$	γ	$\gamma = 2.43 + .144E(\text{Mev})$ in accordance with reference (1) data.

Remarks

The computed absorption integral is 289 barns compared with measured values of 282 barns absorption³¹ and 286 barns resonance⁴⁰ plus $1/v$ contribution. The minimum scattering allowed was 8.0 barns.

XENON 135

 $(_{54}\text{Xe}^{135})$

	<u>Energy Range (ev)</u>	<u>Datum</u>	<u>Derivation</u>														
1.	$10^7 - 10^5$	σ_t	From reference (18).														
2.	$10^5 - 10^2$	σ_t	Straight line from $\sigma_t(10^5) = 7.56$ to $\sigma_t(10^2) = 10$. This was done to fit the Breit - Wigner region into here smoothly.														
3.	$10^2 - 1.0$	σ_t	Smooth curve drawn from 10^2 ev to fit into given σ_f at 1.0 ev in reference (22).														
4.	$1.0 - .0253$	σ_t	Reference (22).														
5.	$10^7 - 10$	σ_a	Points from group σ_a given in reference (15) plotted at middle energy point of region and smooth curve drawn through these.														
6.	$10 - 1.0$	σ_a	Smooth curve joining end points given in comments 5 and 7.														
7.	$1.0 - .0253$	σ_a	The σ_t from reference 22 is multiplied by the ratio σ_a/σ_t found from the Breit-Wigner program with parameters from reference (22).														
8.	$10^7 - 10^5$	$\xi, \bar{\mu}$	<div>(p.19) As in comment 6 of Al using "a" = 20 mev⁻¹ and the following curves from reference (19):</div> <table><tr><th><u>Element</u></th><th><u>Energy (mev)</u></th></tr><tr><td>58 Ce</td><td>1.0</td></tr><tr><td>73 Ta</td><td>7.0</td></tr><tr><td>79 Au</td><td>0.5</td></tr><tr><td>50 Sn</td><td>0.08</td></tr><tr><td>73 Ta</td><td>2.5</td></tr><tr><td>73 Ta</td><td>4.1</td></tr></table>	<u>Element</u>	<u>Energy (mev)</u>	58 Ce	1.0	73 Ta	7.0	79 Au	0.5	50 Sn	0.08	73 Ta	2.5	73 Ta	4.1
<u>Element</u>	<u>Energy (mev)</u>																
58 Ce	1.0																
73 Ta	7.0																
79 Au	0.5																
50 Sn	0.08																
73 Ta	2.5																
73 Ta	4.1																
9.	$10^5 - .0253$	$\xi, \bar{\mu}$	Constant $\xi = 0.0153$; $\bar{\mu} = 0.0051$.														
10.	$10^7 - 10^5$	$\sigma_{n,n'}$ and $\sigma_{n,n}$	Taken from reference (18).														
11.	$1.0 - .0253$	σ_{PR}	Equal to 7.144 barns.														

YTTRIUM

(39Y)

	<u>Energy Range (ev)</u>	<u>Datum</u>	<u>Derivation</u>
1.	$10^7 - 1.15 \times 10^4$	σ_t	From reference (22).
2.	$1.15 \times 10^4 - 2.5 \times 10^3$	σ_s, σ_a	Used the Breit-Wigner subroutine (section 5.1) with parameters given in reference (22).
3.	$2.5 \times 10^3 - .0253$	σ_t	From reference (22).
4.	$10^7 - 3.0 \times 10^4$	σ_a	From a smooth curve drawn through several points in reference 12.
5.	$3.0 \times 10^4 - 1.15 \times 10^4$	σ_a	Taken to be 1/200 of the total cross section.
6.	$2.5 \times 10^3 - .0253$	σ_a	Taken to be $1/v$ with $\sigma_a (.0253 \text{ ev}) = 1.31$ barns.
7.	$10^7 - 10^4$	$\xi, (1-\bar{\mu})$	Same as Zirconium in this range.
8.	$10^4 - .0253$	$\xi, \bar{\mu}$	Constant $\xi = 0.0225$ and $\bar{\mu} = 0.0076$.
9.	$10^7 - .0253$	$\xi \sigma_s, \sigma_{tr}$	The ξ and $\bar{\mu}$ in comments 7 and 8 with σ_s for yttrium.
10.	$1.15 \times 10^4 - 2.5 \times 10^3$	σ_{PR}	Taken to be 5.40 barns.

Remarks

The computed absorption integral is 0.85 barns compared with 0.91 barns measured activation³¹.

ZIRCONIUM

 $(_{40}\text{Zr})$

	<u>Energy Range (ev)</u>	<u>Datum</u>	<u>Derivation</u>
1.	$10^7 - 3.2 \times 10^2$	σ_t	From reference (22).
2.	$3.2 \times 10^2 - 2.7 \times 10^2$	σ_S	Breit-Wigner using reference (22).
3.	$2.7 \times 10^2 - .0253$	σ_t	Reference (22).
4.	$10^7 - 3.0 \times 10^4$	σ_a	Taken from a straight line drawn between two points given in reference (22), page 363.
5.	$3.0 \times 10^4 - 3.2 \times 10^2$	σ_a	$1/200 \sigma_t$.
6.	$3.2 \times 10^2 - 2.7 \times 10^2$	σ_a	As in comment 2.
7.	$2.7 \times 10^2 - .0253$	σ_a	A $1/v$ with $\sigma_a(.0253 \text{ ev})$ from reference (22).
8.	$10^7 - 10^4$	$\xi, \bar{\mu}$	(p.19) As in comment 6 of Al with "a" = 33.0 mev^{-1} .
9.	$10^7 - 9 \times 10^5$	$\sigma_{n,n'}$	Equal to σ_{ne} of reference (22).
10.	$10^7 - 9 \times 10^5$	$\sigma_{n,n}$	$\sigma_t - \sigma_{ne}$.
11.	$3.2 \times 10^2 - 2.7 \times 10^2$	ϕ_R	0.5675.

Remarks

The computed absorption integral is 0.9 barns compared with 3 barns measured absorption³¹ and 0.7 barns measured resonance⁴⁰ plus $1/v$ contribution.

HALF LETHARGY INTERVAL

$$\left(\frac{\Delta u}{2}\right)$$

The C-FINE nuclear data tapes also contain incremental lethargy records for use in machine integration. The cross section integral between two lethargies, u_i and u_{i-1} having cross sections σ_i and σ_{i-1} , is computed by trapezoidal integration as

$$I = \frac{(\sigma_i + \sigma_{i-1})}{2} (u_i - u_{i-1}),$$

hence the half lethargy intervals

$$\frac{\Delta u_i}{2} = \frac{u_i - u_{i-1}}{2}$$

are stored on the tape after being computed from the input energies

$$\Delta u_i = \ln(E_{i-1}/E_i)$$

SPECTRUM

(S)

There are two source spectra on the C-Fine nuclear data types, namely the U^{235} prompt neutron spectrum and the U^{235} prompt plus delayed neutron spectrum.

These spectra are normalized to a trapezoidal integral of unity. The prompt spectrum has the form¹

$$S(u)_{\text{prompt}} = AEe^{-E/0.965} \sinh \sqrt{2.29E}, 100 \text{ ev} \leq E \leq 10^7 \text{ ev}.$$

Each delay group was assumed to have a Bonner distribution³⁷

$$S(u)_{\text{delay}} = 6(1-E/E_{\text{max}})^5 E/E_{\text{max}}, 100 \text{ ev} \leq E \leq E_{\text{max}}.$$

Using the mean energies for the first five delay groups from Table 1-16 of reference 1 and the relation $E_{\text{max}} = 7E_{\text{mean}}$, the values of E_{max} were determined. The mean energy of the sixth delay group was extrapolated as described in reference 8.

The prompt plus delay spectrum was computed from delay fractions, B_j , as

$$S(u)_{\text{prompt and delay}} = S(u)_{\text{prompt}} \left(1 - \sum_{j=1}^6 B_j\right) + \sum_{j=1}^6 B_j S(u)_{\text{delay}, j}.$$

The delay fractions were computed as the linear average of the yields due to thermal fissions (Table 1-13, reference 1) and to fast fission (Table 1-14, reference 1).

The delay groups data are summarized in Table 5.

TABLE 5

Delay Group Data

Group	E_{mean} (Mev)	E_{max} (Mev)	B
1	0.250	1.75	0.00023
2	0.460	3.22	0.00142
3	0.405	2.835	0.00126
4	0.450	3.15	0.00264
5	0.420	2.94	0.00080
6	0.250	1.75	0.00022

APPENDIX I - Energy-Lethargy Lattice

Occasionally it is necessary to know what level number corresponds to a certain energy or lethargy on the C-Fine tapes. Since levels on the shorter two tapes are also found on the longest tape, the energy lattice for the longest tape is used to identify the level structure on cell three tapes. The next 100 pages contain a listing of the energy, lethargy, and level numbers (if any) for all three tapes. It should be noted that numbering of levels starts at one, not zero. In program C-Fine the level numbers for group divisions are given based on zero for the highest energy level.

ENERGY	LETHARGY	LEVEL CF1B	LEVEL CF2B	LEVEL CF3B
1.0000000/+07,	0.	1	1	1
9.8000000/+06,	2.0202680/-02	2	2	2
9.5999999/+06,	4.0821993/-02	3	3	3
9.4000000/+06,	6.1875386/-02	4	4	4
9.1999999/+06,	8.3381622/-02	5	5	5
9.0000000/+06,	1.0536052/-01	6	6	6
8.8000000/+06,	1.2783338/-01	7	7	7
8.5999999/+06,	1.5082292/-01	8	8	8
8.4000000/+06,	1.7435338/-01	9	9	9
8.1999999/+06,	1.9845096/-01	10	10	10
8.0000000/+06,	2.2314354/-01	11	11	11
7.8000000/+06,	2.4846134/-01	12	12	12
7.7880078/+06,	2.4999999/-01	13	13	13
7.6000000/+06,	2.7443681/-01	14	14	14
7.4000000/+06,	3.0110507/-01	15	15	15
7.2000000/+06,	3.2850406/-01	16	16	16
7.0000000/+06,	3.5667494/-01	17	17	17
6.8000000/+06,	3.8566248/-01	18	18	18
6.6000000/+06,	4.1551544/-01	19	19	19
6.4000000/+06,	4.4628710/-01	20	20	20
6.2000000/+06,	4.7803580/-01	21	21	21
6.0653066/+06,	4.9999999/-01	22	22	22
6.0000000/+06,	5.1082559/-01	23	23	23
5.8000000/+06,	5.4472713/-01	24	24	24
5.6000000/+06,	5.7981846/-01	25	25	25
5.2000000/+06,	6.5392647/-01	26	26	26
4.8000000/+06,	7.3396913/-01	27	27	27
4.7236655/+06,	7.4999999/-01	28	28	28
4.4000000/+06,	8.2098055/-01	29	29	29
4.2000000/+06,	8.6750056/-01	30	30	30
4.0000000/+06,	9.1629071/-01	31	31	31
3.8000000/+06,	9.6758398/-01	32	32	32
3.6787944/+06,	9.9999998/-01	33	33	33
3.6000000/+06,	1.0216512/+00	34	34	34
3.5000000/+06,	1.0498221/+00	35	35	35
3.4000000/+06,	1.0788096/+00	36	36	36
3.3000000/+06,	1.1086626/+00	37	37	37
3.2000000/+06,	1.1394343/+00	38	38	38
3.1500000/+06,	1.1551826/+00	39	39	39
3.1000000/+06,	1.1711830/+00	40	40	40
3.0500000/+06,	1.1874435/+00	41	41	41
3.0000000/+06,	1.2039728/+00	42	42	42
2.9500000/+06,	1.2207799/+00	43	43	43
2.9000000/+06,	1.2378743/+00	44	44	44
2.8650479/+06,	1.2500000/+00	45	45	45
2.8500000/+06,	1.2552661/+00	46	46	46
2.8000000/+06,	1.2729656/+00	47	47	47
2.7800000/+06,	1.2801341/+00	48	48	48
2.7600000/+06,	1.2873544/+00	49	49	49
2.7400000/+06,	1.2946271/+00	50	50	50

2.72000000/+06.	1.3019532/+00	51	51	51
2.70000000/+06.	1.3093333/+00	52	52	52
2.65000000/+06.	1.3280254/+00	53	53	53
2.60000000/+06.	1.3470736/+00	54	54	54
2.55000000/+06.	1.3664917/+00	55	55	55
2.50000000/+06.	1.3862944/+00	56	56	56
2.45000000/+06.	1.4064970/+00	57	57	57
2.40000000/+06.	1.4271163/+00	58	58	58
2.30000000/+06.	1.4696760/+00	59	59	59
2.2313016/+06.	1.5000000/+00	60	60	60
2.20000000/+06.	1.5141277/+00	61	61	61
2.10000000/+06.	1.5606477/+00	62	62	62
2.00000000/+06.	1.6094379/+00	63	63	63
1.95000000/+06.	1.6347557/+00	64	64	64
1.90000000/+06.	1.6607312/+00	65	65	65
1.80000000/+06.	1.7147984/+00	66	66	66
1.7377324/+06.	1.7500000/+00	67	67	67
1.70000000/+06.	1.7719568/+00	68	68	68
1.60000000/+06.	1.8325814/+00	69	69	69
1.50000000/+06.	1.8971199/+00	70	70	70
1.45000000/+06.	1.9310215/+00	71	71	71
1.40000000/+06.	1.9661128/+00	72	72	72
1.3533528/+06.	2.0000000/+00	73	73	73
1.30000000/+06.	2.0402208/+00	74	74	74
1.20000000/+06.	2.1202635/+00	75	75	75
1.10000000/+06.	2.2072749/+00	76	76	76
1.0539222/+06.	2.2500001/+00	77	77	77
1.00000000/+06.	2.3025851/+00	78	78	78
9.5999999/+05.	2.3434070/+00	79	79	79
9.1199999/+05.	2.3947003/+00	80	80	80
9.0722222/+05.	2.3990960/+00	81	81	81
9.00000000/+05.	2.4079456/+00	82	82	82
8.90000000/+05.	2.4191189/+00	83	83	83
8.5999999/+05.	2.4534080/+00	84	84	84
8.40000000/+05.	2.4769384/+00	85	85	85
8.3499999/+05.	2.4829086/+00	86	86	86
8.30000000/+05.	2.4882146/+00	87	87	87
8.25000000/+05.	2.4949569/+00	88	88	88
8.2084998/+05.	2.5000000/+00	89	89	89
8.1999999/+05.	2.5010360/+00	90	90	90
8.15000000/+05.	2.5071522/+00	91	91	91
8.0999999/+05.	2.5133061/+00	92	92	92
8.05000000/+05.	2.5194981/+00	93	93	93
8.00000000/+05.	2.5257286/+00	94	94	94
7.95000000/+05.	2.5319982/+00	95	95	95
7.90000000/+05.	2.5383074/+00	96	96	96
7.80000000/+05.	2.5510464/+00	97	97	97
7.40000000/+05.	2.6036901/+00	98	98	98
7.00000000/+05.	2.6592600/+00	99	99	99
6.70000000/+05.	2.7030626/+00	100	100	100

6.6000000/+05,	2.7181005/+00	101	101	101
6.5000000/+05,	2.7333680/+00	102	102	102
6.4000000/+05,	2.7488722/+00	103	103	103
6.3927861/+05,	2.7500000/+00	104	104	104
6.3500000/+05,	2.7567153/+00	105	105	105
6.3000000/+05,	2.7646205/+00	106	106	106
6.2500000/+05,	2.7725887/+00	107	107	107
6.2000000/+05,	2.7806209/+00	108	108	108
6.1500000/+05,	2.7887181/+00	109	109	109
6.1000000/+05,	2.7968814/+00	110	110	110
6.0500000/+05,	2.8051119/+00	111	111	111
6.0000000/+05,	2.8134107/+00	112	112	112
5.9000000/+05,	2.8302178/+00	113	113	113
5.8000000/+05,	2.8473122/+00	114	114	114
5.7000000/+05,	2.8647040/+00	115	115	115
5.6000000/+05,	2.8824036/+00	116	116	116
5.4000000/+05,	2.9187712/+00	117	117	117
5.2000000/+05,	2.9565116/+00	118	118	118
5.0000000/+05,	2.9957322/+00	119	119	119
4.9787068/+05,	3.0000000/+00	120	120	120
4.7500000/+05,	3.0470255/+00	121	121	121
4.5000000/+05,	3.1010928/+00	122	122	122
4.2500000/+05,	3.1582511/+00	123	123	123
4.0000000/+05,	3.2188758/+00	124	124	124
3.8774208/+05,	3.2499999/+00	125	125	125
3.7500000/+05,	3.2834143/+00	126	126	126
3.6500000/+05,	3.3104429/+00	127	127	127
3.6000000/+05,	3.3242362/+00	128	128	128
3.5000000/+05,	3.3524072/+00	129	129	129
3.2500000/+05,	3.4265152/+00	130	130	130
3.2000000/+05,	3.4420193/+00	131	131	131
3.1500000/+05,	3.4577677/+00	132	132	132
3.0197384/+05,	3.4999999/+00	133	133	133
3.0000000/+05,	3.5065579/+00	134	134	134
2.9000000/+05,	3.5404594/+00	135	135	135
2.8000000/+05,	3.5755508/+00	136	136	136
2.7000000/+05,	3.6119184/+00	137	137	137
2.6000000/+05,	3.6496587/+00	138	138	138
2.5000000/+05,	3.6888794/+00	139	139	139
2.4000000/+05,	3.7297014/+00	140	140	140
2.3517746/+05,	3.7500000/+00	141	141	141
2.3500000/+05,	3.7507548/+00	142	142	142
2.3000000/+05,	3.7722610/+00	143	143	143
2.2000000/+05,	3.8167127/+00	144	144	144
2.1500000/+05,	3.8397023/+00	145	145	145
2.1000000/+05,	3.8632328/+00	146	146	146
2.0000000/+05,	3.9120229/+00	147	147	147
1.9000000/+05,	3.9633163/+00	148	148	148
1.8500000/+05,	3.9899845/+00	149	149	149
1.8315639/+05,	3.9999999/+00	150	150	150

1.8000000/+05,	4.0173834/+00	151	151	151
1.7500000/+05	4.0455543/+00	152	152	152
1.7000000/+05	4.0745419/+00	153	153	153
1.6500000/+05	4.1043949/+00	154	154	154
1.6000000/+05,	4.1351665/+00	155	155	155
1.5500000/+05	4.1669152/+00	156	156	156
1.5000000/+05,	4.1997050/+00	157	157	157
1.4500000/+05	4.2336066/+00	158	158	158
1.4000000/+05,	4.2686972/+00	159	159	159
1.3500000/+05	4.3050656/+00	160	160	160
1.3000000/+05,	4.3428052/+00	161	161	161
1.2500000/+05	4.3820266/+00	162	162	162
1.2000000/+05,	4.4228485/+00	163	163	163
1.1500000/+05	4.4654082/+00	164	164	164
1.1000000/+05,	4.5098599/+00	165	165	165
1.0500000/+05	4.5563799/+00	166	166	166
1.0000000/+05,	4.6051701/+00	167	167	167
9.5000000/+04,	4.6564634/+00	168	168	168
9.0000000/+04,	4.7105306/+00	169	169	169
8.7000000/+04	4.7444322/+00	170	170	170
8.5000000/+04,	4.7676890/+00	171	171	171
8.0000000/+04,	4.8283136/+00	172	172	172
7.6000000/+04	4.8796070/+00	173	173	173
7.5000000/+04,	4.8928522/+00	174	174	174
7.2000000/+04	4.9336742/+00	175	175	175
7.0000000/+04,	4.9618451/+00	176	176	176
6.7379470/+04,	4.9999999/+00	177	177	177
6.5000000/+04,	5.0359530/+00	178	178	178
6.0000000/+04,	5.1159957/+00	179	179	179
5.9000000/+04	5.1328028/+00	180	180	180
5.5000000/+04,	5.2030070/+00	181	181	181
5.2000000/+04	5.2590966/+00	182	182	182
5.0000000/+04,	5.2983173/+00	183	183	183
4.6000000/+04	5.3816988/+00	184	184	184
4.5000000/+04,	5.4036778/+00	185	185	185
4.2000000/+04	5.4726707/+00	186	186	186
4.1000000/+04	5.4967682/+00	187	187	187
4.0000000/+04,	5.5214608/+00	188	188	188
3.8000000/+04	5.5727541/+00	189	189	189
3.5000000/+04,	5.6549923/+00	190	190	190
3.2500000/+04	5.7291002/+00	191	191	191
3.0000000/+04,	5.8091429/+00	192	192	192
2.9500000/+04	5.8259500/+00	193	193	193
2.8000000/+04	5.8781359/+00	194	194	194
2.7000000/+04	5.9145035/+00	195	195	195
2.6000000/+04	5.9522437/+00	196	196	196
2.5000000/+04,	5.9914644/+00	197	197	197
2.4787522/+04,	5.9999998/+00	198	198	198
2.4000000/+04	6.0322865/+00	199	199	199
2.3000000/+04	6.0748460/+00	200	200	200

2.10000000/+04	6.1658172/+00	201	201	201
2.00000000/+04	6.2146080/+00	202	202	202
1.80000000/+04	6.3199686/+00	203	203	203
1.70000000/+04	6.3771271/+00	204	204	204
1.60000000/+04	6.4377516/+00	205	205	205
1.50000000/+04	6.5022901/+00	206	206	206
1.40000000/+04	6.5712830/+00	207	207	207
1.35000000/+04	6.6076506/+00	208	208	208
1.20000000/+04	6.7254336/+00	209	209	209
1.15000000/+04	6.7679932/+00	210	210	210
1.1370500/+04	6.7793179/+00		211	211
1.1340375/+04	6.7819709/+00		212	212
1.1310250/+04	6.7846308/+00		213	213
1.1295187/+04	6.7859635/+00		214	214
1.1280125/+04	6.7872979/+00		215	215
1.1250000/+04	6.7899721/+00		216	216
1.1219875/+04	6.7926534/+00		217	217
1.1204812/+04	6.7939969/+00		218	218
1.1189750/+04	6.7953420/+00		219	219
1.1159625/+04	6.7980378/+00		220	220
1.1129500/+04	6.8007410/+00		221	221
1.1009000/+04	6.8116271/+00		222	222
1.1000000/+04	6.8124450/+00	211	223	223
1.0647500/+04	6.8450152/+00		224	224
1.0500000/+04	6.8589650/+00	212	225	225
1.0346250/+04	6.8737161/+00		226	226
1.0112500/+04	6.8965680/+00		227	227
1.0000000/+04	6.9077551/+00	213	228	228
9.8099999/+03	6.9269380/+00		229	229
9.7110000/+03	6.9370811/+00		230	230
9.6520000/+03	6.9431752/+00		231	231
9.5332500/+03	6.9555546/+00		232	232
9.5000000/+03	6.9590485/+00	214	233	233
9.3555000/+03	6.9743759/+00		234	234
9.2759999/+03	6.9829099/+00		235	235
9.2160000/+03	6.9893992/+00		236	236
9.1819999/+03	6.9930953/+00		237	237
9.1188197/+03	7.0000000/+00	215	238	238
9.0879999/+03	7.0033855/+00		239	239
9.0409999/+03	7.0085706/+00		240	240
9.0000000/+03	7.0131158/+00	216	241	241
8.9940000/+03	7.0137827/+00		242	242
8.9499999/+03	7.0186868/+00		243	243
8.9250000/+03	7.0214840/+00	217	244	244
8.9200000/+03	7.0220444/+00	218	245	245
8.9000000/+03	7.0242890/+00		246	246
8.8499998/+03	7.0299229/+00	219	247	247
8.8060000/+03	7.0349070/+00		248	248
8.7589999/+03	7.0402586/+00		249	249
8.7119999/+03	7.0456389/+00		250	250

8.6999998/+03	7.0470174/+00	220	251	251
8.6799998/+03	7.0493189/+00	221	252	252
8.6444999/+03	7.0534171/+00		253	253
8.6179999/+03	7.0564873/+00		254	254
8.5799999/+03	7.0609064/+00		255	255
8.5500000/+03	7.0644091/+00	222	256	256
8.5450000/+03	7.0649940/+00	223	257	257
8.5239999/+03	7.0674546/+00		258	258
8.5072999/+03	7.0693335/+00		259	259
8.5000000/+03	7.0702742/+00	224	260	260
8.4667499/+03	7.0741937/+00		261	261
8.3310000/+03	7.0903568/+00		262	262
8.3249998/+03	7.0910774/+00	225	263	263
8.3039999/+03	7.0936030/+00		264	264
8.2889999/+03	7.0954111/+00		265	265
8.2800000/+03	7.0964974/+00		266	266
8.2375000/+03	7.1016434/+00		267	267
8.2299998/+03	7.1025544/+00	226	268	268
8.2239999/+03	7.1032836/+00		269	269
8.1787499/+03	7.1088010/+00		270	270
8.1700000/+03	7.1098714/+00	227	271	271
8.1600000/+03	7.1110962/+00		272	272
8.1539999/+03	7.1118318/+00		273	273
8.1479999/+03	7.1125678/+00		274	274
8.0999998/+03	7.1184763/+00	228	275	275
8.0654999/+03	7.1227447/+00		276	276
8.0400000/+03	7.1259113/+00		277	277
8.0000000/+03	7.1308988/+00	229	278	278
7.9800000/+03	7.1334019/+00		279	279
7.9770000/+03	7.1337779/+00		280	280
7.9500000/+03	7.1371684/+00	230	281	281
7.9335000/+03	7.1392460/+00		282	282
7.9299998/+03	7.1396873/+00	231	283	283
7.9200000/+03	7.1409491/+00		284	284
7.9025000/+03	7.1431612/+00		285	285
7.8020000/+03	7.1559602/+00		286	286
7.8000000/+03	7.1562166/+00	232	287	287
7.7500000/+03	7.1626475/+00	233	288	288
7.6799999/+03	7.1717208/+00		289	289
7.6765000/+03	7.1721765/+00		290	290
7.6230000/+03	7.1721703/+00		291	291
7.6199999/+03	7.1795639/+00		292	292
7.5779999/+03	7.1850910/+00		293	293
7.5710000/+03	7.1860151/+00		294	294
7.5599999/+03	7.1874692/+00		295	295
7.5549998/+03	7.1881308/+00	234	296	296
7.5510000/+03	7.1886603/+00		297	297
7.5344999/+03	7.1908479/+00		298	298
7.4882500/+03	7.1970052/+00		299	299
7.4800000/+03	7.1981075/+00	235	300	300

7.4750000/+03	7.1987762/+00		301	301
7.4604999/+03	7.2007179/+00		302	302
7.4460000/+03	7.2026633/+00		303	303
7.4400000/+03	7.2034695/+00		304	304
7.4328750/+03	7.2044275/+00		305	305
7.4255000/+03	7.2054203/+00		306	306
7.4200000/+03	7.2061612/+00	236	307	307
7.4052500/+03	7.2081511/+00		308	308
7.3914375/+03	7.2100181/+00		309	309
7.3776250/+03	7.2118885/+00		310	310
7.3500000/+03	7.2156399/+00	237	311	311
7.3223750/+03	7.2194056/+00		312	312
7.3200000/+03	7.2197300/+00		313	313
7.3085625/+03	7.2212937/+00		314	314
7.3000000/+03	7.2224659/+00		315	315
7.2947500/+03	7.2231854/+00		316	316
7.2819999/+03	7.2249348/+00		317	317
7.2690000/+03	7.2267216/+00		318	318
7.2671250/+03	7.2269796/+00		319	319
7.2395000/+03	7.2307881/+00		320	320
7.2000000/+03	7.2362593/+00	238	321	321
7.1799998/+03	7.2390410/+00	239	322	322
7.1745000/+03	7.2398072/+00		323	323
7.1289999/+03	7.2461694/+00		324	324
7.1117499/+03	7.2485920/+00		325	325
7.1000000/+03	7.2502455/+00	240	326	326
7.0919999/+03	7.2513730/+00		327	327
7.0500000/+03	7.2573127/+00	241	328	328
7.0490000/+03	7.2574545/+00		329	329
7.0200000/+03	7.2615771/+00		330	330
7.0000000/+03	7.2644302/+00	242	331	331
6.9750000/+03	7.2680079/+00	243	332	332
6.9234999/+03	7.2754189/+00		333	333
6.8400000/+03	7.2875525/+00		334	334
6.7980000/+03	7.2937118/+00		335	335
6.7975000/+03	7.2937853/+00		336	336
6.7300000/+03	7.3037651/+00	244	337	337
6.6750000/+03	7.3119710/+00	245	338	338
6.6700000/+03	7.3127204/+00	246	339	339
6.6250000/+03	7.3194899/+00	247	340	340
6.6100000/+03	7.3217566/+00		341	341
6.6000000/+03	7.3232706/+00	248	342	342
6.5212499/+03	7.3352742/+00		343	343
6.4500000/+03	7.3462601/+00	249	344	344
6.4299998/+03	7.3493658/+00	250	345	345
6.3839999/+03	7.3565454/+00		346	346
6.3550000/+03	7.3610983/+00	251	347	347
6.3500000/+03	7.3618854/+00	252	348	348
6.3000000/+03	7.3697906/+00	253	349	349
6.2959999/+03	7.3704258/+00		350	350

6.2950000/+03	7.3705845/+00	254	351	351
6.2595999/+03	7.3762240/+00		352	352
6.2500000/+03	7.3777588/+00	255	353	353
6.2000000/+03	7.3857910/+00	256	354	354
6.1560000/+03	7.3929130/+00		355	355
6.1500000/+03	7.3938882/+00	257	356	356
6.0800000/+03	7.4053355/+00		357	357
6.0750000/+03	7.4061583/+00	258	358	358
6.0000000/+03	7.4185808/+00	259	359	359
5.9800000/+03	7.4219197/+00	260	360	360
5.9200000/+03	7.4320038/+00	261	361	361
5.8500000/+03	7.4438986/+00	262	362	362
5.7700000/+03	7.4576681/+00		363	363
5.6799998/+03	7.4733890/+00	263	364	364
5.6250000/+03	7.4831193/+00		365	365
5.6048000/+03	7.4867168/+00		366	366
5.6000000/+03	7.4875735/+00	264	367	367
5.5450000/+03	7.4974436/+00	265	368	368
5.5000000/+03	7.5055922/+00	266	369	369
5.4628000/+03	7.5123788/+00		370	370
5.4500000/+03	7.5147246/+00	267	371	371
5.4410999/+03	7.5163590/+00		372	372
5.4000000/+03	7.5239413/+00		373	373
5.3049998/+03	7.5416905/+00	268	374	374
5.3000000/+03	7.5426334/+00	269	375	375
5.2774000/+03	7.5469067/+00		376	376
5.2300000/+03	7.5559290/+00	270	377	377
5.2250000/+03	7.5568854/+00	271	378	378
5.1955500/+03	7.5625377/+00		379	379
5.1750000/+03	7.5665009/+00	272	380	380
5.1700000/+03	7.5674676/+00	273	381	381
5.1500000/+03	7.5713435/+00	274	382	382
5.1136999/+03	7.5784171/+00		383	383
5.1000000/+03	7.5810997/+00	275	384	384
5.0500000/+03	7.5909520/+00		385	385
5.0000000/+03	7.6009023/+00	276	386	386
4.9500000/+03	7.6109527/+00		387	387
4.9299998/+03	7.6150013/+00	277	388	388
4.8564000/+03	7.6300430/+00		389	389
4.8500000/+03	7.6313617/+00	278	390	390
4.7900000/+03	7.6438099/+00		391	391
4.7863000/+03	7.6445826/+00		392	392
4.7750000/+03	7.6469463/+00	279	393	393
4.7500000/+03	7.6521957/+00	280	394	394
4.7048000/+03	7.6617570/+00		395	395
4.7044500/+03	7.6618314/+00		396	396
4.7000000/+03	7.6627778/+00	281	397	397
4.6226000/+03	7.6793830/+00		398	398
4.5875000/+03	7.6870050/+00		399	399
4.5640000/+03	7.6921409/+00		400	400

4.5531999/+03	7.6945100/+00		401	401
4.5500000/+03	7.6952131/+00	282	402	402
4.4800000/+03	7.7107173/+00	283	403	403
4.4773999/+03	7.7112978/+00		404	404
4.4589000/+03	7.7154382/+00		405	405
4.4200000/+03	7.7242006/+00	284	406	406
4.4015999/+03	7.7283722/+00		407	407
4.4000000/+03	7.7287358/+00	285	408	408
4.3870000/+03	7.7316947/+00		409	409
4.3750000/+03	7.7344338/+00	286	410	410
4.2952000/+03	7.7528422/+00		411	411
4.2600000/+03	7.7610711/+00		412	412
4.2500000/+03	7.7634214/+00		413	413
4.2000000/+03	7.7752559/+00	287	414	414
4.1920000/+03	7.7771624/+00		415	415
4.1799998/+03	7.7800292/+00	288	416	416
4.1050000/+03	7.7981346/+00	289	417	417
4.1000000/+03	7.7993534/+00	290	418	418
4.0990000/+03	7.7995973/+00		419	419
4.0984000/+03	7.7997437/+00		420	420
4.0226000/+03	7.8184119/+00		421	421
4.0060000/+03	7.8225471/+00		422	422
4.0000000/+03,	7.8240460/+00	291	423	423
3.9595000/+03	7.8342226/+00		424	424
3.9468000/+03	7.8374352/+00		425	425
3.9130000/+03	7.8460360/+00		426	426
3.8200000/+03	7.8700899/+00		427	427
3.8000000/+03	7.8753392/+00	292	428	428
3.7952000/+03	7.8766032/+00		429	429
3.7500000/+03	7.8885845/+00		430	430
3.7300000/+03	7.8939321/+00	293	431	431
3.7270000/+03	7.8947366/+00		432	432
3.7240000/+03	7.8955420/+00		433	433
3.6805000/+03	7.9072917/+00		434	434
3.6700000/+03	7.9101486/+00	294	435	435
3.6436000/+03	7.9173681/+00		436	436
3.6404000/+03	7.9182467/+00		437	437
3.6340000/+03	7.9200063/+00		438	438
3.5500000/+03	7.9433927/+00	295	439	439
3.5410000/+03	7.9459311/+00		440	440
3.5350000/+03	7.9476270/+00		441	441
3.5000000/+03	7.9575773/+00		442	442
3.4480000/+03	7.9725459/+00		443	443
3.4375000/+03	7.9755957/+00		444	444
3.4300000/+03	7.9777800/+00	296	445	445
3.3546263/+03,	7.9999999/+00	297	446	446
3.3500000/+03	8.0013798/+00	298	447	447
3.3300000/+03	8.0073680/+00		448	448
3.2950000/+03	8.0179341/+00	299	449	449
3.2500000/+03	8.0316852/+00	300	450	450

