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MODELING THE TRANSIENT RESPONSE
OF A THERMOSYPHON

by

J. Kirk Storey

A dissertation submitted to the faculty of
Brigham Young University
in partial fulfillment of the requirements for the degree of

Doctor of Philosophy

Department of Mechanical Engineering

Brigham Young University

December 2003

BRIGHAM YOUNG UNIVERSITY

GRADUATE COMMITTEE APPROVAL

of a dissertation submitted by

J. Kirk Storey

This dissertation has been read by each member of the following graduate committee and by majority vote has been found to be satisfactory.

Date

W. Jerry Bowman, Chair

Date

Dale R. Tree

Date

R. Daniel Maynes

Date

Mathew R. Jones

Date

Brent W. Webb

BRIGHAM YOUNG UNIVERSITY

As chair of the candidate's graduate committee, I have read the dissertation of J. Kirk Storey in its final form and have found that (1) its format, citations, and bibliographical style are consistent and acceptable and fulfill the university and department style requirements; (2) its illustrative materials including figures, tables, and charts are in place; and (3) the final manuscript is satisfactory to the graduate committee and is ready for submission to the university library.

Date

W. Jerry Bowman
Chair, Graduate Committee

Accepted for the Department

Brent L. Adams
Graduate Coordinator

Accepted for the College

Douglas M. Chabries
Dean, College of Engineering and
Technology

ABSTRACT

MODELING THE TRANSIENT RESPONSE OF A THERMOSYPHON

J. Kirk Storey

Department of Mechanical Engineering

Doctor of Philosophy

Thermosyphon transient operation was numerically modeled. The numerical model presented in this work overcame the limitations of previous studies by including transient conduction in the vessel wall, shear stress between the rising vapor and the falling film in the thermosyphon, the influence of the mass in the liquid pool in the evaporator, and by using a more refined and accurate numerical grid. Unique to this model was the accounting for temporal changes in the effective length of the vapor space due to the expanding and contracting of non-condensable gases in the vapor space. The model assumed quasi-steady one-dimensional vapor flow, transient one-dimensional flow in the falling liquid film, and transient behavior in the liquid pool in the evaporator. The model also assumed transient

two-dimensional conduction in the thermosyphon wall. Using fundamental principles, the governing equations used in the numerical model were developed and then written in finite difference form. The finite difference forms of the governing equations were integrated using an explicit scheme. A sensitivity study was performed and found that the numerical model was accurate to 4%. An experiment was also conducted to validate the numerical model. The experiment used three distinct transient heat loads to simulate gradual, moderate and sharp increases in temperature. The uncertainty of the experiment was shown to be 2.3%. The temperatures from the numerical model were then compared to those measured during the physical experiment to determine the validity of the numerical model. The model was further exercised to develop a useful engineering relationship that can be used to predict the transient performance of a thermosyphon.

ACKNOWLEDGEMENTS

I am truly grateful for all of the assistance I have received while completing this dissertation. My approach has certainly been unusual, if not unorthodox. The dissertation presented represents approximately eighteen months of serious, focused work, which has been spread out over five years in order to accommodate the needs of my family. Special thanks goes to my wife Karyn, who believed me when I said I only had two years of schooling left, then believed in me when I sought my Master's and then my Doctorate's degree. My children have also made sacrifices to allow their dad to go to school.

WesTech Engineering has been very supportive of this work, and has allowed me to work strange hours. They also donated the data acquisition system, and bench space for running the experiment. WesTech has also supported me financially and purchased the computer used to run the analysis.

All the members of my committee have influenced my work in some regard or another, however, special thanks goes to Dr. Bowman who has always been supportive and allowed me the room I needed to grow and learn.

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NOMENCLATURE

Symbols

A	-	Area
a	-	Constant used in velocity profile
B	-	Shape Factor
b	-	Constant used in velocity profile
C _p	-	Specific Heat
C _v	-	Specific Heat
c	-	Constant used in velocity profile
E	-	Energy
f	-	Friction Factor
F	-	Force
g	-	Acceleration due to gravity
h	-	Heat Transfer Coefficient
h _{fg}	-	Heat of Vaporization
i	-	Enthalpy
k	-	Thermal Conductivity
l	-	length
m	-	Mass
M	-	Momentum

P	-	Pressure
q	-	Heat Energy
r	-	Radial length
R	-	Inside Radius of Thermosyphon
t	-	Time
T	-	Temperature
U	-	Film Velocity
V	-	Axial Vapor Velocity
x	-	Axial length

Greek Letters

α	-	Thermal Diffusivity
β	-	Shape Factor
δ	-	Film Thickness
Π	-	Dimensionless Pi Group
ρ	-	Density
ζ	-	Shape Factor
τ	-	Shear Stress
ϕ	-	Shape Factor
Δ	-	Change in length or time

Subscripts

a	-	Axial, Atmospheric
---	---	--------------------

air	-	Air
cv	-	Control Volume
evap	-	Due to Evaporation
exp	-	Experimental
film	-	Pertaining to the film
g	-	Gas or vapor
i	-	Axial location index
in	-	Between the Film and the Wall, or into the control volume
l	-	Liquid
o	-	Outside
out	-	Out of the control volume
n	-	Current time step
n+1	-	Future time step
r	-	Radial, radial location index
rn	-	Radial node index
ro	-	Outside surface
∞	-	Far Field
v	-	Vapor
w	-	Wall

Superscripts

.	-	First Derivative with Respect to Time
“	-	Per Unit Area
—	-	Average or Mixing cup
‘	-	Axial Direction

1. INTRODUCTION

Electronic equipment, nuclear reactors, as well as other high energy density applications, need to be kept within certain temperature limits to function properly and safely. These applications typically use heat exchangers to manage the energy, and maintain the process within the limiting thermal bounds. Thermosyphons provide an alternative to conventional heat exchangers. It is important to understand the thermosyphon's transient response to high heat fluxes, particularly at start-up. This is because if the response time of the thermosyphon is too long, critical temperatures could be exceeded locally before any significant cooling occurs, even if the steady-state solution indicates safe operation. A greater understanding of the thermosyphon and its transient response is needed.

A thermosyphon is typically made by drawing a vacuum on an air-tight vessel, then injecting a controlled amount of working fluid, such as water, into the vessel and sealing it. Since the working fluid is trapped at the saturation pressure, any heat addition will induce a phase change. For instance, if heat is added at the bottom of a thermosyphon, the liquid vaporizes and rises to the top of the vessel due to buoyancy effects. If heat is taken out of the vessel at the top, the vapor condenses, and liquid runs down the walls to the bottom of the thermosyphon, due to gravity. This water cycle is an excellent vehicle for heat transfer

because large amounts of energy can be transported with a small temperature drop due to the phase change processes in the system. One drawback of the thermosyphon is that the evaporator must be lower than the condenser. This limits the use of the thermosyphon in applications where low or unpredictable gravitational effects are present.

1.1 Objective of the Research

The objectives of this research are; 1) to develop a numerical model for a transient thermosyphon; and 2) to compare, or validate the model with empirical testing.

1.2 Model Overview

The complete thermosyphon numerical model was made by combining models of the wall, the liquid film, the pool and the vapor space. Each of these models was first developed from the principles of conservation of mass, conservation of energy, and Newton's second law. Then each model was validated by comparing its results to known solutions where applicable. For example, the film solution was compared to Nusselt's falling film solution for an isothermal flat plate, and the wall model was compared to an analytical transient conduction solution. The four individual models were then coupled to each other to form the combined model that described the thermosyphon.

1.3 Experimental Overview

Figure 1.1 Experiment Set Up

A thermosyphon was made from copper pipe. One end was sealed with a cap and the other had a valve attached to allow the system to be used repeatedly for varying fill volumes. The working fluid was deionized and filtered water. The initial test was on the system without any working fluid. This was done to validate the wall model without the working fluid's interaction. Heat was added from commercially available foil heaters, using a set point temperature, and applying heat as required to maintain this set point. This resulted in a

known temperature boundary condition for the evaporator. A fan was used to create a forced convection condition on the condenser end of the thermosyphon. The set point temperature was varied in a predetermined fashion to produce transient conditions within the system. The temperature history was recorded. These data were used to validate the numerical model.

1.4 Organizational Overview

This dissertation is divided into seven chapters plus appendices: Chapter 1 is an introduction to this work containing background information and an overview of subsequent chapters; Chapter 2 is the literature review detailing the work of other researchers; Chapter 3 is where the numerical model of each of the components of the thermosyphon is derived, and validated against a known solution. Chapter 4 describes the experimental apparatus and the conditions used to validate the numerical model. Chapter 5 contains the results of the testing and the comparison between the empirical data and the numerical data. Chapter 6 presents various scientific investigations using the model, and Chapter 7 lists the conclusions and recommendations for future work. Appendices include the source code used for the numerical model, as well as the empirical data obtained.

2. LITERATURE REVIEW

The analysis of prior work is best presented by discussing those papers that directly apply to thermosyphons, and those that have applicable information but may not be directly related, such as those related to heat pipes. Since a heat pipe is a thermosyphon with a wick, there are many similarities between the two devices, and how they are modeled. This chapter discusses the work previously performed by others to offer building blocks of information that can be used to further the understanding of thermosyphons. Initially, thermosyphons are studied, then, heat pipes are investigated in as much as they are applicable. Later, the vapor core, the thermosyphon wall, and the heat transfer coefficients are discussed.

2.1 Thermosyphons

Amir Faghri has published much concerning heat pipes. Some of his work with C. Harley presented a transient thermosyphon model¹. This work used two-dimensional compressible ideal gas, and laminar flow equations to model the vapor. They also used a two-dimensional model for the wall temperature profile. No pool was considered in the evaporator at start-up, which could dramatically change the thermosyphon transient behavior. Instead, the model assumed that the critical fill volume was present at all times. A critical fill volume occurs when there is precisely sufficient working fluid to wet the thermosyphon walls. Additional working fluid would form a pool at the bottom of the thermosyphon, and

insufficient working fluid would result in a “dryout” condition on the wall. The critical fill assumption implied that the mass of the working fluid was a function of the heat load. This is not completely accurate for thermosyphons. Another area of further research is the velocity profile of the falling film. Faghri and Harley used a steady-state Nusselt type film thickness to model the falling liquid. However, they assumed an average falling film thickness over the length of the thermosyphon was used when modeling the vapor space. This was done to facilitate the placement of grids and eliminate the need for body fitted coordinates in the model. The major weakness of the work is how the falling liquid film was modeled, ignoring the liquid pool and assuming a pseudo Nusselt type flow.

J.G. Reed and C.L. Tien also modeled thermosyphons². Their paper included the pool in the evaporator, and addressed entrainment of the falling film. The authors used a one-dimensional vapor flow model using friction correlations to include the effects of annular flow. The heat transfer coefficient from the falling film to the vapor was approximated by using two correlations, one for laminar flow, and one for turbulent flow. Reed and Tien solve the mass, momentum and energy equations for the liquid film, resulting in a series of non-linear algebraic equations coupled with four first order differential equations. One drawback was that this model did not include the effects of the thermosyphon wall, and only three points located axially along the thermosyphon were considered. Since the rate of heat transfer is so great for the phase change processes in the thermosyphon, the wall transient response may be significant in comparison, even if the wall is thin and made from highly conductive materials. The fact that the wall material was not included in the model, made it

difficult to compare to empirical data for transient conditions, therefore, their work only presented analytical solutions for the transient problem. Their paper offers a good starting point for further research because a more realistic falling film model was used in comparison to that used by Faghri and Harley, and it included pooling in the evaporator, however the coarse axial grid needs to be refined and conduction in the wall needs to be considered.

Other research by Reed, Tien and Chen³ gave analytical information about the flow conditions at steady-state, based on the empirical work done by Blangetti and Nanshaki⁴. They found an expression that better describes the friction factor between the liquid film and the vapor when evaporation or condensation is present. Their result used a modified Fanning friction factor. They also state that the Nusselt correlation for falling films does not correlate well with the two phase annular flow conditions. This is due to the rising core of vapor that impedes the falling film flow.

Niro and Beretta⁵ also developed a correlation for the internal heat transfer coefficient from the wall to the vapor space for the thermosyphon. This correlation was for steady-state conditions.

The vapor core of a heat pipe has been studied by Bowman⁶ where friction factors for the vapor core with condensation and evaporation were presented. This will be used as the basis

of the vapor core model in this work.

Den Braven⁶ studied the importance of waves and interfacial shear on the falling film. Her numerical work found that including the effects of surface waves enhanced the heat transfer coefficient from the film to the vapor by as much as 50%. Much work has been done on describing the wavy surface of the falling film. Massot⁷, for instance, presented yet another theory concerning the wavy effects. The effects of waves and understanding the physics at small scales is interesting. However, it is probably more practical to lump this effect in the average heat transfer coefficient until it becomes necessary to fully describe the localized wavy phenomena.

One difference between a heat pipe and thermosyphon model is the way condensate is handled. The wick in a heat pipe helps protect the returning liquid from the vapor flow core in the center, whereas the vapor flow in a thermosyphon is in direct contact with the falling film. For this reason, neglecting the shear stress between the rising vapor and the falling film has been shown by Spindel⁹ to lead to erroneous conclusions in thermosyphons

Some researchers^{2,10,11} have used electrical continuity and a needle probe to determine the falling film thickness. However, this method would disrupt the function of the thermosyphon. Others^{1,12} have used data from experiments conducted on flat plate condensers and assumed the film profile in the thermosyphon to be similar. This flat plate similarity will be the basis in this work.

2.2 Heat Pipes With Similarities

In heat pipes the problem of requiring the condenser to be higher than the evaporator has been solved by installing a wick from the condenser to the evaporator. This allows the working fluid to be pumped, via capillary forces, back to the evaporator even in adverse gravity conditions. With the wick installed, the device is known as a heat pipe, or in other words, a thermosyphon is a wickless heat pipe.

Due to the influence of the space industry, and the availability of research money, the heat pipe has been studied extensively, while the thermosyphon has not. Fortunately the vapor flow, the vessel wall, and some of the boiling and condensing conditions are very similar to the thermosyphon. However, flow in the wick or the thermal response of the wick does not apply to thermosyphons.

2.2.1 Vapor Flow

The flow in a thermosyphon is two-phase, annular flow, with vapor traveling up the core, and condensed liquid running down the wall. In a heat pipe the condensed liquid returns to the evaporator in the wick structure. This protects the flow from some of the interfacial shear of the rising vapor core. The vapor flow in a heat pipe has been modeled by Bowman and Hitchcock¹², Harley and Faghri¹³, Tournier and El-Genk¹⁴, Issacci¹⁵ and many others. These models were two-dimensional Navier-Stokes models that relied on the power of super computers to solve them. However, other engineers, including Bowman^{16,17}, Reed², and

Hoon¹⁸ have used one-dimensional models with great success. They reason that with the correct friction model, a one-dimensional vapor model is nearly as accurate as a two-dimensional vapor model, but requires significantly less computational power. There is still much debate concerning which model is the most accurate as shown by the few examples that follow.

Issacci, Catton and Ghoniem¹⁵ studied the “Vapor Dynamics of Heat Pipe Start-Up” and claimed that only a two-dimensional model would be accurate. They assumed compressible, viscous flow. This was a very detailed model and significant computer time was required to solve the problem.

Bowman’s¹⁹ paper, “Numerical Modeling of Heat-Pipe Transients,” gives a good overview of the techniques used to solve the vapor flow problem in heat pipes. He concluded that the transient response times of the vapor and the wall were significantly different. Since the transient response of vapor is faster than that of the wall, it is reasonable to assume that a pseudo steady-state vapor model can be used in conjunction with a transient wall model.

Hoon, Faghri and Chang¹⁸ also studied the transient behavior of the vapor flow in a heat pipe. Using an ideal gas in their model, the authors computed the compressible fluid flow in a heat pipe. They used friction factors from two-dimensional models to develop correlations needed to include the frictional effects in the one-dimensional model. They model flow as laminar in the evaporator and adiabatic sections, while considering it turbulent in the

condenser. The reason for this selection of flow regimes is unclear. Hoon, Faghri and Chang note that the pressure in the vapor core quickly reaches steady-state values in a few thousandths of a second, at least for the heat loads considered.

Bowman and Hitchcock¹² modeled the transient behavior of the vapor in a heat pipe. This was a two-dimensional, compressible, ideal gas model with some interesting conclusions. One conclusion was that the vapor model reacted so quickly, that a steady vapor model may be accurate when the walls and wick of the heat pipe were considered. Another point given is that faster one-dimensional models may be the best way to model the problem.

It can be seen by the review of vapor behavior in a heat pipe under transient heat loading, that there are many views and points of contention. Two-dimensional Navier-Stokes equations are widely accepted as the most accurate method of describing the flow, however, there is clearly a place for one-dimensional models. This is especially true when considering the order-of-magnitude of each contributor to the entire system transient. Since the vapor transient plays a very small role in the transient response of the entire thermosyphon, this work will use a two-dimensional wall model, a one-dimensional film model with an appropriate velocity profile to account for the two-dimensional effects of the film, and a one-dimensional vapor model. This should yield the most information for the wall and film which have the greatest impact on the solution, and require less computational power for the vapor suspected to contribute less to the results.

2.3 The Vessel Wall

The vessel wall is a common component in both a thermosyphon and a heat pipe. When the wall has been modeled as part of a heat pipe, it has been considered to be two-dimensional in many cases. For example, El-Genk and Tournier¹⁴ used the two-dimensional approach. Others have recognized that heat pipes are made from highly conductive materials, and the wall thickness of the vessel is typically very thin². Often, a one-dimensional model is employed, which seems like a very reasonable conclusion as well. The complexities added by using a two-dimensional wall model are small when compared to the rest of the system. For this reason, a two-dimensional wall model was used in this work. This will facilitate the use of this model when considering thicker walls, or walls made from less conductive materials.

2.4 Convective Heat Transfer Coefficient

Reed², Niro⁵ and others^{11,17} have produced data on steady-state heat transfer coefficients between the wall and the vapor space in a thermosyphon. Other work done by Collier²⁰ presented condensation and evaporation coefficients. Collier's correlation will be the basis for this work. The basic limitation of Collier's model is that the pressure and temperature of the vapor space need to be near the pressure and temperature of a saturated vapor. A saturated vapor model was also assumed in this work, justifying the use of Collier's model.

The evaporation from pool to the vapor space was modeled using a relationship presented by Lock²⁵. This relationship was chosen from the vast array of options because of its

application in similar instances and its ease of use. In particular, Lock studies the interfacial heat transfer between two thermodynamic surfaces, such as between a pool and a vapor.

The steady-state heat transfer coefficient between the thermosyphon wall and the pool was studied by Shiraishi²². He gives an overview of the correlations that have been used and presented his own. The correlation presented by Shirashi will be the basis for the heat transfer coefficient between the pool and the thermosyphon wall. Shirashi's model is well suited for natural convection, combined convection and nucleate boiling regimes.

The use of steady-state heat transfer coefficient models in transient problems often gives rise to accuracy concerns. Since steady-state problems often receive the most attention, transient coefficients are difficult to establish. This work will compare empirical data with numerical data. This comparison should be a good indicator of the loss of accuracy while using steady-state coefficients, and provide insights for the transient coefficients.

2.5 Conclusions of the Literature Review

There has been considerable work done on steady-state and transient heat pipe modeling. Meanwhile, the review above shows that relatively little has been done on the transient modeling of a thermosyphon that includes the liquid pooling in the evaporator, the wall response, non-condensable gases in the vapor core, and contains enough grid points to sufficiently resolve the physics of the problem.

3 NUMERICAL MODEL

In this chapter the basis for the numerical model of the thermosyphon is developed. Essentially, four coupled sub-models are needed to numerically describe the thermosyphon. These numerical sub-models are; 1) conduction in the thermosyphon wall, 2) mass, force and energy balances for the liquid film, 3) mass, force and energy balances for the liquid pool located at the bottom of the thermosyphon, and 4) mass, force and energy balances for the vapor core within the thermosyphon. Each of the individual models is coupled through a common thermodynamic interface.

Starting with differential control volumes, the finite difference equations for the conduction in the thermosyphon wall are first presented. A method of solving these finite difference equations is then presented, and the solution to this numerical description of the conduction in a thermosyphon wall is compared to an analytical solution. This systematic approach of deriving the governing equations, presenting a means of solving these equations, and comparing the solution of these equations to known solutions is followed throughout the chapter.

Whenever a numerical model is developed for a complex process, certain limitations and assumptions are necessary. The model developed in this work was no exception. For instance, the wall model assumed that there was no heat lost axially from the ends of the thermosyphon. The operating temperature of the thermosyphon was limited between 280 and 450 K. This temperature range was selected to be representative of electrical components in an outdoor environment. The flow of the condensing film in the model was considered to be laminar and without waves. The pool was always considered to be at the lowest portion of the thermosyphon. The vapor flow was considered to be quasi-steady. Slug flow, and geysers were not considered from the pool. This absence of geysers was later confirmed during the experimentation portion of the work. Since this work does not include the effects of geysers, predicting their presence in the thermosyphon is important. Murphy²¹ performed a series of tests that can be used to predict thermosyphons with geyser or without geysers.

While these assumptions restrict the use of the model, the model is useful for the majority of terrestrial applications. Further insights regarding the appropriate application of this model can be gained from understanding how the model was developed.

3.1 The Thermosyphon Wall

Thermal conduction in the wall was modeled assuming cylindrical two-dimensional transient conduction. In order to test the model, boundary conditions were imposed by specifying a convective heat transfer coefficient and an environment temperature along both the

condenser and evaporator sections. During the preliminary investigation of the wall, it was assumed that the inside surface of the wall was insulated. This allowed the wall to act merely as a fin, uninfluenced by the internal working fluid. These conditions assisted in the validation of the wall model in that it could be compared to analytical transient conduction models, as will be shown later. Later studies used the same environment temperature and convection heat transfer coefficients along the condenser section of the thermosyphon, but used a specified temperature boundary condition along the evaporator section. These specified temperatures came from empirical data as will subsequently be demonstrated. The interaction between the wall and the falling film was also considered in the model, as later sections will show.

Transient temperature change was investigated by applying a sudden change in the environment temperature along the evaporator section. The model predicted the wall's thermal response during the transient and was allowed to run until a steady-state solution was achieved. This provided a built-in check of the equations used to model the wall. This check was achieved by comparing the input heat to the output heat at steady-state. This provided a good indication that all of the thermal phenomena were described properly, at least at the steady-state. As expected, the model also required initial conditions, as well as

boundary conditions in the axial direction. Accordingly, the heat loss for the top and bottom of the thermosyphon was considered negligible, and thus adiabatic. This seemed reasonable since the thermosyphon was so long and slender.

Along with the validation from the heat balance, a direct comparison with an analytical solution was made.

3.1.1 Derivation of the Governing Equations

Conduction in the wall was modeled using the transient, two-dimensional, cylindrical form of the general heat diffusion equation.

$$\left[k \left(\frac{1}{r} \frac{\partial T}{\partial r} + \frac{\partial^2 T}{\partial r^2} \right) + \left(k \frac{\partial^2 T}{\partial x^2} \right) \right] = \rho C_p \frac{\partial T}{\partial t} \quad (3.1)$$

where k is the thermal conductivity and assumed constant, T is the temperature, r is the radial coordinate, C_p is the specific heat, ρ is the density of the wall, x is the axial coordinate, and t represents time. This represents conservation of energy for any point located in the cylindrical wall.

The boundary condition used on the outer surface of the wall was

$$-k \frac{\partial T}{\partial r} \bigg|_{r=r_o} = h_{out} (T_{r_o} - T_{\infty}) \quad (3.2)$$

where T_{∞} represents the far field temperature for the outer surface, h_{out} is the convection heat transfer coefficient for the outside surface of the wall, and T_{r_o} is the temperature of the outer wall surface. Sometimes a specified wall temperature was used on the outside wall surface. For those cases

$$T_{r_o} = T_{exp}(x, t) \quad (3.3)$$

where $T_{exp}(x, t)$ came from experimental data.

Along the wall's inside surface a convection boundary condition was always used

$$-k \frac{dT}{dr} \bigg|_{r=r_i} = h_{in} (\bar{T} - T|_{r=r_i}) \quad (3.4)$$

Where h_{in} is the convective heat transfer coefficient on the inside surface of the wall, and $\bar{T}$ is the mixing cup temperature of the adjoining film. In Equations 3.2 through 3.4, the convection heat transfer coefficients and temperatures are also functions of axial location

along the thermosyphon wall.

Axial conduction at both ends of the thermosyphon was considered to be negligible. This can be expressed as

$$\frac{\partial T}{\partial x} \approx 0 \quad (3.5)$$

This assumption was logical because the thermosyphon was long and slender with insulated ends.

3.1.2 Solution Methodology

An Euler explicit finite difference method was used to solve the governing equations. The Euler explicit method was chosen since it was the method used to solve for the film and pool equations as will be shown in subsequent sections. The partial differential equations were discretized, and then temperatures as functions of time were found by marching the solution out in time.

These equations described the energy balance in the wall of the thermosyphon. A representative sample of several finite difference equations is shown below. For a node in the center of the wall as shown in Fig. 3.1, the finite difference equation is given by Eqn. 3.6 where $n + 1$ denotes a future time, n denotes the current time, α is the thermal diffusivity, and i and r are the axial and radial position indices respectively.

Figure 3.1 Central Nodal Configuration

$$\begin{aligned}
 T^{n+1}_{i,r} = & T^n_{i,r} + \Delta t \frac{\left[\alpha (T^n_{i-1,r} - 2T^n_{i,r} + T^n_{i+1,r}) \right]}{(\Delta x)^2} \\
 & + \Delta t \frac{\alpha (T^n_{i,r+1} - T^n_{i,r-1})}{2(\Delta r)} + \Delta t \frac{\left[\alpha (T^n_{i,r+1} - 2T^n_{i,r} + T^n_{i,r-1}) \right]}{(\Delta r)^2}
 \end{aligned} \tag{3.6}$$

Next, consider the outside corner node of the thermosyphon. This node has convection from the outside, conduction from the adjacent nodes and is insulated on the top surface as shown below in Fig. 3.2.

Figure 3.2 Corner Nodal Configuration

The finite difference expression for this node is given by Eqn. 3.7.

$$T_{0,rn-1}^{n+1} = T_{0,rn-1}^n + \Delta t \left[\frac{2\alpha(T_{1,rn-1}^n - T_{0,rn-1}^n)}{(\Delta x)^2} + \Delta t 2h_{out} \frac{(T_{air}^n - T_{0,rn-1}^n)}{\Delta r \rho C_p} + \Delta t \frac{2\alpha(T_{0,rn-2}^n - T_{0,rn-1}^n)}{(\Delta r)^2} \right] \quad (3.7)$$

where ρ is the density of the wall material, C_p is the specific heat, h_{out} is the convection coefficient on the outside of the thermosyphon, rn is the number of radial nodes, and T_{air} is the temperature of the air.

A basic understanding of the finite difference equations is further enhanced by considering a

below in Fig. 3.3.

Figure 3.3 Outer Nodal Configuration

The finite difference equation relating the energy balance for this node is then

$$T^{n+1}_{i,m-1} = T^n_{i,m-1} + \Delta t \left[\frac{\alpha(T^n_{i-1,m-1} - 2T^n_{i,m-1} + T^n_{i+1,m-1})}{(\Delta x)^2} + 2\Delta t \alpha \frac{(T^n_{i,m-2} - T^n_{i,m-1})}{(\Delta r)^2} + \frac{2h_{out}\Delta t}{\rho C_p \Delta r} (T_{air} - T^n_{i,r-1}) \right] \quad (3.8)$$

The next finite difference equation to be shown is for a node in the center of the thermosyphon wall, with an insulated surface. This would be used at the top of the thermosyphon were an insulated condition exists. The nodal configuration is shown below in Fig 3.4.

Figure 3.4 Top Insulated Node

The governing equation for this configuration is given by

$$T^{n+1}_{0,r} = T^n_{0,r} + \Delta t \frac{[2\alpha(T^n_{1,r} - T^n_{0,r})]}{(\Delta x)^2} + \Delta t \frac{\alpha}{r} \frac{(T^n_{0,r+1} - T^n_{0,r-1})}{2(\Delta r)} + \Delta t \frac{[\alpha(T^n_{0,r+1} - 2T^n_{0,r} + T^n_{0,r-1})]}{(\Delta r)^2} \quad (3.9)$$

These are the basic building blocks for the wall conduction model. Similar equations were used for other locations and boundary conditions within the thermosyphon. Combining all of them produced a numerical model for the conduction through the thermosyphon wall.

With these fundamental equations describing the energy balance within the thermosyphon wall, it was then possible to solve for the temperature distribution within the wall as a function of both time and space, and compare it to a known solution.

3.1.3 Comparison with Known Solution

The cylindrical conduction problem was studied by Myers²³ in his text, “Analytical Methods in Conduction Heat Transfer”. In an effort to validate the wall model a comparison between the analytical solution presented by Myers, and the predicted finite difference solution developed above was made. The comparison was made using a 1.27cm (1/2”) diameter solid copper rod, 0.5m (19.7in) long with an initial temperature of 300K and 25 radial nodes. A step change in the wall temperature was imposed as the outside surface temperature was suddenly changed to 200K. The transient temperatures predicted from the finite difference

scheme and the analytical solution were then compared. The comparison was made at the four different radial locations $\left(r = 0, r = \frac{r_0}{4}, r = \frac{r_0}{2}, r = \frac{3r_0}{4} \right)$ where r_0 was the outside radius of the cylinder. The results at the outside radius are not shown since this was a boundary condition and the error at that point would be zero. The results of this evaluation, expressed as percent error, are shown in Figures 3.5 through 3.8. The percent error was defined by

$$\% Error = \frac{(T_{analytical} - T_{numerical})}{T_{analytical}} (100) \quad (3.10)$$

Figure 3.5 Error at $r=0$

Figure 3.6 Error at $r=0.25r_0$

Figure 3.7 Error at $r=0.5r_0$

Figure 3.8 Error at $r=0.75r_0$

Since the surface temperature was suddenly changed to 200K, a plot of the surface temperature is not presented. The graphs above demonstrate that there was excellent agreement between the analytical solution, and the numerical solution considering the maximum error was always less than 0.3%. This comparison gives confidence that not only were the derivations of the governing equations correct, but also that the solution methodology functioned well.