3.2250000/+03	8.0394073/+00	301	451	451
3.2000000/+03	8.0471895/+00		452	452
3.1000000/+03	8.0789381/+00		453	453
3.0820000/+03	8.0847615/+00		454	454
3.0760000/+03	8.0867102/+00		455	455
3.0750000/+03	8.0870353/+00		456	456
3.0500000/+03	8.0951986/+00		457	457
3.0420000/+03	8.0978251/+00		458	458
3.0375000/+03	8.0993054/+00		459	459
3.0372000/+03	8.0994041/+00		460	460
3.0250000/+03	8.1034291/+00		461	461
3.0000000/+03	8.1117280/+00	302	462	462
2.9800000/+03	8.1184169/+00	303	463	463
2.9750000/+03	8.1200962/+00	304	464	464
2.9625000/+03	8.1243067/+00		465	465
2.9500000/+03	8.1285350/+00		466	466
2.9250000/+03	8.1370457/+00		467	467
2.9200000/+03	8.1387565/+00	305	468	468
2.9000000/+03	8.1456294/+00	306	469	469
2.8715000/+03	8.1555057/+00		470	470
2.8125000/+03	8.1762664/+00		471	471
2.7500000/+03	8.1987393/+00	307	472	472
2.7010000/+03	8.2167181/+00		473	473
2.6157500/+03	8.2487893/+00		474	474
2.6000000/+03	8.2548287/+00	308	475	475
2.5937500/+03	8.2572355/+00		476	476
2.5625000/+03	8.2693568/+00		477	477
2.5305000/+03	8.2819233/+00		478	478
2.5250000/+03	8.2840992/+00		479	479
2.5125000/+03	8.2890619/+00		480	480
2.5093750/+03	8.2903064/+00		481	481
2.5062500/+03	8.2915527/+00		482	482
2.5046875/+03	8.2921762/+00		483	483
2.5031250/+03	8.2928003/+00		484	484
2.5000000/+03	8.2940495/+00	309	485	485
2.4968750/+03	8.2953002/+00		486	486
2.4953125/+03	8.2959262/+00		487	487
2.4937500/+03	8.2965527/+00		488	488
2.4906250/+03	8.2978065/+00		489	489
2.4875000/+03	8.2990620/+00		490	490
2.4750000/+03	8.3040998/+00		491	491
2.4375000/+03	8.3193674/+00		492	492
2.4062500/+03	8.3322707/+00		493	493
2.3600000/+03	8.3516786/+00		494	494
2.3500000/+03	8.3559250/+00	310	495	495
2.2500000/+03	8.3994101/+00	311	496	496
2.2300000/+03	8.4083387/+00	312	497	497
2.1895000/+03	8.4266671/+00		498	498
2.1750000/+03	8.4333116/+00	313	499	499
2.1700000/+03	8.4356130/+00	314	500	500

2.1042500/+03	8.4663812/+00		501	501
2.1000000/+03	8.4684030/+00	315	502	502
2.0500000/+03	8.4925005/+00	316	503	503
2.0190000/+03	8.5077380/+00		504	504
2.0000000/+03	8.5171931/+00	317	505	505
1.9250000/+03	8.5554142/+00	318	506	506
1.8900000/+03	8.5737634/+00		507	507
1.8500000/+03	8.5951546/+00	319	508	508
1.8485000/+03	8.5959657/+00		509	509
1.8300000/+03	8.6060243/+00		510	510
1.7500000/+03	8.6507245/+00	320	511	511
1.6870000/+03	8.6873884/+00		512	512
1.6780000/+03	8.6927376/+00		513	513
1.6760000/+03	8.6939301/+00		514	514
1.6500000/+03	8.7095649/+00	321	515	515
1.6250000/+03	8.7248324/+00	322	516	516
1.6000000/+03	8.7403367/+00	323	517	517
1.5500000/+03	8.7720853/+00	324	518	518
1.5000000/+03	8.8048751/+00	325	519	519
1.4700000/+03	8.8250778/+00	326	520	520
1.4200000/+03	8.8596833/+00	327	521	521
1.4000000/+03	8.8738679/+00	328	522	522
1.3250000/+03	8.9289278/+00	329	523	523
1.3050000/+03	8.9441371/+00		524	524
1.2800000/+03	8.9634801/+00	330	525	525
1.2340980/+03	8.9999999/+00	331	526	526
1.2300000/+03	9.0033261/+00	332	527	527
1.2180000/+03	9.0131302/+00		528	528
1.2000000/+03	9.0280187/+00	333	529	529
1.1500000/+03	9.0705783/+00	334	530	530
1.1400000/+03	9.0793120/+00		531	531
1.1100000/+03	9.1059803/+00		532	532
1.1025000/+03	9.1127599/+00		533	533
1.1000000/+03	9.1150302/+00	335	534	534
1.0950000/+03	9.1195859/+00		535	535
1.0912500/+03	9.1230165/+00		536	536
1.0875000/+03	9.1264588/+00		537	537
1.0800000/+03	9.1333792/+00		538	538
1.0750000/+03	9.1380197/+00	336	539	539
1.0725000/+03	9.1403480/+00		540	540
1.0687500/+03	9.1438506/+00		541	541
1.0650000/+03	9.1473655/+00		542	542
1.0575000/+03	9.1544327/+00		543	543
1.0500000/+03	9.1615502/+00	337	544	544
1.0200000/+03	9.1905377/+00		545	545
1.0170000/+03	9.1934832/+00		546	546
1.0000000/+03	9.2103403/+00	338	547	547
9.9599999/+02	9.2143483/+00		548	548
9.5999999/+02	9.2511623/+00	339	549	549
9.3000000/+02	9.2829109/+00		550	550

9.1999999/+02,	9.2937212/+00	340	551	551
9.0000000/+02,	9.3157008/+00	341	552	552
8.5999999/+02,	9.3611630/+00	342	553	553
8.5500000/+02	9.3669940/+00		554	554
8.3000000/+02,	9.3966699/+00	343	555	555
8.0999999/+02,	9.4210613/+00	344	556	556
8.0000000/+02	9.4334838/+00	345	557	557
7.8000000/+02	9.4588016/+00	346	558	558
7.6000000/+02,	9.4847770/+00	347	559	559
7.5650000/+02	9.4893930/+00	348	560	560
7.4775000/+02	9.5010267/+00	349	561	561
7.4650000/+02	9.5026999/+00	350	562	562
7.4500000/+02	9.5047113/+00	351	563	563
7.4450000/+02	9.5053827/+00	352	564	564
7.4437500/+02	9.5055505/+00	353	565	565
7.4425000/+02	9.5057185/+00	354	566	566
7.4418750/+02	9.5058024/+00	355	567	567
7.4412500/+02	9.5058864/+00	356	568	568
7.4400000/+02	9.5060545/+00	357	569	569
7.4387500/+02	9.5062225/+00	358	570	570
7.4381250/+02	9.5063065/+00	359	571	571
7.4375000/+02	9.5063906/+00	360	572	572
7.4362500/+02	9.5065585/+00	361	573	573
7.4349999/+02	9.5067267/+00	362	574	574
7.4299999/+02	9.5073994/+00	363	575	575
7.4200000/+02	9.5087461/+00		576	576
7.4150000/+02	9.5094203/+00	364	577	577
7.4025000/+02	9.5111076/+00	365	578	578
7.3150000/+02	9.5229982/+00	366	579	579
7.2000000/+02,	9.5388442/+00	367	580	580
7.1500000/+02	9.5458130/+00		581	581
7.1000000/+02	9.5528305/+00		582	582
7.0650000/+02	9.5577723/+00	368	583	583
7.0400000/+02	9.5613171/+00		584	584
7.0200000/+02	9.5641620/+00		585	585
7.0150000/+02	9.5648745/+00		586	586
7.0100000/+02	9.5655876/+00		587	587
7.0075000/+02	9.5659442/+00		588	588
7.0050000/+02	9.5663011/+00		589	589
7.0000000/+02,	9.5670151/+00	369	590	590
6.9949999/+02	9.5677297/+00		591	591
6.9924999/+02	9.5680871/+00		592	592
6.9899999/+02	9.5684447/+00		593	593
6.9850000/+02	9.5691602/+00		594	594
6.9800000/+02	9.5698763/+00		595	595
6.9600000/+02	9.5727458/+00		596	596
6.9000000/+02	9.5814039/+00		597	597
6.8500000/+02	9.5886766/+00		598	598
6.8000000/+02,	9.5960026/+00	370	599	599
6.6000000/+02,	9.6258556/+00	371	600	600

6.5000000/+02	9.6411231/+00		601	601
6.4000000/+02,	9.6566273/+00	372	602	602
6.3000000/+02	9.6723757/+00		603	603
6.2800000/+02	9.6755553/+00	373	604	604
6.2699999/+02	9.6771489/+00		605	605
6.2649999/+02	9.6779467/+00		606	606
6.1900000/+02	9.6899903/+00	374	607	607
6.1500000/+02,	9.6964731/+00	375	608	608
6.0700000/+02	9.7095667/+00		609	609
6.0000000/+02,	9.7211659/+00	376	610	610
5.9394999/+02	9.7313004/+00		611	611
5.8929999/+02	9.7391602/+00		612	612
5.8899999/+02	9.7396693/+00		613	613
5.8699999/+02	9.7430707/+00	377	614	614
5.8371999/+02	9.7486742/+00		615	615
5.8185999/+02	9.7518656/+00		616	616
5.8139499/+02	9.7526652/+00		617	617
5.8092999/+02	9.7534653/+00		618	618
5.8069749/+02	9.7538656/+00		619	619
5.8046499/+02	9.7542660/+00		620	620
5.8000000/+02,	9.7550675/+00	378	621	621
5.7953500/+02	9.7558695/+00		622	622
5.7930250/+02	9.7562708/+00		623	623
5.7907000/+02	9.7566721/+00		624	624
5.7860500/+02	9.7574755/+00		625	625
5.7814000/+02	9.7582796/+00		626	626
5.7628000/+02	9.7615019/+00		627	627
5.7599999/+02	9.7619878/+00		628	628
5.7570000/+02	9.7625089/+00		629	629
5.7379999/+02	9.7658147/+00		630	630
5.7151999/+02	9.7697961/+00		631	631
5.7075999/+02	9.7711267/+00		632	632
5.7070000/+02	9.7712319/+00		633	633
5.7057000/+02	9.7714597/+00		634	634
5.7038000/+02	9.7717928/+00		635	635
5.7028499/+02	9.7719593/+00		636	636
5.7018999/+02	9.7721260/+00		637	637
5.7000000/+02	9.7724591/+00		638	638
5.6981000/+02	9.7727926/+00		639	639
5.6971500/+02	9.7729594/+00		640	640
5.6962000/+02	9.7731261/+00		641	641
5.6943000/+02	9.7734598/+00		642	642
5.6924000/+02	9.7737933/+00		643	643
5.6848000/+02	9.7751294/+00		644	644
5.6799999/+02	9.7759742/+00		645	645
5.6620000/+02	9.7791482/+00		646	646
5.6605000/+02	9.7794131/+00		647	647
5.6430000/+02	9.7825094/+00		648	648
5.5599999/+02	9.7973273/+00		649	649
5.5500000/+02,	9.7991275/+00	379	650	650

5.5100001/+02	9.8063607/+00		651	651
5.4500000/+02,	9.8173097/+00	380	652	652
5.4050000/+02	9.8256009/+00	381	653	653
5.3350000/+02	9.8386365/+00		654	654
5.3035000/+02,	9.8445584/+00	382	655	655
5.3025000/+02,	9.8447469/+00	383	656	656
5.3010000/+02,	9.8450300/+00	384	657	657
5.3005000/+02,	9.8451242/+00	385	658	658
5.3003750/+02,	9.8451478/+00	386	659	659
5.3002500/+02,	9.8451713/+00	387	660	660
5.3001875/+02,	9.8451833/+00	388	661	661
5.3001250/+02,	9.8451949/+00	389	662	662
5.3000000/+02,	9.8452185/+00	390	663	663
5.2998750/+02,	9.8452421/+00	391	664	664
5.2998125/+02,	9.8452539/+00	392	665	665
5.2997500/+02,	9.8452657/+00	393	666	666
5.2996250/+02,	9.8452893/+00	394	667	667
5.2995000/+02,	9.8453130/+00	395	668	668
5.2990000/+02,	9.8454072/+00	396	669	669
5.2975000/+02,	9.8456904/+00	397	670	670
5.2962500/+02,	9.8459264/+00	398	671	671
5.2875000/+02,	9.8475798/+00	399	672	672
5.2750000/+02,	9.8499467/+00	400	673	673
5.2625000/+02,	9.8523191/+00	401	674	674
5.2000000/+02,	9.8642668/+00	402	675	675
5.1875000/+02,	9.8666735/+00	403	676	676
5.1750000/+02,	9.8690860/+00	404	677	677
5.1625000/+02,	9.8715044/+00	405	678	678
5.1550000/+02	9.8729582/+00	406	679	679
5.1537500/+02,	9.8732008/+00	407	680	680
5.1525000/+02,	9.8734434/+00	408	681	681
5.1510000/+02,	9.8737346/+00	409	682	682
5.1505000/+02,	9.8738316/+00	410	683	683
5.1503750/+02,	9.8738558/+00	411	684	684
5.1502500/+02,	9.8738801/+00	412	685	685
5.1501875/+02,	9.8738923/+00	413	686	686
5.1501250/+02,	9.8739045/+00	414	687	687
5.1500000/+02,	9.8739287/+00	415	688	688
5.1498750/+02,	9.8739530/+00	416	689	689
5.1498125/+02,	9.8739650/+00	417	690	690
5.1497500/+02,	9.8739772/+00	418	691	691
5.1496250/+02,	9.8740015/+00	419	692	692
5.1495000/+02,	9.8740258/+00	420	693	693
5.1490000/+02,	9.8741229/+00	421	694	694
5.1475000/+02,	9.8744142/+00	422	695	695
5.1462500/+02,	9.8746572/+00	423	696	696
5.1375000/+02,	9.8763587/+00	424	697	697
5.1300001/+02	9.8778198/+00		698	698
5.1125000/+02,	9.8812369/+00	425	699	699
5.0675000/+02	9.8900777/+00	426	700	700

5.0599999/+02	9.8915589/+00	427	701	701
5.0549999/+02	9.8925476/+00	428	702	702
5.0500000/+02,	9.8935372/+00	429	703	703
5.0400000/+02	9.8955194/+00	430	704	704
5.0350000/+02	9.8965119/+00	431	705	705
5.0337500/+02	9.8967602/+00	432	706	706
5.0325000/+02	9.8970085/+00	433	707	707
5.0318750/+02	9.8971326/+00	434	708	708
5.0312500/+02	9.8972569/+00	435	709	709
5.0300000/+02	9.8975054/+00	436	710	710
5.0287499/+02	9.8977540/+00	437	711	711
5.0281250/+02	9.8978783/+00	438	712	712
5.0275000/+02	9.8980025/+00	439	713	713
5.0262499/+02	9.8982512/+00	440	714	714
5.0250000/+02,	9.8985000/+00	441	715	715
5.0200000/+02	9.8994955/+00	442	716	716
5.0050000/+02	9.9024880/+00	443	717	717
5.0000000/+02,	9.9034874/+00	444	718	718
4.9949999/+02	9.9044880/+00	445	719	719
4.9924999/+02	9.9049886/+00	446	720	720
4.9500000/+02	9.9135377/+00		721	721
4.9050000/+02	9.9226702/+00	447	722	722
4.9000000/+02,	9.9236902/+00	448	723	723
4.8750000/+02,	9.9288052/+00	449	724	724
4.8400000/+02	9.9360106/+00		725	725
4.8200000/+02	9.9401515/+00		726	726
4.8150000/+02	9.9411893/+00		727	727
4.8099999/+02	9.9422283/+00		728	728
4.8074999/+02	9.9427482/+00		729	729
4.8049999/+02	9.9432683/+00		730	730
4.8000000/+02,	9.9443095/+00	450	731	731
4.7950000/+02	9.9453517/+00		732	732
4.7925000/+02	9.9458731/+00		733	733
4.7900000/+02	9.9463949/+00		734	734
4.7875000/+02,	9.9469169/+00	451	735	735
4.7850000/+02	9.9474393/+00		736	736
4.7800000/+02	9.9484848/+00		737	737
4.7625000/+02,	9.9521526/+00	452	738	738
4.7600000/+02	9.9526777/+00		739	739
4.7537500/+02,	9.9539915/+00	453	740	740
4.7525000/+02,	9.9542546/+00	454	741	741
4.7510000/+02,	9.9545702/+00	455	742	742
4.7505000/+02,	9.9546756/+00	456	743	743
4.7503750/+02,	9.9547018/+00	457	744	744
4.7502500/+02,	9.9547281/+00	458	745	745
4.7501875/+02,	9.9547412/+00	459	746	746
4.7501250/+02,	9.9547544/+00	460	747	747
4.7500000/+02,	9.9547807/+00	461	748	748
4.7498750/+02,	9.9548070/+00	462	749	749
4.7498125/+02,	9.9548202/+00	463	750	750

4.7497500/+02,	9.9548333/+00	464	751	751
4.7496250/+02,	9.9548597/+00	465	752	752
4.7495500/+02,	9.9548755/+00	466	753	753
4.7490000/+02,	9.9549913/+00	467	754	754
4.7475000/+02,	9.9553072/+00	468	755	755
4.7462500/+02,	9.9555706/+00	469	756	756
4.7449999/+02,	9.9558339/+00	470	757	757
4.7375000/+02,	9.9574157/+00	471	758	758
4.7250000/+02,	9.9600577/+00	472	759	759
4.7125000/+02,	9.9627068/+00	473	760	760
4.7000000/+02,	9.9653628/+00	474	761	761
4.6575000/+02,	9.9744465/+00	475	762	762
4.6550000/+02,	9.9749835/+00	476	763	763
4.6500000/+02,	9.9760581/+00		764	764
4.6450000/+02,	9.9771340/+00	477	765	765
4.6375000/+02,	9.9787499/+00	478	766	766
4.6300000/+02,	9.9803685/+00	479	767	767
4.6250000/+02,	9.9814490/+00	480	768	768
4.6237500/+02,	9.9817193/+00	481	769	769
4.6224999/+02,	9.9819897/+00	482	770	770
4.6218750/+02,	9.9821249/+00	483	771	771
4.6212500/+02,	9.9822601/+00	484	772	772
4.6199999/+02,	9.9825307/+00	485	773	773
4.6187500/+02,	9.9828012/+00	486	774	774
4.6181250/+02,	9.9829365/+00	487	775	775
4.6174999/+02,	9.9830719/+00	488	776	776
4.6162500/+02,	9.9833426/+00	489	777	777
4.6149999/+02,	9.9836135/+00	490	778	778
4.6125000/+02,	9.9841553/+00	491	779	779
4.6100000/+02,	9.9846975/+00	492	780	780
4.6037500/+02,	9.9860542/+00	493	781	781
4.6025000/+02,	9.9863257/+00	494	782	782
4.6010000/+02,	9.9866517/+00	495	783	783
4.6005000/+02,	9.9867604/+00	496	784	784
4.6003750/+02,	9.9867876/+00	497	785	785
4.6002500/+02,	9.9868147/+00	498	786	786
4.6001875/+02,	9.9868283/+00	499	787	787
4.6001250/+02,	9.9868419/+00	500	788	788
4.6000000/+02,	9.9868691/+00	501	789	789
4.5998750/+02,	9.9868963/+00	502	790	790
4.5998125/+02,	9.9869097/+00	503	791	791
4.5997500/+02,	9.9869235/+00	504	792	792
4.5996250/+02,	9.9869505/+00	505	793	793
4.5995000/+02,	9.9869777/+00	506	794	794
4.5990000/+02,	9.9870864/+00	507	795	795
4.5975000/+02,	9.9874127/+00	508	796	796
4.5962500/+02,	9.9876846/+00	509	797	797
4.5950000/+02,	9.9879565/+00	510	798	798
4.5875000/+02,	9.9895902/+00	511	799	799
4.5825000/+02,	9.9906807/+00	512	800	800

4.5699999/+02	9.9934121/+00		801	801
4.5625000/+02	9.9950546/+00	513	802	802
4.5399930/+02	9.9999999/+00	514	803	803
4.4949999/+02	1.0009960/+01	515	804	804
4.4750000/+02	1.0014419/+01	516	805	805
4.4500000/+02	1.0020021/+01	517	806	806
4.4350000/+02	1.0023398/+01	518	807	807
4.4050000/+02	1.0030185/+01		808	808
4.3475000/+02	1.0043324/+01	519	809	809
4.3225000/+02	1.0049091/+01	520	810	810
4.3137500/+02	1.0051118/+01	521	811	811
4.3125000/+02	1.0051407/+01	522	812	812
4.3110000/+02	1.0051755/+01	523	813	813
4.3105000/+02	1.0051871/+01	524	814	814
4.3103750/+02	1.0051900/+01	525	815	815
4.3102500/+02	1.0051929/+01	526	816	816
4.3101875/+02	1.0051944/+01	527	817	817
4.3101250/+02	1.0051958/+01	528	818	818
4.3100000/+02	1.0051987/+01	529	819	819
4.3098750/+02	1.0052016/+01	530	820	820
4.3098125/+02	1.0052031/+01	531	821	821
4.3097500/+02	1.0052045/+01	532	822	822
4.3096250/+02	1.0052074/+01	533	823	823
4.3095000/+02	1.0052103/+01	534	824	824
4.3090000/+02	1.0052219/+01	535	825	825
4.3075000/+02	1.0052568/+01	536	826	826
4.3062500/+02	1.0052858/+01	537	827	827
4.3050000/+02	1.0053148/+01	538	828	828
4.3000000/+02	1.0054310/+01	539	829	829
4.2975000/+02	1.0054892/+01	540	830	830
4.2725000/+02	1.0060726/+01	541	831	831
4.2699999/+02	1.0061311/+01		832	832
4.2449999/+02	1.0067183/+01	542	833	833
4.2300000/+02	1.0070723/+01		834	834
4.2175000/+02	1.0073683/+01	543	835	835
4.1925000/+02	1.0079628/+01	544	836	836
4.1850000/+02	1.0081419/+01	545	837	837
4.1837500/+02	1.0081717/+01	546	838	838
4.1825000/+02	1.0082016/+01	547	839	839
4.1810000/+02	1.0082375/+01	548	840	840
4.1805000/+02	1.0082494/+01	549	841	841
4.1803750/+02	1.0082524/+01	550	842	842
4.1802500/+02	1.0082554/+01	551	843	843
4.1801875/+02	1.0082569/+01	552	844	844
4.1801250/+02	1.0082584/+01	553	845	845
4.1800000/+02	1.0082614/+01	554	846	846
4.1798750/+02	1.0082644/+01	555	847	847
4.1798125/+02	1.0082659/+01	556	848	848
4.1797500/+02	1.0082674/+01	557	849	849
4.1796250/+02	1.0082704/+01	558	850	850

4.1725000/+02,	1.0082734/+01	559	851	851
4.1790000/+02,	1.0082853/+01	560	852	852
4.1775000/+02,	1.0083212/+01	561	853	853
4.1762500/+02,	1.0083511/+01	562	854	854
4.1675000/+02,	1.0085609/+01	563	855	855
4.1425000/+02,	1.0091626/+01	564	856	856
4.1109999/+02,	1.0099259/+01		857	857
4.1000000/+02,	1.0101938/+01	565	858	858
4.0939999/+02,	1.0103403/+01		859	859
4.0899999/+02,	1.0104380/+01	566	860	860
4.0750000/+02,	1.0108055/+01	567	861	861
4.0735999/+02,	1.0108398/+01		862	862
4.0667999/+02,	1.0110069/+01		863	863
4.0651000/+02,	1.0110487/+01		864	864
4.0633999/+02,	1.0110905/+01		865	865
4.0625499/+02,	1.0111114/+01		866	866
4.0616999/+02,	1.0111324/+01		867	867
4.0599999/+02,	1.0111742/+01		868	868
4.0583000/+02,	1.0112161/+01		869	869
4.0574500/+02,	1.0112371/+01		870	870
4.0566000/+02,	1.0112580/+01		871	871
4.0550000/+02,	1.0112975/+01	568	872	872
4.0549000/+02,	1.0112999/+01		873	873
4.0532000/+02,	1.0113419/+01		874	874
4.0464000/+02,	1.0115098/+01		875	875
4.0260000/+02,	1.0120152/+01		876	876
4.0090000/+02,	1.0124383/+01		877	877
4.0000000/+02,	1.0126631/+01	569	878	878
3.9990000/+02,	1.0126881/+01	570	879	879
3.9875000/+02,	1.0129761/+01	571	880	880
3.9850000/+02,	1.0130388/+01	572	881	881
3.9730000/+02,	1.0133404/+01	573	882	882
3.9639000/+02,	1.0135697/+01	574	883	883
3.9626000/+02,	1.0136025/+01	575	884	884
3.9625000/+02,	1.0136050/+01	576	885	885
3.9610400/+02,	1.0136419/+01	577	886	886
3.9605200/+02,	1.0136550/+01	578	887	887
3.9603900/+02,	1.0136583/+01	579	888	888
3.9602599/+02,	1.0136616/+01	580	889	889
3.9601949/+02,	1.0136632/+01	581	890	890
3.9601299/+02,	1.0136648/+01	582	891	891
3.9600000/+02,	1.0136681/+01	583	892	892
3.9598700/+02,	1.0136714/+01	584	893	893
3.9598050/+02,	1.0136731/+01	585	894	894
3.9597400/+02,	1.0136747/+01	586	895	895
3.9596100/+02,	1.0136780/+01	587	896	896
3.9594800/+02,	1.0136812/+01	588	897	897
3.9589600/+02,	1.0136944/+01	589	898	898
3.9574000/+02,	1.0137338/+01	590	899	899
3.9561000/+02,	1.0137667/+01	591	900	900

3.9537500/+02,	1.0138261/+01	592	901	901
3.9525000/+02,	1.0138577/+01	593	902	902
3.9510000/+02,	1.0138956/+01	594	903	903
3.9505000/+02,	1.0139083/+01	595	904	904
3.9503750/+02,	1.0139115/+01	596	905	905
3.9502500/+02,	1.0139146/+01	597	906	906
3.9501875/+02,	1.0139162/+01	598	907	907
3.9501250/+02,	1.0139178/+01	599	908	908
3.9500000/+02,	1.0139210/+01	600	909	909
3.9498750/+02,	1.0139241/+01	601	910	910
3.9498125/+02,	1.0139257/+01	602	911	911
3.9497500/+02,	1.0139273/+01	603	912	912
3.9496250/+02,	1.0139305/+01	604	913	913
3.9495000/+02,	1.0139336/+01	605	914	914
3.9490000/+02,	1.0139463/+01	606	915	915
3.9475000/+02,	1.0139843/+01	607	916	916
3.9470000/+02,	1.0139970/+01	608	917	917
3.9462500/+02,	1.0140160/+01	609	918	918
3.9375000/+02,	1.0142379/+01	610	919	919
3.9350000/+02,	1.0143014/+01	611	920	920
3.9210000/+02,	1.0146579/+01	612	921	921
3.9125000/+02,	1.0148749/+01	613	922	922
3.9100000/+02,	1.0149388/+01		923	923
3.9000000/+02,	1.0151949/+01	614	924	924
3.8900000/+02,	1.0154516/+01		925	925
3.8835000/+02,	1.0156188/+01	615	926	926
3.8590000/+02,	1.0162517/+01		927	927
3.8545000/+02,	1.0163684/+01	616	928	928
3.8475000/+02,	1.0165502/+01	617	929	929
3.8443500/+02,	1.0166321/+01	618	930	930
3.8428999/+02,	1.0166698/+01	619	931	931
3.8411600/+02,	1.0167151/+01	620	932	932
3.8405800/+02,	1.0167302/+01	621	933	933
3.8404350/+02,	1.0167340/+01	622	934	934
3.8402900/+02,	1.0167377/+01	623	935	935
3.8402175/+02,	1.0167396/+01	624	936	936
3.8401450/+02,	1.0167415/+01	625	937	937
3.8400000/+02,	1.0167453/+01	626	938	938
3.8398550/+02,	1.0167491/+01	627	939	939
3.8397825/+02,	1.0167509/+01	628	940	940
3.8397100/+02,	1.0167528/+01	629	941	941
3.8395650/+02,	1.0167566/+01	630	942	942
3.8394200/+02,	1.0167604/+01	631	943	943
3.8388400/+02,	1.0167755/+01	632	944	944
3.8371000/+02,	1.0168208/+01	633	945	945
3.8356500/+02,	1.0168586/+01	634	946	946
3.8350000/+02,	1.0168756/+01	635	947	947
3.8300000/+02,	1.0170060/+01	636	948	948
3.8255000/+02,	1.0171236/+01	637	949	949
3.8250000/+02,	1.0171367/+01	638	950	950

3.8200000/+02	1.0172675/+01	639	951	951
3.8150000/+02	1.0173985/+01	640	952	952
3.8137500/+02	1.0174312/+01	641	953	953
3.8125000/+02	1.0174640/+01	642	954	954
3.8112750/+02	1.0174804/+01	643	955	955
3.8112500/+02	1.0174968/+01	644	956	956
3.8100000/+02	1.0175296/+01	645	957	957
3.8087500/+02	1.0175624/+01	646	958	958
3.8081250/+02	1.0175788/+01	647	959	959
3.8075000/+02	1.0175952/+01	648	960	960
3.8062500/+02	1.0176281/+01	649	961	961
3.8050000/+02	1.0176609/+01	650	962	962
3.8000000/+02	1.0177924/+01	651	963	963
3.7965000/+02	1.0178846/+01	652	964	964
3.7960000/+02	1.0178977/+01		965	965
3.7900000/+02	1.0180559/+01	653	966	966
3.7850000/+02	1.0181879/+01	654	967	967
3.7800000/+02	1.0183201/+01	655	968	968
3.7750000/+02	1.0184525/+01		969	969
3.7725000/+02	1.0185187/+01	656	970	970
3.7479999/+02	1.0191703/+01		971	971
3.7350000/+02	1.0195177/+01	657	972	972
3.7203999/+02	1.0199094/+01		973	973
3.7175000/+02	1.0199874/+01	658	974	974
3.7000000/+02	1.0204592/+01	659	975	975
3.6952000/+02	1.0205891/+01		976	976
3.6950000/+02	1.0205945/+01	660	977	977
3.6925000/+02	1.0206621/+01	661	978	978
3.6900000/+02	1.0207299/+01	662	979	979
3.6889000/+02	1.0207597/+01		980	980
3.6850000/+02	1.0208655/+01	663	981	981
3.6837500/+02	1.0208994/+01	664	982	982
3.6826000/+02	1.0209306/+01		983	983
3.6825000/+02	1.0209333/+01	665	984	984
3.6810000/+02	1.0209741/+01	666	985	985
3.6805000/+02	1.0209877/+01	667	986	986
3.6803750/+02	1.0209911/+01	668	987	987
3.6802500/+02	1.0209945/+01	669	988	988
3.6801250/+02	1.0209962/+01	670	989	989
3.6801250/+02	1.0209979/+01	671	990	990
3.6800000/+02	1.0210012/+01	672	991	991
3.6798750/+02	1.0210046/+01	673	992	992
3.6798125/+02	1.0210063/+01	674	993	993
3.6797500/+02	1.0210080/+01	675	994	994
3.6796250/+02	1.0210114/+01	676	995	995
3.6795000/+02	1.0210148/+01	677	996	996
3.6794500/+02	1.0210162/+01		997	997
3.6790000/+02	1.0210284/+01	678	998	998
3.6775000/+02	1.0210692/+01	679	999	999
3.6763000/+02	1.0211018/+01		1000	1000

3.6762500/+02,	1.0211032/+01	680	1001	1001
3.6700000/+02	1.0212734/+01		1002	1002
3.6675000/+02,	1.0213415/+01	681	1003	1003
3.6637000/+02	1.0214452/+01		1004	1004
3.6605500/+02	1.0215312/+01		1005	1005
3.6574000/+02	1.0216173/+01		1006	1006
3.6511000/+02	1.0217897/+01		1007	1007
3.6448000/+02	1.0219624/+01		1008	1008
3.6425000/+02,	1.0220255/+01	682	1009	1009
3.6400000/+02	1.0220941/+01		1010	1010
3.6320000/+02	1.0223142/+01		1011	1011
3.6196000/+02	1.0226562/+01		1012	1012
3.6090000/+02	1.0229495/+01	683	1013	1013
3.6000000/+02,	1.0231991/+01	684	1014	1014
3.5850000/+02,	1.0236167/+01	685	1015	1015
3.5830000/+02	1.0236725/+01	686	1016	1016
3.5750000/+02	1.0238960/+01	687	1017	1017
3.5739000/+02	1.0239268/+01	688	1018	1018
3.5726000/+02	1.0239632/+01	689	1019	1019
3.5725000/+02	1.0239660/+01		1020	1020
3.5710399/+02	1.0240068/+01	690	1021	1021
3.5705200/+02	1.0240214/+01	691	1022	1022
3.5703900/+02	1.0240250/+01	692	1023	1023
3.5702600/+02	1.0240287/+01	693	1024	1024
3.5701950/+02	1.0240305/+01	694	1025	1025
3.5701300/+02	1.0240323/+01	695	1026	1026
3.5700000/+02	1.0240360/+01	696	1027	1027
3.5698700/+02	1.0240396/+01	697	1028	1028
3.5698050/+02	1.0240414/+01	698	1029	1029
3.5697400/+02	1.0240432/+01	699	1030	1030
3.5696100/+02	1.0240469/+01	700	1031	1031
3.5694800/+02	1.0240505/+01	701	1032	1032
3.5689600/+02	1.0240651/+01	702	1033	1033
3.5674000/+02	1.0241088/+01	703	1034	1034
3.5661000/+02	1.0241453/+01	704	1035	1035
3.5570000/+02	1.0244008/+01	705	1036	1036
3.5550000/+02,	1.0244570/+01	706	1037	1037
3.5500000/+02	1.0245978/+01		1038	1038
3.5440000/+02	1.0247669/+01		1039	1039
3.5310000/+02	1.0251344/+01	707	1040	1040
3.5050000/+02	1.0258735/+01		1041	1041
3.4975000/+02,	1.0260877/+01	708	1042	1042
3.4850000/+02	1.0264457/+01	709	1043	1043
3.4810000/+02	1.0265606/+01		1044	1044
3.4725000/+02,	1.0268050/+01	710	1045	1045
3.4637500/+02,	1.0270573/+01	711	1046	1046
3.4625000/+02,	1.0270934/+01	712	1047	1047
3.4610000/+02,	1.0271368/+01	713	1048	1048
3.4605000/+02,	1.0271512/+01	714	1049	1049
3.4603750/+02,	1.0271548/+01	715	1050	1050

3.4602500/+02,	1.0271584/+01	716	1051	1051
3.4601875/+02,	1.0271602/+01	717	1052	1052
3.4601250/+02,	1.0271620/+01	718	1053	1053
3.4600000/+02,	1.0271657/+01	719	1054	1054
3.4598750/+02,	1.0271693/+01	720	1055	1055
3.4598125/+02,	1.0271711/+01	721	1056	1056
3.4597500/+02,	1.0271729/+01	722	1057	1057
3.4596250/+02,	1.0271765/+01	723	1058	1058
3.4595000/+02,	1.0271801/+01	724	1059	1059
3.4590000/+02,	1.0271946/+01	725	1060	1060
3.4575000/+02,	1.0272380/+01	726	1061	1061
3.4562500/+02,	1.0272741/+01	727	1062	1062
3.4475000/+02,	1.0275276/+01	728	1063	1063
3.4400000/+02,	1.0277454/+01	729	1064	1064
3.4350000/+02,	1.0278908/+01	730	1065	1065
3.4225000/+02,	1.0282554/+01	731	1066	1066
3.4000000/+02,	1.0289150/+01	732	1067	1067
3.3975000/+02,	1.0289885/+01	733	1068	1068
3.3850000/+02,	1.0293571/+01	734	1069	1069
3.3700000/+02,	1.0298012/+01	735	1070	1070
3.3650000/+02,	1.0299497/+01	736	1071	1071
3.3637500/+02,	1.0299869/+01	737	1072	1072
3.3625000/+02,	1.0300241/+01	738	1073	1073
3.3618750/+02,	1.0300426/+01	739	1074	1074
3.3612500/+02,	1.0300612/+01	740	1075	1075
3.3600000/+02,	1.0300984/+01	741	1076	1076
3.3587500/+02,	1.0301356/+01	742	1077	1077
3.3581250/+02,	1.0301542/+01	743	1078	1078
3.3575000/+02,	1.0301729/+01	744	1079	1079
3.3562500/+02,	1.0302101/+01	745	1080	1080
3.3550000/+02,	1.0302473/+01	746	1081	1081
3.3500000/+02,	1.0303965/+01	747	1082	1082
3.3350000/+02,	1.0308453/+01	748	1083	1083
3.3250000/+02,	1.0311456/+01	749	1084	1084
3.3225000/+02,	1.0312208/+01	750	1085	1085
3.3199999/+02,	1.0312960/+01	751	1086	1086
3.3000000/+02,	1.0319003/+01		1087	1087
3.2375000/+02,	1.0338124/+01	752	1088	1088
3.2350000/+02,	1.0338896/+01	753	1089	1089
3.2290000/+02,	1.0340753/+01	754	1090	1090
3.2250000/+02,	1.0341992/+01	755	1091	1091
3.2150000/+02,	1.0345098/+01	756	1092	1092
3.2100000/+02,	1.0346654/+01	757	1093	1093
3.2050000/+02,	1.0348213/+01	758	1094	1094
3.2037500/+02,	1.0348603/+01	759	1095	1095
3.2030000/+02,	1.0348837/+01	760	1096	1096
3.2025000/+02,	1.0348994/+01	761	1097	1097
3.2018750/+02,	1.0349189/+01	762	1098	1098
3.2012500/+02,	1.0349384/+01	763	1099	1099
3.2000000/+02,	1.0349774/+01	764	1100	1100

3.1987500/+02	1.0350165/+01	765	1101	1101
3.1981250/+02	1.0350360/+01	766	1102	1102
3.1975000/+02	1.0350556/+01	767	1103	1103
3.1962500/+02	1.0350947/+01	768	1104	1104
3.1960000/+02	1.0351025/+01		1105	1105
3.1950000/+02	1.0351338/+01	769	1106	1106
3.1939000/+02	1.0351682/+01	770	1107	1107
3.1926000/+02	1.0352090/+01	771	1108	1108
3.1910399/+02	1.0352578/+01	772	1109	1109
3.1905200/+02	1.0352741/+01	773	1110	1110
3.1903900/+02	1.0352782/+01	774	1111	1111
3.1902600/+02	1.0352823/+01	775	1112	1112
3.1901950/+02	1.0352843/+01	776	1113	1113
3.1901300/+02	1.0352864/+01	777	1114	1114
3.1900000/+02	1.0352904/+01	778	1115	1115
3.1900000/+02	1.0352904/+01	779	1116	1116
3.1898700/+02	1.0352945/+01	780	1117	1117
3.1898050/+02	1.0352966/+01	781	1118	1118
3.1897400/+02	1.0352986/+01	782	1119	1119
3.1896100/+02	1.0353027/+01	783	1120	1120
3.1894800/+02	1.0353067/+01	784	1121	1121
3.1889600/+02	1.0353230/+01	785	1122	1122
3.1874000/+02	1.0353720/+01	786	1123	1123
3.1861000/+02	1.0354128/+01	787	1124	1124
3.1770000/+02	1.0356988/+01	788	1125	1125
3.1750000/+02	1.0357618/+01	789	1126	1126
3.1675000/+02	1.0359983/+01		1127	1127
3.1625000/+02	1.0361562/+01	790	1128	1128
3.1510000/+02	1.0365205/+01	791	1129	1129
3.1400000/+02	1.0368702/+01	792	1130	1130
3.1275000/+02	1.0372691/+01	793	1131	1131
3.1135000/+02	1.0377178/+01	794	1132	1132
3.1025000/+02	1.0380717/+01	795	1133	1133
3.1000000/+02	1.0381523/+01		1134	1134
3.0950000/+02	1.0383137/+01	796	1135	1135
3.0937500/+02	1.0383541/+01	797	1136	1136
3.0925000/+02	1.0383945/+01	798	1137	1137
3.0910000/+02	1.0384431/+01	799	1138	1138
3.0905000/+02	1.0384592/+01	800	1139	1139
3.0903750/+02	1.0384633/+01	801	1140	1140
3.0902500/+02	1.0384673/+01	802	1141	1141
3.0901875/+02	1.0384693/+01	803	1142	1142
3.0901250/+02	1.0384714/+01	804	1143	1143
3.0900000/+02	1.0384754/+01	805	1144	1144
3.0898750/+02	1.0384794/+01	806	1145	1145
3.0898125/+02	1.0384815/+01	807	1146	1146
3.0897500/+02	1.0384835/+01	808	1147	1147
3.0896250/+02	1.0384876/+01	809	1148	1148
3.0895000/+02	1.0384916/+01	810	1149	1149
3.0890000/+02	1.0385078/+01	811	1150	1150

803. 3.0875000/+02,	1.0385564/+01	812	1151	1151
3.0862500/+02,	1.0385969/+01	813	1152	1152
3.0845000/+02	1.0386536/+01	814	1153	1153
3.0800000/+02	1.0387996/+01	815	1154	1154
3.0775000/+02,	1.0388808/+01	816	1155	1155
3.0750000/+02	1.0389620/+01	817	1156	1156
3.0743500/+02	1.0389832/+01	818	1157	1157
3.0729000/+02	1.0390303/+01	819	1158	1158
3.0711600/+02	1.0390870/+01	820	1159	1159
3.0705800/+02	1.0391059/+01	821	1160	1160
3.0704350/+02	1.0391106/+01	822	1161	1161
3.0702900/+02	1.0391153/+01	823	1162	1162
3.0702175/+02	1.0391177/+01	824	1163	1163
3.0701450/+02	1.0391200/+01	825	1164	1164
3.0700000/+02	1.0391248/+01	826	1165	1165
3.0698550/+02	1.0391295/+01	827	1166	1166
3.0697825/+02	1.0391318/+01	828	1167	1167
3.0697100/+02	1.0391342/+01	829	1168	1168
3.0695650/+02	1.0391389/+01	830	1169	1169
3.0694200/+02	1.0391437/+01	831	1170	1170
3.0688400/+02	1.0391626/+01	832	1171	1171
3.0671000/+02	1.0392193/+01	833	1172	1172
3.0656500/+02	1.0392666/+01	834	1173	1173
3.0600000/+02	1.0394510/+01	835	1174	1174
3.0555000/+02	1.0395982/+01	836	1175	1175
3.0525000/+02,	1.0396964/+01	837	1176	1176
3.0400000/+02	1.0401068/+01		1177	1177
3.0265000/+02	1.0405518/+01	838	1178	1178
3.0080000/+02	1.0411650/+01	839	1179	1179
3.0075000/+02,	1.0411816/+01	840	1180	1180
3.0028000/+02	1.0413380/+01		1181	1181
3.0000000/+02,	1.0414313/+01	841	1182	1182
2.9890000/+02	1.0417987/+01	842	1183	1183
2.9879999/+02	1.0418321/+01		1184	1184
2.9850000/+02	1.0419326/+01	843	1185	1185
2.9840000/+02	1.0419661/+01	844	1186	1186
2.9825000/+02,	1.0420163/+01	845	1187	1187
2.9780000/+02	1.0421673/+01	846	1188	1188
2.9751999/+02	1.0422614/+01		1189	1189
2.9737500/+02,	1.0423101/+01	847	1190	1190
2.9725000/+02,	1.0423522/+01	848	1191	1191
2.9719999/+02	1.0423690/+01	849	1192	1192
2.9710000/+02,	1.0424027/+01	850	1193	1193
2.9705000/+02,	1.0424195/+01	851	1194	1194
2.9703750/+02,	1.0424237/+01	852	1195	1195
2.9702500/+02,	1.0424279/+01	853	1196	1196
2.9701875/+02,	1.0424300/+01	854	1197	1197
2.9701250/+02,	1.0424321/+01	855	1198	1198
2.9700000/+02,	1.0424363/+01	856	1199	1199
2.9698750/+02,	1.0424405/+01	857	1200	1200

2.9698125/+02,	1.0424426/+01	858	1201	1201
2.9697500/+02,	1.0424448/+01	859	1202	1202
2.9696250/+02,	1.0424490/+01	860	1203	1203
2.9695000/+02,	1.0424532/+01	861	1204	1204
2.9690000/+02,	1.0424700/+01	862	1205	1205
2.9675000/+02,	1.0425205/+01	863	1206	1206
2.9662500/+02,	1.0425627/+01	864	1207	1207
2.9660000/+02,	1.0425711/+01	865	1208	1208
2.9650000/+02,	1.0426048/+01	866	1209	1209
2.9630000/+02	1.0426723/+01	867	1210	1210
2.9600000/+02	1.0427736/+01	868	1211	1211
2.9575000/+02,	1.0428581/+01	869	1212	1212
2.9540000/+02	1.0429765/+01	870	1213	1213
2.9539000/+02	1.0429799/+01	871	1214	1214
2.9526000/+02	1.0430239/+01	872	1215	1215
2.9510399/+02	1.0430768/+01	873	1216	1216
2.9510000/+02	1.0430781/+01	874	1217	1217
2.9505200/+02	1.0430944/+01	875	1218	1218
2.9503900/+02	1.0430988/+01	876	1219	1219
2.9502600/+02	1.0431032/+01	877	1220	1220
2.9501950/+02	1.0431054/+01	878	1221	1221
2.9501300/+02	1.0431076/+01	879	1222	1222
2.9500000/+02	1.0431120/+01	880	1223	1223
2.9498700/+02	1.0431164/+01	881	1224	1224
2.9498050/+02	1.0431186/+01	882	1225	1225
2.9497400/+02	1.0431208/+01	883	1226	1226
2.9496100/+02	1.0431252/+01	884	1227	1227
2.9494800/+02	1.0431296/+01	885	1228	1228
2.9489600/+02	1.0431473/+01	886	1229	1229
2.9480000/+02	1.0431798/+01	887	1230	1230
2.9474000/+02	1.0432002/+01	888	1231	1231
2.9461000/+02	1.0432443/+01	889	1232	1232
2.9449999/+02	1.0432816/+01	890	1233	1233
2.9420800/+02	1.0433808/+01		1234	1234
2.9419999/+02	1.0433836/+01	891	1235	1235
2.9370000/+02	1.0435537/+01	892	1236	1236
2.9360000/+02	1.0435877/+01	893	1237	1237
2.9325000/+02,	1.0437070/+01	894	1238	1238
2.9310400/+02	1.0437568/+01		1239	1239
2.9282800/+02	1.0438510/+01		1240	1240
2.9255200/+02	1.0439453/+01		1241	1241
2.9250000/+02	1.0439631/+01	895	1242	1242
2.9241400/+02	1.0439925/+01		1243	1243
2.9227600/+02	1.0440397/+01		1244	1244
2.9200000/+02	1.0441342/+01		1245	1245
2.9172400/+02	1.0442287/+01		1246	1246
2.9158600/+02	1.0442760/+01		1247	1247
2.9144800/+02	1.0443234/+01		1248	1248
2.9119999/+02	1.0444085/+01	896	1249	1249
2.9117200/+02	1.0444181/+01		1250	1250

2.9110000/+02	1.0444429/+01	897	1251	1251
2.9089600/+02	1.0445130/+01		1252	1252
2.9050000/+02	1.0446492/+01	898	1253	1253
2.8979200/+02	1.0448932/+01		1254	1254
2.8699999/+02	1.0458613/+01	899	1255	1255
2.8648000/+02	1.0460427/+01		1256	1256
2.8500000/+02	1.0465606/+01	900	1257	1257
2.8450000/+02	1.0467362/+01	901	1258	1258
2.8435000/+02	1.0467890/+01	902	1259	1259
2.8400000/+02	1.0469121/+01	903	1260	1260
2.8372000/+02	1.0470108/+01		1261	1261
2.8300000/+02	1.0472649/+01		1262	1262
2.8250000/+02	1.0474417/+01	904	1263	1263
2.8200000/+02	1.0476188/+01	905	1264	1264
2.8175000/+02	1.0477075/+01	906	1265	1265
2.8150000/+02	1.0477963/+01	907	1266	1266
2.8144999/+02	1.0478141/+01	908	1267	1267
2.8043500/+02	1.0481753/+01	909	1268	1268
2.8029000/+02	1.0482271/+01	910	1269	1269
2.8011599/+02	1.0482892/+01	911	1270	1270
2.8005800/+02	1.0483099/+01	912	1271	1271
2.8004350/+02	1.0483150/+01	913	1272	1272
2.8002900/+02	1.0483202/+01	914	1273	1273
2.8002174/+02	1.0483228/+01	915	1274	1274
2.8001450/+02	1.0483254/+01	916	1275	1275
2.8000000/+02	1.0483306/+01	917	1276	1276
2.7998550/+02	1.0483358/+01	918	1277	1277
2.7997825/+02	1.0483384/+01	919	1278	1278
2.7997100/+02	1.0483409/+01	920	1279	1279
2.7995650/+02	1.0483461/+01	921	1280	1280
2.7994200/+02	1.0483513/+01	922	1281	1281
2.7988400/+02	1.0483720/+01	923	1282	1282
2.7971000/+02	1.0484342/+01	924	1283	1283
2.7956500/+02	1.0484861/+01	925	1284	1284
2.7925000/+02	1.0485988/+01	926	1285	1285
2.7855000/+02	1.0488498/+01	927	1286	1286
2.7837500/+02	1.0489126/+01	928	1287	1287
2.7825000/+02	1.0489575/+01	929	1288	1288
2.7810000/+02	1.0490115/+01	930	1289	1289
2.7805000/+02	1.0490295/+01	931	1290	1290
2.7803750/+02	1.0490340/+01	932	1291	1291
2.7802500/+02	1.0490385/+01	933	1292	1292
2.7801875/+02	1.0490407/+01	934	1293	1293
2.7801250/+02	1.0490429/+01	935	1294	1294
2.7800000/+02	1.0490474/+01	936	1295	1295
2.7798750/+02	1.0490519/+01	937	1296	1296
2.7798125/+02	1.0490542/+01	938	1297	1297
2.7797500/+02	1.0490564/+01	939	1298	1298
2.7796250/+02	1.0490609/+01	940	1299	1299
2.7795000/+02	1.0490654/+01	941	1300	1300

2.7790000/+02,	1.0490834/+01	942	1301	1301
2.7775000/+02,	1.0491374/+01	943	1302	1302
2.7762500/+02,	1.0491824/+01	944	1303	1303
2.7675000/+02,	1.0494981/+01	945	1304	1304
2.7565000/+02	1.0498964/+01	946	1305	1305
2.7530000/+02	1.0500234/+01	947	1306	1306
2.7439000/+02	1.0503545/+01	948	1307	1307
2.7426000/+02	1.0504019/+01	949	1308	1308
2.7425000/+02,	1.0504055/+01	950	1309	1309
2.7410400/+02	1.0504588/+01	951	1310	1310
2.7405200/+02	1.0504778/+01	952	1311	1311
2.7403900/+02	1.0504825/+01	953	1312	1312
2.7402599/+02	1.0504873/+01	954	1313	1313
2.7401949/+02	1.0504896/+01	955	1314	1314
2.7401299/+02	1.0504920/+01	956	1315	1315
2.7400000/+02	1.0504967/+01	957	1316	1316
2.7398700/+02	1.0505015/+01	958	1317	1317
2.7398050/+02	1.0505038/+01	959	1318	1318
2.7397400/+02	1.0505062/+01	960	1319	1319
2.7396100/+02	1.0505110/+01	961	1320	1320
2.7394800/+02	1.0505157/+01	962	1321	1321
2.7389600/+02	1.0505347/+01	963	1322	1322
2.7374000/+02	1.0505917/+01	964	1323	1323
2.7361000/+02	1.0506392/+01	965	1324	1324
2.7270000/+02	1.0509723/+01	966	1325	1325
2.7050000/+02,	1.0517823/+01	967	1326	1326
2.7010000/+02	1.0519303/+01	968	1327	1327
2.7000000/+02,	1.0519674/+01	969	1328	1328
2.6550000/+02,	1.0536481/+01	970	1329	1329
2.6440000/+02	1.0540632/+01		1330	1330
2.6175000/+02,	1.0550706/+01	971	1331	1331
2.6100000/+02	1.0553575/+01	972	1332	1332
2.6000000/+02,	1.0557414/+01	973	1333	1333
2.5925000/+02,	1.0560303/+01	974	1334	1334
2.5837500/+02,	1.0563684/+01	975	1335	1335
2.5825000/+02,	1.0564167/+01	976	1336	1336
2.5810000/+02,	1.0564748/+01	977	1337	1337
2.5805000/+02,	1.0564942/+01	978	1338	1338
2.5803750/+02,	1.0564991/+01	979	1339	1339
2.5802500/+02,	1.0565039/+01	980	1340	1340
2.5801875/+02,	1.0565063/+01	981	1341	1341
2.5801250/+02,	1.0565087/+01	982	1342	1342
2.5800000/+02,	1.0565136/+01	983	1343	1343
2.5798750/+02,	1.0565184/+01	984	1344	1344
2.5798125/+02,	1.0565209/+01	985	1345	1345
2.5797500/+02,	1.0565233/+01	986	1346	1346
2.5796250/+02,	1.0565281/+01	987	1347	1347
2.5795000/+02,	1.0565330/+01	988	1348	1348
2.5790000/+02,	1.0565524/+01	989	1349	1349
2.5775000/+02,	1.0566105/+01	990	1350	1350

2.5762500/+02,	1.0566590/+01	991	1351	1351
2.5675000/+02,	1.0569993/+01	992	1352	1352
2.5650000/+02	1.0570967/+01	993	1353	1353
2.5600000/+02	1.0572918/+01	994	1354	1354
2.5590000/+02	1.0573309/+01		1355	1355
2.5500000/+02	1.0576832/+01	995	1356	1356
2.5425000/+02,	1.0579778/+01	996	1357	1357
2.5416000/+02	1.0580131/+01		1358	1358
2.5358000/+02	1.0582416/+01		1359	1359
2.5343500/+02	1.0582988/+01		1360	1360
2.5329000/+02	1.0583560/+01		1361	1361
2.5321750/+02	1.0583847/+01		1362	1362
2.5314500/+02	1.0584133/+01		1363	1363
2.5300000/+02	1.0584706/+01		1364	1364
2.5285500/+02	1.0585279/+01		1365	1365
2.5278250/+02	1.0585566/+01		1366	1366
2.5271000/+02	1.0585853/+01		1367	1367
2.5256500/+02	1.0586427/+01		1368	1368
2.5242000/+02	1.0587001/+01		1369	1369
2.5184000/+02	1.0589302/+01		1370	1370
2.5150000/+02,	1.0590653/+01	997	1371	1371
2.5010000/+02	1.0596235/+01		1372	1372
2.5000000/+02,	1.0596635/+01	998	1373	1373
2.4950000/+02	1.0598637/+01	999	1374	1374
2.4865000/+02	1.0602042/+01		1375	1375
2.4800000/+02,	1.0604667/+01	1000	1376	1376
2.4775000/+02	1.0605675/+01	1001	1377	1377
2.4670000/+02	1.0609922/+01		1378	1378
2.4650000/+02	1.0610733/+01	1002	1379	1379
2.4554999/+02	1.0614595/+01		1380	1380
2.4550000/+02,	1.0614799/+01	1003	1381	1381
2.4500000/+02	1.0616837/+01	1004	1382	1382
2.4450000/+02	1.0618880/+01	1005	1383	1383
2.4437500/+02	1.0619392/+01	1006	1384	1384
2.4425000/+02	1.0619903/+01	1007	1385	1385
2.4418750/+02	1.0620159/+01	1008	1386	1386
2.4412500/+02	1.0620415/+01	1009	1387	1387
2.4400000/+02	1.0620927/+01	1010	1388	1388
2.4387500/+02	1.0621440/+01	1011	1389	1389
2.4381250/+02	1.0621696/+01	1012	1390	1390
2.4375000/+02	1.0621952/+01	1013	1391	1391
2.4362500/+02	1.0622465/+01	1014	1392	1392
2.4350000/+02	1.0622979/+01	1015	1393	1393
2.4300000/+02	1.0625034/+01	1016	1394	1394
2.4275000/+02,	1.0626063/+01	1017	1395	1395
2.4250000/+02	1.0627094/+01		1396	1396
2.4150000/+02	1.0631226/+01	1018	1397	1397
2.4140000/+02	1.0631640/+01		1398	1398
2.4025000/+02,	1.0636415/+01	1019	1399	1399
2.4000000/+02,	1.0637457/+01	1020	1400	1400

2.3937500/+02,	1.0640064/+01	1021	1401	1401
2.3925000/+02,	1.0640586/+01	1022	1402	1402
2.3910000/+02,	1.0641214/+01	1023	1403	1403
2.3905000/+02,	1.0641423/+01	1024	1404	1404
2.3903750/+02,	1.0641475/+01	1025	1405	1405
2.3902500/+02,	1.0641527/+01	1026	1406	1406
2.3901875/+02,	1.0641553/+01	1027	1407	1407
2.3901250/+02,	1.0641580/+01	1028	1408	1408
2.3900000/+02,	1.0641632/+01	1029	1409	1409
2.3898750/+02,	1.0641684/+01	1030	1410	1410
2.3898125/+02,	1.0641710/+01	1031	1411	1411
2.3897500/+02,	1.0641737/+01	1032	1412	1412
2.3896250/+02,	1.0641789/+01	1033	1413	1413
2.3895000/+02,	1.0641841/+01	1034	1414	1414
2.3890000/+02,	1.0642051/+01	1035	1415	1415
2.3875000/+02,	1.0642679/+01	1036	1416	1416
2.3862500/+02,	1.0643202/+01	1037	1417	1417
2.3850000/+02,	1.0643726/+01		1418	1418
2.3775000/+02,	1.0646876/+01	1038	1419	1419
2.3750000/+02,	1.0647928/+01		1420	1420
2.3600000/+02,	1.0654264/+01	1039	1421	1421
2.3555050/+02,	1.0656170/+01			1422
2.3536700/+02,	1.0656949/+01			1423
2.3525000/+02,	1.0657447/+01	1040	1422	1424
2.3514680/+02,	1.0657886/+01			1425
2.3507340/+02,	1.0658198/+01			1426
2.3505505/+02,	1.0658276/+01			1427
2.3503670/+02,	1.0658354/+01			1428
2.3502752/+02,	1.0658393/+01			1429
2.3501835/+02,	1.0658432/+01			1430
2.3500000/+02,	1.0658510/+01	1041	1423	1431
2.3498165/+02,	1.0658588/+01			1432
2.3497247/+02,	1.0658627/+01			1433
2.3496330/+02,	1.0658666/+01			1434
2.3494495/+02,	1.0658744/+01			1435
2.3492660/+02,	1.0658822/+01			1436
2.3485320/+02,	1.0659135/+01			1437
2.3463300/+02,	1.0660073/+01			1438
2.3444950/+02,	1.0660855/+01			1439
2.3330000/+02,	1.0665770/+01			1440
2.3316500/+02,	1.0666349/+01			1441
2.3150000/+02,	1.0673516/+01	1042	1424	1442
2.3100000/+02,	1.0675678/+01	1043	1425	1443
2.3050000/+02,	1.0677845/+01	1044	1426	1444
2.3010000/+02,	1.0679581/+01			1445
2.3000000/+02,	1.0680016/+01	1045	1427	1446
2.2949500/+02,	1.0682214/+01			1447
2.2900000/+02,	1.0684373/+01		1428	1448
2.2871000/+02,	1.0685641/+01		1429	1449
2.2840000/+02,	1.0686997/+01		1430	1450

2.2710000/+02	1.0692705/+01			1451
2.2650000/+02,	1.0695350/+01	1046	1431	1452
2.2614000/+02	1.0696941/+01		1432	1453
2.2493000/+02	1.0702306/+01			1454
2.2465000/+02	1.0703552/+01		1433	1455
2.2462000/+02	1.0703685/+01			1456
2.2424800/+02	1.0705343/+01			1457
2.2412400/+02	1.0705896/+01			1458
2.2409300/+02	1.0706034/+01			1459
2.2406200/+02	1.0706173/+01			1460
2.2404650/+02	1.0706242/+01			1461
2.2403100/+02	1.0706311/+01			1462
2.2400000/+02	1.0706449/+01			1463
2.2396900/+02	1.0706588/+01			1464
2.2395350/+02	1.0706657/+01			1465
2.2393800/+02	1.0706726/+01			1466
2.2390700/+02	1.0706865/+01			1467
2.2387600/+02	1.0707003/+01			1468
2.2375200/+02	1.0707557/+01			1469
2.2350000/+02,	1.0708684/+01	1047	1434	1470
2.2344999/+02	1.0708908/+01			1471
2.2338000/+02	1.0709221/+01			1472
2.2307000/+02	1.0710610/+01			1473
2.2305600/+02	1.0710673/+01		1435	1474
2.2300000/+02	1.0710924/+01			1475
2.2202800/+02	1.0715292/+01		1436	1476
2.2200000/+02,	1.0715418/+01	1048	1437	1477
2.2177100/+02	1.0716450/+01		1438	1478
2.2151400/+02	1.0717610/+01		1439	1479
2.2138550/+02	1.0718190/+01		1440	1480
2.2125700/+02	1.0718771/+01		1441	1481
2.2100000/+02	1.0719933/+01		1442	1482
2.2090000/+02	1.0720385/+01			1483
2.2074300/+02	1.0721096/+01		1443	1484
2.2061450/+02	1.0721679/+01		1444	1485
2.2050000/+02	1.0722198/+01		1445	1486
2.2048600/+02	1.0722261/+01		1446	1487
2.2035000/+02	1.0722878/+01	1049	1447	1488
2.2022900/+02	1.0723428/+01		1448	1489
2.1997200/+02	1.0724595/+01		1449	1490
2.1955000/+02	1.0726516/+01		1450	1491
2.1930000/+02	1.0727655/+01	1050	1451	1492
2.1894400/+02	1.0729280/+01		1452	1493
2.1776500/+02	1.0734679/+01		1453	1494
2.1751000/+02	1.0735851/+01		1454	1495
2.1745000/+02	1.0736126/+01	1051	1455	1496
2.1743000/+02	1.0736219/+01			1497
2.1720400/+02	1.0737258/+01		1456	1498
2.1710200/+02	1.0737728/+01		1457	1499
2.1707650/+02	1.0737846/+01		1458	1500

2.1705100/+02	1.0737963/+01		1459	1501
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2.1702550/+02	1.0738081/+01		1461	1503
2.1700000/+02	1.0738198/+01		1462	1504
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2.1696175/+02	1.0738374/+01		1464	1506
2.1694900/+02	1.0738433/+01		1465	1507
2.1692350/+02	1.0738551/+01		1466	1508
2.1689800/+02	1.0738668/+01		1467	1509
2.1679600/+02	1.0739139/+01		1468	1510
2.1665000/+02	1.0739812/+01			1511
2.1649000/+02	1.0740551/+01		1469	1512
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2.1629000/+02	1.0741475/+01	1053	1471	1514
2.1623500/+02	1.0741730/+01		1472	1515
2.1611600/+02	1.0742280/+01	1054	1473	1516
2.1605800/+02	1.0742549/+01	1055	1474	1517
2.1604350/+02	1.0742616/+01	1056	1475	1518
2.1602900/+02	1.0742683/+01	1057	1476	1519
2.1602175/+02	1.0742716/+01	1058	1477	1520
2.1601450/+02	1.0742750/+01	1059	1478	1521
2.1600000/+02	1.0742817/+01	1060	1479	1522
2.1598550/+02	1.0742884/+01	1061	1480	1523
2.1597825/+02	1.0742918/+01	1062	1481	1524
2.1597100/+02	1.0742951/+01	1063	1482	1525
2.1595650/+02	1.0743018/+01	1064	1483	1526
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2.1588400/+02	1.0743354/+01	1066	1485	1528
2.1586000/+02	1.0743465/+01		1486	1529
2.1571000/+02	1.0744160/+01	1067	1487	1530
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2.1455000/+02	1.0749553/+01	1071	1491	1535
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2.1381000/+02	1.0753008/+01			1537
2.1329000/+02	1.0755443/+01		1493	1538
2.1254300/+02	1.0758951/+01			1539
2.1250000/+02	1.0759153/+01	1072	1494	1540
2.1236200/+02	1.0759803/+01			1541
2.1225000/+02,	1.0760331/+01	1073	1495	1542
2.1214480/+02	1.0760826/+01			1543
2.1207240/+02	1.0761168/+01			1544
2.1205430/+02	1.0761253/+01			1545
2.1203620/+02	1.0761338/+01			1546
2.1202715/+02	1.0761381/+01			1547
2.1201810/+02	1.0761424/+01			1548
2.1200000/+02	1.0761509/+01			1549
2.1198190/+02	1.0761595/+01			1550

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2.1196380/+02	1.0761680/+01			1552
2.1194570/+02	1.0761765/+01			1553
2.1192760/+02	1.0761851/+01			1554
2.1185520/+02	1.0762192/+01			1555
2.1165000/+02	1.0763161/+01	1074	1496	1556
2.1163800/+02	1.0763218/+01			1557
2.1150000/+02	1.0763870/+01	1075	1497	1558
2.1145700/+02	1.0764074/+01			1559
2.1137500/+02	1.0764462/+01	1076	1498	1560
2.1125000/+02	1.0765053/+01	1077	1499	1561
2.1110000/+02	1.0765764/+01	1078	1500	1562
2.1105000/+02	1.0766000/+01	1079	1501	1563
2.1103750/+02	1.0766060/+01	1080	1502	1564
2.1102500/+02	1.0766119/+01	1081	1503	1565
2.1101875/+02	1.0766148/+01	1082	1504	1566
2.1101250/+02	1.0766178/+01	1083	1505	1567
2.1100000/+02	1.0766237/+01	1084	1506	1568
2.1100000/+02	1.0766237/+01	1085	1507	1569
2.1098750/+02	1.0766296/+01	1086	1508	1570
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2.1097500/+02	1.0766356/+01	1088	1510	1572
2.1096250/+02	1.0766415/+01	1089	1511	1573
2.1095000/+02	1.0766474/+01	1090	1512	1574
2.1090000/+02	1.0766711/+01	1091	1513	1575
2.1075000/+02	1.0767423/+01	1092	1514	1576
2.1062500/+02	1.0768016/+01	1093	1515	1577
2.1019000/+02	1.0770084/+01			1578
2.1000000/+02	1.0770988/+01	1094	1516	1579
2.0975000/+02	1.0772179/+01	1095	1517	1580
2.0950000/+02	1.0773372/+01		1518	1581
2.0935000/+02	1.0774088/+01		1519	1582
2.0920000/+02	1.0774805/+01		1520	1583
2.0865000/+02	1.0777437/+01			1584
2.0725000/+02	1.0784170/+01	1096	1521	1585
2.0657000/+02	1.0787456/+01			1586
2.0650000/+02	1.0787795/+01	1097	1522	1587
2.0500000/+02	1.0795085/+01	1098	1523	1588
2.0490000/+02	1.0795573/+01		1524	1589
2.0400000/+02	1.0799975/+01	1099	1525	1590
2.0355000/+02	1.0802184/+01			1591
2.0350000/+02	1.0802429/+01	1100	1526	1592
2.0332000/+02	1.0803314/+01		1527	1593
2.0304000/+02	1.0804693/+01		1528	1594
2.0220000/+02	1.0808838/+01		1529	1595
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2.0151000/+02	1.0812256/+01			1597
2.0150000/+02	1.0812306/+01	1101	1530	1598
2.0135000/+02	1.0813051/+01	1102	1531	1599
2.0120400/+02	1.0813776/+01			1600