As in any explicit finite difference scheme, the time step must be kept within certain bounds in order to produce a stable solution. While no formal mathematical stability investigation is presented, an empirical investigation was made using various time step sizes within the numerical model. As the time step size grew larger, stability decreased as indicated by oscillating or unreasonable temperatures. Once this stability limit was determined, the time

step size was divided by two and the numerical model was run again. This smaller time step size meant that the solution would require more computational effort, however, the assurance of stability merited the additional time required to obtain the solution.

3.2 The Falling Film

The fluid motion in the thermosyphon was modeled by applying the integral formulation of mass, energy and momentum transfer to a differential fluid element. Modeling the falling film on the thermosyphon wall proved to be much more complex than modeling conduction in the wall, or even the other components yet to be discussed. This was due to the fact that there was mass transfer into and out of the control volumes of interest at any given time, due to evaporation or condensation. The condensation was assumed to be a film, rather than droplets. This was confirmed by taking a small open ended section of thermosyphon material, and placing it in a -10°C chamber. Once it had sufficient time to reach steady-state, it was immediately removed from the chamber and placed directly above boiling water. The rising vapor condensed on the tube, and since the ends were open, it was determined from visual observation that a film was forming on the inside of the pipe rather than droplets. The film looked much like the film in Figure 3.9 illustrated below.

Figure 3.9 Typical Film Profile

3.2.1 Derivation of the Governing Equations

3.2.1.1 Continuity

The conservation of mass is shown by considering a small control volume. In Fig 3.10, δ is the film thickness, $\dot{m}$ represents the mass flow rate into or out of the control volume, and $\dot{m}_{condensate}$ represents the mass entering the control volume due to condensation. First, considering continuity, mass is allowed to enter into the control volume from above, and radially from the vapor space. Mass leaves through the bottom of the control volume. Expressing these concepts mathematically yields Eqn. 3.11.

Figure 3.10 Continuity

$$\dot{m}_{in} + \dot{m}_{condensate} = \dot{m}_{out} + \left(\frac{\partial m}{\partial t} \right)_{cv} \quad (3.11)$$

where $\dot{m}_{in}$ is the mass flow rate into the control volume from above, $\dot{m}_{condensate}$ is the mass flow rate entering the control volume due to condensation, and $\dot{m}_{out}$ is the mass flow rate leaving the control volume. Using a Taylor series to express the mass out in terms of the mass in yields

$$\dot{m}_{in} + \dot{m}_{condensate} = \dot{m}_{in} + \frac{\partial \dot{m}_{in}}{\partial x} dx + \left(\frac{\partial m}{\partial t} \right)_{cv} \quad (3.12)$$

Then canceling like terms, and expressing the mass flow rate in terms of the density, ρ_l , mean velocity, and area, the equation becomes:

$$\dot{m}''_{condensate} 2\pi(R-\delta) - \frac{\partial(\rho_l A \bar{U})}{\partial x} = \frac{\partial \rho_l A}{\partial t} \quad (3.13)$$

Where R is the inside radius of the thermosyphon, A is the cross-sectional area of the film and $\bar{U}$ is the mean velocity of the film. Assuming the fluid is incompressible and rearranging yielded

$$\frac{\partial A}{\partial t} = \frac{\dot{m}''_{condensate} 2\pi(R-\delta)}{\rho_l} - \frac{\partial(A\bar{U})}{\partial x} \quad (3.13)$$

Where the mean velocity is defined as

$$\bar{U} = \frac{1}{A} \int_{R-\delta}^R U(r) 2\pi r dr \quad (3.15)$$

and A is defined by

$$A = \int_{R-\delta}^R 2\pi r dr = \pi [R^2 - (R-\delta)^2] \quad (3.16)$$

The film velocity profile, $u(r)$, will be described in Section 3.2.2. The principal unknowns in Eqn. 3.14 are A and $\bar{U}$, since $(R-\delta)$ could be found from A . $\dot{m}''_{condensate}$ was determined from the boundary condition that linked the vapor to the liquid film on the wall, and will be discussed later.

3.2.1.2 Momentum

Figure 3.11 Momentum

Next momentum in the axial direction is considered as shown in Fig 3.11. The rate of momentum entering the control volume, $\dot{M}_{in}$, less the rate leaving, $\dot{M}_{out}$, is added to the sum of all the forces acting on the control volume, and then equated to the rate of change of momentum within the control volume.

$$\dot{M}_{in} - \dot{M}_{out} + \sum F = \frac{\partial M}{\partial t} \bigg|_{cv} \quad (3.17)$$

where F represents axial forces acting on the control volume, and M represents the momentum of the control volume. The forces considered are gravity,

$$F_{gravity} = g\rho_l 2\pi R\delta dx \quad (3.18)$$

where g represents the acceleration due to gravity. The shear stress from the inner wall is given by,

$$F_{shear(wall)} = \tau_w 2\pi R dx \quad (3.19)$$

where τ_w is the shear stress between the wall and the liquid film. Shear stress from the vapor interface is given by

$$F_{shear(vapor)} = \tau_v 2\pi(R - \delta) dx \quad (3.20)$$

where τ_v is the shear stress between the vapor and the liquid film. The pressure balance is given by

$$F_{pressure} = PA_x - PA_{x+\Delta x} \quad (3.21)$$

where P is the pressure in the liquid film. Problems of this scale typically neglect forces due to surface tension due to their insignificant magnitude. The momentum crossing the boundaries of the control volume is expressed as

$$\dot{M} = \rho_l A \overline{U^2} \quad (3.22)$$

It is important to notice that the momentum crossing the control volume boundaries is expressed in terms of the average of the film velocity squared. This can differ significantly from the square, of the average film velocity. When solving the continuity equation in the previous section, one of the variables of interest was found to be the average velocity, $\bar{U}$. It is desirable to express the momentum crossing the control volume boundaries in terms of this average velocity as well. One way to do this is to introduce a new variable, B , known as the momentum flux coefficient.

$$B = \frac{\overline{U^2}}{(\bar{U})^2} \quad (3.23)$$

This momentum flux coefficient, B , is defined as the average of the velocity squared, divided by the square of the average velocity. While this does not actually reduce the number of variables required to solve the momentum equation, it does make it more compatible with the continuity equation. Multiplying this momentum flux coefficient, B , by the average velocity squared, results in the average of the velocity squared. This makes it possible for the momentum crossing the control volume boundaries to be expressed as

$$\dot{M} = \rho_l AB(\bar{U})^2 \quad (3.24)$$

Previously the average velocity was defined as

$$\bar{U} = \frac{1}{A} \int_{R-\delta}^R U(r) 2\pi r dr \quad (3.25)$$

Defining the square of the average velocity as

$$(\overline{U})^2 = \left[\frac{1}{A} \int_{R-\delta}^R U(r) 2\pi r dr \right]^2 \quad (3.26)$$

The average of the velocity squared is defined as

$$\overline{U^2} = \frac{1}{A} \int_{R-\delta}^R U(r) \bullet U(r) 2\pi r dr \quad (3.27)$$

Knowledge of the velocity profile is required before the momentum flux coefficient, B , can be determined. In Section 3.2.2, the method used to determine the velocity profile is presented. It is shown in that section that a quadratic equation was used to describe the velocity profile. If the velocity profile were constant, then the momentum flux coefficient, B , would be unity. In a radial system, the momentum flux coefficient varies from unity whenever the velocity profile is non-constant. This is because velocities farther from the centerline represent much more of the flow than velocities near the centerline.

The momentum of liquid condensing, or evaporating radially was assumed not to contribute to the axial momentum. After a Taylor series expansion, and cancellation of like terms, the momentum equation is expressed as

$$\frac{\partial(\overline{U}A)}{\partial t} + \frac{\partial \left(AB(\overline{U})^2 + \frac{PA}{\rho_l} \right)}{\partial x} = Ag - \frac{\tau_w 2\pi R}{\rho_l} - \frac{\tau_v 2\pi(R-\delta)}{\rho_l} \quad (3.28)$$

This expresses the momentum equation in terms of the mean velocity, which was already determined to be of interest in the derivation of the continuity equations. The next step was to invoke the boundary layer approximation, such that the pressure within the film at a given axial location is assumed to be the same as the pressure on the outside of the film at the same axial location. This results in the following relationship.

$$P(x) \approx P_v(x) \quad (3.29)$$

where P_v is the vapor pressure.

Once the momentum equation was in this form, it could be used in conjunction with the continuity and energy equations. The development of the energy equation was as follows.

3.2.1.3 Energy

Figure 3.12 Energy

Similar to the approach used for the continuity and momentum equations, a small control volume is considered as shown in Fig. 3.12. The rate of energy entering the control volume, less the rate of energy leaving the control volume is equated to the time rate of change in energy of the control volume.

$$\dot{E}_{in} - \dot{E}_{out} = \frac{\partial E}{\partial t} \bigg)_{cv} \quad (3.30)$$

Energy can enter and leave the control volume in various ways. Heat can enter the control

volume from the thermosyphon wall using

$$q_{wall} = h_{in} 2\pi R dx (T_{wall} - \bar{T}) \quad (3.31)$$

where q_{wall} represents heat energy from the wall, h_{in} represent convective heat transfer between the wall and the liquid film, and $\bar{T}$ represents the mixing cup mean, or mixing cup temperature of the liquid film defined as follows.

$$\bar{T} C_p \dot{m} = \int_{R-\delta}^R \rho_l u(r) T(r) C_p 2\pi r dr \quad (3.32)$$

Assuming ρ_l and C_p to be constant lets this equation be expressed as

$$\bar{T} = \frac{\int_{R-\delta}^R u(r) T(r) 2\pi r dr}{A \bar{U}} \quad (3.33)$$

This $\bar{T}$ can be thought of as the mixing cup temperature, or the temperature such that when multiplied by $\bar{U}$, C_p and ρ_l the internal energy is obtained.

Energy can be conducted from the liquid film above or to the liquid film below the control volume of interest. The after performing a Taylor's series expansion, net rate of conduction

is expressed as

$$q_{conduction} = \frac{\partial \left(kA \frac{\partial T'}{\partial x} \right)}{\partial x} dx \quad (3.34)$$

where k is the thermal conductivity, and T' is the temperature such that conduction is represented correctly. T' is defined as

$$T' = \frac{\int_{R-\delta}^R T(r) 2\pi r dr}{A} \quad (3.35)$$

Once again it is desired to express this variable in terms of another variable that is of interest, namely $\bar{T}$. As has been done previously, a factor is introduced to achieve this. Defining ζ as

$$\zeta = \frac{T'}{\bar{T}} = \frac{\frac{\int_{R-\delta}^R T(r) r dr}{A}}{\frac{\int_{R-\delta}^R u(r) T(r) r dr}{A \bar{U}}} \quad (3.36)$$

This can further be reduced to

$$\zeta = \frac{T'}{\bar{T}} = \frac{\bar{U} \int_{R-\delta}^R T(r) r dr}{\int_{R-\delta}^R u(r) T(r) r dr} \quad (3.37)$$

The conduction can then be expressed as

$$q_{conduction} = \frac{\partial \left(kA \frac{\partial T'}{\partial x} \right)}{\partial x} dx = \frac{k \partial \left(A \zeta \frac{\partial \bar{T}}{\partial x} \right)}{\partial x} dx \quad (3.38)$$

There is also flow work being done as the fluid moves axially into and out of the control volume. Flow work is defined as $P\bar{U}A$ which, when expressed as the work in, minus the work out in a Taylor series expansion is

$$P\bar{U}A|_x - P\bar{U}A|_{x+dx} = \left(P\bar{U}A|_x \right) - \left(P\bar{U}A|_x + \frac{\partial(P\bar{U}A)}{\partial x} dx \right) \quad (3.39)$$

Canceling like terms, recognizing that the $\bar{U}A$ group is a variable of interest, and using the chain rule of differentiation yields

$$E_{flow\ work} = \left(-P \frac{\partial \bar{U}A}{\partial x} dx - \bar{U}A \frac{\partial P}{\partial x} dx \right) \quad (3.40)$$

Using the boundary layer approximation that the local pressure of the vapor is approximately equivalent to the local pressure of the film results in

$$E_{flow\ work} = -P \frac{\partial \bar{U}A}{\partial x} dx - \bar{U}A \frac{\partial P_v}{\partial x} dx \quad (3.41)$$

There is also shear work at the interface between the liquid film and the vapor

$$E_{shear\ work} = \tau_{vap} 2\pi(R - \delta)dx \bar{U} \phi \quad (3.42)$$

where

$$\phi = \frac{U_{(R-\delta)}}{\bar{U}} \quad (3.43)$$

Energy also crosses the boundaries of the control volume when the liquid film evaporates.

$$E_{evaporation} = \dot{m}_{evaporate} i_{vapor} \quad (3.44)$$

Where i_{vapor} represents the enthalpy of the vapor. As the fluid moves in the gravitational field, work is also done

$$E_{gravity} = g\rho_l \bar{U}A dx \quad (3.45)$$

The total energy contained in the control volume is given by

$$E_{cv} = \rho A dx (C_v \bar{T} + \frac{B(\bar{U})^2}{2} + g(l - x)) \quad (3.46)$$

where l is the overall length of the thermosyphon. This equation represents the internal, kinetic, and potential energy, respectively. This energy is transported from one control volume to the adjacent control volume. Expressing the energy entering the control volume due to advection, or as energy associated with the mass entering the control volume as

$$E_{in} = \rho A dx \left(C_v \bar{T} \bar{U} + \frac{\beta(\bar{U})^3}{2} \right) \quad (3.47)$$

where the only new term, β , is defined as

$$\beta = \frac{\overline{U^3}}{(\bar{U})^3} \quad (3.48)$$

Energy can be transferred through convection from the liquid film to the vapor according to the following relationship.

$$q_{film} = h_{film} (\bar{T} - T_{vapor}) 2\pi(R - \delta) dx \quad (3.49)$$

Considering all of these methods of transferring energy across the control volume boundaries, and expressing the net flux of energy as Taylor series expansions where

necessary, the energy equation is then

$$\frac{\partial \left[\rho_l A (C_v \bar{T} + \frac{B(\bar{U})^2}{2} + g(l-x)) \right]}{\partial t} = h_{in} 2\pi R (T_{wall} - \bar{T}) - \frac{\dot{m}_{evap} i_{vapor}}{dx} - \tau_{vap} 2\pi (R - \delta) \phi \bar{U} + g \rho_l A \bar{U} - A \bar{U} \frac{\partial P_v}{\partial x} - P \frac{\partial \bar{U} A}{\partial x} + \frac{\partial}{\partial x} \left(k A \zeta \frac{\partial \bar{T}}{\partial x} \right) - \frac{\partial}{\partial x} \left[\left(C_v \bar{T} \bar{U} + \frac{\beta(\bar{U})^3}{2} \right) \rho_l A \right] \quad (3.50)$$

Notice that there is no shear work done at the thermosyphon wall and liquid film interface since there is no relative motion there due to the “no slip” condition that has been assumed. In the energy equation there were several terms that were included for completeness, that contributed very little to the overall equation. For instance, when comparing the energy that was transported due to evaporation, to that of flow work or gravitational work, it is reasonable to neglect the smaller terms, and still maintain excellent accuracy. An analysis was performed using flat plate condensation proposed by Nusselt as will be discussed in a subsequent section. Using the results from this analysis, an order of magnitude comparison between each of the terms presented above was performed. The results of this analysis are shown in Fig. 3.13

Using two orders of magnitude as the criterion for significance, the evaporation and convection terms need to be included in the energy equation since they are dominant. The gravity, flow work, vapor shear, advection of internal energy and kinetic energy terms are much less significant and simplifying the analysis by omitting them should not introduce

significant error (less than 0.5%). Conduction from one control volume to the next was not considered in Nusselt's problem, and so was not considered in this order-of-magnitude analysis. This term may prove to be significant enough to be retained and accordingly is used in this study.