2.0110200/+02	1.0814283/+01			1601
2.0107650/+02	1.0814410/+01			1602
2.0105100/+02	1.0814537/+01			1603
2.0103825/+02	1.0814600/+01			1604
2.0102550/+02	1.0814664/+01			1605
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2.0049000/+02	1.0817331/+01			1613
2.0023500/+02	1.0818604/+01			1614
2.0000000/+02	1.0819778/+01	1103	1532	1615
1.9955000/+02	1.0822031/+01	1104	1533	1616
1.9850000/+02	1.0827306/+01	1105	1534	1617
1.9845000/+02	1.0827558/+01	1106	1535	1618
1.9788000/+02	1.0830435/+01		1536	1619
1.9785000/+02	1.0830586/+01			1620
1.9770000/+02	1.0831345/+01	1107	1537	1621
1.9743500/+02	1.0832686/+01	1108	1538	1622
1.9729000/+02	1.0833421/+01	1109	1539	1623
1.9711600/+02	1.0834303/+01	1110	1540	1624
1.9705800/+02	1.0834597/+01	1111	1541	1625
1.9704350/+02	1.0834671/+01	1112	1542	1626
1.9702900/+02	1.0834745/+01	1113	1543	1627
1.9702175/+02	1.0834781/+01	1114	1544	1628
1.9701450/+02	1.0834818/+01	1115	1545	1629
1.9700000/+02	1.0834892/+01	1116	1546	1630
1.9700000/+02	1.0834892/+01	1117	1547	1631
1.9698550/+02	1.0834965/+01	1118	1548	1632
1.9697825/+02	1.0835002/+01	1119	1549	1633
1.9697100/+02	1.0835039/+01	1120	1550	1634
1.9695650/+02	1.0835112/+01	1121	1551	1635
1.9694200/+02	1.0835186/+01	1122	1552	1636
1.9688400/+02	1.0835481/+01	1123	1553	1637
1.9671000/+02	1.0836365/+01	1124	1554	1638
1.9660000/+02	1.0836924/+01		1555	1639
1.9656500/+02	1.0837102/+01	1125	1556	1640
1.9585500/+02	1.0840721/+01			1641
1.9557000/+02	1.0842177/+01			1642
1.9555000/+02	1.0842279/+01	1126	1557	1643
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1.9511400/+02	1.0844511/+01			1647
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1.9505700/+02	1.0844804/+01			1649
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1.9455500/+02	1.0847380/+01	1132	1564	1662
1.9443000/+02	1.0848023/+01			1663
1.9437000/+02	1.0848332/+01	1133	1565	1664
1.9427750/+02	1.0848808/+01	1134	1566	1665
1.9418500/+02	1.0849284/+01	1135	1567	1666
1.9414500/+02	1.0849490/+01			1667
1.9400000/+02	1.0850237/+01	1136	1568	1668
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1.9381500/+02	1.0851191/+01	1137	1569	1670
1.9372250/+02	1.0851669/+01	1138	1570	1671
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1.9326000/+02	1.0854059/+01	1141	1573	1675
1.9300000/+02	1.0855405/+01			1676
1.9265000/+02	1.0857220/+01	1142	1574	1677
1.9252000/+02	1.0857895/+01	1143	1575	1678
1.9230000/+02	1.0859039/+01	1144	1576	1679
1.9225000/+02,	1.0859299/+01	1145	1577	1680
1.9215000/+02	1.0859819/+01			1681
1.9200000/+02	1.0860600/+01	1146	1578	1682
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1.9139000/+02	1.0863782/+01	1147	1580	1684
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1.9126000/+02	1.0864462/+01	1149	1583	1687
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1.9110000/+02,	1.0865299/+01	1152	1586	1690
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1.9101950/+02	1.0865720/+01	1159	1593	1697
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1.9101300/+02	1.0865754/+01	1161	1595	1699
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1.9098050/+02	1.0865924/+01	1167	1601	1705
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1.9097400/+02	1.0865958/+01	1169	1603	1707
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1.8754400/+02	1.0884082/+01		1624	1728
1.8730000/+02	1.0885384/+01			1729
1.8725000/+02,	1.0885651/+01	1186	1625	1730
1.8710000/+02	1.0886452/+01	1187	1626	1731
1.8700000/+02	1.0886987/+01	1188	1627	1732
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1.8630000/+02	1.0890737/+01		1629	1735
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1.8535000/+02	1.0895849/+01		1633	1739
1.8530000/+02	1.0896119/+01	1189	1634	1740
1.8500000/+02,	1.0897740/+01	1190	1635	1741
1.8482400/+02	1.0898691/+01		1636	1742
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1.8426000/+02	1.0901748/+01	1192	1638	1744
1.8410400/+02	1.0902595/+01	1193	1639	1745
1.8405200/+02	1.0902877/+01	1194	1640	1746
1.8403900/+02	1.0902948/+01	1195	1641	1747
1.8402600/+02	1.0903018/+01	1196	1642	1748
1.8401950/+02	1.0903054/+01	1197	1643	1749
1.8401300/+02	1.0903089/+01	1198	1644	1750

1.8400000/+02	1.0903160/+01	1199	1645	1751
1.8398700/+02	1.0903230/+01	1200	1646	1752
1.8398050/+02	1.0903266/+01	1201	1647	1753
1.8397400/+02	1.0903301/+01	1202	1648	1754
1.8396100/+02	1.0903372/+01	1203	1649	1755
1.8394800/+02	1.0903442/+01	1204	1650	1756
1.8389600/+02	1.0903725/+01	1205	1651	1757
1.8374000/+02	1.0904574/+01	1206	1652	1758
1.8361000/+02	1.0905281/+01	1207	1653	1759
1.8290000/+02	1.0909156/+01	1208	1654	1760
1.8280000/+02	1.0909703/+01		1655	1761
1.8270000/+02	1.0910250/+01	1209	1656	1762
1.8264800/+02	1.0910535/+01		1657	1763
1.8250000/+02	1.0911345/+01	1210	1658	1764
1.8080000/+02	1.0920704/+01		1659	1765
1.8030000/+02	1.0923473/+01	1211	1660	1766
1.8010000/+02	1.0924583/+01	1212	1661	1767
1.8000000/+02	1.0925139/+01	1213	1662	1768
1.7979000/+02	1.0926306/+01		1663	1769
1.7939000/+02	1.0928533/+01	1214	1664	1770
1.7926000/+02	1.0929258/+01	1215	1665	1771
1.7910400/+02	1.0930129/+01	1216	1666	1772
1.7905200/+02	1.0930419/+01	1217	1667	1773
1.7903900/+02	1.0930492/+01	1218	1668	1774
1.7902600/+02	1.0930564/+01	1219	1669	1775
1.7901950/+02	1.0930601/+01	1220	1670	1776
1.7901300/+02	1.0930637/+01	1221	1671	1777
1.7900000/+02	1.0930710/+01	1222	1672	1778
1.7898700/+02	1.0930782/+01	1223	1673	1779
1.7898050/+02	1.0930818/+01	1224	1674	1780
1.7897400/+02	1.0930855/+01	1225	1675	1781
1.7896100/+02	1.0930927/+01	1226	1676	1782
1.7894800/+02	1.0931000/+01	1227	1677	1783
1.7889600/+02	1.0931291/+01	1228	1678	1784
1.7886000/+02	1.0931492/+01		1679	1785
1.7874000/+02	1.0932163/+01	1229	1680	1786
1.7861000/+02	1.0932891/+01	1230	1681	1787
1.7850000/+02	1.0933507/+01	1231	1682	1788
1.7850000/+02	1.0933507/+01	1232	1683	1789
1.7845000/+02	1.0933787/+01		1684	1790
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1.7774400/+02	1.0937751/+01		1686	1792
1.7770000/+02	1.0937999/+01	1234	1687	1793
1.7737200/+02	1.0939846/+01		1688	1794
1.7727900/+02	1.0940371/+01		1689	1795
1.7718600/+02	1.0940895/+01		1690	1796
1.7713950/+02	1.0941158/+01		1691	1797
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1.7493100/+02	1.0953704/+01	1716	1823
1.7489650/+02	1.0953901/+01	1717	1824
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1.7215300/+02	1.0969712/+01		1835
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1.7184700/+02	1.0971491/+01		1843
1.7179600/+02	1.0971788/+01		1844
1.7159200/+02	1.0972976/+01		1845
1.7155000/+02	1.0973221/+01	1724	1846
1.7100000/+02	1.0976432/+01	1240 1725	1847
1.7096000/+02	1.0976549/+01		1848
1.7068000/+02	1.0978305/+01	1726	1849
1.7047000/+02	1.0979536/+01		1850

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1.6975000/+02	1.0983769/+01	1243	1729	1853
1.6785000/+02	1.0995025/+01		1730	1854
1.6770000/+02	1.0995919/+01		1731	1855
1.6730000/+02	1.0998307/+01		1732	1856
1.6725000/+02	1.0998606/+01	1244	1733	1857
1.6701701/+02	1.1000000/+01	1245	1734	1858
1.6700000/+02	1.1000102/+01	1246	1735	1859
1.6690000/+02	1.1000701/+01			1860
1.6650000/+02	1.1003100/+01			1861
1.6637500/+02	1.1003851/+01	1247	1736	1862
1.6625000/+02	1.1004603/+01	1248	1737	1863
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1.6610000/+02	1.1005505/+01	1249	1739	1865
1.6605000/+02	1.1005806/+01	1250	1740	1866
1.6603750/+02	1.1005882/+01	1251	1741	1867
1.6602500/+02	1.1005957/+01	1252	1742	1868
1.6601875/+02	1.1005995/+01	1253	1743	1869
1.6601250/+02	1.1006032/+01	1254	1744	1870
1.6600000/+02	1.1006108/+01	1255	1745	1871
1.6598750/+02	1.1006183/+01	1256	1746	1872
1.6598125/+02	1.1006221/+01	1257	1747	1873
1.6597500/+02	1.1006258/+01	1258	1748	1874
1.6596250/+02	1.1006334/+01	1259	1749	1875
1.6590000/+02	1.1006710/+01	1260	1750	1876
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1.6562500/+02	1.1008369/+01	1262	1752	1878
1.6500000/+02	1.1012150/+01	1263	1753	1879
1.6475000/+02	1.1013666/+01	1264	1754	1880
1.6473600/+02	1.1013751/+01		1755	1881
1.6465000/+02	1.1014273/+01		1756	1882
1.6414000/+02	1.1017376/+01		1757	1883
1.6309440/+02	1.1023766/+01		1758	1884
1.6254720/+02	1.1027127/+01		1759	1885
1.6241040/+02	1.1027969/+01		1760	1886
1.6227360/+02	1.1028812/+01		1761	1887
1.6225000/+02	1.1028957/+01	1265	1762	1888
1.6220520/+02	1.1029233/+01		1763	1889
1.6213680/+02	1.1029655/+01		1764	1890
1.6200000/+02	1.1030499/+01		1765	1891
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1.6180000/+02	1.1031734/+01		1767	1893
1.6179480/+02	1.1031767/+01		1768	1894
1.6176000/+02	1.1031982/+01		1769	1895
1.6175000/+02	1.1032044/+01			1896
1.6172640/+02	1.1032189/+01		1770	1897
1.6158960/+02	1.1033036/+01		1771	1898
1.6145280/+02	1.1033882/+01		1772	1899
1.6090560/+02	1.1037278/+01		1773	1900

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1.5890400/+02	1.1049795/+01		1777	1904
1.5850000/+02,	1.1052341/+01	1268	1778	1905
1.5795200/+02	1.1055804/+01		1779	1906
1.5790000/+02	1.1056134/+01	1269	1780	1907
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1.5700000/+02	1.1061850/+01		1786	1913
1.5676200/+02	1.1063367/+01		1787	1914
1.5670000/+02	1.1063762/+01			1915
1.5664300/+02	1.1064126/+01		1788	1916
1.5652400/+02	1.1064886/+01		1789	1917
1.5628600/+02	1.1066408/+01		1790	1918
1.5620000/+02	1.1066958/+01		1791	1919
1.5604800/+02	1.1067932/+01		1792	1920
1.5560000/+02	1.1070807/+01		1793	1921
1.5550000/+02,	1.1071450/+01	1270	1794	1922
1.5530000/+02	1.1072737/+01	1271	1795	1923
1.5509600/+02	1.1074051/+01		1796	1924
1.5439000/+02	1.1078613/+01	1272	1797	1925
1.5426000/+02	1.1079456/+01	1273	1798	1926
1.5410400/+02	1.1080468/+01	1274	1799	1927
1.5405200/+02	1.1080805/+01	1275	1800	1928
1.5403900/+02	1.1080890/+01	1276	1801	1929
1.5402600/+02	1.1080974/+01	1277	1802	1930
1.5401950/+02	1.1081016/+01	1278	1803	1931
1.5401300/+02	1.1081058/+01	1279	1804	1932
1.5400000/+02	1.1081143/+01	1280	1805	1933
1.5398700/+02	1.1081227/+01	1281	1806	1934
1.5398050/+02	1.1081269/+01	1282	1807	1935
1.5397400/+02	1.1081312/+01	1283	1808	1936
1.5396100/+02	1.1081396/+01	1284	1809	1937
1.5394800/+02	1.1081481/+01	1285	1810	1938
1.5389600/+02	1.1081818/+01	1286	1811	1939
1.5374000/+02	1.1082833/+01	1287	1812	1940
1.5361000/+02	1.1083678/+01	1288	1813	1941
1.5350000/+02,	1.1084395/+01	1289	1814	1942
1.5310000/+02	1.1087004/+01		1815	1943
1.5270000/+02	1.1089620/+01	1290	1816	1944
1.5250000/+02,	1.1090931/+01	1291	1817	1945
1.5224000/+02	1.1092637/+01		1818	1946
1.5200000/+02	1.1094215/+01			1947
1.5010000/+02	1.1106794/+01	1292	1819	1948
1.5000000/+02,	1.1107460/+01	1293	1820	1949
1.4990000/+02	1.1108127/+01	1294	1821	1950

1.4986000/+02	1.1108394/+01		1822	1951
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1.4910000/+02	1.1113478/+01		1824	1953
1.4832000/+02	1.1118723/+01		1825	1954
1.4813000/+02	1.1120005/+01		1826	1955
1.4750000/+02	1.1124267/+01	1296	1827	1956
1.4742000/+02	1.1124810/+01		1828	1957
1.4730000/+02	1.1125624/+01	1297	1829	1958
1.4725000/+02,	1.1125964/+01	1298	1830	1959
1.4701500/+02	1.1127561/+01			1960
1.4656800/+02	1.1130606/+01		1831	1961
1.4639000/+02	1.1131821/+01	1299	1832	1962
1.4637500/+02,	1.1131924/+01	1300	1833	1963
1.4628400/+02	1.1132545/+01		1834	1964
1.4626000/+02	1.1132710/+01	1301	1835	1965
1.4625000/+02,	1.1132778/+01	1302	1836	1966
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1.4614200/+02	1.1133517/+01		1838	1968
1.4610650/+02	1.1133760/+01		1839	1969
1.4610400/+02	1.1133777/+01	1303	1840	1970
1.4610000/+02,	1.1133804/+01	1304	1841	1971
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1.4605000/+02,	1.1134146/+01	1306	1844	1974
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1.4603750/+02,	1.1134232/+01	1308	1846	1976
1.4602600/+02	1.1134311/+01	1309	1847	1977
1.4602500/+02,	1.1134318/+01	1310	1848	1978
1.4601950/+02	1.1134355/+01	1311	1849	1979
1.4601875/+02,	1.1134360/+01	1312	1850	1980
1.4601300/+02	1.1134400/+01	1313	1851	1981
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1.4598750/+02,	1.1134575/+01	1316	1854	1984
1.4598700/+02	1.1134578/+01	1317	1855	1985
1.4598125/+02,	1.1134617/+01	1318	1856	1986
1.4598050/+02	1.1134623/+01	1319	1857	1987
1.4597500/+02,	1.1134660/+01	1320	1858	1988
1.4597400/+02	1.1134667/+01	1321	1859	1989
1.4596250/+02,	1.1134746/+01	1322	1860	1990
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1.4595000/+02,	1.1134831/+01	1324	1862	1992
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1.4592900/+02	1.1134975/+01		1864	1994
1.4590000/+02,	1.1135174/+01	1326	1865	1995
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1.4585800/+02	1.1135462/+01		1868	1998
1.4578700/+02	1.1135949/+01		1869	1999
1.4575000/+02,	1.1136203/+01	1328	1870	2000

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1.4458000/+02	1.1144263/+01		1879	2009
1.4390000/+02	1.1148977/+01		1880	2010
1.4387000/+02	1.1149185/+01		1881	2011
1.4380000/+02	1.1149672/+01		1882	2012
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1.4350000/+02	1.1151761/+01	1335	1884	2014
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1.4210000/+02	1.1161565/+01	1337	1886	2016
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1.4050000/+02	1.1172888/+01	1339	1889	2019
1.4010000/+02	1.1175739/+01		1890	2020
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1.3651600/+02	1.1201654/+01		1902	2034
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1.3589680/+02	1.1206200/+01		1915	2047
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1.3550000/+02	1.1209124/+01	1346	1917	2050

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1.3500000/+02	1.1212821/+01	1347	1921	2055
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1.3343000/+02	1.1224518/+01		1933	2067
1.3342000/+02	1.1224594/+01		1934	2068
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1.3326000/+02	1.1225794/+01	1354	1937	2071
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1.3305200/+02	1.1227356/+01	1358	1942	2076
1.3304350/+02	1.1227419/+01	1359	1943	2077
1.3303900/+02	1.1227453/+01	1360	1944	2078
1.3302900/+02	1.1227528/+01	1361	1945	2079
1.3302600/+02	1.1227551/+01	1362	1946	2080
1.3302175/+02	1.1227583/+01	1363	1947	2081
1.3301950/+02	1.1227600/+01	1364	1948	2082
1.3301450/+02	1.1227638/+01	1365	1949	2083
1.3301300/+02	1.1227649/+01	1366	1950	2084
1.3300000/+02	1.1227746/+01	1367	1951	2085
1.3300000/+02	1.1227746/+01	1368	1952	2086
1.3300000/+02	1.1227746/+01	1369	1953	2087
1.3298700/+02	1.1227844/+01	1370	1954	2088
1.3298550/+02	1.1227855/+01	1371	1955	2089
1.3298050/+02	1.1227893/+01	1372	1956	2090
1.3297825/+02	1.1227910/+01	1373	1957	2091
1.3297400/+02	1.1227942/+01	1374	1958	2092
1.3297100/+02	1.1227964/+01	1375	1959	2093
1.3297000/+02	1.1227972/+01		1960	2094
1.3296100/+02	1.1228040/+01	1376	1961	2095
1.3295650/+02	1.1228074/+01	1377	1962	2096
1.3294800/+02	1.1228138/+01	1378	1963	2097
1.3294200/+02	1.1228183/+01	1379	1964	2098
1.3289600/+02	1.1228529/+01	1380	1965	2099
1.3288400/+02	1.1228619/+01	1381	1966	2100

1.3285500/+02	1.1228837/+01		1967	2101
1.3274000/+02	1.1229703/+01	1382	1968	2102
1.3271000/+02	1.1229929/+01	1383	1969	2103
1.3261000/+02	1.1230683/+01	1384	1970	2104
1.3260000/+02	1.1230758/+01		1971	2105
1.3256500/+02	1.1231022/+01	1385	1972	2106
1.3251000/+02	1.1231437/+01		1973	2107
1.3250000/+02,	1.1231513/+01	1386	1974	2108
1.3228000/+02	1.1233175/+01		1975	2109
1.3220000/+02	1.1233780/+01			2110
1.3200000/+02	1.1235294/+01		1976	2111
1.3180000/+02	1.1236810/+01	1387	1977	2112
1.3170000/+02	1.1237569/+01	1388	1978	2113
1.3155000/+02	1.1238708/+01	1389	1979	2114
1.3136000/+02	1.1240154/+01		1980	2115
1.3066000/+02	1.1245497/+01			2116
1.3044000/+02	1.1247182/+01			2117
1.3035000/+02	1.1247872/+01	1390	1981	2118
1.3017600/+02	1.1249208/+01			2119
1.3008800/+02	1.1249884/+01			2120
1.3006600/+02	1.1250054/+01			2121
1.3004400/+02	1.1250223/+01			2122
1.3003300/+02	1.1250307/+01			2123
1.3002200/+02	1.1250392/+01			2124
1.3000000/+02,	1.1250561/+01	1391	1982	2125
1.2997800/+02	1.1250730/+01			2126
1.2996700/+02	1.1250815/+01			2127
1.2995600/+02	1.1250900/+01			2128
1.2993400/+02	1.1251069/+01			2129
1.2991200/+02	1.1251238/+01			2130
1.2982400/+02	1.1251916/+01			2131
1.2956000/+02	1.1253951/+01			2132
1.2950000/+02,	1.1254415/+01	1392	1983	2133
1.2934000/+02	1.1255651/+01			2134
1.2910000/+02	1.1257508/+01	1393	1984	2135
1.2905000/+02	1.1257896/+01		1985	2136
1.2865000/+02	1.1261000/+01	1394	1986	2137
1.2860000/+02	1.1261389/+01		1987	2138
1.2826000/+02	1.1264036/+01		1988	2139
1.2780000/+02	1.1267629/+01			2140
1.2757500/+02	1.1269391/+01		1989	2141
1.2745000/+02	1.1270371/+01	1395	1990	2142
1.2650000/+02,	1.1277853/+01	1396	1991	2143
1.2643500/+02	1.1278367/+01	1397	1992	2144
1.2630000/+02	1.1279435/+01		1993	2145
1.2629000/+02	1.1279515/+01	1398	1994	2146
1.2611600/+02	1.1280893/+01	1399	1995	2147
1.2610000/+02	1.1281020/+01		1996	2148
1.2605800/+02	1.1281353/+01	1400	1997	2149
1.2604350/+02	1.1281468/+01	1401	1998	2150

1.2602900/+02	1.1281583/+01	1402	1999	2151
1.2602175/+02	1.1281641/+01	1403	2000	2152
1.2601450/+02	1.1281698/+01	1404	2001	2153
1.2600000/+02	1.1281814/+01	1405	2002	2154
1.2598550/+02	1.1281929/+01	1406	2003	2155
1.2597825/+02	1.1281986/+01	1407	2004	2156
1.2597500/+02	1.1282012/+01			2157
1.2597100/+02	1.1282044/+01	1408	2005	2158
1.2595650/+02	1.1282159/+01	1409	2006	2159
1.2594200/+02	1.1282274/+01	1410	2007	2160
1.2588400/+02	1.1282735/+01	1411	2008	2161
1.2571000/+02	1.1284118/+01	1412	2009	2162
1.2556500/+02	1.1285272/+01	1413	2010	2163
1.2535000/+02	1.1286986/+01	1414	2011	2164
1.2500000/+02	1.1289782/+01	1415	2012	2165
1.2470000/+02	1.1292185/+01		2013	2166
1.2465000/+02	1.1292586/+01			2167
1.2455000/+02	1.1293388/+01	1416	2014	2168
1.2392500/+02	1.1298419/+01		2015	2169
1.2340000/+02	1.1302664/+01			2170
1.2315000/+02	1.1304692/+01		2016	2171
1.2306000/+02	1.1305423/+01			2172
1.2253000/+02	1.1309740/+01			2173
1.2250000/+02	1.1309984/+01	1417	2017	2174
1.2245000/+02	1.1310393/+01	1418	2018	2175
1.2239750/+02	1.1310822/+01			2176
1.2226500/+02	1.1311905/+01			2177
1.2219875/+02	1.1312447/+01			2178
1.2213250/+02	1.1312989/+01			2179
1.2208500/+02	1.1313378/+01		2019	2180
1.2200000/+02	1.1314074/+01			2181
1.2186750/+02	1.1315161/+01			2182
1.2180125/+02	1.1315705/+01			2183
1.2173500/+02	1.1316249/+01			2184
1.2165000/+02	1.1316947/+01	1419	2020	2185
1.2160250/+02	1.1317338/+01			2186
1.2147000/+02	1.1318428/+01			2187
1.2143500/+02	1.1318716/+01	1420	2021	2188
1.2129000/+02	1.1319911/+01	1421	2022	2189
1.2120000/+02	1.1320653/+01			2190
1.2111600/+02	1.1321347/+01	1422	2023	2191
1.2105800/+02	1.1321826/+01	1423	2024	2192
1.2104350/+02	1.1321946/+01	1424	2025	2193
1.2102900/+02	1.1322065/+01	1425	2026	2194
1.2102175/+02	1.1322125/+01	1426	2027	2195
1.2101450/+02	1.1322185/+01	1427	2028	2196
1.2100000/+02	1.1322305/+01	1428	2029	2197
1.2098550/+02	1.1322425/+01	1429	2030	2198
1.2097825/+02	1.1322485/+01	1430	2031	2199
1.2097100/+02	1.1322545/+01	1431	2032	2200

1.2096000/+02	1.1322636/+01		2033	2201
1.2095650/+02	1.1322664/+01	1432	2034	2202
1.2094200/+02	1.1322784/+01	1433	2035	2203
1.2094000/+02	1.1322801/+01			2204
1.2088400/+02	1.1323264/+01	1434	2036	2205
1.2075000/+02,	1.1324373/+01	1435	2037	2206
1.2071000/+02	1.1324705/+01	1436	2038	2207
1.2056500/+02	1.1325907/+01	1437	2039	2208
1.2039000/+02	1.1327359/+01		2040	2209
1.2020000/+02	1.1328939/+01		2041	2210
1.2000000/+02,	1.1330604/+01	1438	2042	2211
1.1955000/+02	1.1334361/+01	1439	2043	2212
1.1935000/+02	1.1336035/+01			2213
1.1900000/+02	1.1338972/+01	1440	2044	2214
1.1850000/+02	1.1343182/+01	1441	2045	2215
1.1835600/+02	1.1344399/+01		2046	2216
1.1825000/+02,	1.1345295/+01	1442	2047	2217
1.1802500/+02	1.1347199/+01			2218
1.1767800/+02	1.1350143/+01		2048	2219
1.1750850/+02	1.1351585/+01		2049	2220
1.1750000/+02,	1.1351657/+01	1443	2050	2221
1.1737500/+02,	1.1352722/+01	1444	2051	2222
1.1733900/+02	1.1353028/+01		2052	2223
1.1725425/+02	1.1353751/+01		2053	2224
1.1725000/+02,	1.1353787/+01	1445	2054	2225
1.1716950/+02	1.1354474/+01		2055	2226
1.1710000/+02,	1.1355067/+01	1446	2056	2227
1.1705000/+02,	1.1355494/+01	1447	2057	2228
1.1703750/+02,	1.1355601/+01	1448	2058	2229
1.1702500/+02,	1.1355708/+01	1449	2059	2230
1.1701875/+02,	1.1355761/+01	1450	2060	2231
1.1701250/+02,	1.1355815/+01	1451	2061	2232
1.1700000/+02	1.1355922/+01	1452	2062	2233
1.1698750/+02,	1.1356028/+01	1453	2063	2234
1.1698125/+02,	1.1356082/+01	1454	2064	2235
1.1697500/+02,	1.1356135/+01	1455	2065	2236
1.1696250/+02,	1.1356242/+01	1456	2066	2237
1.1695000/+02,	1.1356349/+01	1457	2067	2238
1.1690000/+02,	1.1356777/+01	1458	2068	2239
1.1683050/+02	1.1357371/+01		2069	2240
1.1675000/+02,	1.1358061/+01	1459	2070	2241
1.1674575/+02	1.1358097/+01		2071	2242
1.1666100/+02	1.1358823/+01		2072	2243
1.1665000/+02	1.1358918/+01	1460	2073	2244
1.1662500/+02,	1.1359132/+01	1461	2074	2245
1.1649150/+02	1.1360277/+01		2075	2246
1.1640000/+02	1.1361063/+01			2247
1.1632200/+02	1.1361733/+01		2076	2248
1.1590000/+02	1.1365368/+01	1462	2077	2249
1.1575000/+02,	1.1366663/+01	1463	2078	2250

1.1564400/+02	1.1367579/+01		2079	2251
1.1550000/+02	1.1368825/+01	1464	2080	2252
1.1500000/+02	1.1373163/+01	1465	2081	2253
1.1472000/+02	1.1375601/+01			2254
1.1448000/+02	1.1377695/+01			2255
1.1419200/+02	1.1380214/+01			2256
1.1409600/+02	1.1381055/+01			2257
1.1407200/+02	1.1381266/+01			2258
1.1404800/+02	1.1381476/+01			2259
1.1403600/+02	1.1381581/+01			2260
1.1402400/+02	1.1381687/+01			2261
1.1400000/+02	1.1381897/+01			2262
1.1397600/+02	1.1382108/+01			2263
1.1396400/+02	1.1382213/+01			2264
1.1395200/+02	1.1382318/+01			2265
1.1392800/+02	1.1382529/+01			2266
1.1390400/+02	1.1382740/+01			2267
1.1380800/+02	1.1383583/+01			2268
1.1375000/+02	1.1384092/+01	1466	2082	2269
1.1361000/+02	1.1385324/+01		2083	2270
1.1352000/+02	1.1386117/+01			2271
1.1330000/+02	1.1388056/+01	1467	2084	2272
1.1328000/+02	1.1388233/+01			2273
1.1325000/+02	1.1388498/+01	1468	2085	2274
1.1280000/+02	1.1392479/+01		2086	2275
1.1250000/+02	1.1395142/+01	1469	2087	2276
1.1239000/+02	1.1396120/+01	1470	2088	2277
1.1226000/+02	1.1397278/+01	1471	2089	2278
1.1210400/+02	1.1398668/+01	1472	2090	2279
1.1205200/+02	1.1399133/+01	1473	2091	2280
1.1203900/+02	1.1399249/+01	1474	2092	2281
1.1202600/+02	1.1399364/+01	1475	2093	2282
1.1201950/+02	1.1399423/+01	1476	2094	2283
1.1201300/+02	1.1399481/+01	1477	2095	2284
1.1200000/+02	1.1399597/+01	1478	2096	2285
1.1198700/+02	1.1399713/+01	1479	2097	2286
1.1198050/+02	1.1399771/+01	1480	2098	2287
1.1197400/+02	1.1399829/+01	1481	2099	2288
1.1196100/+02	1.1399945/+01	1482	2100	2289
1.1194800/+02	1.1400061/+01	1483	2101	2290
1.1191500/+02	1.1400356/+01		2102	2291
1.1189600/+02	1.1400526/+01	1484	2103	2292
1.1174000/+02	1.1401921/+01	1485	2104	2293
1.1161000/+02	1.1403085/+01	1486	2105	2294
1.1160000/+02	1.1403174/+01			2295
1.1150000/+02	1.1404071/+01	1487	2106	2296
1.1100000/+02	1.1408565/+01	1488	2107	2297
1.1090000/+02	1.1409467/+01	1489	2108	2298
1.1070000/+02	1.1411272/+01	1490	2109	2299
1.1050000/+02	1.1413080/+01	1491	2110	2300

1.1037500/+02	1.1414212/+01	1492	2111	2301
1.1025000/+02	1.1415345/+01	1493	2112	2302
1.1020000/+02	1.1415799/+01		2113	2303
1.1018750/+02	1.1415912/+01	1494	2114	2304
1.1012500/+02	1.1416479/+01	1495	2115	2305
1.1000000/+02	1.1417615/+01	1496	2116	2306
1.0987500/+02	1.1418752/+01	1497	2117	2307
1.0981250/+02	1.1419321/+01	1498	2118	2308
1.0975000/+02	1.1419891/+01	1499	2119	2309
1.0975000/+02	1.1419891/+01	1500	2120	2310
1.0962500/+02	1.1421030/+01	1501	2121	2311
1.0950000/+02	1.1422171/+01	1502	2122	2312
1.0900000/+02	1.1426748/+01	1503	2123	2313
1.0875000/+02	1.1429044/+01			2314
1.0850000/+02	1.1431345/+01	1504	2124	2315
1.0840000/+02	1.1432267/+01		2125	2316
1.0830000/+02	1.1433190/+01	1505	2126	2317
1.0810000/+02	1.1435039/+01	1506	2127	2318
1.0800000/+02	1.1435964/+01	1507	2128	2319
1.0750000/+02	1.1440604/+01	1508	2129	2320
1.0739000/+02	1.1441628/+01	1509	2130	2321
1.0726000/+02	1.1442840/+01	1510	2131	2322
1.0710400/+02	1.1444295/+01	1511	2132	2323
1.0705200/+02	1.1444781/+01	1512	2133	2324
1.0703900/+02	1.1444902/+01	1513	2134	2325
1.0702600/+02	1.1445023/+01	1514	2135	2326
1.0701950/+02	1.1445084/+01	1515	2136	2327
1.0701300/+02	1.1445145/+01	1516	2137	2328
1.0700000/+02	1.1445267/+01	1517	2138	2329
1.0698700/+02	1.1445388/+01	1518	2139	2330
1.0698050/+02	1.1445449/+01	1519	2140	2331
1.0697400/+02	1.1445509/+01	1520	2141	2332
1.0696100/+02	1.1445631/+01	1521	2142	2333
1.0694800/+02	1.1445753/+01	1522	2143	2334
1.0689600/+02	1.1446239/+01	1523	2144	2335
1.0680000/+02	1.1447138/+01	1524	2145	2336
1.0675000/+02	1.1447606/+01	1525	2146	2337
1.0674000/+02	1.1447699/+01	1526	2147	2338
1.0661000/+02	1.1448918/+01	1527	2148	2339
1.0650000/+02	1.1449950/+01	1528	2149	2340
1.0637500/+02	1.1451125/+01	1529	2150	2341
1.0625000/+02	1.1452301/+01	1530	2151	2342
1.0618750/+02	1.1452889/+01	1531	2152	2343
1.0612500/+02	1.1453478/+01	1532	2153	2344
1.0600000/+02	1.1454656/+01	1533	2154	2345
1.0587500/+02	1.1455836/+01	1534	2155	2346
1.0581250/+02	1.1456427/+01	1535	2156	2347
1.0575000/+02	1.1457018/+01	1536	2157	2348
1.0570000/+02	1.1457490/+01	1537	2158	2349
1.0562500/+02	1.1458200/+01	1538	2159	2350

1.0550000/+02	1.1459384/+01	1539	2160	2351
1.0524000/+02	1.1461852/+01		2161	2352
1.0500000/+02	1.1464135/+01	1540	2162	2353
1.0450000/+02	1.1468908/+01	1541	2163	2354
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1.0416000/+02	1.1472167/+01		2165	2356
1.0350000/+02	1.1478524/+01	1543	2166	2357
1.0337500/+02	1.1479732/+01	1544	2167	2358
1.0325000/+02	1.1480942/+01	1545	2168	2359
1.0310000/+02	1.1482396/+01	1546	2169	2360
1.0305000/+02	1.1482881/+01	1547	2170	2361
1.0303750/+02	1.1483002/+01	1548	2171	2362
1.0302500/+02	1.1483124/+01	1549	2172	2363
1.0301875/+02	1.1483184/+01	1550	2173	2364
1.0301250/+02	1.1483245/+01	1551	2174	2365
1.0300000/+02	1.1483366/+01	1552	2175	2366
1.0298750/+02	1.1483488/+01	1553	2176	2367
1.0298125/+02	1.1483548/+01	1554	2177	2368
1.0297500/+02	1.1483609/+01	1555	2178	2369
1.0296250/+02	1.1483731/+01	1556	2179	2370
1.0295000/+02	1.1483852/+01	1557	2180	2371
1.0290000/+02	1.1484338/+01	1558	2181	2372
1.0286400/+02	1.1484688/+01		2182	2373
1.0275000/+02	1.1485797/+01	1559	2183	2374
1.0262500/+02	1.1487014/+01	1560	2184	2375
1.0250000/+02	1.1488233/+01	1561	2185	2376
1.0243200/+02	1.1488896/+01		2186	2377
1.0232400/+02	1.1489951/+01		2187	2378
1.0225000/+02	1.1490675/+01	1562	2188	2379
1.0221600/+02	1.1491007/+01		2189	2380
1.0216200/+02	1.1491535/+01		2190	2381
1.0210800/+02	1.1492064/+01		2191	2382
1.0200000/+02	1.1493123/+01	1563	2192	2383
1.0189200/+02	1.1494182/+01		2193	2384
1.0183800/+02	1.1494712/+01		2194	2385
1.0178400/+02	1.1495242/+01		2195	2386
1.0178000/+02	1.1495282/+01			2387
1.0175000/+02	1.1495577/+01	1564	2196	2388
1.0167600/+02	1.1496304/+01		2197	2389
1.0156800/+02	1.1497367/+01		2198	2390
1.0150000/+02	1.1498037/+01	1565	2199	2391
1.0133000/+02	1.1499713/+01			2392
1.0123000/+02	1.1500700/+01			2393
1.0113600/+02	1.1501629/+01		2200	2394
1.0035500/+02	1.1509382/+01			2395
1.0005000/+02	1.1512425/+01		2201	2396
1.0000000/+02	1.1512925/+01	1566	2202	2397
9.9840000/+01	1.1514527/+01		2203	2398
9.9250000/+01	1.1520453/+01	1567	2204	2399
9.9232999/+01	1.1520625/+01			2400

9.9222999/+01	1.1520725/+01			2401
9.9116499/+01	1.1521799/+01			2402
9.9111500/+01	1.1521850/+01			2403
9.9029999/+01	1.1522672/+01			2404
9.9000000/+01	1.1522976/+01	1568	2205	2405
9.8929999/+01	1.1523683/+01			2406
9.8899999/+01	1.1523986/+01	1569	2206	2407
9.8888500/+01	1.1524103/+01			2408
9.8883500/+01	1.1524153/+01			2409
9.8777000/+01	1.1525231/+01			2410
9.8766999/+01	1.1525332/+01			2411
9.8759999/+01	1.1525403/+01		2207	2412
9.8250000/+01	1.1530580/+01	1570	2208	2413
9.8049998/+01	1.1532618/+01	1571	2209	2414
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9.7500000/+01	1.1538243/+01	1573	2211	2416
9.6999999/+01	1.1543384/+01	1574	2212	2417
9.6799998/+01	1.1545448/+01	1575	2213	2418
9.6770000/+01	1.1545758/+01			2419
9.6669999/+01	1.1546792/+01			2420
9.6299999/+01	1.1550627/+01	1576	2214	2421
9.5999999/+01	1.1553747/+01	1577	2215	2422
9.5402999/+01	1.1559985/+01			2423
9.5393000/+01	1.1560090/+01			2424
9.5389999/+01	1.1560122/+01	1578	2216	2425
9.5299999/+01	1.1561065/+01	1579	2217	2426
9.5259999/+01	1.1561486/+01	1580	2218	2427
9.5201499/+01	1.1562100/+01			2428
9.5196500/+01	1.1562152/+01			2429
9.5103998/+01	1.1563124/+01	1581	2219	2430
9.5051999/+01	1.1563671/+01	1582	2220	2431
9.5038999/+01	1.1563808/+01	1583	2221	2432
9.5025998/+01	1.1563945/+01	1584	2222	2433
9.5019499/+01	1.1564013/+01	1585	2223	2434
9.5012999/+01	1.1564082/+01	1586	2224	2435
9.5000000/+01	1.1564218/+01	1587	2225	2436
9.4987000/+01	1.1564355/+01	1588	2226	2437
9.4980500/+01	1.1564424/+01	1589	2227	2438
9.4974000/+01	1.1564492/+01	1590	2228	2439
9.4960999/+01	1.1564629/+01	1591	2229	2440
9.4948001/+01	1.1564766/+01	1592	2230	2441
9.4896001/+01	1.1565314/+01	1593	2231	2442
9.4803500/+01	1.1566289/+01			2443
9.4799999/+01	1.1566326/+01	1594	2232	2444
9.4798499/+01	1.1566342/+01			2445
9.4740000/+01	1.1566959/+01	1595	2233	2446
9.4674999/+01	1.1567646/+01	1596	2234	2447
9.4610000/+01	1.1568332/+01	1597	2235	2448
9.4607000/+01	1.1568364/+01			2449
9.4597000/+01	1.1568470/+01			2450

9.4549999/+01	1.1568967/+01	1598	2236	2451
9.4487499/+01	1.1569628/+01	1599	2237	2452
9.4424999/+01	1.1570289/+01	1600	2238	2453
9.4299998/+01	1.1571614/+01	1601	2239	2454
9.4174999/+01	1.1572941/+01	1602	2240	2455
9.4112499/+01	1.1573604/+01	1603	2241	2456
9.4049999/+01	1.1574269/+01	1604	2242	2457
9.4000000/+01	1.1574801/+01	1605	2243	2458
9.3924999/+01	1.1575599/+01	1606	2244	2459
9.3799999/+01	1.1576931/+01	1607	2245	2460
9.3750000/+01	1.1577464/+01	1608	2246	2461
9.3700000/+01	1.1577997/+01	1609	2247	2462
9.3600000/+01	1.1579065/+01	1610	2248	2463
9.3499999/+01	1.1580134/+01	1611	2249	2464
9.3299999/+01	1.1582275/+01	1612	2250	2465
9.3000000/+01	1.1585496/+01	1613	2251	2466
9.2900000/+01	1.1586572/+01	1614	2252	2467
9.1999999/+01	1.1596307/+01	1615	2253	2468
9.1969999/+01	1.1596633/+01			2469
9.1799998/+01	1.1598483/+01	1616	2254	2470
9.1599998/+01	1.1600664/+01		2255	2471
9.1349999/+01	1.1603397/+01	1617	2256	2472
9.1299998/+01	1.1603945/+01	1618	2257	2473
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9.1070000/+01	1.1606467/+01			2477
9.0999999/+01	1.1607236/+01	1621	2261	2478
9.0970000/+01	1.1607566/+01			2479
9.0646999/+01	1.1611122/+01			2480
9.0573499/+01	1.1611934/+01			2481
9.0549998/+01	1.1612193/+01	1622	2262	2482
9.0500000/+01	1.1612746/+01	1623	2263	2483
9.0426500/+01	1.1613558/+01			2484
9.0375000/+01	1.1614128/+01	1624	2264	2485
9.0353000/+01	1.1614371/+01			2486
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9.0050000/+01	1.1617730/+01	1628	2268	2490
9.0037500/+01	1.1617869/+01	1629	2269	2491
9.0025000/+01	1.1618008/+01	1630	2270	2492
9.0018750/+01	1.1618077/+01	1631	2271	2493
9.0012500/+01	1.1618147/+01	1632	2272	2494
9.0000000/+01	1.1618286/+01	1633	2273	2495
8.9987500/+01	1.1618425/+01	1634	2274	2496
8.9981250/+01	1.1618494/+01	1635	2275	2497
8.9975000/+01	1.1618564/+01	1636	2276	2498
8.9962500/+01	1.1618702/+01	1637	2277	2499
8.9950000/+01	1.1618841/+01	1638	2278	2500

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8.9750000/+01,	1.1621067/+01	1640	2280	2502
8.9625000/+01,	1.1622461/+01	1641	2281	2503
8.9399999/+01	1.1624975/+01			2504
8.9389999/+01	1.1625087/+01	1642	2282	2505
8.9259999/+01	1.1626542/+01	1643	2283	2506
8.9174998/+01	1.1627495/+01		2284	2507
8.9103999/+01	1.1628291/+01	1644	2285	2508
8.9051999/+01	1.1628875/+01	1645	2286	2509
8.9038999/+01	1.1629021/+01	1646	2287	2510
8.9030000/+01	1.1629122/+01			2511
8.9025998/+01	1.1629167/+01	1647	2288	2512
8.9019499/+01	1.1629240/+01	1648	2289	2513
8.9013000/+01	1.1629313/+01	1649	2290	2514
8.9000000/+01,	1.1629459/+01	1650	2291	2515
8.8987000/+01	1.1629605/+01	1651	2292	2516
8.8980500/+01	1.1629678/+01	1652	2293	2517
8.8974000/+01	1.1629751/+01	1653	2294	2518
8.8961000/+01	1.1629897/+01	1654	2295	2519
8.8948001/+01	1.1630043/+01	1655	2296	2520
8.8896000/+01	1.1630628/+01	1656	2297	2521
8.8750000/+01,	1.1632272/+01	1657	2298	2522
8.8740001/+01	1.1632385/+01	1658	2299	2523
8.8610001/+01	1.1633851/+01	1659	2300	2524
8.8449999/+01	1.1635658/+01	1660	2301	2525
8.8000000/+01,	1.1640759/+01	1661	2302	2526
8.7700000/+01	1.1644174/+01	1662	2303	2527
8.7434999/+01	1.1647200/+01	1663	2304	2528
8.7290000/+01	1.1648859/+01	1664	2305	2529
8.7115998/+01	1.1650855/+01	1665	2306	2530
8.7057999/+01	1.1651521/+01	1666	2307	2531
8.7043500/+01	1.1651687/+01	1667	2308	2532
8.7028999/+01	1.1651854/+01	1668	2309	2533
8.7021749/+01	1.1651937/+01	1669	2310	2534
8.7014499/+01	1.1652021/+01	1670	2311	2535
8.6999999/+01,	1.1652187/+01	1671	2312	2536
8.6985500/+01	1.1652354/+01	1672	2313	2537
8.6978250/+01	1.1652427/+01	1673	2314	2538
8.6971000/+01	1.1652521/+01	1674	2315	2539
8.6956500/+01	1.1652687/+01	1675	2316	2540
8.6942000/+01	1.1652854/+01	1676	2317	2541
8.6884000/+01	1.1653521/+01	1677	2318	2542
8.6710000/+01	1.1655526/+01	1678	2319	2543
8.6565000/+01	1.1657200/+01	1679	2320	2544
8.6499999/+01	1.1657951/+01	1680	2321	2545
8.6250000/+01,	1.1660845/+01	1681	2322	2546
8.5999999/+01,	1.1663748/+01	1682	2323	2547
8.5799998/+01	1.1666076/+01	1683	2324	2548
8.5599999/+01	1.1668410/+01		2325	2549
8.5549999/+01	1.1668994/+01	1684	2326	2550

8.5209999/+01	1.1672977/+01			2551
8.5100000/+01	1.1674268/+01	1685	2327	2552
8.5000000/+01	1.1675444/+01	1686	2328	2553
8.4850000/+01	1.1677210/+01	1687	2329	2554
8.4099998/+01	1.1686089/+01		2330	2555
8.4000000/+01	1.1687279/+01	1688	2331	2556
8.3670999/+01	1.1691203/+01			2557
8.3585500/+01	1.1692225/+01			2558
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8.3000000/+01	1.1699255/+01	1689	2332	2562
8.2650000/+01	1.1703480/+01	1690	2333	2563
8.2350000/+01	1.1707117/+01	1691	2334	2564
8.2250000/+01	1.1708332/+01			2565
8.2199998/+01	1.1708940/+01	1692	2335	2566
8.1999999/+01	1.1711376/+01	1693	2336	2567
8.1799998/+01	1.1713818/+01	1694	2337	2568
8.1790000/+01	1.1713940/+01			2569
8.1475000/+01	1.1717799/+01	1695	2338	2570
8.1350000/+01	1.1719335/+01	1696	2339	2571
8.1200000/+01	1.1721180/+01	1697	2340	2572
8.1150000/+01	1.1721796/+01	1698	2341	2573
8.1137500/+01	1.1721950/+01	1699	2342	2574
8.1125000/+01	1.1722104/+01	1700	2343	2575
8.1118750/+01	1.1722181/+01	1701	2344	2576
8.1112500/+01	1.1722258/+01	1702	2345	2577
8.1100000/+01	1.1722412/+01	1703	2346	2578
8.1087500/+01	1.1722566/+01	1704	2347	2579
8.1081250/+01	1.1722644/+01	1705	2348	2580
8.1075000/+01	1.1722721/+01	1706	2349	2581
8.1062500/+01	1.1722875/+01	1707	2350	2582
8.1050000/+01	1.1723029/+01	1708	2351	2583
8.0999999/+01	1.1723646/+01	1709	2352	2584
8.0850000/+01	1.1725500/+01	1710	2353	2585
8.0725000/+01	1.1727047/+01	1711	2354	2586
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8.0000000/+01	1.1736069/+01	1713	2356	2589
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7.9599998/+01	1.1741081/+01	1715	2358	2591
7.9500000/+01	1.1742338/+01	1716	2359	2592
7.9476999/+01	1.1742628/+01			2593
7.9438499/+01	1.1743112/+01			2594
7.9399999/+01	1.1743597/+01			2595
7.9361500/+01	1.1744082/+01			2596
7.9323000/+01	1.1744567/+01			2597
7.9000000/+01	1.1748648/+01	1717	2360	2598
7.8899999/+01	1.1749914/+01			2599
7.8689998/+01	1.1752579/+01	1718	2361	2600

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7.8559998/+01	1.1754233/+01	1719	2362	2602
7.8500000/+01,	1.1754997/+01	1720	2363	2603
7.8403998/+01	1.1756220/+01	1721	2364	2604
7.8351998/+01	1.1756884/+01	1722	2365	2605
7.8338999/+01	1.1757050/+01	1723	2366	2606
7.8325998/+01	1.1757216/+01	1724	2367	2607
7.8319499/+01	1.1757299/+01	1725	2368	2608
7.8312998/+01	1.1757382/+01	1726	2369	2609
7.8299999/+01	1.1757548/+01	1727	2370	2610
7.8286999/+01	1.1757714/+01	1728	2371	2611
7.8280499/+01	1.1757797/+01	1729	2372	2612
7.8274000/+01	1.1757880/+01	1730	2373	2613
7.8260999/+01	1.1758046/+01	1731	2374	2614
7.8248000/+01	1.1758212/+01	1732	2375	2615
7.8196000/+01	1.1758877/+01	1733	2376	2616
7.8040000/+01	1.1760874/+01	1734	2377	2617
7.8000000/+01,	1.1761387/+01	1735	2378	2618
7.7909999/+01	1.1762541/+01	1736	2379	2619
7.7599998/+01	1.1766528/+01			2620
7.7500000/+01,	1.1767817/+01	1737	2380	2621
7.7350000/+01,	1.1769755/+01	1738	2381	2622
7.7099999/+01	1.1772992/+01			2623
7.7012498/+01	1.1774128/+01		2382	2624
7.7000000/+01,	1.1774290/+01	1739	2383	2625
7.6500000/+01,	1.1730805/+01	1740	2384	2626
7.6349999/+01	1.1782767/+01	1741	2385	2627
7.6300000/+01,	1.1783422/+01	1742	2386	2628
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7.6109999/+01	1.1785916/+01			2630
7.6054999/+01	1.1786639/+01			2631
7.6000000/+01,	1.1787362/+01	1743	2387	2632
7.5945001/+01	1.1788086/+01			2633
7.5890000/+01	1.1788811/+01			2634
7.5500000/+01,	1.1793963/+01	1744	2388	2635
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7.5342999/+01	1.1796045/+01			2637
7.5299999/+01	1.1796615/+01			2638
7.5274999/+01	1.1796948/+01		2389	2639
7.5257000/+01	1.1797187/+01			2640
7.5214000/+01	1.1797758/+01			2641
7.5049999/+01	1.1799941/+01			2642
7.5000000/+01,	1.1800607/+01	1745	2390	2643
7.4969999/+01	1.1801007/+01			2644
7.4900000/+01	1.1801942/+01			2645
7.4500000/+01,	1.1807296/+01	1746	2391	2646
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7.4399999/+01	1.1808640/+01	1747	2392	2648
7.4099999/+01	1.1812680/+01		2393	2649
7.4000000/+01,	1.1814030/+01	1748	2394	2650

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7.3189998/+01	1.1825037/+01		2397	2655
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7.3000000/+01,	1.1827636/+01	1751	2398	2657
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7.2500000/+01,	1.1834509/+01	1752	2400	2661
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7.2434999/+01	1.1835406/+01	1753	2402	2663
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7.2149999/+01	1.1839348/+01			2667
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7.2115999/+01	1.1839820/+01	1755	2406	2669
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7.2057999/+01	1.1840624/+01	1756	2408	2671
7.2043500/+01	1.1840826/+01	1757	2409	2672
7.2028999/+01	1.1841027/+01	1758	2410	2673
7.2021749/+01	1.1841127/+01	1759	2411	2674
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7.1978250/+01	1.1841732/+01	1763	2415	2678
7.1973749/+01	1.1841794/+01		2416	2679
7.1971000/+01	1.1841832/+01	1764	2417	2680
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6.9618000/+01	1.1875072/+01			2716
6.9600000/+01	1.1875331/+01		2435	2717
6.9577000/+01	1.1875661/+01			2718
6.9536000/+01	1.1876251/+01			2719
6.9500000/+01,	1.1876769/+01	1775	2436	2720
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6.9250000/+01	1.1880372/+01			2723
6.9110000/+01	1.1882396/+01			2724
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6.8880000/+01	1.1885730/+01			2726
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6.8470000/+01	1.1891700/+01			2729
6.8325000/+01	1.1893820/+01		2441	2730
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6.8199999/+01	1.1895651/+01			2733
6.8154500/+01	1.1896318/+01			2734
6.8109000/+01	1.1896986/+01			2735
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6.7650000/+01	1.1903748/+01	1781	2444	2738
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6.6649998/+01	1.1918641/+01	1785	2448	2744
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6.6340000/+01,	1.1923302/+01	1789	2454	2750

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6.6220000/+01,	1.1925113/+01	1800	2465	2761
6.6180999/+01	1.1925702/+01		2466	2762
6.6150000/+01	1.1926171/+01		2467	2763
6.6100000/+01,	1.1926927/+01	1801	2468	2764
6.6029999/+01	1.1927986/+01			2765
6.6000000/+01,	1.1928441/+01	1802	2469	2766
6.5892400/+01	1.1930072/+01		2470	2767
6.5796199/+01	1.1931533/+01		2471	2768
6.5772149/+01	1.1931899/+01		2472	2769
6.5748099/+01	1.1932265/+01		2473	2770
6.5736074/+01	1.1932448/+01		2474	2771
6.5724049/+01	1.1932631/+01		2475	2772
6.5692999/+01	1.1932997/+01		2476	2773
6.5675950/+01	1.1933363/+01		2477	2774
6.5662925/+01	1.1933546/+01		2478	2775
6.5651900/+01	1.1933729/+01		2479	2776
6.5627850/+01	1.1934095/+01		2480	2777
6.5603800/+01	1.1934462/+01		2481	2778
6.5600000/+01	1.1934520/+01			2779
6.5549999/+01	1.1935282/+01			2780
6.5507600/+01	1.1935929/+01		2482	2781
6.5500000/+01,	1.1936045/+01	1803	2483	2782
6.5300000/+01,	1.1939103/+01	1804	2484	2783
6.5218999/+01	1.1940345/+01		2485	2784
6.5184999/+01	1.1940866/+01			2785
6.5000000/+01,	1.1943708/+01	1805	2486	2786
6.4978500/+01	1.1944039/+01		2487	2787
6.4922998/+01	1.1944894/+01			2788
6.4861498/+01	1.1945841/+01			2789
6.4799999/+01	1.1946790/+01			2790
6.4738500/+01	1.1947739/+01			2791
6.4677000/+01	1.1948690/+01			2792
6.4500000/+01,	1.1951430/+01	1806	2488	2793
6.4489999/+01	1.1951585/+01			2794
6.4464999/+01	1.1951973/+01			2795
6.4299999/+01	1.1954536/+01		2489	2796
6.4249999/+01	1.1955314/+01		2490	2797
6.4200000/+01	1.1956092/+01		2491	2798
6.4000000/+01,	1.1959212/+01	1807	2492	2799
6.3569999/+01	1.1965954/+01			2800

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6.3439999/+01	1.1968001/+01			2802
6.3300000/+01,	1.1970210/+01	1809	2494	2803
6.3295000/+01	1.1970289/+01		2495	2804
6.3199999/+01	1.1971791/+01			2805
6.3000000/+01,	1.1974961/+01	1810	2496	2806
6.2799999/+01	1.1978140/+01		2497	2807
6.2500000/+01,	1.1982929/+01	1811	2498	2808
6.2399999/+01	1.1984530/+01	1812	2499	2809
6.2349999/+01	1.1985332/+01			2810
6.2210000/+01	1.1987580/+01			2811
6.2154999/+01	1.1988464/+01			2812
6.2100000/+01	1.1989350/+01			2813
6.2045000/+01	1.1990236/+01			2814
6.2000000/+01,	1.1990961/+01	1813	2500	2815
6.1990000/+01	1.1991122/+01			2816
6.1819999/+01	1.1993869/+01			2817
6.1599999/+01	1.1997434/+01		2501	2818
6.1500000/+01,	1.1999058/+01	1814	2502	2819
6.1442123/+01,	1.2000000/+01	1815	2503	2820
6.1299999/+01	1.2002316/+01			2821
6.1000000/+01,	1.2007222/+01	1816	2504	2822
6.0879999/+01	1.2009191/+01			2823
6.0500000/+01,	1.2015452/+01	1817	2505	2824
6.0000000/+01,	1.2023751/+01	1818	2506	2825
5.9984000/+01	1.2024018/+01			2826
5.9859999/+01	1.2026154/+01			2827
5.9829999/+01	1.2026588/+01			2828
5.9764999/+01	1.2027675/+01			2829
5.9702399/+01	1.2028723/+01			2830
5.9700000/+01	1.2028763/+01			2831
5.9651200/+01	1.2029581/+01			2832
5.9638399/+01	1.2029796/+01			2833
5.9635000/+01	1.2029853/+01			2834
5.9625599/+01	1.2030011/+01			2835
5.9619200/+01	1.2030118/+01			2836
5.9612799/+01	1.2030225/+01			2837
5.9600000/+01	1.2030440/+01			2838
5.9587200/+01	1.2030655/+01			2839
5.9580800/+01	1.2030762/+01			2840
5.9574400/+01	1.2030870/+01			2841
5.9570000/+01	1.2030943/+01			2842
5.9561600/+01	1.2031084/+01			2843
5.9548800/+01	1.2031299/+01			2844
5.9497600/+01	1.2032160/+01			2845
5.9399999/+01	1.2033801/+01	1819	2507	2846
5.9344000/+01	1.2034745/+01			2847
5.9216000/+01	1.2036904/+01			2848
5.9200000/+01,	1.2037174/+01	1820	2508	2849
5.9000000/+01,	1.2040558/+01	1821	2509	2850

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5.8899999/+01	1.2042254/+01		2510	2852
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5.8500000/+01,	1.2049069/+01	1822	2511	2854
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5.8400000/+01	1.2050780/+01			2856
5.8320000/+01	1.2052150/+01			2857
5.8094000/+01	1.2056033/+01			2858
5.8047000/+01	1.2056842/+01			2859
5.8000000/+01,	1.2057652/+01	1823	2513	2860
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5.7906000/+01	1.2059274/+01			2862
5.7600999/+01	1.2064556/+01			2863
5.7550499/+01	1.2065433/+01			2864
5.7500000/+01,	1.2066311/+01	1824	2514	2865
5.7449500/+01	1.2067189/+01			2866
5.7400000/+01	1.2068051/+01			2867
5.7399000/+01	1.2068069/+01			2868
5.7060000/+01	1.2073992/+01			2869
5.7034999/+01	1.2074430/+01			2870
5.7000000/+01,	1.2075044/+01	1825	2515	2871
5.6799999/+01	1.2078559/+01	1826	2516	2872
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5.5760000/+01	1.2097039/+01			2877
5.5509999/+01	1.2101532/+01			2878
5.5500000/+01,	1.2101713/+01	1829	2519	2879
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5.4500000/+01,	1.2119895/+01	1832	2522	2882
5.4424999/+01	1.2121272/+01		2523	2883
5.4000000/+01,	1.2129111/+01	1833	2524	2884
5.3939999/+01	1.2130223/+01			2885
5.3575000/+01	1.2137013/+01			2886
5.3500000/+01,	1.2138414/+01	1834	2525	2887
5.3299999/+01	1.2142159/+01	1835	2526	2888
5.3249999/+01	1.2143098/+01			2889
5.3000000/+01,	1.2147803/+01	1836	2527	2890
5.2875500/+01	1.2150155/+01			2891
5.2860000/+01	1.2150448/+01			2892
5.2729999/+01	1.2152911/+01			2893
5.2700000/+01,	1.2153480/+01	1837	2528	2894
5.2697499/+01	1.2153527/+01			2895
5.2664999/+01	1.2154144/+01			2896
5.2648749/+01	1.2154453/+01			2897
5.2639999/+01	1.2154619/+01			2898
5.2632499/+01	1.2154762/+01			2899
5.2600000/+01	1.2155379/+01			2900

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5.2551250/+01	1.2156307/+01			2902
5.2539999/+01	1.2156520/+01			2903
5.2535000/+01	1.2156616/+01			2904
5.2502500/+01	1.2157235/+01			2905
5.2500000/+01,	1.2157282/+01	1838	2529	2906
5.2470000/+01	1.2157854/+01			2907
5.2340000/+01	1.2160334/+01			2908
5.2000000/+01,	1.2166852/+01	1839	2530	2909
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5.1703999/+01	1.2172560/+01			2911
5.1700000/+01	1.2172638/+01		2531	2912
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5.1625000/+01	1.2174089/+01			2914
5.1600000/+01	1.2174574/+01			2915
5.1548000/+01	1.2175582/+01			2916
5.1500000/+01,	1.2176514/+01	1840	2532	2917
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5.1494999/+01	1.2176611/+01			2919
5.1181999/+01	1.2182707/+01			2920
5.1116999/+01	1.2183978/+01			2921
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5.1000000/+01,	1.2186270/+01	1841	2534	2923
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5.0788000/+01	1.2190435/+01			2925
5.0774999/+01	1.2190691/+01		2535	2926
5.0699999/+01	1.2192169/+01	1842	2536	2927
5.0560000/+01	1.2194934/+01			2928
5.0500000/+01,	1.2196122/+01	1843	2537	2929
5.0346999/+01	1.2199156/+01			2930
5.0315199/+01	1.2199788/+01			2931
5.0299999/+01	1.2200090/+01	1844	2538	2932
5.0235999/+01	1.2201363/+01			2933
5.0200000/+01,	1.2202080/+01	1845	2539	2934
5.0157599/+01	1.2202925/+01			2935
5.0118200/+01	1.2203711/+01			2936
5.0109999/+01	1.2203875/+01			2937
5.0078800/+01	1.2204498/+01			2938
5.0059099/+01	1.2204891/+01			2939
5.0039399/+01	1.2205285/+01			2940
5.0000000/+01,	1.2206072/+01	1846	2540	2941
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4.9940900/+01	1.2207255/+01			2943
4.9921200/+01	1.2207649/+01			2944
4.9881800/+01	1.2208439/+01			2945
4.9842400/+01	1.2209229/+01			2946
4.9800000/+01,	1.2210080/+01	1847	2541	2947
4.9789999/+01	1.2210281/+01	1848	2542	2948
4.9684800/+01	1.2212396/+01			2949
4.9659999/+01	1.2212896/+01	1849	2543	2950

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4.9503999/+01	1.2216042/+01	1850	2545	2952
4.9500000/+01	1.2216123/+01	1851	2546	2953
4.9483599/+01	1.2216454/+01			2954
4.9451999/+01	1.2217093/+01	1852	2547	2955
4.9441799/+01	1.2217299/+01			2956
4.9438999/+01	1.2217356/+01	1853	2548	2957
4.9425999/+01	1.2217619/+01	1854	2549	2958
4.9419499/+01	1.2217750/+01	1855	2550	2959
4.9412999/+01	1.2217882/+01	1856	2551	2960
4.9399999/+01	1.2218145/+01	1857	2552	2961
4.9387000/+01	1.2218408/+01	1858	2553	2962
4.9380500/+01	1.2218540/+01	1859	2554	2963
4.9374000/+01	1.2218671/+01	1860	2555	2964
4.9361000/+01	1.2218935/+01	1861	2556	2965
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4.9350000/+01	1.2219158/+01			2967
4.9348000/+01	1.2219198/+01	1862	2557	2968
4.9316400/+01	1.2219839/+01			2969
4.9296000/+01	1.2220252/+01	1863	2558	2970
4.9212000/+01	1.2221958/+01			2971
4.9180000/+01	1.2222608/+01		2559	2972
4.9140000/+01	1.2223422/+01	1864	2560	2973
4.9110999/+01	1.2224012/+01			2974
4.9099999/+01	1.2224236/+01	1865	2561	2975
4.9055499/+01	1.2225143/+01			2976
4.9010000/+01	1.2226071/+01	1866	2562	2977
4.9006799/+01	1.2226136/+01			2978
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4.8944500/+01	1.2227408/+01			2980
4.8889000/+01	1.2228543/+01			2981
4.8850000/+01	1.2229341/+01	1868	2564	2982
4.8820000/+01	1.2229955/+01		2565	2983
4.8818000/+01	1.2229996/+01			2984
4.8750000/+01	1.2231390/+01	1869	2566	2985
4.8564000/+01	1.2235213/+01			2986
4.8500000/+01	1.2236532/+01	1870	2567	2987
4.8494999/+01	1.2236635/+01			2988
4.8399999/+01	1.2238595/+01			2989
4.8388000/+01	1.2238844/+01		2568	2990
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4.8243999/+01	1.2241824/+01		2569	2992
4.8220999/+01	1.2242301/+01			2993
4.8207999/+01	1.2242570/+01		2570	2994
4.8171999/+01	1.2243317/+01		2571	2995
4.8153999/+01	1.2243691/+01		2572	2996
4.8135999/+01	1.2244065/+01		2573	2997
4.8127549/+01	1.2244241/+01			2998
4.8099999/+01	1.2244813/+01	1871	2574	2999
4.8064000/+01	1.2245562/+01		2575	3000

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4.7951699/+01	1.2247901/+01			3006
4.7890000/+01	1.2249189/+01			3007
4.7863774/+01	1.2249736/+01			3008
4.7849229/+01	1.2250024/+01		2581	3009
4.7812000/+01	1.2250819/+01		2582	3010
4.7800000/+01	1.2251070/+01		2583	3011
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4.7699999/+01	1.2253164/+01	1873	2584	3013
4.7600000/+01	1.2255263/+01			3014
4.7500000/+01,	1.2257366/+01	1874	2585	3015
4.7424150/+01	1.2258964/+01			3016
4.7380000/+01	1.2259895/+01		2586	3017
4.7336225/+01	1.2260820/+01			3018
4.7333999/+01	1.2260866/+01			3019
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4.7200000/+01	1.2263702/+01		2587	3022
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4.7100000/+01	1.2265822/+01			3025
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4.7049999/+01	1.2266885/+01		2588	3027
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4.7020000/+01	1.2267522/+01		2589	3029
4.7000000/+01,	1.2267948/+01	1875	2590	3030
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4.6824999/+01	1.2271678/+01		2592	3034
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4.6789999/+01	1.2272426/+01	1876	2593	3036
4.6750000/+01	1.2273281/+01		2594	3037
4.6659999/+01	1.2275208/+01	1877	2595	3038
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4.6540000/+01	1.2277783/+01		2597	3040
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4.6451999/+01	1.2279676/+01	1880	2600	3043
4.6450000/+01	1.2279719/+01		2601	3044
4.6438999/+01	1.2279956/+01	1881	2602	3045
4.6425999/+01	1.2280236/+01	1882	2603	3046
4.6419499/+01	1.2280376/+01	1883	2604	3047
4.6412999/+01	1.2280516/+01	1884	2605	3048
4.6403399/+01	1.2280723/+01			3049
4.6399999/+01	1.2280796/+01	1885	2606	3050