Figure 3.13 Energy Comparison

Reducing the energy equation to the terms of most significance results in the following equation:

$$\frac{\partial \bar{T}}{\partial t} = \frac{h_{in} 2\pi R (T_{wall} - \bar{T})}{\rho_l A C_v} - \frac{\dot{m}_{evap} i_{vapor}}{dx \rho_l A C_v} + \frac{k_l \zeta}{\rho_l C_v} \frac{\partial^2 \bar{T}}{\partial x^2} \quad (3.51)$$

The rate of evaporation can be related to the temperature difference between the film and the

vapor and the heat of vaporization, h_{fg} , as shown by Nusselt²⁶ and depicted below

$$\dot{m}_{evap} = \frac{h_{film} 2\pi(R-\delta)(\bar{T} - T_{vapor})dx}{h_{fg}} \quad (3.52)$$

The significant terms in the energy equation are then represented by

$$\frac{\partial \bar{T}}{\partial t} = \frac{h_{in} 2\pi R(T_{wall} - \bar{T})}{\rho_l A C_v} - \frac{h_{film} (\bar{T} - T_{vapor}) 2\pi(R-\delta)}{\rho_l A C_v} + \frac{k_l A \zeta}{\rho_l A C_v} \frac{\partial^2 \bar{T}}{\partial x^2} \quad (3.53)$$

3.2.2 Solution Methodology

After the governing equations were discretized, an Euler explicit method was used to solve them. Each axial node in the film corresponded to an axial wall node. This made coupling the information between the wall and the film easier. In order to estimate the shear stress, and to estimate the values of β , B and ϕ , a velocity profile in the liquid film was assumed. To avoid a sharp discontinuity in the velocity at the vapor interface requires that at least a quadratic velocity profile be used as shown in Fig 3.14.

Therefore, three boundary conditions were required to define the profile. The first one was that the film velocity at the wall was zero, due to the “no-slip” condition. The next condition was found by matching shear stresses at the vapor interface. There was still one additional constraint required. This constraint was provided by defining the profile in terms of the

mean

Figure 3.14 Possible Velocity Profiles

velocity, $\bar{U}$. Since the mean velocity was a variable of interest, it was determined at each time step in the momentum balance. The velocity gradient at the wall was determined by iteration, such that the mean film velocity matched the mean velocity predicted from the momentum balance. Expressed in mathematical terms these boundary conditions are:

$$\begin{aligned}
 u(r) &= a + br + cr^2 \\
 u(R) &= 0 \\
 \mu \frac{\partial u}{\partial r} \Big|_{(R-\delta)} &= \tau_{vapor} \\
 \bar{U} &= \frac{\int_{R-\delta}^R u(r) 2\pi r dr}{A}
 \end{aligned} \tag{3.54}$$

These boundary equations enabled the determination of the velocity profile of the film.

The values of a , b and c were found by using Newton's method for finding roots.

Once $u(r)$ was known, several variables of interest could be determined. For instance,

$$\tau_{wall} = \mu \left. \frac{\partial u}{\partial r} \right|_R \quad (3.55)$$

and other variables such as β , B and ϕ could also be determined using Eqns. 3.48, 3.23 and 3.43 respectively.

The vapor shear stress, τ_{vapor} , was determined as part of the vapor model equations presented in a later section.

The temperature profile assumed across the film was linear, varying from the wall temperature, to the vapor temperature at the interface. The linear temperature profile was selected since the liquid film velocity was so low and the film thickness was so thin. This information was needed when solving for ζ in Eqn. 3.37. Additionally, this required h_{film} to be valid for the temperature difference between T_{vapor} and $\bar{T}$, since the temperature at the interface was assumed to be the same as the vapor.

3.2.3 Comparison with Known Solution

One of the most familiar solutions of a falling film caused by condensation on a flat, isothermal plate was presented by Nusselt²⁶. The Nusselt solution assumes laminar flow with constant thermal properties. The condensing vapor is also isothermal and a single substance (i.e., no mixtures). There is no shear stress between the vapor and the condensate

or advection of energy within the film. In order to replicate Nusselt's conditions with this model, the wall temperature was set to a constant, and the radius of thermosyphon was made very large. Additionally, the vapor shear stress was set to zero. Under these conditions, the flat plate solution proposed by Nusselt was comparable with that predicted by this model. For this simulation, the wall temperature was set to 300K, the vapor environment temperature was 350K, and water condensation was considered along a 0.55 m long vertical plate. The following figures demonstrate the difference between the film thickness predicted by Nusselt's model (the upper line) and the model of this study (the lower line). Figures depicting various numbers of axial nodes are presented.

Figure 3.15 Film Thickness Comparison N=10

Figure 3.16 Film Thickness Comparison N=20

Figure 3.17 Film Thickness Comparison N=40

Figure 3.18 Film Thickness Comparison N=80

Figure 3.19 Film Thickness Comparison N=300

In the preceding graphs, N represents the number of axial nodes used in the numerical model. The preceding figures demonstrate that there is good agreement between Nusselt's model and the model from this study, and that using more axial grid points had

the tendency to reduce the error.

Additional insight may be gained by comparing the average velocity predicted by Nusselt, and the average velocity predicted by the model used in this study. The following graphs demonstrate the difference between these models.

Figure 3.20 Average Velocity Comparison N=10

These graphs demonstrate that there is good agreement between the numerical solution, and the solution proposed by Nusselt. The graphs above demonstrate that with a greater number of axial nodes, greater accuracy may be attained. This fact is often offset by the additional computational power that is required to process these additional data. The model used in this study used axial nodal spacing as shown for the N=60 cases shown above. One would therefore expect similar accuracy.

Figure 3.21 Average Velocity Comparison N=20

Figure 3.22 Average Velocity Comparison N=30

Figure 3.23 Average Velocity Comparison N=60

Figure 3.24 Average Velocity Comparison N=300

3.3 The Vapor Core

The vapor core was considered to be one-dimensional in the axial direction, and quasi-steady. What this means is that the vapor core reaches thermal equilibrium so much faster than the adjoining liquid film, or the wall, that it appears to be at steady-state when compared to the liquid film or wall. The vapor model was also assumed to be incompressible in space, but compressible in time. Thus, at any given time step, the density throughout the vapor space is assumed to be constant. However, at the next time step, it could change corresponding to the amount of vapor mass present at that time step.

3.3.1 Derivation of the Equations

A phase change process is required for mass to enter or leave the vapor space. The vapor mass can condense onto the liquid film, or even onto the pool surface if the thermal conditions allow. Likewise, the film and pool can evaporate liquid, thus sending mass into the vapor core. The amount of evaporation depends on the temperature difference between the liquid and the vapor, and the evaporation heat transfer coefficient. Mass transfer from the liquid film is given by²⁷

$$\dot{m}_{\text{vapor}, \text{film}} = \frac{h_{\text{film}} 2\pi(R - \delta)dx(\bar{T} - T_{\text{vapor}})}{h_{fg}} \quad (3.56)$$

The mass flow rate presented in Eqn. 3.56 is a function of axial location along the vapor space because $\bar{T}$ and h_{film} are both dependent on axial location. Mass transfer from the pool surface is given by

$$\dot{m}_{vapor,pool} = \frac{h_{evap} \pi (R - \delta)^2 (T_{pool} - T_{vapor})}{h_{fg}} \quad (3.57)$$

where h_{fg} is the heat of vaporization, and h_{evap} is the heat transfer coefficient between the pool surface and the vapor. Once the mass flow rates into and out of the vapor space are known, it is possible to determine the velocity of the vapor core as it travels from the evaporator to the condenser. The axial vapor velocity can be predicted at any axial location along the thermosyphon as shown in Fig. 3.25.

This is performed as follows, since the vapor core is considered incompressible, and quasi-steady, the mass entering any control volume is equivalent to the mass leaving that control volume. The uppermost control volume is selected as a starting point. No mass is allowed to leave through the upper surface. This means that the rate of mass condensing from the control volume is equivalent to the rate of mass entering the control volume from below. Considering the next lower control volume, the mass leaving axially through the top of this second control volume is identical to the mass entering the first control volume axially from below. Now the mass leaving axially, and the mass condensing radially are both known. This makes the mass entering this second control volume from the bottom determinable.

Figure 3.25 Axial Vapor Velocity

This procedure is continued in marching fashion throughout the thermosyphon. A mathematical example of the mass transfer in the upper most control volume is given by

$$\dot{m}_{condensate} = \dot{m}_{entering \text{ the control volume}} \quad (3.58)$$

Where $\dot{m}$ entering the control volume is leaving the control volume immediately below. When considering the next lower control volume, mass enters it from below, and either condenses, or is passed through to the next higher control volume. It is this mass that enters the next higher control volume.

$$\dot{m}_{in} = \dot{m}_{through} + \dot{m}_{condensate} \quad (3.59)$$

Such that $\dot{m}_{through}$ of Eqn. 3.59 is identical to $\dot{m}_{entering\ the\ control\ volume}$ of Eqn. 3.58.

Knowing the mass flow rate in the axial direction, the density of the vapor, and the cross-sectional area of the control volume at any location, the vapor velocity is determined from the fundamental equation.

$$\dot{m} = \rho_{vapor} A_{vapor} V_{axial} \quad (3.60)$$

In this case, $\dot{m}$ represents the mass flow rate of the vapor, ρ_{vapor} represents the density of the vapor, A_{vapor} represents the cross-sectional area of the vapor space, and V_{axial} represents the axial velocity of the vapor.

The knowledge of V_{axial} , the axial vapor velocity relative to the liquid film, is also necessary to determine the shear stress between the vapor and the liquid film. The vapor shear stress is given by

$$\tau_{vapor} = f \frac{\rho_{vapor} V_{axial}^2}{2} \quad (3.61)$$

The correlation for the friction factor f was specifically developed for flows where condensation or evaporation was present¹⁷. For a region with evaporation, the friction factor was found using the relationship

$$f = \frac{16}{\text{Re}} \left(1.2337 - 0.2337 e^{0.0363 \text{Re}_w} \right) e^{\frac{6M^2}{5}} \quad (3.62)$$

where M is the local Mach number based on the local mean axial velocity, Re_w is the local radial Reynolds number

$$\text{Re}_w = 2\rho_w \frac{V_{\text{radial}} R}{\mu} \quad (3.63)$$

and Re is the local axial Reynolds number defined as

$$\text{Re} = 2\rho_{\text{vapor}} \frac{V_{\text{axial}} R}{\mu} \quad (3.64)$$

where μ is the vapor viscosity, V_{radial} is the radial velocity of the vapor, and ρ_w is the density of vapor leaving the wall.

For a condensation region, the friction factor is given by

$$f = \frac{0.046}{\text{Re}^{\frac{1}{5}}} \left[1 + 55 \text{Re}^{0.1} \left(\frac{V_{\text{radial}}}{V_{\text{axial}}} \right)^{0.9} \left(\frac{L_e}{R} \right)^{0.1} e^{\frac{6M^2}{5}} \right] \quad (3.65)$$

where L_e is the length of the mass extraction region. More information on the limitations and uses of these friction equations can be found in Reference 28.

3.3.2 Solution Methodology

Once the mass balance for the upper most vapor control volume is determined, a mass balance on each of the remaining control volumes can be performed sequentially. This continues until the lowest most control volume is encountered.

3.3.2.1 Non-Condensing Gases

The vapor space model is not complete without consideration of non-condensing gases. While it is possible to achieve a near perfect vacuum inside the thermosyphon, it is likely that some non-condensing gases could remain trapped in the system. This non-condensing gas hinders the operation of the thermosyphon, effectively shortening its length. One way to account for this gas is to compute the mass of the gas left in the thermosyphon during the charging process by using the Ideal Gas Law. The initial pressure and temperature of the air are recorded after the vacuum is drawn on the thermosyphon, but before the water is added. After the water is added, the volume of non-condensable gas is computed by subtracting the volume of the working fluid, from the total volume of the thermosyphon.

As the thermosyphon is heated, the working fluid vapor pressure increases, and greater pressure is exerted on the trapped non-condensable air. Assuming that the vapor is saturated, the vapor pressure is a function of only the temperature. At each time step, the vapor mass is known by carefully accounting for evaporation and condensation at each axial location by using Equation 3.59 along the length of the thermosyphon. The vapor volume is computed from knowledge of the film thickness at each axial location, and the liquid pool depth. This

makes it possible to determine the vapor density by dividing the mass of the vapor, by its volume. The vapor temperature is then determined using the following relationship between the temperature [K] and the density [kg/m³]

$$\rho_{vapor} = -50.54 + 0.48T_{vapor} - 0.015T_{vapor}^2 + 1.66E^{-5}T_{vapor}^3 \quad (3.66)$$

which was established by curve fitting the density of the saturated vapor as a function of temperature.

Using steam tables, and the temperature of the vapor, the pressure [N/m²] of the saturated vapor was also determined using the following equation.

$$P_{vapor} = -3252.328 + 33.5452T_{vapor} - 0.11575T_{vapor}^2 + 0.0001337T_{vapor}^3 \quad (3.67)$$

This pressure was then used to determine the volume of the trapped non-condensable gas within the thermosyphon. Knowledge of the mass of trapped air, the pressure, and the temperature make it possible to determine the volume of the trapped non-condensable gas. This volume was then divided by the cross-sectional area of the thermosyphon to find the length of the non-condensable gas bubble. The heat transfer in the region of the thermosyphon hindered with non-condensable gas was significantly less than the section of the condenser where phase changes are occurring. Accordingly, the vapor model was assumed to be adiabatic where the non-condensable bubble was present.

3.3.3 Comparison with Known Solution

No direct comparison with exact solutions for the vapor model could be made since this component of the thermosyphon model was unique due to the inclusion of evaporation from the pool. Similar models have been made for heat pipes without pools such as that presented by Bowman⁶. Figure 3.26 illustrates the predicted vapor velocity variation axially along the vapor space for one example calculation. For the ‘no pool’ case, the velocity starts at zero at the bottom of the thermosyphon (axial location = 1) and increases through the evaporator due to mass addition to the vapor space from the evaporating liquid film until a maximum velocity of about 0.5 m/sec is reached. The velocity then decreases through the condenser section of the thermosyphon due to condensation from the vapor to the liquid film until it achieves 0 m/sec at the top of the thermosyphon (axial location = 0). The pool case starts with a non-zero vapor velocity at the bottom of the vapor space due to mass added from the pool. Figure 3.26 shows the effect of mass entering the vapor space from the pool area.

3.4 The Pool

The critical heat flux for a thermosyphon is a condition where the liquid film evaporates in such a way as to fully wet the thermosyphon wall, but not form a pool at the bottom of the thermosyphon. If the thermosyphon is operating below this critical heat flux, there is always a pool of working fluid at the bottom of the thermosyphon. If the critical heat flux is exceeded, the pool will be converted into vapor, then the film thickness reduced until “dryout” is achieved. Many earlier numerical models simply neglect the pool of working fluid due to its added complexity. Since the working fluid has a significantly greater density

when it is in liquid form, the mass contained in the pool often exceeds that contained in the vapor core. This thermal mass of the pool must be considered in the transient model. For this study, the pool was modeled by considering it to be made from small disks of liquid. The thickness of each of these disks corresponded to the nodal spacing of the thermosyphon wall in this location.

Figure 3.26 Vapor Velocity

The pool was modeled as if it were a solid, neglecting flow from one control volume to the next with the exception of where the liquid film falls off the wall and enters the pool. The falling film brings energy into the upper most portion of the pool through advection and conduction, which is then diffused to the rest of the pool.

The mass of the pool was determined by conserving mass in the closed system. The total

mass of working fluid within the thermosyphon was known, the mass contained in the liquid film was determined numerically by integrating the mass distribution along the wall. Similarly, the mass in the vapor space was found from the knowledge of the density and the volume it occupied. The remaining mass was assumed to be located in the pool.

3.4.1 Derivation of the Governing Equations for the Pool

3.4.1.1 Continuity

Mass was allowed to enter and leave only via the upper most control volume of the pool. Mass entered this control volume from the liquid film. The liquid film's average velocity, density and thickness were known from the liquid film model, leading to the determination of the mass flow rate entering the pool. Mass left the pool via evaporation from the pool surface to the vapor core. The mass contained in the pool was expressed as

$$\dot{m}_{film} - \dot{m}_{evaporation} = \frac{\partial m_{cv}}{\partial t} \quad (3.68)$$

Where m_{cv} represents the mass contained within the control volume of the pool.

3.4.1.2 Energy

Energy entered the pool from the falling liquid film. The thermosyphon walls could also transfer energy via convection to the pool. The evaporation of liquid to the vapor core was the only mechanism for energy leaving the pool. Within the pool itself, energy was allowed

to be conducted from one liquid disk to the next. This conduction was greatly enhanced when the pool was boiling. El-Genk²⁴ suggests a mixing coefficient to better model the pool. He found that the effective conductivity was greatly enhanced once boiling ensued. This model achieved this effect by treating the pool as thoroughly mixed. The energy transferred from changes in kinetic and potential energy were neglected due to their insignificant magnitudes. The basic energy equation used for a fluid disc in the pool at a central node was

$$T_{pool,i}^{n+1} = T_{pool,i}^n + \Delta t \left[\frac{2h_{pool}(T_{wall} - T_{pool,i})}{RC_p \rho_{pool}} + \alpha_{pool} \left(\frac{T_{pool,i+1} - 2T_{pool,i} + T_{pool,i-1}}{\Delta x^2} \right) \right] \quad (3.69)$$

where T_{pool} is the temperature of the pool, R is the inside radius of the thermosyphon, C_p is the specific heat of the pool liquid, α_{pool} is the thermal diffusivity of the pool liquid, ρ_{pool} is the density of the pool liquid, T_{wall} is the temperature of the thermosyphon wall. Additionally, Δx is the axial node spacing, Δt is the time step, the subscript i represents the axial position, and the superscript n denotes the time step for which information is known, while $n + 1$ represents the time step for which information is sought.

Similarly, the bottom most disc of fluid was modeled using the expression

$$T_{pool,N-1}^{n+1} = T_{pool,N-1}^n + \Delta t \left[\frac{2h_{pool}(T_{wall} - T_{pool,N-1})}{RC_p \rho_{pool}} + 2\alpha_{pool} \left(\frac{T_{pool,N-2} - T_{pool,N-1}}{\Delta x^2} \right) \right] \quad (3.70)$$

where $N - 1$ represents the bottom most node. This assumes that the bottom most disc has half the volume of a central disk, and that there is no heat transfer axially from the bottom of the thermosyphon.

The upper most pool node disc is modeled by

$$T_{pool,0}^{n+1} = T_{pool,0}^n + \Delta t \left[\frac{2h_{pool}(T_{wall} - T_{pool,0})}{RC_p \rho_{pool}} + 2\alpha_{pool} \left(\frac{T_{pool,1} - T_{pool,0}}{\Delta x^2} \right) + \frac{2h_{evap}(R - \delta)^2}{\rho C_p \Delta x R^2} (T_{pool,0} - T_{vapor}) + \frac{(R^2 - (R - \delta)^2) \bar{U}}{R^2} (T_{film,N-1}) \right] \quad (3.71)$$

which is more involved than that other models since it models convection from the wall, conduction from the pool, evaporation to the vapor and energy added to the pool from the liquid film entering the control volume.

3.5 Complete Model

With all of the individual models functioning properly, they next needed to be coupled to each other. The link between the liquid film and the pool was made as part of the pool model development, Eqn. 3.71, and needs no further clarification. The energy equation for the upper most pool disk also links the pool and the vapor core together. Correlations for convection between the wall and the film, and between the film and the vapor core were still required.

The convection coefficient between the wall and liquid film is an important factor in linking the film and wall models. The model used was derived from a combination of laminar flow at lower temperatures and film boiling at higher temperatures. Specifically, at temperatures below the boiling point, the average heat transfer coefficient²⁵ used is

$$\overline{h_{in}} = \frac{k_{film} 0.664(\text{Re}_x)^{\frac{1}{2}} (\text{Pr})^{\frac{1}{3}}}{x} \quad (3.72)$$

where x is the condenser length, the flow was laminar and Pr is greater than 0.6. This correlation was chosen since it represents the laminar flow expected in the film prior to boiling. Eqn. 3.72 predicts low heat transfer rates as would be expected prior to boiling.

At temperatures above the boiling point, the following film boiling correlation suggested by Collier²⁰ was used.

$$h_{in} = 1.01(10)^{-15} T_{max}^{7.6} \quad (3.73)$$

T_{max} is the highest temperature expected in the system expressed in Kelvin, and h_{in} had the units of $\frac{W}{m^2 K}$. This equation predicts a power curve fit. Instead of solving this equation for each temperature, a much simpler straight line correlation was used. This was determined by solving this equation for the highest expected temperature, and again for the temperature at which boiling began. Then, a linear fit between these two points was made. This proved to be always within 6% of the power curve fit, with an average error of 3.8% for the temperatures considered.

The relationship for the heat transfer coefficient between the wall and the liquid film is shown below.

Figure 3.27 Heat Transfer Coefficient Between Wall and Film

where Eqn. 3.72 was used between T_{min} and T_{boil} , and Eqn. 3.73 was used between T_{boil} and T_{max} .

Next a convection correlation between the liquid film and the vapor space was needed. The convection correlation suggested by Nusselt's work²⁶ was used.

$$h_{film} = \left(\frac{k}{\delta} \right) \left(\frac{\bar{T} - T_{wall}}{T_{vapor} - \bar{T}} \right) \quad (3.74)$$

Where $\bar{T}$ is the mixing cup temperature of the film, and T_{vapor} is the temperature of the vapor.

Another convection correlation needed was between the pool surface and the vapor space. Pool boiling has received much attention and many correlations exist that describe this process. All of them predict very high heat transfer coefficients. The correlation used in this model is proposed by Lock²⁶ and is given by

$$h_{evap} = \frac{2\rho_{vap}h_{fg}^2}{T_{pool}(2\pi R_{vap}T_{pool})^{\frac{1}{2}}} \quad (3.75)$$

Equation 3.75 is applicable near equilibrium and when the product of the universal gas constant, and the saturation temperature is much less than the heat of vaporization.

$$R_{gas}T_{sat} \ll h_{fg} \quad (3.76)$$

For this study the results of equation 3.76 are approximately $160 \ll 2300 \frac{kJ}{kg}$.

The external heat transfer coefficient between the thermosyphon and the environment was also required for the numerical model. This was obtained from experimental data, as will be shown in Section 4.2.9

Finally, the convection from the thermosyphon wall to the pool was modeled by using an equation given by Shiraishi²¹

$$h_{pool} = 0.32q_e^{0.4} \left(\frac{\rho_l^{0.65} k_l^{0.3} C_{p_l}^{0.7} g^{0.2}}{\rho_g^{0.25} h_{fg}^{0.4} \mu_l^{0.1}} \right) \left(\frac{p}{p_a} \right)^{0.23} \quad (3.77)$$

where p is the vapor pressure, p_a is the pressure of one atmosphere, and μ_l is the viscosity of the liquid. The heat flux, q_e , was determined from the previous time step.

Once all of the individual thermal sub-systems were established and validated with known solutions, they were coupled to form the overall model. Since there was no means of validating the model before the empirical data were collected, mass and energy balances were performed. The system energy balance was tested by studying a thermosyphon that was initially at a temperature of 300K. It was then exposed to a high temperature, 350K, on the lower half of the thermosyphon, and a low temperature, 300K, on the upper half of the thermosyphon. Then the energy entering the evaporator was compared to the energy leaving the condenser as a function of time. If any significant contributions to the energy were neglected during the model formation, the energy entering the system would not match the energy leaving the system. This served as a check for the overall model.

Figure 3.28 shows that initially, much more energy enters the thermosyphon system as it increases in temperature. Once the temperature increases sufficiently, the power leaving the system matches the power entering the system as would be expected at steady-state.

Figure 3.28 Energy Balance

Another test was made to determine if the mass flow rates of the vapor and the film crossing an arbitrary line were the same at steady-state. A transient was modeled where the evaporator temperatures were set to 350 K, the condenser temperatures were set to 300 K, and then the model was run until a steady-state condition was achieved. Selecting a node near the middle of the thermosyphon, the mass flow rate of the vapor was compared to the mass flow rate of the falling film. These should converge to the same value as the system approaches steady-state. Defining Net Mass as $\dot{m}_{film} - \dot{m}_{vapor}$ resulted in the following graph.

Figure 3.29 Local Mass Balance

The net mass flux approaches zero as the system progresses to steady-state. This behavior helps establish the validity of the thermosyphon model.

Additionally, the mass within the system was traced to assure that it was conserved. Using a thermal transient profile that will be introduced in the next section, the mass within the system was plotted as a function of time.

This overall mass balance in the system indicates that mass is conserved in the thermosyphon. As transient thermal conditions were applied, the mass was redistributed within the thermosyphon to maintain the total system mass. The model was then complete, and the energy and mass balances were achieved, the next step was to investigate the effect each of the input parameters had on the output of the model.

Figure 3.30 Overall Mass Balance

3.6 Model Sensitivity

The sensitivity of the numerical model can be determined using the input parameters used in the simulation. By systematically making small changes in one parameter, the importance of that parameter is seen by the change that occurs in the output of the numerical model as a result of that small change. The primary focus of this analysis concerns heat transfer correlations since they typically are associated with a range of values for given conditions. The sensitivity of any given parameter in a transient problem is not only a function of axial position, but also a function of time. For instance, when considering h_{pool} , the heat transfer coefficient between the thermosyphon wall and the liquid pool, the change seen by varying its value by 30% is as shown in the Fig. 3.31 below.

Figure 3.31 Effect of Varying h_{pool}

This figure is for node 7 which was selected to demonstrate typical behavior of the sensitivity. The majority of the time considered shows that it is difficult to distinguish between the baseline condition and the condition where the heat transfer coefficient was increased by 30%. Even when a distinction can be made, the difference is at most 1.2 K. Rather than reporting the effect for each parameter at each time step, a conservative approach is taken where only the highest difference is considered. This significantly reduces the data that need to be considered, while still maintaining the objective of the sensitivity study. In Fig. 3.31, h_{pool} was increased by 30%, even though the correlation suggested by Shiraishi is valid for $\pm 15\%$. A typical approach in a sensitivity study is to determine the effect of a larger change, and then scale it to the appropriate change. In this case the output parameter is T and the parameter that varies is h_{pool} . The actual amount h_{pool} varies is denoted by $u_{h_{pool}}$ as shown by the equation below³⁰.

$$S = \left| u_{h_{pool}} \frac{\partial T}{\partial h_{pool}} \right| \quad (3.78)$$

where S is the sensitivity of the model. In this particular case, S for node 7 is given by

$$S = \left| 0.15 u_{h_{pool}} \frac{\partial T}{\partial (1.30 h_{pool})} \right| \quad (3.79)$$

When considering several variables in a system, the equation used to describe the sensitivity is

$$S \leq \sqrt{\sum \left(u \frac{\partial T}{\partial X} \right)^2} \quad (3.80)$$

where X is the parameter that varies and u is the amount the parameter is expected to vary. It is also interesting to note which of all the parameters has the greatest effect on the output. This is determined most easily using a Pareto chart of the effects as shown below.

Figure 3.32 shows that the external heat transfer coefficient, h_{out} , has the greatest impact on the output temperature. Using Eqn. 3.80, the overall sensitivity is 4.02% when considering the system as a whole, averaged over time.

Figure 3.32 Sensitivity Pareto

3.7 Grid Studies

There is always some error associated with any finite difference technique used to solve a differential equation. The effort to obtain accuracy is offset by the computational time required to solve the equations in the model. It is therefore imperative that the final solution offers as much accuracy as possible, in an acceptable period of time. Balance between the time and accuracy concerns is achieved by minimizing the truncation error in both the spatial coordinate system and the temporal coordinate system within acceptable limits. This is done by reduction the grid system spacing, and by reduction of the time step used to solve the model until the solution offered by the model does not significantly change. In this study, the limit of significance of 0.5 K was selected.

Accordingly, the time step and nodal spacing were checked to assure that this was achieved.

Using the numerical model to determine the temperature at a fixed location and a fixed real time, the following data were generated.

Table 3.1 Grid Independence

Axial Nodes	T_7 [K]	Time Step [s]	T_7 [K]
45	290.03	0.000100	289.98
60	289.98	0.000050	289.98
120	289.92	0.000025	289.98

Table 3.1 shows that using a numerical grid with more than 60 nodes gives very little benefit to the numerical accuracy. Likewise, the time steps considered show that there was no improvement to be gained by using a smaller time step. Using 60 axial nodes and a time step of 0.000050 seconds gives the numerical accuracy desired in this work. In fact, the time step could be increased to reduce the computational time required.

4 EXPERIMENT

4.1 Experiment Overview

A thermosyphon was fabricated from copper pipe and water. The thermosyphon evaporator was heated with an electric foil heater and was insulated to minimize energy loss to the environment. A fan forced air over the thermosyphon condenser to provide cooling. Thermocouples were placed axially on the outside of the thermosyphon.

A thermocouple near the center of the evaporator was selected to control the process. The electric heaters were pulsed on or off to trace out a predetermined transient temperature profile. As this control thermocouple indicated that a desired temperature was reached and maintained, the next target temperature was used. The target values for the transient were selected to provide a gradual temperature increase, a rapid increase in temperature and a step increase in temperature. Realistic values for electronic components in an outdoor environment were considered. The target values were as shown in Fig. 4.1.

The thermal response of the remaining thermocouples was then recorded versus time using a data acquisition system.