4.6387000/+01	1.2281076/+01	1886	2607	3051
4.6380500/+01	1.2281216/+01	1887	2608	3052
4.6375000/+01	1.2281335/+01		2609	3053
4.6374000/+01	1.2281356/+01	1888	2610	3054
4.6361000/+01	1.2281637/+01	1889	2611	3055
4.6351699/+01	1.2281837/+01			3056
4.6348000/+01	1.2281917/+01	1890	2612	3057
4.6300000/+01	1.2282953/+01		2613	3058
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4.6193200/+01	1.2285263/+01			3062
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4.6140000/+01	1.2286415/+01	1893	2616	3064
4.6060000/+01	1.2288150/+01			3065
4.6039999/+01	1.2288585/+01	1894	2617	3066
4.6010000/+01	1.2289236/+01	1895	2618	3067
4.6000000/+01	1.2289454/+01	1896	2619	3068
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4.5950000/+01	1.2290542/+01	1897	2620	3070
4.5804999/+01	1.2293702/+01			3071
4.5770000/+01	1.2294466/+01		2621	3072
4.5577500/+01	1.2298681/+01		2622	3073
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4.5385000/+01	1.2302914/+01		2625	3077
4.5304000/+01	1.2304700/+01			3078
4.5288749/+01	1.2305037/+01		2626	3079
4.5265999/+01	1.2305539/+01			3080
4.5230300/+01	1.2306328/+01			3081
4.5200000/+01,	1.2306998/+01	1899	2627	3082
4.5192499/+01	1.2307164/+01		2628	3083
4.5170500/+01	1.2307651/+01			3084
4.5135249/+01	1.2308432/+01			3085
4.5100000/+01	1.2309213/+01	1900	2629	3086
4.5064750/+01	1.2309995/+01			3087
4.5035999/+01	1.2310633/+01			3088
4.5029500/+01	1.2310778/+01			3089
4.5000000/+01,	1.2311433/+01	1901	2630	3090
4.4935000/+01	1.2312878/+01	1902	2631	3091
4.4807500/+01	1.2315720/+01		2632	3092
4.4790000/+01	1.2316111/+01	1903	2633	3093
4.4764999/+01	1.2316669/+01			3094
4.4760000/+01	1.2316781/+01	1904	2634	3095
4.4714400/+01	1.2317800/+01			3096
4.4711250/+01	1.2317870/+01		2635	3097
4.4699999/+01	1.2318122/+01	1905	2636	3098
4.4615999/+01	1.2320003/+01	1906	2637	3099
4.4615000/+01	1.2320025/+01		2638	3100

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4.4573030/+01	1.2320966/+01			3103
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4.4553599/+01	1.2321402/+01			3105
4.4543500/+01	1.2321629/+01	1908	2640	3106
4.4540200/+01	1.2321703/+01			3107
4.4536514/+01	1.2321786/+01			3108
4.4528299/+01	1.2321955/+01	1909	2641	3109
4.4526799/+01	1.2322004/+01			3110
4.4521750/+01	1.2322118/+01	1910	2642	3111
4.4514499/+01	1.2322280/+01	1911	2643	3112
4.4500000/+01	1.2322606/+01	1912	2644	3113
4.4485500/+01	1.2322932/+01	1913	2645	3114
4.4478250/+01	1.2323095/+01	1914	2646	3115
4.4473200/+01	1.2323208/+01			3116
4.4471000/+01	1.2323258/+01	1915	2647	3117
4.4463485/+01	1.2323427/+01			3118
4.4459800/+01	1.2323510/+01			3119
4.4456500/+01	1.2323584/+01	1916	2648	3120
4.4446400/+01	1.2323811/+01			3121
4.4442000/+01	1.2323910/+01	1917	2649	3122
4.4426970/+01	1.2324249/+01			3123
4.4422500/+01	1.2324349/+01		2650	3124
4.4421999/+01	1.2324361/+01			3125
4.4419600/+01	1.2324415/+01			3126
4.4409999/+01	1.2324631/+01			3127
4.4399999/+01	1.2324856/+01	1918	2651	3128
4.4395000/+01	1.2324969/+01			3129
4.4392800/+01	1.2325018/+01			3130
4.4384000/+01	1.2325216/+01	1919	2652	3131
4.4360999/+01	1.2325735/+01			3132
4.4354999/+01	1.2325870/+01			3133
4.4299999/+01	1.2327111/+01			3134
4.4285600/+01	1.2327436/+01			3135
4.4274999/+01	1.2327675/+01			3136
4.4250000/+01	1.2328240/+01	1920	2653	3137
4.4245000/+01	1.2328353/+01			3138
4.4238999/+01	1.2328489/+01			3139
4.4230000/+01	1.2328692/+01		2654	3140
4.4210000/+01	1.2329144/+01	1921	2655	3141
4.4190000/+01	1.2329597/+01			3142
4.4177999/+01	1.2329869/+01			3143
4.4083000/+01	1.2332021/+01			3144
4.4065000/+01	1.2332429/+01	1922	2656	3145
4.4000000/+01	1.2333906/+01	1923	2657	3146
4.3964000/+01	1.2334724/+01			3147
4.3771499/+01	1.2339112/+01			3148
4.3769700/+01	1.2339154/+01			3149
4.3696000/+01	1.2340839/+01			3150

4.3600000/+01	1.2343038/+01		2658	3151
4.3500000/+01	1.2345334/+01	1924	2659	3152
4.3460000/+01	1.2346254/+01		2660	3153
4.3223999/+01	1.2351699/+01	1925	2661	3154
4.3199999/+01	1.2352255/+01			3155
4.3149999/+01	1.2353413/+01		2662	3156
4.3080000/+01	1.2355036/+01			3157
4.3050000/+01	1.2355733/+01	1926	2663	3158
4.3000000/+01	1.2356895/+01	1927	2664	3159
4.2850000/+01	1.2360390/+01			3160
4.2711999/+01	1.2363615/+01	1928	2665	3161
4.2584000/+01	1.2366617/+01	1929	2666	3162
4.2500000/+01	1.2368591/+01	1930	2667	3163
4.2455999/+01	1.2369627/+01	1931	2668	3164
4.2409499/+01	1.2370723/+01			3165
4.2399999/+01	1.2370947/+01	1932	2669	3166
4.2391999/+01	1.2371136/+01	1933	2670	3167
4.2359999/+01	1.2371891/+01			3168
4.2327999/+01	1.2372646/+01	1934	2671	3169
4.2324500/+01	1.2372729/+01			3170
4.2200000/+01	1.2375675/+01	1935	2672	3171
4.2100000/+01	1.2378048/+01		2673	3172
4.2072999/+01	1.2378689/+01			3173
4.2072000/+01	1.2378713/+01	1936	2674	3174
4.2007999/+01	1.2380235/+01	1937	2675	3175
4.2000000/+01	1.2380426/+01	1938	2676	3176
4.1944000/+01	1.2381760/+01	1939	2677	3177
4.1820499/+01	1.2384709/+01			3178
4.1820000/+01	1.2384721/+01			3179
4.1816000/+01	1.2384816/+01	1940	2678	3180
4.1688000/+01	1.2387882/+01	1941	2679	3181
4.1669199/+01	1.2388333/+01			3182
4.1650000/+01	1.2388794/+01		2680	3183
4.1534599/+01	1.2391568/+01			3184
4.1504999/+01	1.2392281/+01		2681	3185
4.1500949/+01	1.2392379/+01			3186
4.1500000/+01	1.2392402/+01	1942	2682	3187
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4.1450474/+01	1.2393596/+01			3189
4.1433649/+01	1.2394002/+01			3190
4.1415999/+01	1.2394428/+01			3191
4.1406000/+01	1.2394670/+01			3192
4.1399999/+01	1.2394814/+01			3193
4.1366349/+01	1.2395627/+01			3194
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4.1349525/+01	1.2396034/+01			3196
4.1332700/+01	1.2396441/+01			3197
4.1299999/+01	1.2397233/+01			3198
4.1299050/+01	1.2397256/+01			3199
4.1269999/+01	1.2397960/+01		2683	3200

4.1265399/+01	1.2398071/+01			3201
4.1247000/+01	1.2398517/+01			3202
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4.1194000/+01	1.2399803/+01			3204
4.1176000/+01	1.2400240/+01	1943	2685	3205
4.1150000/+01	1.2400872/+01		2686	3206
4.1130800/+01	1.2401338/+01			3207
4.1069999/+01	1.2402818/+01			3208
4.1000000/+01,	1.2404523/+01	1944	2687	3209
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4.0893999/+01	1.2407112/+01		2689	3211
4.0870500/+01	1.2407687/+01		2690	3212
4.0846999/+01	1.2408262/+01		2691	3213
4.0835249/+01	1.2408550/+01		2692	3214
4.0823500/+01	1.2408837/+01		2693	3215
4.0799999/+01	1.2409413/+01		2694	3216
4.0776500/+01	1.2409989/+01		2695	3217
4.0764750/+01	1.2410278/+01		2696	3218
4.0753000/+01	1.2410566/+01		2697	3219
4.0729499/+01	1.2411143/+01		2698	3220
4.0727000/+01	1.2411204/+01			3221
4.0706000/+01	1.2411720/+01		2699	3222
4.0700000/+01,	1.2411867/+01	1945	2700	3223
4.0612000/+01	1.2414032/+01		2701	3224
4.0501599/+01	1.2416754/+01			3225
4.0500000/+01,	1.2416793/+01	1946	2702	3226
4.0450799/+01	1.2418009/+01			3227
4.0437999/+01	1.2418326/+01			3228
4.0400000/+01	1.2419266/+01			3229
4.0390500/+01	1.2419501/+01			3230
4.0349200/+01	1.2420524/+01			3231
4.0330000/+01	1.2421000/+01		2703	3232
4.0298400/+01	1.2421784/+01			3233
4.0286999/+01	1.2422067/+01			3234
4.0243499/+01	1.2423147/+01			3235
4.0239999/+01	1.2423234/+01			3236
4.0200000/+01	1.2424228/+01			3237
4.0156500/+01	1.2425311/+01			3238
4.0150000/+01	1.2425473/+01	1947	2704	3239
4.0113000/+01	1.2426395/+01			3240
4.0095000/+01	1.2426844/+01		2705	3241
4.0000000/+01,	1.2429216/+01	1948	2706	3242
3.9766999/+01	1.2435058/+01			3243
3.9700000/+01,	1.2436744/+01	1949	2707	3244
3.9683500/+01	1.2437160/+01			3245
3.9640000/+01	1.2438257/+01	1950	2708	3246
3.9600000/+01	1.2439266/+01			3247
3.9516500/+01	1.2441377/+01			3248
3.9503799/+01	1.2441698/+01			3249
3.9500000/+01,	1.2441795/+01	1951	2709	3250

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3.9433000/+01	1.2443492/+01			3252
3.9399999/+01	1.2444330/+01			3253
3.9384000/+01	1.2444736/+01			3254
3.9348100/+01	1.2445648/+01			3255
3.9330000/+01	1.2446108/+01			3256
3.9296200/+01	1.2446968/+01			3257
3.9225000/+01	1.2448781/+01		2710	3258
3.9203999/+01	1.2449164/+01			3259
3.9200000/+01	1.2449419/+01	1952	2711	3260
3.9000000/+01	1.2454534/+01	1953	2712	3261
3.8974999/+01	1.2455175/+01	1954	2713	3262
3.8950000/+01	1.2455817/+01	1955	2714	3263
3.8750000/+01	1.2460965/+01	1956	2715	3264
3.8500000/+01	1.2467437/+01	1957	2716	3265
3.8450000/+01	1.2468737/+01		2717	3266
3.8435999/+01	1.2469101/+01			3267
3.8362000/+01	1.2471028/+01			3268
3.8360000/+01	1.2471080/+01	1958	2718	3269
3.8184999/+01	1.2475653/+01			3270
3.8180000/+01	1.2475784/+01			3271
3.8100000/+01	1.2477881/+01	1959	2719	3272
3.8035000/+01	1.2479589/+01			3273
3.8004999/+01	1.2480378/+01			3274
3.8000000/+01	1.2480509/+01	1960	2720	3275
3.7949999/+01	1.2481826/+01	1961	2721	3276
3.7930000/+01	1.2482353/+01			3277
3.7500000/+01	1.2493755/+01	1962	2722	3278
3.7473499/+01	1.2494462/+01			3279
3.7413599/+01	1.2496061/+01			3280
3.7356800/+01	1.2497581/+01			3281
3.7300000/+01	1.2499102/+01		2723	3282
3.7250000/+01	1.2500443/+01	1963	2724	3283
3.7243200/+01	1.2500626/+01			3284
3.7190000/+01	1.2502056/+01	1964	2725	3285
3.7186400/+01	1.2502152/+01			3286
3.7060000/+01	1.2505557/+01	1965	2726	3287
3.7000000/+01	1.2507178/+01	1966	2727	3288
3.6904000/+01	1.2509776/+01	1967	2728	3289
3.6852000/+01	1.2511186/+01	1968	2729	3290
3.6839000/+01	1.2511538/+01	1969	2730	3291
3.6826000/+01	1.2511891/+01	1970	2731	3292
3.6819500/+01	1.2512068/+01	1971	2732	3293
3.6813000/+01	1.2512245/+01	1972	2733	3294
3.6800000/+01	1.2512598/+01	1973	2734	3295
3.6787000/+01	1.2512951/+01	1974	2735	3296
3.6780500/+01	1.2513128/+01	1975	2736	3297
3.6774000/+01	1.2513305/+01	1976	2737	3298
3.6761000/+01	1.2513658/+01	1977	2738	3299
3.6748000/+01	1.2514012/+01	1978	2739	3300

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3.6700000/+01,	1.2515319/+01	1980	2741	3302
3.6696000/+01,	1.2515428/+01	1981	2742	3303
3.6622000/+01	1.2517446/+01			3304
3.6540000/+01,	1.2519688/+01	1982	2743	3305
3.6500000/+01,	1.2520783/+01	1983	2744	3306
3.6460000/+01	1.2521880/+01			3307
3.6410000/+01,	1.2523252/+01	1984	2745	3308
3.6400000/+01	1.2523527/+01	1985	2746	3309
3.6309999/+01	1.2526002/+01	1986	2747	3310
3.6300000/+01,	1.2526278/+01	1987	2748	3311
3.6207500/+01	1.2528829/+01	1988	2749	3312
3.6200000/+01,	1.2529036/+01	1989	2750	3313
3.6164000/+01	1.2530031/+01			3314
3.6104999/+01	1.2531664/+01	1990	2751	3315
3.6100000/+01,	1.2531803/+01	1991	2752	3316
3.6076000/+01	1.2532468/+01			3317
3.6069499/+01	1.2532648/+01			3318
3.6053749/+01	1.2533085/+01	1992	2753	3319
3.6050000/+01	1.2533189/+01	1993	2754	3320
3.6002499/+01	1.2534507/+01	1994	2755	3321
3.6000000/+01,	1.2534577/+01	1995	2756	3322
3.5952049/+01	1.2535909/+01			3323
3.5899999/+01,	1.2537358/+01	1996	2757	3324
3.5800000/+01,	1.2540148/+01	1997	2758	3325
3.5797499/+01	1.2540217/+01	1998	2759	3326
3.5746250/+01	1.2541650/+01	1999	2760	3327
3.5741449/+01	1.2541784/+01			3328
3.5734699/+01	1.2541973/+01			3329
3.5702199/+01	1.2542883/+01			3330
3.5700000/+01,	1.2542945/+01	2000	2761	3331
3.5695000/+01	1.2543085/+01	2001	2762	3332
3.5651100/+01	1.2544315/+01			3333
3.5600000/+01	1.2545750/+01			3334
3.5592500/+01	1.2545961/+01	2002	2763	3335
3.5548900/+01	1.2547186/+01			3336
3.5500000/+01,	1.2548563/+01	2003	2764	3337
3.5497800/+01	1.2548625/+01			3338
3.5490000/+01	1.2548845/+01	2004	2765	3339
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3.5365204/+01	1.2552367/+01			3343
3.5343469/+01	1.2552982/+01			3344
3.5332602/+01	1.2553290/+01			3345
3.5321734/+01	1.2553597/+01			3346
3.5300000/+01	1.2554213/+01	2006	2767	3347
3.5278265/+01	1.2554829/+01			3348
3.5270000/+01	1.2555063/+01		2768	3349
3.5267397/+01	1.2555137/+01			3350

3.5256530/+01	1.2555445/+01			3351
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3.5213060/+01	1.2556679/+01			3353
3.5200000/+01	1.2557049/+01	2007	2769	3354
3.5126120/+01	1.2559150/+01			3355
3.5107599/+01	1.2559678/+01			3356
3.5100000/+01	1.2559894/+01	2008	2770	3357
3.5080000/+01	1.2560464/+01	2009	2771	3358
3.5053799/+01	1.2561212/+01			3359
3.5035000/+01	1.2561748/+01	2010	2772	3360
3.5000000/+01	1.2562747/+01	2011	2773	3361
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3.4899999/+01	1.2565609/+01	2012	2774	3363
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3.4890000/+01	1.2565895/+01	2013	2775	3365
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3.4800000/+01	1.2568478/+01	2014	2776	3367
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3.4700000/+01	1.2571356/+01	2016	2778	3369
3.4657999/+01	1.2572567/+01	2017	2779	3370
3.4647950/+01	1.2572857/+01			3371
3.4643500/+01	1.2572985/+01	2018	2780	3372
3.4629000/+01	1.2573404/+01	2019	2781	3373
3.4621750/+01	1.2573613/+01	2020	2782	3374
3.4614500/+01	1.2573823/+01	2021	2783	3375
3.4600000/+01	1.2574242/+01	2022	2784	3376
3.4594299/+01	1.2574407/+01			3377
3.4589999/+01	1.2574531/+01			3378
3.4585500/+01	1.2574661/+01	2023	2785	3379
3.4578250/+01	1.2574871/+01	2024	2786	3380
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3.4571000/+01	1.2575080/+01	2025	2787	3382
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3.4550000/+01	1.2575688/+01	2027	2789	3384
3.4542000/+01	1.2575920/+01	2028	2790	3385
3.4500000/+01	1.2577136/+01	2029	2791	3386
3.4484000/+01	1.2577600/+01	2030	2792	3387
3.4399999/+01	1.2580039/+01	2031	2793	3388
3.4310000/+01	1.2582659/+01	2032	2794	3389
3.4299999/+01	1.2582950/+01	2033	2795	3390
3.4200000/+01	1.2585870/+01	2034	2796	3391
3.4165000/+01	1.2586894/+01	2035	2797	3392
3.4100000/+01	1.2588798/+01	2036	2798	3393
3.4000000/+01	1.2591735/+01	2037	2799	3394
3.3968999/+01	1.2592647/+01			3395
3.3934499/+01	1.2593663/+01			3396
3.3924000/+01	1.2593973/+01			3397
3.3900000/+01	1.2594681/+01	2038	2800	3398
3.3865500/+01	1.2595699/+01			3399
3.3850000/+01	1.2596157/+01	2039	2801	3400

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3.3800000/+01,	1.2597635/+01	2040	2802	3402
3.3750000/+01	1.2599115/+01		2803	3403
3.3700000/+01,	1.2600598/+01	2041	2804	3404
3.3679999/+01	1.2601191/+01		2805	3405
3.3629999/+01	1.2602677/+01			3406
3.3600000/+01,	1.2603569/+01	2042	2806	3407
3.3500000/+01,	1.2606550/+01	2043	2807	3408
3.3399999/+01,	1.2609540/+01	2044	2808	3409
3.3300000/+01,	1.2612538/+01	2045	2809	3410
3.3217719/+01	1.2615012/+01			3411
3.3210000/+01	1.2615244/+01			3412
3.3200000/+01,	1.2615546/+01	2046	2810	3413
3.3150000/+01	1.2617053/+01	2047	2811	3414
3.3126500/+01	1.2617762/+01			3415
3.3116000/+01	1.2618079/+01			3416
3.3100000/+01,	1.2618562/+01	2048	2812	3417
3.3000000/+01,	1.2621588/+01	2049	2813	3418
3.2900000/+01,	1.2624623/+01	2050	2814	3419
3.2833999/+01	1.2626631/+01			3420
3.2825000/+01	1.2626905/+01	2051	2815	3421
3.2800000/+01,	1.2627667/+01	2052	2816	3422
3.2758859/+01	1.2628922/+01			3423
3.2700000/+01,	1.2630720/+01	2053	2817	3424
3.2644144/+01	1.2632430/+01			3425
3.2600000/+01,	1.2633783/+01	2054	2818	3426
3.2529429/+01	1.2635950/+01			3427
3.2500000/+01,	1.2636855/+01	2055	2819	3428
3.2472072/+01	1.2637715/+01			3429
3.2414714/+01	1.2639483/+01			3430
3.2399999/+01,	1.2639937/+01	2056	2820	3431
3.2300000/+01,	1.2643028/+01	2057	2821	3432
3.2201599/+01	1.2646079/+01			3433
3.2200000/+01,	1.2646129/+01	2058	2822	3434
3.2185285/+01	1.2646586/+01			3435
3.2150800/+01	1.2647658/+01			3436
3.2127927/+01	1.2648370/+01			3437
3.2100000/+01,	1.2649240/+01	2059	2823	3438
3.2083400/+01	1.2649757/+01			3439
3.2070570/+01	1.2650157/+01			3440
3.2049200/+01	1.2650823/+01			3441
3.2041700/+01	1.2651057/+01			3442
3.2000000/+01,	1.2652360/+01	2060	2824	3443
3.1998400/+01	1.2652410/+01			3444
3.1958300/+01	1.2653664/+01			3445
3.1955855/+01	1.2653740/+01			3446
3.1916600/+01	1.2654969/+01			3447
3.1900000/+01,	1.2655489/+01	2061	2825	3448
3.1841140/+01	1.2657336/+01			3449
3.1800000/+01,	1.2658629/+01	2062	2826	3450

3.1790000/+01	1.2658944/+01	2063	2827	3451
3.1700000/+01	1.2661779/+01	2064	2828	3452
3.1660000/+01	1.2663042/+01	2065	2829	3453
3.1650000/+01	1.2663357/+01	2066	2830	3454
3.1626000/+01	1.2664116/+01			3455
3.1600000/+01	1.2664938/+01	2067	2831	3456
3.1504000/+01	1.2667981/+01	2068	2832	3457
3.1500000/+01	1.2668108/+01	2069	2833	3458
3.1452000/+01	1.2669633/+01	2070	2834	3459
3.1438999/+01	1.2670046/+01	2071	2835	3460
3.1425999/+01	1.2670460/+01	2072	2836	3461
3.1423000/+01	1.2670555/+01			3462
3.1419500/+01	1.2670667/+01	2073	2837	3463
3.1413000/+01	1.2670874/+01	2074	2838	3464
3.1400000/+01	1.2671288/+01	2075	2839	3465
3.1387000/+01	1.2671702/+01	2076	2840	3466
3.1382280/+01	1.2671852/+01			3467
3.1380500/+01	1.2671909/+01	2077	2841	3468
3.1374000/+01	1.2672116/+01	2078	2842	3469
3.1361000/+01	1.2672530/+01	2079	2843	3470
3.1348000/+01	1.2672945/+01	2080	2844	3471
3.1305000/+01	1.2674318/+01			3472
3.1300000/+01	1.2674478/+01	2081	2845	3473
3.1296000/+01	1.2674605/+01	2082	2846	3474
3.1200000/+01	1.2677677/+01	2083	2847	3475
3.1166000/+01	1.2678768/+01			3476
3.1140000/+01	1.2679602/+01	2084	2848	3477
3.1100000/+01	1.2680888/+01	2085	2849	3478
3.1084000/+01	1.2681402/+01			3479
3.1010000/+01	1.2683786/+01	2086	2850	3480
3.1000000/+01	1.2684108/+01	2087	2851	3481
3.0996000/+01	1.2684237/+01			3482
3.0900000/+01	1.2687339/+01	2088	2852	3483
3.0800000/+01	1.2690581/+01	2089	2853	3484
3.0772300/+01	1.2691481/+01			3485
3.0736150/+01	1.2692656/+01			3486
3.0710000/+01	1.2693507/+01			3487
3.0700000/+01	1.2693833/+01	2090	2854	3488
3.0663850/+01	1.2695011/+01			3489
3.0635000/+01	1.2695952/+01	2091	2855	3490
3.0627700/+01	1.2696191/+01			3491
3.0612600/+01	1.2696684/+01			3492
3.0600000/+01	1.2697095/+01	2092	2856	3493
3.0556300/+01	1.2698525/+01			3494
3.0500000/+01	1.2700369/+01	2093	2857	3495
3.0490000/+01	1.2700697/+01	2094	2858	3496
3.0474000/+01	1.2701222/+01			3497
3.0443700/+01	1.2702217/+01			3498
3.0400000/+01	1.2703653/+01	2095	2859	3499
3.0387400/+01	1.2704067/+01			3500

3.0316000/+01	1.2706420/+01	2096	2860	3501
3.0300000/+01,	1.2706948/+01	2097	2861	3502
3.0258000/+01	1.2708335/+01	2098	2862	3503
3.0250000/+01	1.2708599/+01	2099	2863	3504
3.0243500/+01	1.2708814/+01	2100	2864	3505
3.0229000/+01	1.2709294/+01	2101	2865	3506
3.0221750/+01	1.2709534/+01	2102	2866	3507
3.0214500/+01	1.2709773/+01	2103	2867	3508
3.0200000/+01,	1.2710254/+01	2104	2868	3509
3.0185500/+01	1.2710734/+01	2105	2869	3510
3.0178250/+01	1.2710974/+01	2106	2870	3511
3.0171000/+01	1.2711214/+01	2107	2871	3512
3.0156500/+01	1.2711695/+01	2108	2872	3513
3.0142000/+01	1.2712176/+01	2109	2873	3514
3.0135000/+01	1.2712408/+01			3515
3.0100000/+01,	1.2713570/+01	2110	2874	3516
3.0084000/+01	1.2714102/+01	2111	2875	3517
3.0050000/+01	1.2715233/+01			3518
3.0015000/+01	1.2716398/+01			3519
3.0009600/+01	1.2716578/+01			3520
3.0005700/+01	1.2716708/+01			3521
3.0000000/+01,	1.2716898/+01	2112	2876	3522
2.9977000/+01	1.2717665/+01			3523
2.9954799/+01	1.2718406/+01			3524
2.9910000/+01	1.2719903/+01	2113	2877	3525
2.9900000/+01,	1.2720237/+01	2114	2878	3526
2.9845200/+01	1.2722071/+01			3527
2.9800000/+01,	1.2723587/+01	2115	2879	3528
2.9790400/+01	1.2723909/+01			3529
2.9777400/+01	1.2724346/+01			3530
2.9765000/+01	1.2724762/+01	2116	2880	3531
2.9738699/+01	1.2725646/+01			3532
2.9700000/+01,	1.2726948/+01	2117	2881	3533
2.9661300/+01	1.2728252/+01			3534
2.9622600/+01	1.2729558/+01			3535
2.9600000/+01,	1.2730321/+01	2118	2882	3536
2.9500000/+01,	1.2733705/+01	2119	2883	3537
2.9410000/+01	1.2736761/+01			3538
2.9400000/+01,	1.2737101/+01	2120	2884	3539
2.9374000/+01	1.2737986/+01			3540
2.9300000/+01,	1.2740508/+01	2121	2885	3541
2.9270000/+01	1.2741532/+01			3542
2.9200000/+01,	1.2743927/+01	2122	2886	3543
2.9100000/+01,	1.2747357/+01	2123	2887	3544
2.9000000/+01,	1.2750800/+01	2124	2888	3545
2.8926000/+01	1.2753355/+01			3546
2.8909000/+01	1.2753943/+01			3547
2.8900000/+01,	1.2754254/+01	2125	2889	3548
2.8858550/+01	1.2755689/+01			3549
2.8804000/+01	1.2757581/+01			3550

2.8600000/+01,	1.2757720/+01	2126	2890	3551
2.8779500/+01	1.2758432/+01			3552
2.8750000/+01	1.2759458/+01	2127	2891	3553
2.8700000/+01,	1.2761198/+01	2128	2892	3554
2.8600000/+01,	1.2764689/+01	2129	2893	3555
2.8510000/+01	1.2767841/+01		2894	3556
2.8500000/+01,	1.2768192/+01	2130	2895	3557
2.8400000/+01,	1.2771706/+01	2131	2896	3558
2.8300000/+01,	1.2775234/+01	2132	2897	3559
2.8200000/+01,	1.2778773/+01	2133	2898	3560
2.8100000/+01,	1.2782326/+01	2134	2899	3561
2.8040000/+01	1.2784463/+01		2900	3562
2.8000900/+01	1.2785859/+01			3563
2.8000000/+01,	1.2785891/+01	2135	2901	3564
2.7956500/+01	1.2787446/+01			3565
2.7950450/+01	1.2787662/+01			3566
2.7933000/+01	1.2788287/+01			3567
2.7900000/+01,	1.2789469/+01	2136	2902	3568
2.7869999/+01	1.2790545/+01			3569
2.7849550/+01	1.2791279/+01			3570
2.7800000/+01,	1.2793059/+01	2137	2903	3571
2.7799100/+01	1.2793092/+01			3572
2.7722000/+01	1.2795869/+01			3573
2.7700000/+01,	1.2796663/+01	2138	2904	3574
2.7678000/+01	1.2797458/+01			3575
2.7600000/+01,	1.2800280/+01	2139	2905	3576
2.7503000/+01	1.2803800/+01			3577
2.7500000/+01,	1.2803909/+01	2140	2906	3578
2.7476000/+01	1.2804783/+01		2907	3579
2.7468800/+01	1.2805045/+01			3580
2.7400000/+01,	1.2807553/+01	2141	2908	3581
2.7390000/+01	1.2807917/+01		2909	3582
2.7384400/+01	1.2808122/+01			3583
2.7380500/+01	1.2808264/+01			3584
2.7363300/+01	1.2808893/+01			3585
2.7342200/+01	1.2809664/+01			3586
2.7331650/+01	1.2810050/+01			3587
2.7330000/+01	1.2810110/+01			3588
2.7321100/+01	1.2810436/+01			3589
2.7300000/+01,	1.2811209/+01	2142	2910	3590
2.7288000/+01	1.2811649/+01		2911	3591
2.7278900/+01	1.2811982/+01			3592
2.7268350/+01	1.2812369/+01			3593
2.7257800/+01	1.2812756/+01			3594
2.7241000/+01	1.2813372/+01		2912	3595
2.7236700/+01	1.2813530/+01			3596
2.7215600/+01	1.2814305/+01			3597
2.7200000/+01,	1.2814879/+01	2143	2913	3598
2.7194000/+01	1.2815099/+01		2914	3599
2.7170500/+01	1.2815964/+01		2915	3600

2.7147000/+01	1.2816829/+01		2916	3601
2.7131200/+01	1.2817411/+01			3602
2.7100000/+01	1.2818562/+01	2144	2917	3603
2.7067800/+01	1.2819751/+01			3604
2.7053000/+01	1.2820297/+01		2918	3605
2.7033900/+01	1.2821004/+01			3606
2.7029500/+01	1.2821167/+01		2919	3607
2.7006000/+01	1.2822036/+01		2920	3608
2.7000000/+01,	1.2822259/+01	2145	2921	3609
2.6987000/+01	1.2822740/+01			3610
2.6966100/+01	1.2823515/+01			3611
2.6959000/+01	1.2823778/+01		2922	3612
2.6932200/+01	1.2824773/+01			3613
2.6912000/+01	1.2825523/+01		2923	3614
2.6900000/+01,	1.2825969/+01	2146	2924	3615
2.6891000/+01	1.2826304/+01			3616
2.6878000/+01	1.2826787/+01			3617
2.6800000/+01,	1.2829694/+01	2147	2925	3618
2.6724000/+01	1.2832533/+01		2926	3619
2.6700000/+01,	1.2833432/+01	2148	2927	3620
2.6667000/+01	1.2834668/+01			3621
2.6600000/+01,	1.2837184/+01	2149	2928	3622
2.6569000/+01	1.2838350/+01			3623
2.6514800/+01	1.2840392/+01			3624
2.6500000/+01,	1.2840951/+01	2150	2929	3625
2.6400000/+01,	1.2844731/+01	2151	2930	3626
2.6357400/+01	1.2846346/+01			3627
2.6322000/+01	1.2847690/+01			3628
2.6318049/+01	1.2847840/+01			3629
2.6300000/+01,	1.2848526/+01	2152	2931	3630
2.6278700/+01	1.2849337/+01			3631
2.6259024/+01	1.2850086/+01			3632
2.6239350/+01	1.2850835/+01			3633
2.6200000/+01,	1.2852336/+01	2153	2932	3634
2.6160650/+01	1.2853839/+01			3635
2.6160000/+01	1.2853864/+01		2933	3636
2.6140975/+01	1.2854591/+01			3637
2.6121300/+01	1.2855344/+01			3638
2.6100000/+01,	1.2856160/+01	2154	2934	3639
2.6081950/+01	1.2856852/+01			3640
2.6042600/+01	1.2858362/+01			3641
2.6000000/+01,	1.2859999/+01	2155	2935	3642
2.5966899/+01	1.2861273/+01			3643
2.5933450/+01	1.2862562/+01			3644
2.5900000/+01,	1.2863852/+01	2156	2936	3645
2.5885200/+01	1.2864424/+01			3646
2.5866550/+01	1.2865145/+01			3647
2.5850000/+01	1.2865785/+01	2157	2937	3648
2.5833100/+01	1.2866439/+01			3649
2.5800000/+01,	1.2867721/+01	2158	2938	3650