Figure 4.1 Evaporator Set Points

Temperature data were gathered and later used to validate the numerical model of the thermosyphon. This chapter explains the important aspects of the experiment.

4.2 Experimental Details

A thermosyphon was made from copper pipe, and fitted with equally spaced thermocouples.

The thermosyphon was charged with water as a working fluid. Foil heaters were used to provide an energy source for the evaporator section, and a fan was used to cool the condenser. The experiment was set up as shown in the figure below.

4.2.1 Thermosyphon

The thermosyphon was made from commercially available 1.27 cm (1/2") type M copper pipe. This had a nominal outside dimension of 1.59 cm (0.625") and an inside diameter of 1.45 cm (0.569"). The overall length of the system was 54.6 cm (21.5"). A standard pipe cap

was used to seal the bottom. A water shut-off valve was used at the top of the thermosyphon to accommodate different fill volumes.

Figure 4.2 Experiment Set-Up

The fittings were all bonded to the copper pipe using CopperBond[®] adhesive. The integrity of the system was determined by charging the thermosyphon with air to 200kPa (30 psig). The entire system was then submerged in water and observed for air leakage.

There were no air bubbles noted during the 3 minutes of observation. There was also no loss of pressure during this investigation.

The copper pipe was cleaned by passing virgin steel wool axially through the pipe. After several passes, a visual inspection was made to assure that the irregularities associated with the pipe's fabrication were removed, and a clean, shiny surface was noted. A clean cotton cloth was then passed through the pipe to assure all of the steel wool was removed from the pipe.

Undoubtedly, this cleaning procedure left marks axially along the inside of the pipe. These small scratches, and the cotton cloth cleaning helped produce an ideal surface for film condensation rather than droplet condensation. This was confirmed by performing the cleaning procedure on a 12.7 cm (5") length of the pipe, and then placing it in a -10° C chamber. Once it reached a steady-state temperature, it was exposed to the vapor rising from boiling water. Both ends of the pipe were open. The vapor entering the pipe was observed to condense as a film rather than droplets on the inside of the pipe.

4.2.2 Thermocouples

T-type thermocouples were made using Omega thermocouple wire. The wire was part number TT-T-30 SLE and the ends were prepared and welded together to make a bead that was on the order of 0.75mm (0.030") in diameter. They were visually checked for integrity and then connected to the data acquisition system. The thermocouples were then submerged

in a common water bath to verify their calibration. All of the thermocouples responded within $\pm 0.5^{\circ}\text{C}$ when compared to each other and to the actual water temperature as determined by a mercury thermometer. The range of the thermocouples was from 273 K to 643 K making them well suited for the application since the expected temperatures were between 300 K and 360 K.

After the calibration of the thermocouples, they were connected axially along the length of the thermosyphon at 3 cm (1.2") intervals. The thermocouple was in direct contact with the thermosyphon and retained in place by a small, adhesive backed foil dot approximately 0.5 cm (0.2") round. The thermocouple wire was also given strain relief with 26 gauge stainless steel wire fastened to the thermosyphon. Every effort was made to assure good contact between the thermocouple and thermosyphon wall was made. Nineteen thermocouples were used on the thermosyphon, and one was used to measure the ambient temperature. Starting at the top of the thermosyphon, the thermocouples were numbered sequentially. The 15th thermocouple was used to control the experiment. This was selected since it was near the middle of the heated section of the thermosyphon.

4.2.3 Heaters

Kapton flexible heaters, Omega part number KH-204/10, were used to supply heat to the thermosyphon. These were 5 cm (2") wide by 10 cm (4") long, and were wrapped circumferentially around the thermosyphon. They were retained with 26 gauge stainless steel wire fastened to the thermosyphon. The heaters were placed end to end to give a heated

length of 20 cm (8"). The heaters were then wired through the data acquisition system in order to be controlled via pulses of 120 VAC electricity.

4.2.4 Fan

A Lakewood 20" box fan was placed 50 cm (19.6") away from the thermosyphon, and set on its lowest setting. The fan provided a forced convection environment for the thermosyphon. The 20th thermocouple was also placed in the air stream to measure the ambient temperature.

4.2.5 Vacuum pump

The vacuum pump used to evacuate the thermosyphon was a Gast Model 0523-V4-G582DX. The vacuum was drawn down to 24 inches of Mercury, leaving an absolute pressure inside the thermosyphon of 15kPa (2.1 pisa), before water was added to the thermosyphon. This implies that about 0.1 grams of air could still be contained in the system.

4.2.6 Insulation

The insulation used around the evaporator and the fill valve was Armacell AP/Armaflex 25/50 which had an outside dimension of 1.59 cm (0.63") and an inside dimension of 1.27 cm (0.5"). The insulation was split axially and joined with an adhesive strip to form a closed shape. The insulation extended 23 cm (9") from the bottom of the thermosyphon, to 1.27 cm (0.5") above the 12th thermocouple. The insulation was also used around the fill valve to isolate it from the environment as well.

4.2.7 Working Fluid

Water was used as the working fluid in the thermosyphon. The water used was first deionized and then degassed. The volume used was 42 ± 2 cc , and the temperature was 16° C. After the vacuum was drawn on the thermosyphon, and using the valve to control the flow, the water was slowly allowed to enter the thermosyphon. A Burette tube was used to measure the volume of water entering the vessel.

4.2.8 Data Acquisition

A data acquisition system was used both to control the temperature on the outside of the evaporator, and record the temperatures of each thermocouple. The system used hardware from National Instruments, and is the property of WesTech Engineering for use on research projects. The system recorded temperatures from the thermocouples, and provided control for the heaters based on the temperature of the evaporator.

4.2.9 External Heat Transfer Coefficient

The external heat transfer coefficient was required by the numerical model. This heat transfer coefficient between the thermosyphon, and the environment was obtained empirically.

The external heat transfer coefficient was determined by running the thermosyphon without a working fluid, but with a vacuum drawn. This reduced the model to the wall model alone, which had been validated analytically. The system was then exposed to varying

temperatures (as in Fig. 4.1) along the evaporator, and the temperature response of the thermocouples was recorded. Then, the external heat transfer coefficient was chosen that minimized the error between the empirical data and that predicted from the thermosyphon model. The convection heat transfer coefficient for the condenser section was found to be $17.5 \text{ W/m}^2\text{K}$ for the conditions observed. This value was selected because it minimized the error between the wall model and the environment for a node near the center of the condenser. Since this value was determined empirically, it includes convection and radiation from the outside of the condenser to the environment. The accuracy of the external heat transfer coefficient is best near the center of the condenser.

The determination of the external heat transfer coefficient was made by subtracting the temperature predicted by the numerical model from the temperature measured by the thermocouple in that area. This difference was then compared to a similar calculation when the model was run with a different external heat transfer coefficient. Several external heat transfer coefficients were selected until one that minimized the error was found.

4.2.10 Experimental Uncertainty

In an experiment there will be some degree of error between the data collected and the actual values of the data in the physical experiment. Quantifying this uncertainty is needed to establish the usefulness of the experiment. The primary source of uncertainty is in the

measuring of the various parameters. For instance, the amount of working fluid was only able to be measured to within ± 2 cc. The axial position of each thermocouple was only able to be placed within 2 mm from its designed location, and so forth. One way to quantify the uncertainty is to run the numerical model at the extreme values of the various parameters, and then determine the effect this had on the output parameter, T . The uncertainty is then defined as

$$u_T \leq \sqrt{\sum \left(u \frac{\partial T}{\partial X} \right)^2} \quad (4.1)$$

where u_T is the uncertainty of the temperature data, X is the variable that caused this uncertainty, such as the amount of working fluid, and u is the possible error made when quantifying the variable. Using Eqn. 4.1, the uncertainty of the experiment is at most 2.27%.

A graph of the contributors to this uncertainty is shown below in Fig. 4.3

Figure 4.3 Experimental Uncertainty

Figure 4.3 shows that the largest contributor to the experimental error was the inability to ascertain the absolute pressure accurately. Other contributors were measuring the amount of working fluid in the thermosyphon to determine the fill volume. The thermocouple contact resistance, TC Contact, was also considered a source of error in this experiment, as well as the general accuracy of the thermocouple and the ability to place the thermocouple precisely where it was desired.

5 COMPLETE MODEL VALIDATION

5.1 Validation Overview

An experiment was run to compare the temperatures predicted from the numerical model to those from actual hardware. The complete numerical model developed in Chapter 3 was compared to the experiment conducted in Chapter 4 using the transient temperature shown in Fig 4.1. This chapter presents the comparison between the numerical model and the experiment. How well the numerical model can predict temperatures measured during the experiment helps to determine the validity of the numerical model.

5.2 Quantifying the Error

Due to the number of data points considered, the data collected from the experiment are best presented in graphical form. One way to show error between the numerical model and the empirical data is presented in Eqn 5.1. For example, if the error between the actual data and numerical data is represented using the widely accepted relation

$$Error = \frac{(T_{actual} - T_{numerical})}{T_{actual}} \quad (5.1)$$

where the temperatures are expressed in Kelvin, then the average error is within 2.3% as

is shown in Fig. 5.1. This figure shows that when the error is calculated in this fashion, there is very good correlation between the numerical data and the experimental data. The term average error refers to determining the error for each thermocouple at each time step, and then taking the average of these errors.

Figure 5.1 Average Error

Occasionally, the averaging of the error can be misleading since it can blend several poor results into a seemingly good result. One way to double check the error is to compare the standard deviation of the average error. This is an indicator of how closely sets of data compare to each other. The standard deviation of the average error provides additional insights to how well the numerical model matched the experimental data, as shown below.

Figure 5.2 Standard Deviation of Average Error

The graph of the standard deviation of the average error shows that the correlation is good at all points along the thermosyphon. The standard deviation is a measure of how widely values are dispersed from the average value (the mean). Investigating individual comparisons between the experimental and numerical data reveals that the most variation is seen where the numerical model lags slightly behind the experimental data, however, even at these locations the spread in the data is minimal, as will be shown in subsequent sections.

The overall summary shows that the numerical model fits well with the experimental data. The next section presents the more detail comparisons between the numerical model and the experimental data.

5.3 Presentation of the Data

Recall that the thermocouple numbering system starts at the top of the thermosyphon and proceeds downward towards the evaporator. That is, Actual[1] refers to the actual temperature at thermocouple number 1, and so forth. Thermocouples 12 through 19 were in the heated portion of the evaporator and used as inputs to the prediction model. Thermal information concerning these thermocouples is not presented since the model would identically match the actual data in these cases.

Also recall that the transient experienced by the thermosyphon was shown in Fig. 4.1. The actual response of the control thermocouple, TC15, is shown below.

Figure 5.3 Target vs. Actual Transient

Fig. 5.3 shows that the software used to control the experiment performed well in that it traced out the desired profile. The hardware, however, did have an anomaly during the cooling down from the first transient. During this time the control relay briefly was stuck in the on position causing energy to be added that was not expected. Since the numerical model uses the actual temperature values from the evaporator section to predict the response of the condenser section, this anomaly did not affect the performance of the model. Rather, the short addition of unexpected energy was merely treated as another transient input.

Further discussion concerning the responses of other thermocouples will refer to three distinct transients. The first transient, from 0 to 2500 seconds, the second transient, from 4000 to 5000 seconds, and the third transient from 6400 to 6900 seconds.

Each set of data compares the actual temperature read from the thermocouple to the predicted temperature at that same location. The correlation coefficient is a method to quantify how well the actual and predicted temperatures match and is defined by

$$r^2 = \left(\frac{\sum_{i=1}^n (x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum_{i=1}^n (x_i - \bar{x})^2 (y_i - \bar{y})^2}} \right)^2 \quad (5.2)$$

and can be found in any statistics text. The correlation coefficient measures the joint behavior of the two sets of data. If when one set increases, the other set also increases they are said to have a positive correlation. Likewise, if one set of data decreases, the other also decreases, they are said to have a negative correlation. Squaring the correlation coefficient forces the value of the correlation to be positive. It also provides a more stringent measure of the correlation. The squared correlation coefficient will range between 0.0 for independent data sets, to 1.0 for data sets that are perfectly matched. The correlation coefficients reported herein are squared correlation coefficients.

Also presented with the data are the high and low range bars when considering the uncertainty of the experiment and the sensitivity of the numerical model. Considering each of the thermocouples of interest, starting at thermocouple 1, the following data are presented.

Thermocouple 1 was located at the top of the thermosyphon, closest to the fill valve. The maximum temperature difference between the actual and the predicted values was 6.5K and occurred during the second transient. During all three transients, there was some over prediction of the temperature. This could be due to some unaccounted thermal mass in the fill valve that kept the actual temperature lower than the predicted values. As the first transient began, the temperature in both the numerical model and the thermosyphon increased accordingly.

Similarly, the cooling at the end of the first transient resulted in temperatures falling in both

the numerical model and the thermosyphon. The second transient resulted in an over prediction of the temperature as has been previously mentioned.

Figure 5.4 Actual vs. Predicted Temperature at Location 1

Due to its shorter duration, and the distance from the heaters of the first thermocouple, the third transient was almost not seen at this end of the thermosyphon. The squared correlation coefficient was 0.94 for thermocouple 1 indicating that a very good match between the predicted data and the actual data was attained.

Thermocouple 2 was located 3 cm (1.2 inches) below the top of the thermosyphon. The

actual experimental data and the predicted numerical model data were very similar.

Figure 5.5 Actual vs. Predicted Temperature at Location 2

This is further confirmed by the squared correlation coefficient of 0.97. The maximum error for this location was 3.5K for less than 5.0 seconds during the third transient. As the system experienced the first transient, both the numerical model and the thermosyphon increased at the same rate and approximately to the same final temperature. The cooling from the first transient was equally as well correlated. The second transient proved that the numerical model and the thermosyphon were again well matched at this location. Only during the third transient is appreciable difference between the numerical model and the thermosyphon noted.

Figure 5.6 Actual vs. Predicted Temperature at Location 3

Thermocouple 3 was located 3 cm (1.2 inches) below the previous thermocouple. This pattern of spacing the thermocouples at 3 cm intervals was maintained throughout the experiment. The squared correlation coefficient was again 0.97 indicating that there was a very good fit. The maximum error for this thermocouple location was 9.7K during the third transient, as is seen in Fig 5.6. The numerical model predicts a rise in temperature during the third transient that the experiment showed to be less significant at this location. The first two transients were well described by the numerical model as indicated by very little difference (less than 2 K) between the numerical model and the thermosyphon.

Thermocouple 4 had a squared correlation coefficient of 0.94 demonstrating that there was good agreement between the experimental and numerical data.

Figure 5.7 Actual vs. Predicted Temperature at Location 4

Again the temperature rise during the third transient was over predicted. The maximum error was 11.6K. During the first transient the numerical model performed well matching the magnitude and the timing of the temperature history. The second transient was likewise described well by the numerical model. In fact; it is sometimes difficult to determine which line represents the numerical data and which line represents the empirical data.

Figure 5.8 Actual vs. Predicted Temperature at Location 5

Figure 5.8 shows the thermal history at the location of thermocouple 5. The correlation looks much like histories of previous locations and the correlation coefficient was 0.93. This indicated a good correlation between the actual data and the predicted data. During the first transient, the numerical model under predicts the temperature of the thermosyphon, although, the slopes of the lines are very similar. The second transient had the same magnitude issue, but the slopes and timing look good. The third transient, once again, was over predicted, but to a lesser extent when compared to locations higher in the thermosyphon.