2.5750000/+01	1.2869661/+01		2939	3651
2.5700000/+01,	1.2871604/+01	2159	2940	3652
2.5690000/+01	1.2871994/+01		2941	3653
2.5600000/+01,	1.2875503/+01	2160	2942	3654
2.5546499/+01	1.2877595/+01			3655
2.5500000/+01,	1.2879417/+01	2161	2943	3656
2.5413000/+01	1.2882835/+01			3657
2.5400000/+01,	1.2883346/+01	2162	2944	3658
2.5360000/+01	1.2884922/+01		2945	3659
2.5300000/+01,	1.2887291/+01	2163	2946	3660
2.5231000/+01	1.2890022/+01			3661
2.5200000/+01,	1.2891251/+01	2164	2947	3662
2.5190000/+01	1.2891648/+01			3663
2.5175000/+01	1.2892244/+01			3664
2.5137500/+01	1.2893735/+01			3665
2.5116950/+01	1.2894552/+01			3666
2.5100000/+01,	1.2895228/+01	2165	2948	3667
2.5062500/+01	1.2896723/+01			3668
2.5062000/+01	1.2896743/+01			3669
2.5060000/+01	1.2896822/+01			3670
2.5025000/+01	1.2898220/+01			3671
2.5019500/+01	1.2898440/+01			3672
2.5000000/+01,	1.2899220/+01	2166	2949	3673
2.4900000/+01,	1.2903228/+01	2167	2950	3674
2.4800000/+01,	1.2907252/+01	2168	2951	3675
2.4750000/+01,	1.2909270/+01	2169	2952	3676
2.4711300/+01	1.2910835/+01			3677
2.4700000/+01,	1.2911292/+01	2170	2953	3678
2.4600000/+01,	1.2915349/+01	2171	2954	3679
2.4500000/+01,	1.2919422/+01	2172	2955	3680
2.4400000/+01,	1.2923512/+01	2173	2956	3681
2.4350000/+01	1.2925563/+01			3682
2.4300000/+01,	1.2927619/+01	2174	2957	3683
2.4245000/+01	1.2929885/+01			3684
2.4224520/+01	1.2930730/+01			3685
2.4200000/+01,	1.2931743/+01	2175	2958	3686
2.4196000/+01	1.2931908/+01			3687
2.4148000/+01	1.2933894/+01			3688
2.4100000/+01,	1.2935884/+01	2176	2959	3689
2.4062259/+01	1.2937451/+01			3690
2.4052000/+01	1.2937877/+01			3691
2.4030000/+01	1.2938792/+01			3692
2.4021695/+01	1.2939138/+01			3693
2.4016200/+01	1.2939367/+01			3694
2.4004000/+01	1.2939875/+01			3695
2.4000000/+01,	1.2940041/+01	2177	2960	3696
2.3981130/+01	1.2940828/+01			3697
2.3960847/+01	1.2941674/+01			3698
2.3958100/+01	1.2941789/+01			3699
2.3940564/+01	1.2942521/+01			3700

2.3901000/+01	1.2944175/+01			3701
2.3900000/+01,	1.2944217/+01	2178	2961	3702
2.3859435/+01	1.2945916/+01			3703
2.3842000/+01	1.2946647/+01			3704
2.3839152/+01	1.2946766/+01			3705
2.3818870/+01	1.2947617/+01			3706
2.3800000/+01,	1.2948410/+01	2179	2962	3707
2.3783800/+01	1.2949091/+01			3708
2.3778305/+01	1.2949322/+01			3709
2.3772000/+01	1.2949587/+01			3710
2.3737740/+01	1.2951029/+01			3711
2.3720000/+01	1.2951777/+01		2963	3712
2.3710000/+01	1.2952198/+01			3713
2.3700000/+01,	1.2952620/+01	2180	2964	3714
2.3686000/+01	1.2953211/+01			3715
2.3664500/+01	1.2954119/+01			3716
2.3643000/+01	1.2955028/+01			3717
2.3632250/+01	1.2955483/+01			3718
2.3621500/+01	1.2955938/+01			3719
2.3600000/+01,	1.2956849/+01	2181	2965	3720
2.3578500/+01	1.2957760/+01			3721
2.3575480/+01	1.2957888/+01			3722
2.3567750/+01	1.2958216/+01			3723
2.3557000/+01	1.2958672/+01			3724
2.3535500/+01	1.2959585/+01			3725
2.3514000/+01	1.2960499/+01			3726
2.3502000/+01	1.2961010/+01			3727
2.3500000/+01,	1.2961095/+01	2182	2966	3728
2.3428000/+01	1.2964163/+01			3729
2.3400000/+01,	1.2965359/+01	2183	2967	3730
2.3334000/+01	1.2968184/+01			3731
2.3300000/+01,	1.2969642/+01	2184	2968	3732
2.3264199/+01	1.2971180/+01			3733
2.3232100/+01	1.2972560/+01			3734
2.3200000/+01,	1.2973943/+01	2185	2969	3735
2.3170000/+01	1.2975237/+01			3736
2.3167900/+01	1.2975328/+01			3737
2.3140000/+01	1.2976533/+01			3738
2.3135800/+01	1.2976714/+01			3739
2.3100000/+01,	1.2978263/+01	2186	2970	3740
2.3088700/+01	1.2978752/+01			3741
2.3000000/+01,	1.2982601/+01	2187	2971	3742
2.2955000/+01	1.2984560/+01			3743
2.2900000/+01,	1.2986958/+01	2188	2972	3744
2.2800000/+01,	1.2991335/+01	2189	2973	3745
2.2738000/+01	1.2994058/+01			3746
2.2700000/+01,	1.2995730/+01	2190	2974	3747
2.2683050/+01	1.2996477/+01			3748
2.2653600/+01	1.2997777/+01			3749
2.2603294/+01,	1.3000000/+01	2191	2975	3750

132	2.600000/+01,	1.3000146/+01	2192	2976	3751
	2.2558000/+01	1.3002006/+01			3752
	2.2500000/+01,	1.3004580/+01	2193	2977	3753
	2.2448000/+01	1.3006894/+01		2978	3754
	2.2443000/+01	1.3007117/+01			3755
	2.2426800/+01	1.3007839/+01			3756
	2.2400000/+01	1.3009034/+01	2194	2979	3757
	2.2370100/+01	1.3010370/+01			3758
	2.2313400/+01	1.3012908/+01			3759
	2.2300000/+01,	1.3013509/+01	2195	2980	3760
	2.2285050/+01	1.3014179/+01			3761
	2.2265000/+01	1.3015079/+01			3762
	2.2262000/+01	1.3015214/+01			3763
	2.2256700/+01	1.3015452/+01			3764
	2.2250000/+01,	1.3015753/+01	2196	2981	3765
	2.2200000/+01,	1.3018003/+01	2197	2982	3766
	2.2143300/+01	1.3020560/+01			3767
	2.2114950/+01	1.3021841/+01			3768
	2.2100000/+01,	1.3022518/+01	2198	2983	3769
	2.2086600/+01	1.3023124/+01			3770
	2.2080000/+01	1.3023423/+01		2984	3771
	2.2044800/+01	1.3025019/+01			3772
	2.2036000/+01	1.3025418/+01			3773
	2.2032000/+01	1.3025599/+01		2985	3774
	2.2029900/+01	1.3025695/+01			3775
	2.2000000/+01,	1.3027053/+01	2199	2986	3776
	2.1973200/+01	1.3028272/+01			3777
	2.1972400/+01	1.3028308/+01			3778
	2.1970000/+01	1.3028418/+01			3779
	2.1954300/+01	1.3029132/+01			3780
	2.1936200/+01	1.3029957/+01			3781
	2.1927150/+01	1.3030370/+01			3782
	2.1918100/+01	1.3030782/+01			3783
	2.1900000/+01,	1.3031609/+01	2200	2987	3784
	2.1881900/+01	1.3032436/+01			3785
	2.1872850/+01	1.3032849/+01			3786
	2.1863800/+01	1.3033263/+01			3787
	2.1845700/+01	1.3034091/+01			3788
	2.1827600/+01	1.3034920/+01			3789
	2.1800000/+01,	1.3036185/+01	2201	2988	3790
	2.1755200/+01	1.3038242/+01			3791
	2.1746400/+01	1.3038647/+01			3792
	2.1700000/+01,	1.3040783/+01	2202	2989	3793
	2.1612500/+01	1.3044823/+01			3794
	2.1600000/+01,	1.3045402/+01	2203	2990	3795
	2.1538000/+01	1.3048276/+01			3796
	2.1532800/+01	1.3048518/+01		2991	3797
	2.1500000/+01,	1.3050042/+01	2204	2992	3798
	2.1450000/+01	1.3052371/+01			3799
	2.1400000/+01,	1.3054705/+01	2205	2993	3800

2.1380000/+01	1.3055632/+01			3801	133
2.1375000/+01,	1.3055873/+01	2206	2994	3802	
2.1366400/+01	1.3056276/+01		2995	3803	
2.1357000/+01	1.3056716/+01			3804	
2.1340000/+01	1.3057512/+01			3805	
2.1324800/+01	1.3058225/+01		2996	3806	
2.1300000/+01,	1.3059388/+01	2207	2997	3807	
2.1283200/+01	1.3060177/+01		2998	3808	
2.1262400/+01	1.3061155/+01		2999	3809	
2.1260000/+01	1.3061268/+01			3810	
2.1250000/+01,	1.3061738/+01	2208	3000	3811	
2.1241600/+01	1.3062134/+01		3001	3812	
2.1220000/+01	1.3063151/+01			3813	
2.1217000/+01	1.3063293/+01			3814	
2.1200000/+01	1.3064094/+01	2209	3002	3815	
2.1193600/+01	1.3064396/+01			3816	
2.1161000/+01	1.3065935/+01			3817	
2.1158400/+01	1.3066058/+01		3003	3818	
2.1146800/+01	1.3066607/+01			3819	
2.1145000/+01	1.3066692/+01			3820	
2.1137600/+01	1.3067042/+01		3004	3821	
2.1116800/+01	1.3068026/+01		3005	3822	
2.1100000/+01,	1.3068822/+01	2210	3006	3823	
2.1075200/+01	1.3069998/+01		3007	3824	
2.1066000/+01	1.3070435/+01			3825	
2.1053200/+01	1.3071043/+01			3826	
2.1050000/+01,	1.3071195/+01	2211	3008	3827	
2.1037500/+01,	1.3071789/+01	2212	3009	3828	
2.1033600/+01	1.3071974/+01		3010	3829	
2.1025000/+01,	1.3072383/+01	2213	3011	3830	
2.1018750/+01,	1.3072681/+01	2214	3012	3831	
2.1012500/+01,	1.3072978/+01	2215	3013	3832	
2.1006400/+01	1.3073268/+01			3833	
2.1000000/+01,	1.3073573/+01	2216	3014	3834	
2.0987500/+01,	1.3074168/+01	2217	3015	3835	
2.0981250/+01,	1.3074466/+01	2218	3016	3836	
2.0975000/+01,	1.3074764/+01	2219	3017	3837	
2.0970000/+01	1.3075003/+01			3838	
2.0962500/+01,	1.3075360/+01	2220	3018	3839	
2.0950000/+01,	1.3075957/+01	2221	3019	3840	
2.0900000/+01,	1.3078346/+01	2222	3020	3841	
2.0867200/+01	1.3079917/+01		3021	3842	
2.0828500/+01	1.3081773/+01			3843	
2.0800000/+01,	1.3083142/+01	2223	3022	3844	
2.0750000/+01,	1.3085549/+01	2224	3023	3845	
2.0700000/+01,	1.3087962/+01	2225	3024	3846	
2.0625000/+01,	1.3091591/+01	2226	3025	3847	
2.0600000/+01,	1.3092804/+01	2227	3026	3848	
2.0500000/+01,	1.3097671/+01	2228	3027	3849	
2.0499000/+01	1.3097719/+01			3850	

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2.0400000/+01,	1.3102560/+01	2229	3028	3851
2.0391700/+01	1.3102967/+01			3852
2.0368000/+01	1.3104130/+01		3029	3853
2.0345850/+01	1.3105218/+01			3854
2.0300000/+01,	1.3107474/+01	2230	3030	3855
2.0296099/+01	1.3107667/+01			3856
2.0254150/+01	1.3109736/+01			3857
2.0248049/+01	1.3110037/+01			3858
2.0208300/+01	1.3112002/+01			3859
2.0204500/+01	1.3112190/+01			3860
2.0200000/+01,	1.3112413/+01	2231	3031	3861
2.0164000/+01	1.3114197/+01			3862
2.0152250/+01	1.3114779/+01			3863
2.0151950/+01	1.3114794/+01			3864
2.0112000/+01	1.3116779/+01		3032	3865
2.0103900/+01	1.3117182/+01			3866
2.0100000/+01,	1.3117376/+01	2232	3033	3867
2.0090000/+01	1.3117873/+01			3868
2.0047750/+01	1.3119978/+01			3869
2.0036499/+01	1.3120540/+01			3870
2.0015000/+01	1.3121613/+01			3871
2.0000000/+01,	1.3122363/+01	2233	3034	3872
1.9995500/+01	1.3122588/+01			3873
1.9990000/+01	1.3122863/+01	2234	3035	3874
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1.9900000/+01,	1.3127376/+01	2235	3037	3876
1.9843500/+01	1.3130219/+01			3877
1.9800000/+01,	1.3132413/+01	2236	3038	3878
1.9769000/+01	1.3133980/+01			3879
1.9750000/+01,	1.3134942/+01	2237	3039	3880
1.9700000/+01,	1.3137477/+01	2238	3040	3881
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1.9600000/+01,	1.3142566/+01	2239	3042	3883
1.9500000/+01,	1.3147681/+01	2240	3043	3884
1.9456000/+01	1.3149940/+01		3044	3885
1.9420000/+01	1.3151792/+01			3886
1.9400000/+01,	1.3152822/+01	2241	3045	3887
1.9383000/+01	1.3153699/+01			3888
1.9340000/+01	1.3155920/+01			3889
1.9300000/+01,	1.3157990/+01	2242	3046	3890
1.9292000/+01	1.3158405/+01		3047	3891
1.9290000/+01	1.3158509/+01			3892
1.9239000/+01	1.3161156/+01			3893
1.9200000/+01,	1.3163185/+01	2243	3048	3894
1.9180000/+01,	1.3164227/+01	2244	3049	3895
1.9128000/+01	1.3166942/+01		3050	3896
1.9100000/+01,	1.3168407/+01	2245	3051	3897
1.9065000/+01	1.3170241/+01			3898
1.9055000/+01	1.3170766/+01			3899
1.9046000/+01	1.3171238/+01		3052	3900

1.9000000/+01,	1.3173656/+01	2246	3053	3901
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1.8911000/+01	1.3178352/+01			3903
1.8900000/+01,	1.3178934/+01	2247	3055	3904
1.8896900/+01	1.3179098/+01			3905
1.8848450/+01	1.3181665/+01			3906
1.8800000/+01	1.3184239/+01	2248	3056	3907
1.8751550/+01	1.3186819/+01			3908
1.8745000/+01	1.3187168/+01			3909
1.8703100/+01	1.3189406/+01			3910
1.8700800/+01	1.3189529/+01			3911
1.8700000/+01,	1.3189572/+01	2249	3057	3912
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1.8500000/+01,	1.3200325/+01	2251	3061	3916
1.8474000/+01	1.3201731/+01			3917
1.8472000/+01	1.3201839/+01		3062	3918
1.8412000/+01	1.3205093/+01			3919
1.8400000/+01,	1.3205745/+01	2252	3063	3920
1.8356000/+01	1.3208139/+01			3921
1.8315500/+01	1.3210348/+01			3922
1.8308000/+01	1.3210757/+01		3064	3923
1.8300000/+01,	1.3211194/+01	2253	3065	3924
1.8244000/+01	1.3214259/+01			3925
1.8200000/+01,	1.3216674/+01	2254	3066	3926
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1.8188000/+01	1.3217334/+01			3928
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1.8148250/+01	1.3219521/+01			3930
1.8144000/+01	1.3219756/+01		3067	3931
1.8100000/+01,	1.3222184/+01	2255	3068	3932
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1.8003500/+01	1.3227529/+01			3934
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1.7900000/+01,	1.3233295/+01	2257	3070	3937
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1.7831000/+01	1.3237157/+01			3940
1.7800000/+01,	1.3238897/+01	2258	3071	3941
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1.7745000/+01	1.3241992/+01			3944
1.7731100/+01	1.3242775/+01			3945
1.7705500/+01	1.3244220/+01			3946
1.7700000/+01,	1.3244531/+01	2259	3072	3947
1.7687400/+01	1.3245243/+01			3948
1.7665550/+01	1.3246479/+01			3949
1.7655000/+01	1.3247077/+01			3950

1.7643700/+01	1.3247717/+01			3951
1.7600000/+01,	1.3250197/+01	2260	3073	3952
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1.7534450/+01	1.3253928/+01			3954
1.7512600/+01	1.3255175/+01			3955
1.7500000/+01,	1.3255895/+01	2261	3074	3956
1.7488000/+01	1.3256581/+01		3075	3957
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1.7425200/+01	1.3260178/+01			3959
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1.7300000/+01	1.3267389/+01	2263	3077	3961
1.7250400/+01	1.3270260/+01			3962
1.7250000/+01,	1.3270283/+01	2264	3078	3963
1.7230600/+01	1.3271409/+01			3964
1.7206000/+01	1.3272837/+01			3965
1.7200000/+01,	1.3273186/+01	2265	3079	3966
1.7180000/+01	1.3274350/+01			3967
1.7153000/+01	1.3275923/+01			3968
1.7150000/+01	1.3276097/+01			3969
1.7135000/+01	1.3276972/+01			3970
1.7100400/+01	1.3278994/+01			3971
1.7100000/+01,	1.3279017/+01	2266	3080	3972
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1.7047000/+01	1.3282121/+01			3974
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1.7032750/+01	1.3282958/+01			3976
1.7000000/+01,	1.3284882/+01	2267	3082	3977
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1.6967250/+01	1.3286811/+01			3979
1.6934500/+01	1.3288743/+01			3980
1.6900000/+01,	1.3290782/+01	2268	3083	3981
1.6894500/+01	1.3291107/+01			3982
1.6855000/+01	1.3293448/+01			3983
1.6847250/+01	1.3293908/+01			3984
1.6800000/+01,	1.3296717/+01	2269	3084	3985
1.6752750/+01	1.3299533/+01			3986
1.6726000/+01	1.3301131/+01			3987
1.6705500/+01	1.3302357/+01			3988
1.6700300/+01	1.3302669/+01			3989
1.6700000/+01,	1.3302687/+01	2270	3085	3990
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1.6530000/+01	1.3312919/+01			3992
1.6500000/+01,	1.3314735/+01	2272	3087	3993
1.6470000/+01	1.3316555/+01			3994
1.6400000/+01,	1.3320814/+01	2273	3088	3995
1.6393060/+01	1.3321237/+01			3996
1.6346530/+01	1.3324080/+01			3997
1.6345000/+01	1.3324174/+01			3998
1.6300200/+01	1.3326918/+01			3999
1.6300000/+01,	1.3326930/+01	2274	3089	4000

1.6289000/+01	1.3327606/+01			4001
1.6253470/+01	1.3329789/+01			4002
1.6206940/+01	1.3332656/+01			4003
1.6200000/+01,	1.3333084/+01	2275	3090	4004
1.6152000/+01	1.3336052/+01			4005
1.6100150/+01	1.3339267/+01			4006
1.6100000/+01,	1.3339276/+01	2276	3091	4007
1.6040000/+01	1.3343010/+01			4008
1.6000000/+01,	1.3345507/+01	2277	3092	4009
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1.5900100/+01	1.3351770/+01			4011
1.5900000/+01,	1.3351776/+01	2278	3094	4012
1.5855000/+01	1.3354611/+01			4013
1.5800000/+01,	1.3358086/+01	2279	3095	4014
1.5797000/+01	1.3358275/+01			4015
1.5784650/+01	1.3359058/+01			4016
1.5749000/+01	1.3361319/+01			4017
1.5722000/+01	1.3363035/+01			4018
1.5700000/+01,	1.3364435/+01	2280	3096	4019
1.5600000/+01,	1.3370824/+01	2281	3097	4020
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1.5500000/+01,	1.3377255/+01	2282	3099	4022
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1.5400000/+01,	1.3383728/+01	2283	3100	4025
1.5369400/+01	1.3385717/+01			4026
1.5312000/+01	1.3389459/+01			4027
1.5300000/+01,	1.3390243/+01	2284	3101	4028
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1.5295200/+01	1.3390557/+01			4030
1.5247600/+01	1.3393673/+01			4031
1.5200000/+01,	1.3396800/+01	2285	3102	4032
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1.5137500/+01	1.3400920/+01			4034
1.5104800/+01	1.3403083/+01			4035
1.5100000/+01,	1.3403401/+01	2286	3103	4036
1.5099900/+01	1.3403407/+01			4037
1.5000000/+01,	1.3410045/+01	2287	3104	4038
1.4989240/+01	1.3410763/+01			4039
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1.4894900/+01	1.3417077/+01			4043
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1.4834600/+01	1.3421133/+01			4048
1.4808465/+01	1.3422897/+01			4049
1.4802200/+01	1.3423320/+01			4050

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1.4752550/+01	1.3426680/+01			4055
1.4751100/+01	1.3426778/+01			4056
1.4750000/+01,	1.3426852/+01	2292	3109	4057
1.4736155/+01	1.3427792/+01			4058
1.4732000/+01	1.3428074/+01			4059
1.4730800/+01	1.3428155/+01			4060
1.4705100/+01	1.3429201/+01			4061
1.4700000/+01,	1.3430248/+01	2293	3110	4062
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1.4699200/+01	1.3430302/+01			4064
1.4663845/+01	1.3432710/+01			4065
1.4650000/+01,	1.3433655/+01	2294	3111	4066
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1.4645767/+01	1.3433944/+01			4068
1.4627690/+01	1.3435179/+01			4069
1.4600000/+01,	1.3437074/+01	2295	3112	4070
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1.3851000/+01	1.3489738/+01			4109
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1.3650000/+01,	1.3504356/+01	2314	3132	4120
1.3615350/+01	1.3506898/+01			4121
1.3600000/+01,	1.3508026/+01	2315	3133	4122
1.3565000/+01	1.3510603/+01			4123
1.3550000/+01,	1.3511709/+01	2316	3134	4124
1.3500000/+01,	1.3515406/+01	2317	3135	4125
1.3450000/+01,	1.3519116/+01	2318	3136	4126
1.3400000/+01,	1.3522841/+01	2319	3137	4127
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1.3350000/+01,	1.3526579/+01	2320	3138	4129
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1.3302000/+01	1.3530181/+01			4131
1.3300000/+01,	1.3530331/+01	2321	3139	4132
1.3253400/+01	1.3533841/+01			4133
1.3250000/+01,	1.3534098/+01	2322	3140	4134
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1.3230000/+01	1.3535608/+01			4136
1.3206800/+01	1.3537363/+01			4137
1.3200000/+01,	1.3537879/+01	2323	3141	4138
1.3150000/+01,	1.3541674/+01	2324	3142	4139
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1.3000000/+01	1.3553146/+01	2327	3145	4143
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1.2871250/+01	1.3563099/+01			4146
1.2868000/+01	1.3563352/+01			4147
1.2850000/+01,	1.3564752/+01	2330	3148	4148
1.2847000/+01	1.3564985/+01			4149
1.2803000/+01	1.3568416/+01			4150

140 28000000/+01,	1.3568650/+01	2331	3149	4151
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1.2667000/+01	1.3579095/+01			4158
1.2652400/+01	1.3580248/+01			4159
1.2650000/+01,	1.3580438/+01	2334	3152	4160
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1.2600000/+01,	1.3584399/+01	2335	3153	4162
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1.2547500/+01	1.3588574/+01			4164
1.2500000/+01,	1.3592367/+01	2337	3155	4165
1.2450000/+01,	1.3596375/+01	2338	3156	4166
1.2400000/+01,	1.3600399/+01	2339	3157	4167
1.2394200/+01	1.3600867/+01			4168
1.2368000/+01	1.3602983/+01			4169
1.2350000/+01,	1.3604439/+01	2340	3158	4170
1.2347100/+01	1.3604674/+01			4171
1.2300000/+01,	1.3608496/+01	2341	3159	4172
1.2299200/+01	1.3608561/+01			4173
1.2264700/+01	1.3611370/+01			4174
1.2252900/+01	1.3612333/+01			4175
1.2250000/+01,	1.3612570/+01	2342	3160	4176
1.2232350/+01	1.3614011/+01			4177
1.2205800/+01	1.3616184/+01			4178
1.2200900/+01	1.3616586/+01			4179
1.2200000/+01,	1.3616659/+01	2343	3161	4180
1.2167650/+01	1.3619314/+01			4181
1.2159000/+01	1.3620026/+01			4182
1.2150450/+01	1.3620729/+01			4183
1.2150000/+01,	1.3620766/+01	2344	3162	4184
1.2135300/+01	1.3621977/+01			4185
1.2100000/+01	1.3624890/+01	2345	3163	4186
1.2050000/+01,	1.3629031/+01	2346	3164	4187
1.2049550/+01	1.3629068/+01			4188
1.2035000/+01	1.3630276/+01			4189
1.2029500/+01	1.3630733/+01			4190
1.2000000/+01,	1.3633189/+01	2347	3165	4191
1.1999100/+01	1.3633264/+01			4192
1.1997125/+01	1.3633428/+01			4193
1.1964750/+01	1.3636131/+01			4194
1.1950000/+01,	1.3637364/+01	2348	3166	4195
1.1948562/+01	1.3637484/+01			4196
1.1932375/+01	1.3638840/+01			4197
1.1905500/+01	1.3641095/+01			4198
1.1900000/+01,	1.3641557/+01	2349	3167	4199
1.1867625/+01	1.3644281/+01			4200

1.1851438/+01	1.3645646/+01			4201
1.1850000/+01,	1.3645768/+01	2350	3168	4202
1.1835250/+01	1.3647013/+01			4203
1.1802875/+01	1.3649752/+01			4204
1.1800000/+01,	1.3649996/+01	2351	3169	4205
1.1796700/+01	1.3650275/+01			4206
1.1770500/+01	1.3652499/+01			4207
1.1750000/+01,	1.3654242/+01	2352	3170	4208
1.1748350/+01	1.3654383/+01			4209
1.1748000/+01	1.3654412/+01			4210
1.1730500/+01	1.3655903/+01			4211
1.1720250/+01	1.3656777/+01			4212
1.1700000/+01,	1.3658507/+01	2353	3171	4213
1.1670000/+01	1.3661074/+01			4214
1.1656800/+01	1.3662206/+01			4215
1.1651650/+01	1.3662647/+01			4216
1.1650000/+01,	1.3662789/+01	2354	3172	4217
1.1641000/+01	1.3663562/+01			4218
1.1619750/+01	1.3665389/+01			4219
1.1603300/+01	1.3666806/+01			4220
1.1600000/+01,	1.3667090/+01	2355	3173	4221
1.1569500/+01	1.3669723/+01			4222
1.1553000/+01	1.3671150/+01			4223
1.1550000/+01,	1.3671410/+01	2356	3174	4224
1.1500000/+01,	1.3675748/+01	2357	3175	4225
1.1450000/+01,	1.3680106/+01	2358	3176	4226
1.1449000/+01	1.3680193/+01			4227
1.1400000/+01,	1.3684482/+01	2359	3177	4228
1.1358000/+01	1.3688173/+01			4229
1.1350000/+01,	1.3688878/+01	2360	3178	4230
1.1300000/+01,	1.3693293/+01	2361	3179	4231
1.1293400/+01	1.3693877/+01			4232
1.1252500/+01	1.3697505/+01			4233
1.1250000/+01,	1.3697727/+01	2362	3180	4234
1.1202550/+01	1.3701954/+01			4235
1.1200000/+01,	1.3702182/+01	2363	3181	4236
1.1193500/+01	1.3702762/+01			4237
1.1150000/+01,	1.3706656/+01	2364	3182	4238
1.1146750/+01	1.3706947/+01			4239
1.1115000/+01	1.3709800/+01		3183	4240
1.1111700/+01	1.3710097/+01			4241
1.1102000/+01	1.3710970/+01			4242
1.1100000/+01,	1.3711150/+01	2365	3184	4243
1.1091000/+01	1.3711961/+01			4244
1.1084500/+01	1.3712548/+01			4245
1.1066275/+01	1.3714193/+01			4246
1.1053250/+01	1.3715371/+01			4247
1.1050000/+01,	1.3715665/+01	2366	3185	4248
1.1020850/+01	1.3718306/+01			4249
1.1006500/+01	1.3719609/+01			4250

1.1000000/+01,	1.3720200/+01	2367	3186	4251
1.0950000/+01,	1.3724756/+01	2368	3187	4252
1.0930000/+01	1.3726584/+01			4253
1.0928750/+01	1.3726698/+01			4254
1.0900000/+01,	1.3729333/+01	2369	3188	4255
1.0850000/+01,	1.3733930/+01	2370	3189	4256
1.0839150/+01	1.3734931/+01			4257
1.0800000/+01,	1.3738549/+01	2371	3190	4258
1.0793725/+01	1.3739130/+01			4259
1.0750000/+01,	1.3743190/+01	2372	3191	4260
1.0748300/+01	1.3743348/+01			4261
1.0733000/+01	1.3744772/+01			4262
1.0700000/+01,	1.3747852/+01	2373	3192	4263
1.0665000/+01	1.3751128/+01			4264
1.0657450/+01	1.3751836/+01			4265
1.0650000/+01,	1.3752535/+01	2374	3193	4266
1.0600000/+01,	1.3757241/+01	2375	3194	4267
1.0594900/+01	1.3757723/+01			4268
1.0575000/+01,	1.3759602/+01	2376	3195	4269
1.0566600/+01	1.3760397/+01			4270
1.0550000/+01,	1.3761970/+01	2377	3196	4271
1.0547450/+01	1.3762211/+01			4272
1.0500000/+01,	1.3766720/+01	2378	3197	4273
1.0452550/+01	1.3771249/+01			4274
1.0450000/+01,	1.3771493/+01	2379	3198	4275
1.0430000/+01,	1.3773409/+01	2380	3199	4276
1.0405100/+01	1.3775799/+01			4277
1.0400000/+01,	1.3776290/+01	2381	3200	4278
1.0385000/+01	1.3777733/+01		3201	4279
1.0350000/+01,	1.3781109/+01	2382	3202	4280
1.0300000/+01,	1.3785951/+01	2383	3203	4281
1.0250000/+01,	1.3790818/+01	2384	3204	4282
1.0237500/+01,	1.3792038/+01	2385	3205	4283
1.0225000/+01,	1.3793260/+01	2386	3206	4284
1.0218750/+01,	1.3793871/+01	2387	3207	4285
1.0212500/+01,	1.3794483/+01	2388	3208	4286
1.0203200/+01	1.3795394/+01			4287
1.0200200/+01	1.3795688/+01			4288
1.0200000/+01,	1.3795708/+01	2389	3209	4289
1.0187500/+01,	1.3796934/+01	2390	3210	4290
1.0181250/+01,	1.3797548/+01	2391	3211	4291
1.0175000/+01,	1.3798167/+01	2392	3212	4292
1.0165000/+01	1.3799145/+01			4293
1.0162500/+01,	1.3799391/+01	2393	3213	4294
1.0150100/+01	1.3800612/+01			4295
1.0150000/+01,	1.3800622/+01	2394	3214	4296
1.0100000/+01,	1.3805560/+01	2395	3215	4297
1.0050000/+01,	1.3810523/+01	2396	3216	4298
1.0049900/+01	1.3810533/+01			4299
1.0000000/+01,	1.3815510/+01	2397	3217	4300

9.9998000/+00	1.3815530/+01			4301
9.9769999/+00	1.3817813/+01			4302
9.9499999/+00	1.3820523/+01	2398	3218	4303
9.9159999/+00	1.3823946/+01			4304
9.9000000/+00	1.3825561/+01	2399	3219	4305
9.8499999/+00	1.3830624/+01	2400	3220	4306
9.8399999/+00	1.3831640/+01	2401	3221	4307
9.8000000/+00	1.3835713/+01	2402	3222	4308
9.7600000/+00	1.3839803/+01			4309
9.7500000/+00	1.3840828/+01	2403	3223	4310
9.6999999/+00	1.3845969/+01	2404	3224	4311
9.6500000/+00	1.3851137/+01	2405	3225	4312
9.5999999/+00	1.3856332/+01	2406	3226	4313
9.5510001/+00	1.3861449/+01			4314
9.5500000/+00	1.3861554/+01	2407	3227	4315
9.5000000/+00	1.3866804/+01	2408	3228	4316
9.4499999/+00	1.3872081/+01	2409	3229	4317
9.4000000/+00	1.3877386/+01	2410	3230	4318
9.3649999/+00	1.3881116/+01			4319
9.3499999/+00	1.3882719/+01	2411	3231	4320
9.3100001/+00	1.3887006/+01			4321
9.3000000/+00	1.3888081/+01	2412	3232	4322
9.2500000/+00	1.3893472/+01	2413	3233	4323
9.1999999/+00	1.3898892/+01	2414	3234	4324
9.1539999/+00	1.3903905/+01			4325
9.1500000/+00	1.3904342/+01	2415	3235	4326
9.1130000/+00	1.3908394/+01			4327
9.1069999/+00	1.3909052/+01			4328
9.0999999/+00	1.3909821/+01	2416	3236	4329
9.0979999/+00	1.3910041/+01			4330
9.0760000/+00	1.3912462/+01			4331
9.0599999/+00	1.3914226/+01			4332
9.0596499/+00	1.3914265/+01			4333
9.0500000/+00	1.3915331/+01	2417	3237	4334
9.0380000/+00	1.3916658/+01			4335
9.0130000/+00	1.3919427/+01			4336
9.0000000/+00	1.3920871/+01	2418	3238	4337
8.9727999/+00	1.3923898/+01			4338
8.9660000/+00	1.3924656/+01			4339
8.9620000/+00	1.3925102/+01			4340
8.9499999/+00	1.3926442/+01	2419	3239	4341
8.9240000/+00	1.3929351/+01			4342
8.9203999/+00	1.3929755/+01			4343
8.9000000/+00	1.3932044/+01	2420	3240	4344
8.8679999/+00	1.3935646/+01			4345
8.8499999/+00	1.3937678/+01	2421	3241	4346
8.8155999/+00	1.3941573/+01			4347
8.8000000/+00	1.3943344/+01	2422	3242	4348
8.7631999/+00	1.3947534/+01			4349
8.7500000/+00	1.3949042/+01	2423	3243	4350