The data presented at the location of the 6th thermocouple appears to be similar to that presented for the 5th thermocouple. Accordingly, the squared correlation coefficient for this case was 0.92 with a maximum temperature difference of 14 K during the third transient.

Figure 5.9 Actual vs. Predicted Temperature at Location 6

The first two transients under predict the temperature. The numerical model has a small lag in time of about 30 seconds during the first transient as well.

The data comparison at the location of the seventh thermocouple resulted in a squared correlation coefficient of 0.71. The maximum temperature difference was 16.1K during the second transient. This was the weakest correlation observed. On first inspection the data

does not look that much different than previous plots. There is perhaps a greater lag between the numerical model and the thermosyphon causing the correlation to weaken. However, the third transient is better described at this location than in previous cases. This thermocouple was located near the middle of the condenser portion of the thermosyphon.

The correlation between the actual and predicted values where thermocouple 8 was located is shown in Fig. 5.11. The third transient is well described at this location. The squared correlation coefficient was 0.74 and the maximum temperature difference was 13.4K during the second transient. This was due primarily to a lagging of the predicted temperatures. The numerical model under predicted the peak temperature during the first transient.

Figure 5.10 Actual vs. Predicted Temperature at Location 7

Figure 5.11 Actual vs. Predicted Temperature at Location 8

The relationship at the location of the 9th thermocouple improves over the previous two locations. The squared correlation coefficient was 0.97 with a maximum temperature difference of 8.3K. Overall, the model performs well at this location. The first and third transients are well described, however, the second transient under predicts the peak temperature. Since the first and third transients were so well described, the squared correlation coefficient was much improved over the previous two cases.

Figure 5.12 Actual vs. Predicted Temperature at Location 9

The 10th thermocouple differs from the previous thermocouples in that the numerical model over predicts the temperatures rather than under predicts them. The temperatures associated with this thermocouple are also lower than in locations higher in the thermosyphon. This suggests that some error in the actual temperature may have occurred, perhaps due to a poorly mounted thermocouple. This over prediction is evident during the first transient. However, the cooling from the first transient looks very good. The second transient is well described in that the temperature magnitude and slopes are generally well matched. The temperature during cooling portion of the second transient is over predicted, but, then matches well after about 30 seconds. The temperature is again over predicted in the third

transient. Even with all of these mismatches in temperature, the squared correlation coefficient was still quite good at 0.96. The maximum temperature difference was 10.4K during the first transient.

Figure 5.13 Actual vs. Predicted Temperature at Location 10

The last location of interest was thermocouple 11. Generally, there was good agreement between the predicted and actual data. During the first transient, the numerical model once again over predicted the temperature. The slopes seem to correlate well during all the transients. This leads to a squared correlation coefficient of 0.82, with a maximum temperature difference of 10.5 K during the third transient.

Figure 5.14 Actual vs. Predicted Temperature at Location 11

The over prediction of the temperature should be expected near the highest temperatures of the thermosyphon. This is due to the single heat transfer coefficient selected for the condenser portion of the thermosyphon. Since this heat transfer coefficient was selected to minimize the overall error, there will be some cases where an over prediction will occur to compensate for those locations where an under prediction took place. An example of the variability of the external heat transfer coefficient is shown in the figure below. Figure 5.15 demonstrates that a single, constant external heat transfer coefficient does not completely describe the heat lost from the thermosyphon.

Figure 5.15 External Heat Transfer Coefficient

During a simple transient shown by the trace of thermocouple 15, the average of the percent error of thermocouples 1 through 11, was recorded. This error is shown for two cases. The first case has the external heat transfer coefficient set at $10 \text{ W/m}^2\text{K}$. The second case shows the effects of setting the external heat transfer coefficient to 17.5. The percent error is small in either case, however, setting the value at 17.5 improved the performance of the numerical model near the center of the thermosyphon. The interesting point shown in Fig 5.15 is that as the thermosyphon temperature increases, the external heat transfer coefficient would also need to change to reduce the error. This is most likely due to other modes of heat transfer becoming more significant such as radiation, or natural convection. Had there been a much

stronger forced convection condition, this phenomenon may have been reduced, if not eliminated.

5.4 Transient Energy Flux

The transient energy flux for the experiment was studied. The heat energy entering the thermosyphon, Q_{in} , was found by using information obtained in the experiment. Specifically, during the experiment, the set point temperature was compared to the actual temperature measured at thermocouple 15, which was the control thermocouple. If the temperature recorded was less than the set point desired, the heater was assumed to be energized. Similarly, the heat energy leaving the thermosyphon, Q_{out} , was found by knowledge of the surface temperature at all positions along the condenser portion of the thermosyphon, and the ambient temperature. Q_{out} was then determined by knowledge of the external heat transfer coefficient, the surface area, and the temperature difference between the thermosyphon and the environment. A typical plot of the transient energy flux is shown below in Fig. 5.16.

Since the area under the input curve and the output curve are approximately (within 4%) the same, it appears graphically that energy is conserved. The exponential decay in temperature is also expected as the thermosyphon cools once energy is no longer added.

This model is used primarily to compare external temperatures of the thermosyphon. Since the model was developed from fundamental principles, there are copious amounts of data

that could also be presented. For instance, the pool height could also be presented for the same transient experienced during the experiment as shown in the Fig. 5.17 below.

Figure 5.16 Transient Energy Flux

Figure 5.17 Pool Height vs. Time

As the temperature of the pool increases, the density of the pool decreases. During this time, there is a swelling of the pool height. Likewise, as the pool cools, the density increases, and the pool height decreases.

Another interesting set of data is the vapor temperature as a function of time, for the same transient. This is shown below.

Figure 5.18 Vapor Temperature vs. Time

As the temperature of the thermosyphon's evaporator increases, the temperature of the vapor core increases accordingly to establish thermal equilibrium. The path of heat flow is from the evaporator, to the vapor, and then to the condenser.

Another example of information that can be captured is demonstrated by the following graph

of the vapor velocity at node number 9 which was near the midpoint of the thermosyphon. As the temperature increases in the evaporator, a greater quantity of mass is transferred from the pool to the vapor core. This mass is then transferred from the vapor core to the film, which returns to the pool. This mass transfer results in greater axial vapor velocities, as is shown in the Figure below.

Figure 5.19 Vapor Velocity [9] vs. Time

There are literally thousands of combinations of data that could be presented. The model allows for information about the film temperature, film velocity profile, film thickness, wall temperatures both radially and axially, the vapor Mach number at any given location, all as functions of time and position. Additionally, the shear stress between the vapor and the film and between the liquid film and the wall could also be presented, as could pool information.

A remarkable side effect of using fundamental principles during the development of the

model and providing information about the variables used in the development is that the model is able to predict ancillary physical information that may prove useful to other investigators.

Now that the numerical model has been compared to the actual experimental data, the model can be used to predict thermosyphon performance in other applications.

6 SCIENTIFIC INVESTIGATIONS

Validating the analytical model with the empirical data, added a degree of confidence in the accuracy of the model. This allowed the numerical model to be used to perform scientific investigations to predict performance, reducing the need to perform experiments. Herein lies the true power of a numerical model. The results from some of these investigations are shown below.

6.1 Additional Model Tests

In addition to the comparison with the empirical data, other tests were run to investigate the thermosyphon's performance. For instance, a comparison was made between the thermosyphon, and a thermosyphon without any working fluid. The evacuated thermosyphon was simply a fin, since it was only the copper pipe transferring heat from the hot end to the cool end. Under identical transient heat loading conditions considered in Chapter 5, the thermosyphon temperatures were compared to the temperatures of the fin. The effectiveness of the thermosyphon is seen in the dramatic difference between the response temperature of the thermosyphon and a copper fin (evacuated thermosyphon). Arbitrarily selecting node 9, since it was near the midpoint of the thermosyphon, the results are shown below.

Figure 6.1 Fin vs. Thermosyphon

The plot demonstrates that the fin model alone is insufficient to model the thermosyphon. The working fluid plays a key role transferring energy from the hot evaporator end to the cooler condenser end. The fin model fails to capture the large increases in temperature that the thermosyphon model predicts, and the actual experimental data show. During the first transient, the fin is unable to match the temperatures, or the initial slope of the thermal history. This defect is again noticed during the second and third transients. The timing of the maximum temperature of the fin match with the thermosyphon, however, the magnitude is not the same.

6.2 Transient Investigation

Some of the most common applications for thermosyphons are in cooling electronic components. These electronic components need to be kept within certain thermal limits to operate, and function properly. For instance, a Variable Frequency Drive, VFD, is often used to control the speed of a motor. VFDs use printed circuit boards, transistors (IGBTs), as well as other electronic components to produce the power used by the motor. As the motor is energized, a large inrush of current is drawn by the motor. This large amount of current results in a sudden increase in temperature of the circuitry providing the power to the motor. Understanding the consequences of this inrush current, and the resultant temperature effects is essential to the VFD designer.

A numerical investigation of a typical thermal transient was performed using the thermosyphon presented in Chapter 4. The surface temperature of the lowest 12 cm (4.72 inches) was increased from 300 K to 400 K. The remaining portion of the thermosyphon was as previously described with an environmental temperature of 300K. As the thermosyphon responded to this sudden change in temperature, thermosyphon response was predicted as a function of time. The investigation was primarily concerned with the highest temperature attained, since that would be of the most interest to a design engineer. The results of this investigation are shown below in Fig. 6.2.

As is seen from the graph, the temperature increases rapidly reaching a maximum

temperature of 370 K, and then recovered to a steady-state temperature 359 K. The temperature overshoots the final steady solution then, as the thermosyphon responds, the temperature falls to its final value.

Figure 6.2 Maximum Transient Temperature

If the design engineer had used only the steady solution, there could be catastrophic consequences. Often times the rate at which the temperature rises is of interest when considering thermal stresses. This information is also available from the numerical model.

There are countless situations where the knowledge of the transient temperatures is of interest. Using a numerical model, such as the one developed in this work, is the most cost effective way to design equipment when the transient temperature must be known.

6.3 Dimensionless Analysis

One of the best methods of making experimental data useful to other researchers is to present it in dimensionless form. Fortunately, there are systematic methods that can be used to determine which variables need to be presented. The Buckingham Pi method will be used in this study. The first step in this method is to list the controllable parameters of the model that are believed to have an influence. For instance, the boiling point of the working fluid plays a key role in the performance of the thermosyphon, however, it cannot be controlled. It is a function of temperature and pressure, and is otherwise uncontrolled.

Another parameter of interest is the external heat transfer coefficient, h_{∞} . While it is primarily a function of the air speed from the fan, the fan speed can be adjusted, and is therefore controllable. The list of controllable variables that are believed to have an impact on the thermosyphon's transient performance is as follows; The external heat transfer coefficient h_{∞} , the thermal diffusivity of the wall, α_{wall} , the thickness of the wall, t_{wall} , the diameter of the thermosyphon ϕ , the length of the thermosyphon, L , the maximum temperature difference between the evaporator and the ambient environment, $\Delta T = T_{max} - T_{min}$, the mass of water contained in the thermosyphon, m_{H_2O} , and t_{ss} , the time in seconds that is needed to attain steady-state conditions within the thermosyphon.

The next step in the Buckingham Pi method is to select a system of fundamental dimensions.

In this case mass [kg], length [m], temperature [K], and time [s] were chosen.

Expressing the variables of interest in terms of the fundamental dimensions is a matter of dimensional book keeping as shown below for the external heat transfer coefficient.

$$h_{\infty} \left[\frac{W}{m^2 K} \right] = \left[\frac{J}{s} \right] \left[\frac{1}{m^2 K} \right] = \left[\frac{N \bullet m}{s} \right] \left[\frac{1}{m^2 K} \right] = \left[\frac{kg \bullet m}{s^2} \right] \left[\frac{m}{s} \right] \left[\frac{1}{m^2 K} \right] = \left[\frac{kg}{s^3 K} \right] \quad (6.1)$$

A similar analysis was performed for the other variables of interest and the results are presented in the table below.

Table 6.1 Fundamental Dimensions

Variable of Interest	Fundamental Dimensions
h_{∞}	$\frac{kg}{s^3 K}$
α_{wall}	$\frac{m^2}{s}$
t_{wall}	m
ϕ	m
L	m
ΔT	K
m_{H2O}	kg
t_{ss}	s

The next step is to select a repeating set of parameters. The key to this selection is assuring that all of the primary dimensions are represented and that one variable cannot be expressed

in terms of the other.

The repeating set selected for this case were, $h_{\infty}, \phi, \Delta T$ and m_{H_2O} . Since the number of variables is eight, and the number of primary dimensions is four, there remain four Pi groups to be determined. These are determined sequentially by multiplying the repeating set of variables with one of the remaining variables, and then forcing the product to be dimensionless, or in other words, unity as is shown below.

$$(h_{\infty})^a (\phi)^b (\Delta T)^c (m_{H_2O})^d (\alpha_{wall}) = 1 \quad (6.2)$$

Where the exponents will be determined such that the equation is true. This equation can be expressed in fundamental dimensions as follows.

$$\left(\frac{kg}{s^3 K} \right)^a (m)^b (K)^c (kg)^d \left(\frac{m^2}{s} \right) = 1 \quad (6.3)$$

Equating the exponents of the fundamental dimensions to obtain unity yields the following.

$$\begin{aligned} kg : a + d &= 0 \\ m : b + 2 &= 0 \\ K : -a + c &= 0 \\ s : -3a - 1 &= 0 \end{aligned} \quad (6.4)$$

Solving this set of equations simultaneously results in the exponents of the first dimensionless group as follows.

$$\begin{aligned}
a &= \left(\frac{-1}{3} \right) \\
b &= (-2) \\
c &= \left(\frac{-1}{3} \right) \\
d &= \left(\frac{1}{3} \right)
\end{aligned} \tag{6.5}$$

The first dimensionless group is then

$$\Pi_1 = \frac{\left(m_{H_2O}^{\frac{1}{3}} \right) (\alpha_{wall})}{(h_\infty)^{\frac{1}{3}} (\Delta T)^{\frac{1}{3}} (\phi)^2} \tag{6.6}$$

It may turn out that using $\left(\frac{1}{\Pi_1} \right)^3$ proves to be more useful.

Using the same procedure for the other variables of interest yields the other Pi groups.

$$\Pi_2 = \frac{t_{wall}}{\phi}, \tag{6.7}$$

$$\Pi_3 = \frac{L}{\phi}, \tag{6.8}$$

and

$$\Pi_4 = \frac{t_{ss} \alpha_{wall}}{\phi^2} = Fo \tag{6.9}$$

A useful feature of these dimensionless groups is that a functional relationship between them can be found such that

$$\Pi_1 = f(\Pi_2, \Pi_3, \Pi_4) \quad (6.10)$$

Since the order in which the Pi groups were found is not important, it can be stated that any Pi group can be equated to some function of the remaining Pi groups. This leads to the expression below.

$$\frac{t_{ss} \alpha_{wall}}{\phi^2} = g\left(\frac{\left(m_{H_2O}^{\frac{1}{3}}\right)(\alpha_{wall})}{(h_{\infty})^{\frac{1}{3}}(\Delta T)^{\frac{1}{3}}(\phi)^2}, \frac{t_{wall}}{\phi}, \frac{L}{\phi}\right) \quad (6.11)$$

The function $g()$ is typically determined experimentally. In this case, however, the function $g()$ will be found using data from several runs of the numerical model.