8.7200000/+00	1.3952476/+01		3244	4351
8.6999999/+00	1.3954772/+01	2424	3245	4352
8.6625000/+00	1.3959092/+01			4353
8.6530999/+00	1.3960178/+01			4354
8.6500000/+00	1.3960536/+01	2425	3246	4355
8.5999999/+00	1.3966333/+01	2426	3247	4356
8.5500000/+00	1.3972164/+01	2427	3248	4357
8.5315999/+00	1.3974319/+01			4358
8.5000000/+00	1.3978029/+01	2428	3249	4359
8.4499999/+00	1.3983929/+01	2429	3250	4360
8.4494998/+00	1.3983988/+01		3251	4361
8.4219999/+00	1.3987248/+01			4362
8.4000000/+00	1.3989864/+01	2430	3252	4363
8.3499999/+00	1.3995834/+01	2431	3253	4364
8.3152872/+00	1.4000000/+01	2432	3254	4365
8.3000000/+00	1.4001840/+01	2433	3255	4366
8.2876998/+00	1.4003323/+01			4367
8.2500000/+00	1.4007882/+01	2434	3256	4368
8.2400000/+00	1.4009095/+01			4369
8.2045001/+00	1.4013413/+01			4370
8.1999999/+00	1.4013961/+01	2435	3257	4371
8.1938498/+00	1.4014712/+01			4372
8.1909999/+00	1.4015059/+01			4373
8.1729999/+00	1.4017259/+01		3258	4374
8.1652399/+00	1.4018210/+01			4375
8.1500000/+00	1.4020078/+01	2436	3259	4376
8.1200000/+00	1.4023765/+01			4377
8.0999999/+00	1.4026231/+01	2437	3260	4378
8.0914999/+00	1.4027281/+01			4379
8.0500000/+00	1.4032423/+01	2438	3261	4380
8.0207499/+00	1.4036064/+01			4381
8.0061500/+00	1.4037886/+01			4382
8.0026199/+00	1.4038326/+01			4383
8.0000000/+00	1.4038654/+01	2439	3262	4384
7.9619650/+00	1.4043420/+01			4385
7.9500000/+00	1.4044924/+01	2440	3263	4386
7.9300000/+00	1.4047443/+01	2441	3264	4387
7.9213099/+00	1.4048539/+01			4388
7.9122999/+00	1.4049677/+01			4389
7.9009824/+00	1.4051108/+01			4390
7.9000000/+00	1.4051233/+01	2442	3265	4391
7.8806549/+00	1.4053684/+01			4392
7.8792500/+00	1.4053863/+01			4393
7.8500000/+00	1.4057582/+01	2443	3266	4394
7.8411999/+00	1.4058704/+01		3267	4395
7.8400000/+00	1.4058857/+01			4396
7.8199999/+00	1.4061411/+01			4397
7.8085000/+00	1.4062883/+01			4398
7.8000000/+00	1.4063972/+01	2444	3268	4399
7.7993450/+00	1.4064056/+01			4400

7.7790175/+00	1.4066665/+01			4401
7.7586900/+00	1.4069282/+01			4402
7.7500000/+00,	1.4070403/+01	2445	3269	4403
7.7305999/+00	1.4072909/+01		3270	4404
7.7180350/+00	1.4074536/+01			4405
7.7029499/+00	1.4076492/+01		3271	4406
7.7000000/+00,	1.4076875/+01	2446	3272	4407
7.6931599/+00	1.4077764/+01			4408
7.6773800/+00	1.4079817/+01			4409
7.6752999/+00	1.4080088/+01		3273	4410
7.6614749/+00	1.4081891/+01		3274	4411
7.6500000/+00,	1.4083390/+01	2447	3275	4412
7.6476499/+00	1.4083697/+01		3276	4413
7.6465799/+00	1.4083837/+01			4414
7.6199999/+00	1.4087319/+01		3277	4415
7.6000000/+00,	1.4089947/+01	2448	3278	4416
7.5923499/+00	1.4090955/+01		3279	4417
7.5809999/+00	1.4092450/+01			4418
7.5785249/+00	1.4092777/+01		3280	4419
7.5651999/+00	1.4094537/+01			4420
7.5646999/+00	1.4094603/+01		3281	4421
7.5570000/+00	1.4095621/+01			4422
7.5534200/+00	1.4096095/+01			4423
7.5500000/+00,	1.4096548/+01	2449	3282	4424
7.5370499/+00	1.4098265/+01		3283	4425
7.5175999/+00	1.4100848/+01			4426
7.5147600/+00	1.4101226/+01			4427
7.5094000/+00	1.4101940/+01		3284	4428
7.5068400/+00	1.4102281/+01			4429
7.5000000/+00,	1.4103193/+01	2450	3285	4430
7.4980001/+00	1.4103459/+01			4431
7.4700000/+00	1.4107201/+01			4432
7.4500000/+00,	1.4109881/+01	2451	3286	4433
7.4224000/+00	1.4113593/+01			4434
7.4000000/+00,	1.4116616/+01	2452	3287	4435
7.3988000/+00	1.4116778/+01		3288	4436
7.3748000/+00	1.4120027/+01			4437
7.3500000/+00,	1.4123395/+01	2453	3289	4438
7.3350999/+00	1.4125425/+01			4439
7.3000000/+00,	1.4130221/+01	2454	3290	4440
7.2875499/+00	1.4131928/+01			4441
7.2500000/+00,	1.4137094/+01	2455	3291	4442
7.2399999/+00	1.4138474/+01			4443
7.2000000/+00,	1.4144015/+01	2456	3292	4444
7.1924500/+00	1.4145064/+01			4445
7.1500000/+00,	1.4150983/+01	2457	3293	4446
7.1449000/+00	1.4151697/+01			4447
7.1219999/+00	1.4154907/+01			4448
7.1000000/+00,	1.4158001/+01	2458	3294	4449
7.0670000/+00	1.4162659/+01		3295	4450

7.0550000/+00,	1.4164352/+01	2459	3296	4451
7.0500000/+00,	1.4165068/+01	2460	3297	4452
7.0269000/+00	1.4168350/+01			4453
7.0000000/+00,	1.4172185/+01	2461	3298	4454
6.9736999/+00	1.4175950/+01			4455
6.9500000/+00,	1.4179354/+01	2462	3299	4456
6.9399999/+00	1.4180794/+01	2463	3300	4457
6.9300000/+00,	1.4182236/+01	2464	3301	4458
6.9000000/+00,	1.4186574/+01	2465	3302	4459
6.8500000/+00,	1.4193847/+01	2466	3303	4460
6.8000000/+00,	1.4201173/+01	2467	3304	4461
6.7905000/+00	1.4202571/+01		3305	4462
6.7800000/+00,	1.4204118/+01	2468	3306	4463
6.7500000/+00,	1.4208553/+01	2469	3307	4464
6.7300000/+00,	1.4211520/+01	2470	3308	4465
6.7175000/+00,	1.4213379/+01	2471	3309	4466
6.7050000/+00,	1.4215242/+01	2472	3310	4467
6.7000000/+00,	1.4215988/+01	2473	3311	4468
6.6987500/+00,	1.4216174/+01	2474	3312	4469
6.6925000/+00,	1.4217108/+01	2475	3313	4470
6.6800000/+00,	1.4218977/+01	2476	3314	4471
6.6684000/+00	1.4220715/+01			4472
6.6675000/+00,	1.4220850/+01	2477	3315	4473
6.6612500/+00,	1.4221788/+01	2478	3316	4474
6.6550000/+00,	1.4222727/+01	2479	3317	4475
6.6500000/+00,	1.4223479/+01	2480	3318	4476
6.6425000/+00,	1.4224607/+01	2481	3319	4477
6.6300000/+00,	1.4226491/+01	2482	3320	4478
6.6203500/+00	1.4227947/+01			4479
6.6000000/+00,	1.4231026/+01	2483	3321	4480
6.5990999/+00	1.4231162/+01			4481
6.5800000/+00,	1.4234061/+01	2484	3322	4482
6.5500000/+00,	1.4238630/+01	2485	3323	4483
6.5445499/+00	1.4239463/+01			4484
6.5441999/+00	1.4239516/+01			4485
6.5350000/+00	1.4240923/+01			4486
6.5180000/+00	1.4243528/+01			4487
6.5120999/+00	1.4244433/+01			4488
6.5000000/+00,	1.4246293/+01	2486	3324	4489
6.4899999/+00	1.4247833/+01			4490
6.4800000/+00	1.4249375/+01			4491
6.4649999/+00	1.4251692/+01		3325	4492
6.4500000/+00,	1.4254015/+01	2487	3326	4493
6.4479000/+00	1.4254341/+01			4494
6.4399999/+00	1.4255567/+01			4495
6.4354500/+00	1.4256274/+01			4496
6.4300000/+00,	1.4257121/+01	2488	3327	4497
6.4158000/+00	1.4259332/+01			4498
6.4013999/+00	1.4261579/+01			4499
6.4000000/+00,	1.4261797/+01	2489	3328	4500

6.3809000/+00	1.4264786/+01			4501
6.3807000/+00	1.4264818/+01			4502
6.3500000/+00,	1.4269641/+01	2490	3329	4503
6.3153500/+00	1.4275112/+01			4504
6.3050000/+00,	1.4276752/+01	2491	3330	4505
6.3000000/+00,	1.4277546/+01	2492	3331	4506
6.2890000/+00	1.4279293/+01			4507
6.2500000/+00,	1.4285514/+01	2493	3332	4508
6.2229999/+00	1.4289843/+01			4509
6.2000000/+00,	1.4293546/+01	2494	3333	4510
6.1846500/+00	1.4296025/+01			4511
6.1500000/+00,	1.4301643/+01	2495	3334	4512
6.1333699/+00	1.4304351/+01			4513
6.1193000/+00	1.4306648/+01			4514
6.1000000/+00,	1.4309807/+01	2496	3335	4515
6.0866849/+00	1.4311992/+01			4516
6.0500000/+00,	1.4318037/+01	2497	3336	4517
6.0400000/+00	1.4319691/+01			4518
6.0000000/+00,	1.4326336/+01	2498	3337	4519
5.9933150/+00	1.4327451/+01			4520
5.9500000/+00,	1.4334704/+01	2499	3338	4521
5.9466300/+00	1.4335271/+01			4522
5.9249999/+00	1.4338915/+01	2500	3339	4523
5.9000000/+00,	1.4343143/+01	2501	3340	4524
5.8500000/+00,	1.4351654/+01	2502	3341	4525
5.8380000/+00	1.4353707/+01			4526
5.8000000/+00,	1.4360237/+01	2503	3342	4527
5.7799999/+00	1.4363692/+01	2504	3343	4528
5.7500000/+00,	1.4368896/+01	2505	3344	4529
5.7405999/+00	1.4370532/+01			4530
5.7000000/+00,	1.4377629/+01	2506	3345	4531
5.6799999/+00	1.4381144/+01			4532
5.6500000/+00,	1.4386440/+01	2507	3346	4533
5.6059999/+00	1.4394258/+01	2508	3347	4534
5.6000000/+00,	1.4395329/+01	2509	3348	4535
5.5900000/+00	1.4397116/+01	2510	3349	4536
5.5631399/+00	1.4401933/+01			4537
5.5500000/+00,	1.4404297/+01	2511	3350	4538
5.5479999/+00	1.4404658/+01	2512	3351	4539
5.5334999/+00	1.4407275/+01	2513	3352	4540
5.5189999/+00	1.4409899/+01	2514	3353	4541
5.5165699/+00	1.4410339/+01			4542
5.5117499/+00	1.4411213/+01	2515	3354	4543
5.5044999/+00	1.4412529/+01	2516	3355	4544
5.5000000/+00,	1.4413347/+01	2517	3356	4545
5.4899999/+00	1.4415167/+01	2518	3357	4546
5.4755000/+00	1.4417812/+01	2519	3358	4547
5.4700000/+00	1.4418817/+01			4548
5.4682500/+00	1.4419137/+01	2520	3359	4549
5.4610000/+00	1.4420463/+01	2521	3360	4550

5.4600000/+00	1.4420646/+01	2522	3361	4551
5.4500000/+00	1.4422480/+01	2523	3362	4552
5.4465000/+00	1.4423122/+01	2524	3363	4553
5.4320000/+00	1.4425788/+01	2525	3364	4554
5.4300000/+00	1.4426156/+01	2526	3365	4555
5.4234300/+00	1.4427367/+01			4556
5.4000000/+00	1.4431696/+01	2527	3366	4557
5.3990000/+00	1.4431882/+01			4558
5.3768600/+00	1.4435991/+01			4559
5.3740000/+00	1.4436523/+01	2528	3367	4560
5.3500000/+00	1.4440999/+01	2529	3368	4561
5.3040000/+00	1.4449634/+01	2530	3369	4562
5.3019999/+00	1.4450011/+01			4563
5.3000000/+00	1.4450389/+01	2531	3370	4564
5.2520000/+00	1.4459486/+01	2532	3371	4565
5.2500000/+00	1.4459867/+01	2533	3372	4566
5.2390000/+00	1.4461965/+01	2534	3373	4567
5.2260000/+00	1.4464449/+01	2535	3374	4568
5.2194999/+00	1.4465694/+01	2536	3375	4569
5.2129999/+00	1.4466940/+01	2537	3376	4570
5.2000000/+00	1.4469437/+01	2538	3377	4571
5.1900001/+00	1.4471362/+01			4572
5.1870000/+00	1.4471940/+01	2539	3378	4573
5.1805000/+00	1.4473194/+01	2540	3379	4574
5.1740000/+00	1.4474449/+01	2541	3380	4575
5.1610000/+00	1.4476965/+01	2542	3381	4576
5.1500000/+00	1.4479099/+01	2543	3382	4577
5.1480000/+00	1.4479487/+01	2544	3383	4578
5.1063000/+00	1.4487620/+01			4579
5.1000000/+00	1.4488855/+01	2545	3384	4580
5.0960000/+00	1.4489639/+01	2546	3385	4581
5.0589999/+00	1.4496927/+01			4582
5.0550000/+00	1.4497718/+01	2547	3386	4583
5.0500000/+00	1.4498707/+01	2548	3387	4584
5.0244999/+00	1.4503769/+01			4585
5.0000000/+00	1.4508657/+01	2549	3388	4586
4.9899999/+00	1.4510660/+01			4587
4.9555000/+00	1.4517597/+01			4588
4.9500000/+00	1.4518708/+01	2550	3389	4589
4.9430000/+00	1.4520123/+01			4590
4.9400000/+00	1.4520730/+01	2551	3390	4591
4.9210000/+00	1.4524584/+01			4592
4.9030599/+00	1.4528236/+01			4593
4.9000000/+00	1.4528860/+01	2552	3391	4594
4.8565299/+00	1.4537771/+01			4595
4.8550000/+00	1.4538086/+01		3392	4596
4.8500000/+00	1.4539117/+01	2553	3393	4597
4.8375000/+00	1.4541697/+01		3394	4598
4.8100000/+00	1.4547398/+01	2554	3395	4599
4.8000000/+00	1.4549479/+01	2555	3396	4600

4.7634700/+00	1.4557112/+01			4601
4.7500000/+00,	1.4559951/+01	2556	3397	4602
4.7169400/+00	1.4566935/+01			4603
4.7000000/+00,	1.4570533/+01	2557	3398	4604
4.6500000/+00,	1.4581228/+01	2558	3399	4605
4.6050000/+00	1.4590953/+01		3400	4606
4.6000000/+00,	1.4592039/+01	2559	3401	4607
4.5874000/+00	1.4594782/+01			4608
4.5500000/+00,	1.4602968/+01	2560	3402	4609
4.5386000/+00	1.4605477/+01			4610
4.5000000/+00,	1.4614018/+01	2561	3403	4611
4.4900000/+00	1.4616243/+01			4612
4.4500000/+00,	1.4625191/+01	2562	3404	4613
4.4000000/+00,	1.4636491/+01	2563	3405	4614
4.3500000/+00,	1.4647920/+01	2564	3406	4615
4.3260000/+00	1.4653452/+01		3407	4616
4.3065000/+00	1.4657970/+01			4617
4.3000000/+00,	1.4659480/+01	2565	3408	4618
4.2840000/+00	1.4663208/+01			4619
4.2500000/+00,	1.4671177/+01	2566	3409	4620
4.2330000/+00	1.4675184/+01		3410	4621
4.2097499/+00	1.4680692/+01		3411	4622
4.2000000/+00,	1.4683011/+01	2567	3412	4623
4.1865000/+00	1.4686230/+01		3413	4624
4.1748750/+00	1.4689011/+01		3414	4625
4.1632500/+00	1.4691800/+01		3415	4626
4.1500000/+00,	1.4694987/+01	2568	3416	4627
4.1400000/+00	1.4697400/+01		3417	4628
4.1167500/+00	1.4703032/+01		3418	4629
4.1051250/+00	1.4705859/+01		3419	4630
4.1000000/+00,	1.4707109/+01	2569	3420	4631
4.0935000/+00	1.4708695/+01		3421	4632
4.0702500/+00	1.4714391/+01		3422	4633
4.0500000/+00,	1.4719379/+01	2570	3423	4634
4.0470000/+00	1.4720120/+01		3424	4635
4.0450000/+00	1.4720614/+01			4636
4.0400000/+00	1.4721851/+01	2571	3425	4637
4.0099999/+00	1.4729304/+01			4638
4.0000000/+00,	1.4731801/+01	2572	3426	4639
3.9541000/+00	1.4743342/+01			4640
3.9540000/+00	1.4743368/+01		3427	4641
3.9500000/+00,	1.4744380/+01	2573	3420	4642
3.9490499/+00	1.4744620/+01			4643
3.9440000/+00	1.4745900/+01			4644
3.9389500/+00	1.4747181/+01			4645
3.9339000/+00	1.4748464/+01			4646
3.9278636/+00,	1.4750000/+01	2574	3429	4647
3.9000000/+00,	1.4757119/+01	2575	3430	4648
3.8794000/+00	1.4762415/+01			4649
3.8735999/+00	1.4763911/+01			4650

3.8535000/+00	1.4769114/+01			4651
3.8500000/+00,	1.4770022/+01	2576	3431	4652
3.8430000/+00	1.4771842/+01			4653
3.8000000/+00,	1.4783094/+01	2577	3432	4654
3.7977400/+00	1.4783689/+01			4655
3.7750000/+00	1.4789695/+01			4656
3.7745000/+00	1.4789827/+01			4657
3.7538700/+00	1.4795308/+01			4658
3.7500000/+00,	1.4796340/+01	2578	3433	4659
3.7100000/+00	1.4807063/+01			4660
3.7000000/+00,	1.4809763/+01	2579	3434	4661
3.6750000/+00	1.4816542/+01		3435	4662
3.6661300/+00	1.4818959/+01			4663
3.6500000/+00,	1.4823368/+01	2580	3436	4664
3.6222600/+00	1.4830997/+01			4665
3.6042000/+00	1.4835996/+01			4666
3.6000000/+00,	1.4837162/+01	2581	3437	4667
3.5500000/+00,	1.4851148/+01	2582	3438	4668
3.5000000/+00,	1.4865333/+01	2583	3439	4669
3.4970002/+00	1.4866190/+01			4670
3.4618500/+00	1.4876292/+01			4671
3.4610000/+00	1.4876538/+01			4672
3.4500000/+00,	1.4879721/+01	2584	3440	4673
3.4305000/+00	1.4885389/+01			4674
3.4149249/+00	1.4889940/+01			4675
3.4000000/+00,	1.4894320/+01	2585	3441	4676
3.3930000/+00	1.4896381/+01			4677
3.3695000/+00	1.4903331/+01			4678
3.3680000/+00	1.4903776/+01			4679
3.3589000/+00	1.4906482/+01			4680
3.3500000/+00,	1.4909135/+01	2586	3442	4681
3.3435000/+00	1.4911077/+01			4682
3.3390000/+00	1.4912424/+01			4683
3.3210750/+00	1.4917807/+01			4684
3.3000000/+00,	1.4924173/+01	2587	3443	4685
3.2940000/+00	1.4925993/+01			4686
3.2741500/+00	1.4932037/+01			4687
3.2500000/+00,	1.4939440/+01	2588	3444	4688
3.2445000/+00	1.4941134/+01			4689
3.2000000/+00,	1.4954945/+01	2589	3445	4690
3.1950000/+00	1.4956508/+01			4691
3.1500000/+00,	1.4970693/+01	2590	3446	4692
3.1140000/+00	1.4982187/+01			4693
3.1000000/+00,	1.4986693/+01	2591	3447	4694
3.0500000/+00,	1.5002954/+01	2592	3448	4695
3.0000000/+00,	1.5019483/+01	2593	3449	4696
2.9973600/+00	1.5020363/+01			4697
2.9500000/+00,	1.5036290/+01	2594	3450	4698
2.9486800/+00	1.5036738/+01			4699
2.9300000/+00,	1.5043093/+01	2595	3451	4700

2.9000000/+00,	1.5053385/+01	2596	3452	4701
2.8513200/+00	1.5070313/+01			4702
2.8500000/+00,	1.5070776/+01	2597	3453	4703
2.8326000/+00	1.5076900/+01			4704
2.8026400/+00	1.5087533/+01			4705
2.8012200/+00	1.5088040/+01			4706
2.8000000/+00,	1.5088476/+01	2598	3454	4707
2.7900000/+00	1.5092054/+01			4708
2.7704000/+00	1.5099104/+01			4709
2.7566100/+00	1.5104094/+01			4710
2.7535000/+00	1.5105222/+01			4711
2.7500000/+00,	1.5106494/+01	2599	3455	4712
2.7120000/+00	1.5120409/+01			4713
2.7000000/+00,	1.5124844/+01	2600	3456	4714
2.6967500/+00	1.5126048/+01			4715
2.6906000/+00	1.5128331/+01			4716
2.6673900/+00	1.5136995/+01			4717
2.6500000/+00,	1.5143536/+01	2601	3457	4718
2.6400000/+00	1.5147316/+01			4719
2.6227800/+00	1.5153860/+01			4720
2.6000000/+00,	1.5162584/+01	2602	3458	4721
2.5832500/+00	1.5169047/+01			4722
2.5500000/+00,	1.5182002/+01	2603	3459	4723
2.5462900/+00	1.5183458/+01			4724
2.5265000/+00	1.5191260/+01			4725
2.5011449/+00	1.5201347/+01			4726
2.5000000/+00,	1.5201805/+01	2604	3460	4727
2.4560000/+00	1.5219561/+01			4728
2.4500000/+00,	1.5222007/+01	2605	3461	4729
2.4295000/+00	1.5230410/+01			4730
2.4108550/+00	1.5238114/+01			4731
2.4000000/+00,	1.5242627/+01	2606	3462	4732
2.3657100/+00	1.5257017/+01			4733
2.3500000/+00,	1.5263680/+01	2607	3463	4734
2.3040000/+00	1.5283449/+01			4735
2.3000000/+00,	1.5285186/+01	2608	3464	4736
2.2500000/+00,	1.5307165/+01	2609	3465	4737
2.2000000/+00,	1.5329638/+01	2610	3466	4738
2.1875000/+00	1.5335336/+01			4739
2.1500000/+00,	1.5352628/+01	2611	3467	4740
2.1204000/+00	1.5366491/+01			4741
2.1000000/+00,	1.5376158/+01	2612	3468	4742
2.0652000/+00	1.5392869/+01			4743
2.0500000/+00,	1.5400256/+01	2613	3469	4744
2.0100000/+00	1.5419961/+01			4745
2.0000000/+00,	1.5424948/+01	2614	3470	4746
1.9975000/+00	1.5426199/+01			4747
1.9800000/+00,	1.5434999/+01	2615	3471	4748
1.9600000/+00,	1.5445151/+01	2616	3472	4749
1.9548000/+00	1.5447807/+01			4750

1.9400000/+00,	1.5455407/+01	2617	3473	4751
1.9330400/+00	1.5459002/+01			4752
1.9264000/+00	1.5462443/+01			4753
1.9250000/+00	1.5463170/+01			4754
1.9200000/+00,	1.5465770/+01	2618	3474	4755
1.9000000/+00,	1.5476242/+01	2619	3475	4756
1.8996000/+00	1.5476452/+01			4757
1.8865200/+00	1.5483361/+01			4758
1.8800000/+00,	1.5486824/+01	2620	3476	4759
1.8600000/+00,	1.5497519/+01	2621	3477	4760
1.8553914/+00,	1.5500000/+01	2622	3478	4761
1.8530600/+00	1.5501257/+01			4762
1.8450000/+00	1.5505616/+01			4763
1.8400000/+00,	1.5508330/+01	2623	3479	4764
1.8200000/+00,	1.5519259/+01	2624	3480	4765
1.8198000/+00	1.5519369/+01			4766
1.8065300/+00	1.5526688/+01			4767
1.8000000/+00,	1.5530309/+01	2625	3481	4768
1.7985000/+00	1.5531142/+01			4769
1.7934800/+00	1.5533938/+01			4770
1.7800000/+00,	1.5541482/+01	2626	3482	4771
1.7600000/+00,	1.5552782/+01	2627	3483	4772
1.7462600/+00	1.5560218/+01			4773
1.7400000/+00,	1.5564210/+01	2628	3484	4774
1.7200000/+00,	1.5575771/+01	2629	3485	4775
1.7134700/+00	1.5579575/+01			4776
1.7000000/+00,	1.5587467/+01	2630	3486	4777
1.6800000/+00,	1.5599302/+01	2631	3487	4778
1.6669400/+00	1.5607106/+01			4779
1.6600000/+00,	1.5611278/+01	2632	3488	4780
1.6400000/+00,	1.5623399/+01	2633	3489	4781
1.6200000/+00,	1.5635669/+01	2634	3490	4782
1.6000000/+00,	1.5648092/+01	2635	3491	4783
1.5800000/+00,	1.5660670/+01	2636	3492	4784
1.5600000/+00,	1.5673410/+01	2637	3493	4785
1.5531000/+00	1.5677842/+01			4786
1.5400000/+00,	1.5686313/+01	2638	3494	4787
1.5200000/+00,	1.5699385/+01	2639	3495	4788
1.5050000/+00	1.5709302/+01			4789
1.5000000/+00,	1.5712630/+01	2640	3496	4790
1.4880000/+00	1.5720662/+01			4791
1.4800000/+00,	1.5726053/+01	2641	3497	4792
1.4600000/+00,	1.5739659/+01	2642	3498	4793
1.4400000/+00,	1.5753452/+01	2643	3499	4794
1.4200000/+00,	1.5767438/+01	2644	3500	4795
1.4000000/+00,	1.5781623/+01	2645	3501	4796
1.3986000/+00	1.5782624/+01			4797
1.3800000/+00,	1.5796012/+01	2646	3502	4798
1.3600000/+00,	1.5810611/+01	2647	3503	4799
1.3400000/+00,	1.5825426/+01	2648	3504	4800

1.3200000/+00,	1.5840464/+01	2649	3505	4801
1.3000000/+00,	1.5855731/+01	2650	3506	4802
1.2980000/+00,	1.5857271/+01			4803
1.2800000/+00,	1.5871235/+01	2651	3507	4804
1.2600000/+00,	1.5886984/+01	2652	3508	4805
1.2400000/+00,	1.5902984/+01	2653	3509	4806
1.2200000/+00,	1.5919244/+01	2654	3510	4807
1.2000000/+00,	1.5935774/+01	2655	3511	4808
1.1800000/+00,	1.5952581/+01	2656	3512	4809
1.1600000/+00,	1.5969675/+01	2657	3513	4810
1.1492500/+00,	1.5978986/+01			4811
1.1400000/+00,	1.5987067/+01	2658	3514	4812
1.1253518/+00,	1.6000000/+01	2659	3515	4813
1.1200000/+00,	1.6004767/+01	2660	3516	4814
1.1021250/+00,	1.6020855/+01			4815
1.1000000/+00,	1.6022785/+01	2661	3517	4816
1.0800000/+00,	1.6041135/+01	2662	3518	4817
1.0600000/+00,	1.6059827/+01	2663	3519	4818
1.0550000/+00,	1.6064555/+01			4819
1.0400000/+00,	1.6078875/+01	2664	3520	4820
1.0370000/+00,	1.6081764/+01			4821
1.0277000/+00,	1.6090772/+01			4822
1.0200000/+00,	1.6098293/+01	2665	3521	4823
1.0078750/+00,	1.6110251/+01			4824
1.0000000/+00,	1.6118096/+01	2666	3522	4825
9.8000000/-01,	1.6138298/+01	2667	3523	4826
9.6075000/-01,	1.6158137/+01			4827
9.5999999/-01,	1.6158917/+01	2668	3524	4828
9.4079999/-01,	1.6179120/+01			4829
9.4000000/-01,	1.6179971/+01	2669	3525	4830
9.1999999/-01,	1.6201477/+01	2670	3526	4831
9.1039999/-01,	1.6211967/+01			4832
9.0960000/-01,	1.6212846/+01			4833
9.0599999/-01,	1.6216811/+01			4834
8.9999999/-01,	1.6223456/+01	2671	3527	4835
8.8000000/-01,	1.6245929/+01	2672	3528	4836
8.5999999/-01,	1.6268918/+01	2673	3529	4837
8.4959999/-01,	1.6281085/+01			4838
8.3999999/-01,	1.6292449/+01	2674	3530	4839
8.2939999/-01,	1.6305148/+01			4840
8.1999999/-01,	1.6316546/+01	2675	3531	4841
8.1919999/-01,	1.6317522/+01			4842
7.9999999/-01,	1.6341239/+01	2676	3532	4843
7.7999999/-01,	1.6366557/+01	2677	3533	4844
7.6000000/-01,	1.6392532/+01	2678	3534	4845
7.4259998/-01,	1.6415693/+01			4846
7.3999999/-01,	1.6419200/+01	2679	3535	4847
7.2000000/-01,	1.6446599/+01	2680	3536	4848
6.9999999/-01,	1.6474770/+01	2681	3537	4849
6.9739999/-01,	1.6478491/+01			4850

6.8256034/-01,	1.6499999/+01	2682	3538	4851
6.8000000/-01,	1.6503758/+01	2683	3539	4852
6.7059999/-01	1.6517678/+01			4853
6.6000000/-01,	1.6533611/+01	2684	3540	4854
6.3999999/-01,	1.6564382/+01	2685	3541	4855
6.1999999/-01,	1.6596131/+01	2686	3542	4856
5.9999999/-01,	1.6628921/+01	2687	3543	4857
5.8000000/-01,	1.6662823/+01	2688	3544	4858
5.5999999/-01,	1.6697914/+01	2689	3545	4859
5.5475999/-01	1.6707315/+01			4860
5.4000000/-01,	1.6734282/+01	2690	3546	4861
5.1999999/-01,	1.6772022/+01	2691	3547	4862
5.0787999/-01	1.6795606/+01			4863
5.0599999/-01	1.6799314/+01			4864
5.0000000/-01,	1.6811243/+01	2692	3548	4865
4.9719999/-01	1.6816858/+01			4866
4.8000000/-01,	1.6852065/+01	2693	3549	4867
4.6100000/-01	1.6892453/+01			4868
4.6000000/-01,	1.6894624/+01	2694	3550	4869
4.4714999/-01	1.6922957/+01			4870
4.4000000/-01,	1.6939076/+01	2695	3551	4871
4.1999999/-01,	1.6985596/+01	2696	3552	4872
4.1411999/-01	1.6999695/+01			4873
4.1399378/-01,	1.6999999/+01	2697	3553	4874
4.0000000/-01,	1.7034386/+01	2698	3554	4875
3.9710000/-01	1.7041662/+01			4876
3.9707000/-01	1.7041738/+01			4877
3.8999999/-01,	1.7059704/+01	2699	3555	4878
3.8000000/-01,	1.7085679/+01	2700	3556	4879
3.7207499/-01	1.7106755/+01			4880
3.7000000/-01,	1.7112347/+01	2701	3557	4881
3.6724000/-01	1.7119835/+01			4882
3.6203500/-01	1.7134110/+01			4883
3.6000000/-01,	1.7139747/+01	2702	3558	4884
3.5000000/-01,	1.7167917/+01	2703	3559	4885
3.4705000/-01	1.7176381/+01			4886
3.4000000/-01,	1.7196905/+01	2704	3560	4887
3.3000000/-01,	1.7226758/+01	2705	3561	4888
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3.2000000/-01,	1.7257529/+01	2706	3562	4890
3.1000000/-01,	1.7289278/+01	2707	3563	4891
3.0000000/-01,	1.7322068/+01	2708	3564	4892
2.9700000/-01	1.7332118/+01			4893
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2.7000000/-01,	1.7427429/+01	2711	3567	4898
2.6000000/-01,	1.7465169/+01	2712	3568	4899
2.5693000/-01	1.7477047/+01			4900

2.5109992/-01,	1.7500000/+01	2713	3569	4901
2.5000000/-01,	1.7504390/+01	2714	3570	4902
2.4800000/-01,	1.7512422/+01			4903
2.4695000/-01	1.7516665/+01			4904
2.4000000/-01,	1.7545212/+01	2715	3571	4905
2.3000000/-01,	1.7587771/+01	2716	3572	4906
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6.5350000/-02	1.8846093/+01			4947
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5.6000000/-02,	1.9000499/+01	2746	3602	4951
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3.2000000/-02,	1.9560115/+01	2757	3613	4965
3.0000000/-02	1.9624653/+01			4966
2.5301182/-02,	1.9794999/+01	2758	3614	4967
2.5297800/-02,	1.9795133/+01	2759	3615	4968

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