Using a Taguchi L_8 ²⁹ designed experiment, a predictor equation can be determined. This equation is formed from running eight numerical experiments with the parameters to the function $g()$ being varied from one extreme to another. For example, the first Pi group, Π_1 , had a value of 0.0132 during the experimental testing presented in Chapter 4. This value was divided by 2 to set a lower limit, and then multiplied by 2 to set a higher limit. While these values are considered the extremes, they are still realistic values. These values would then be the bounds over which the equation $g()$ would be solved. Similarly, Π_2 and Π_3 were varied to extreme values to establish the overall bounds of the predictor equation. The numerical model was then run setting each of the parameters to either it's high or low extreme in a systematic way determined by the Taguchi L_8 method. The transient studied modeled a step change in thermal conditions, then, the maximum temperature of the

thermosyphon was plotted versus time for each run. When the temperature was considered to be steady-state, the time was recorded. This time to reach steady-state (98% of its final value) was considered the response to the variation of the parameters. Recall that Π_4 relies on the time to steady-state, the thermal diffusivity and the diameter of the thermosyphon. The table below shows the settings of Π_1 , Π_2 and Π_3 as well as the response Π_4 .

Table 6.2 Pi Group Settings

Taguchi L ₈ Run	Π_1 Setting	Π_2 Setting	Π_3 Setting	Π_4 Response
1	0.00658	0.025	18.88	3.85
2	0.00658	0.025	37.76	5.00
3	0.00658	0.100	18.88	10.01
4	0.00658	0.100	37.76	10.01
5	0.02634	0.025	18.88	5.97
6	0.02634	0.025	37.76	10.20
7	0.02634	0.100	18.88	12.51
8	0.02634	0.100	37.76	10.01

This information in this form makes it possible to determine a predictor equation, and also determine which of the Pi groups are the most significant, as well as showing interactions between them. This is done by performing an Analysis of Variance, or ANOVA.

The first step in determining the predictor equation is to find the average of all the responses.

The average of Π_4 in the above table is

$$\bar{y} = \frac{3.85 + 5.00 + \dots + 10.01}{8} = 8.44 \quad (6.12)$$

Next the “half effects” are determined. This is done by sequentially selecting each of the Π_i groups and comparing the average of the response when they are at their lowest extreme, to that when they are in their highest extreme. For example, when Π_1 is its lowest, runs 1 through 4, the average of Π_4 is

$$AVG(-) = \frac{3.85 + 5.00 + 10.01 + 10.01}{4} = 7.22 \quad (6.13)$$

Then a similar procedure is performed when Π_1 is its highest, runs 5 through 8, the average of Π_4 is

$$AVG(+) = \frac{5.97 + 10.20 + 12.51 + 10.01}{4} = 9.67 \quad (6.14)$$

The effect of Π_1 is demonstrated by how much it changes the average response. In this case it moved if from 7.22 to 9.67, or 2.45 overall. The half effect of Π_1 is then half of this

number or 1.23. The procedure is repeated for Π_2 and Π_3 as well. Additionally, the procedure is performed on the products $-\Pi_1\Pi_2$, $-\Pi_1\Pi_3$, $-\Pi_2\Pi_3$ and $\Pi_1\Pi_2\Pi_3$. The reason for the negative sign is to maintain independence between parameters as discussed by Taguchi. Once all of the half effects are determined, a Pareto chart is made to establish which parameters have the greatest effect. It also shows interactions or combined effects that the parameters may have. This is shown in the figure below.

Figure 6.3 Half Effects

The Pareto chart demonstrates that the most significant parameter in the function $g()$ is Π_2 . It also shows there is an interaction between Π_2 and Π_3 . This means that they are closely coupled to each other. The Pareto chart can be used to eliminate less significant parameters from the predictor equation if desired. Elimination of some of the less significant parameters leads to a less cumbersome predictor equation, however, some accuracy is lost. In this case, all of the terms will be used. The predictor equation is formed by adding the overall average response to the product of the half effect and its associated parameter.

$$\begin{aligned}\Pi_4 = & 8.44 + 1.225\Pi_1 + 2.189\Pi_2 - 0.603\Pi_1\Pi_2 + 0.361\Pi_3 + \\ & 0.074\Pi_1\Pi_3 - 0.984\Pi_2\Pi_3 - 0.696\Pi_1\Pi_2\Pi_3\end{aligned}\quad (6.15)$$

Where the Π parameters are now coded to be between -1 and 1. This coding is done by using the following formula.

$$f_j = \frac{x_j d_j}{2} + \bar{f} \quad (6.16)$$

Where f_j is the actual value for parameter j , $\bar{f}$ is the actual average for parameter j , d_j is the range for parameter j actual values (i.e. $f_{\max} - f_{\min}$) and x_j is the coded value for parameter j .

As an example, assume the actual low and high values for parameter Π_3 are 37.76 and 75.50. Converting the coded $\Pi_3 = 0.125$, the actual Π_3 becomes:

$$\Pi_3 = \frac{0.125(75.50 - 37.76)}{2} + \frac{(75.50 + 37.76)}{2} = 58.99 \quad (6.17)$$

Naturally, this equation can also be solved for the coded value of the parameter if it is the actual values that are known.

The utility of Eqn. 6.15 is virtually unbounded. This equation has the power to transform the efforts from several hours of computational time into useful information in a matter of

seconds. This is appreciated to a greater degree when considering that the numerical model itself also eliminated the need to perform physical testing of many thermosyphons of various shapes and sizes. Naturally, the validity of the predictor equation, Eqn. 6.15, is of primary interest. This validation will now be addressed.

The predictor equation is quite simple to use. For example, setting the parameters to arbitrary values of $\Pi_1 = 0.025$, $\Pi_2 = 0.05$ and $\Pi_3 = 30$ the predictor equation can be compared to the numerical model. Obtaining these arbitrary values, can be accomplished by varying the external heat transfer coefficient, the wall thickness, and the overall length. The coded values for these parameters are $\Pi_1 = 0.86$, $\Pi_2 = -0.03$, and $\Pi_3 = 0.18$. Substituting these values into the predictor equation results in $\Pi_4 = 9.49$. Using the diameter and thermal diffusivity of the thermosyphon described in Chapter 4, this implies that the time to steady-state should be approximately 19.79 seconds. Running the numerical model with the appropriate parameters resulted in a time to steady-state of 19.65 seconds which is within 1 percent of the predicted value. While the predictor equation is not necessarily as precise as the numerical model, its simplicity lends itself to many applications.

Greater insight from the predictor equation is gained by writing it in terms of more common variables. Equation 6.15 becomes

$$\begin{aligned}
\frac{t_{ss} \alpha_{wall}}{\phi^2} = & 8.44 + 1.225 \frac{m_{H2O}^{\frac{1}{3}} \alpha_{wall}}{h_{\infty}^{\frac{1}{3}} \Delta T^{\frac{1}{3}} \phi^2} + 2.189 \frac{t_{wall}}{\phi} - 0.603 \frac{m_{H2O}^{\frac{1}{3}} \alpha_{wall} t_{wall}}{h_{\infty}^{\frac{1}{3}} \Delta T^{\frac{1}{3}} \phi^3} + 0.361 \frac{L}{\phi} + \\
& 0.074 \frac{m_{H2O}^{\frac{1}{3}} \alpha_{wall} L}{h_{\infty}^{\frac{1}{3}} \Delta T^{\frac{1}{3}} \phi^3} - 0.984 \frac{t_{wall} L}{\phi^2} - 0.696 \frac{m_{H2O}^{\frac{1}{3}} \alpha_{wall} t_{wall} L}{h_{\infty}^{\frac{1}{3}} \Delta T^{\frac{1}{3}} \phi^4}
\end{aligned} \tag{6.18}$$

In this form the predictor equation gives new meaning to the design engineer. If one or more of the variables of interest are constrained the other variables can be used to obtain the proper design. For instance, it is very common that by specifying the thermosyphon diameter there is also a commercial limit imposed on the thermosyphon wall thickness. The design engineer then has the flexibility of selecting the overall length, L , and the material of construction, α_{wall} , and the amount of working fluid, m_{H2O} . Then the time to steady-state, t_{ss} , and overall temperature difference, ΔT , can be established.

It has been shown that the numerical model developed in this work can be used as an efficient tool in designing thermosyphons. The important parameters and dimensionless numbers have been presented using the designed experiment method. There are countless applications and physical nuances that can be found using this numerical model. While there is still room for improvements, this model has demonstrated its utility.

7 CONCLUSIONS AND RECOMMENDATIONS

7.1 Conclusions

The objectives of the study were; 1) to develop a numerical model for a transient thermosyphon; and 2) to compare, or validate the model with empirical testing. These objectives have been achieved.

Thermosyphon transient operation was numerically modeled. The numerical model presented in this work overcame the limitations of previous studies by including transient conduction in the vessel wall, shear stress between the rising vapor and the falling film in the thermosyphon, the influence of the mass in the liquid pool in the evaporator, and by using a more refined and accurate numerical grid. Unique to this model was the accounting for temporal changes in the effective length of the vapor space due to the expanding and contracting of non-condensable gases in the vapor space. The model assumed quasi-steady one-dimensional vapor flow, transient one-dimensional flow in the falling liquid film, and transient behavior in the liquid pool in the evaporator. The model also assumed transient two-dimensional conduction in the thermosyphon wall. Using fundamental principles, the governing equations used in the numerical model were developed and then written in finite difference form. The finite difference forms of the governing equations were solved using an explicit scheme.

Because the governing equations were developed from fundamental principles, a vast array of additional information can be determined that is not explicitly presented in this work. For instance, the vapor velocity and vapor pressure can be determined at any given time step. Similarly, the liquid film velocity profile and shear stress at both the wall and the vapor interfaces are determinable. Although the numerical model's primary purpose was to predict the transient surface temperature of the thermosyphon for a given energy input, the model could also be adapted to predict virtually any physical property of the thermosyphon, or the working fluid. This makes the model a useful tool in the development and design of thermosyphons.

An experiment was conducted to gather empirical data needed to validate the numerical model. The uncertainty of the numerical model was shown to be less than 4 percent by comparing the numerical results with the empirical data. The transient temperature used for this experiment was as shown in Fig. 4.1 where a gradual increase in temperature is followed by a cooling period. Then, a sharper increase in temperature is used, and finally a very sharp increase in temperature is seen. This variation of transient temperatures helped to assure that the numerical model had the ability to correctly respond to many different types of transient inputs.

Further scientific investigation used the numerical model to develop a useful engineering relationship that can be used to predict the transient performance of a thermosyphon with a single equation. Equation 6.15 represents the single equation used to predict the time required to reach steady state. This equation is based on a sudden change of the surface

temperature. If other types of transients are of concern, the methods used in Chapter 6 could be applied to attain a more suitable equation. Additionally, if the ranges for dimensionless variables discussed in Chapter 6 are found to be inadequate, the new ranges could be used, and the new predictor equation could be determined. The only limitation is that the new values used must be realistic. Additional equations could also be developed for other variables that may be of interest.

7.2 Recommendations for Future Work

1. Different convection correlations between the vapor and the film and between the thermosyphon and the environment could be studied.
2. Solids to liquid phase change could be added to simulate frozen start-up conditions.
3. Future models could include a broader range of thermosyphons with larger temperature ranges and turbulent flows.
4. Provisions could be added to account for slug flow and geysers that are sometimes present in thermosyphons.
5. The experiment could be run with higher external heat transfer coefficients to reduce the sensitivity of the numerical model.

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APPENDIX A

Source Code

The source code used to solve the finite difference equations follows the outline below.

- 1 Define the variables to be used
- 2 Initialize the variables
- 3 Open the data files for read and write
- 4 Initialize the arrays.
- 5 Print the headings on the data files
- 6 Begin time step loop
- 7 Record current information held in the arrays
- 8 Interpolate nodal data to correspond with the nearest thermocouple
- 9 Read in real data from thermocouples in the evaporator and assign them to the appropriate nodes through interpolation.
- 10 Solve the temperature distribution in the wall.
- 11 Solve the temperature and mass distribution in the evaporator pool.
- 12 Solve the vapor space velocity, temperature, mass, non-condensable gas volume and determine the shear stress on the liquid film.
- 13 Solve the film continuity, momentum, and energy equations with appropriate interfaces between the wall, the liquid pool in the evaporator, and the vapor.
- 14 End time step loop, and return to step 6.

15 Write files and close file pointers

16 END

The source code provided was developed and validated in sections that acted as building blocks. The code is literally the combination of several codes that were used to model the wall, the pool, the vapor and the film individually. Because of this validate-as-you-go approach, there are sections of the code that were used for validation that are not required in the overall model. These have been commented out to be inactive in the overall code, but are left visible to demonstrate how some of the validation was performed.

The subroutines called during the solution phase of the program were as follows.

rhopool determines the density of the liquid pool as a function of temperature.

rhofilm determines the density of the liquid film as a function of
temperature.

findTsats determines the temperature of the vapor space with the knowledge of the
density of the vapor and assuming a saturated vapor.

tauwall determines the liquid film velocity profile and then predicts the shear
stress between the wall and the liquid film.

findfilm determines the velocity, thickness and temperature of the liquid film. This
also links the film and vapor space models. The momentum, energy and
continuity equations are solved in this subroutine.

vapshear	determines the shear stress on the liquid film from knowledge of the vapor velocities.
alpha	thermal diffusivity of the thermosyphon wall
kfilm	thermal conductivity of the liquid film
kpool	thermal conductivity of the liquid pool
Cp	determines the specific heat of the wall as a function of temperature
mu_film	determines the viscosity of the liquid film as a function of temperature
Cp_film	determines the specific heat of the liquid film as a function of temperature
Cp_pool	determines the specific heat of the liquid pool as a function of temperature
h_in	determines the heat transfer coefficient between the film and the wall
h_pool	determines the heat transfer coefficient between the pool and the thermosyphon wall.

```

/* This source code is used to model the transient response of a thermosyphon */

#include <stdio.h>
#include <math.h>

/* these are used in the validation of the individual models */
#define Euler 1
#define MOMENTUM 1
#define TBOLD 1 /* turn it off to check against Nusselt */
#define FILM_ON 0 /* don't turn this one on */
#define SUB_FILM 1

#define N 20
#define NP 8
#define MAXTIME 200000000.0
/*#define DT 0.0001*/
/*#define R .25*/
#define tWALL 0.00071
#define RN 5 /* stability RN=3 DT<0.00053 RN=4 DT<0.00024 RN=5 DT<0.00013 */
#define PI 3.14159
#define G 9.81

double THOT,TCOLD,TSAT,VM,R,fillvalve;
double realtime,T20in;
double L1,L2,L3,L4,L5,L6,L7,L8,L9,L10,L11,L12,L13,L14,L15,L16,L17,L18,L19;
double T1out,T1in,T2out,T3out,T4out,T5out,T6out,T7out,T8out,T9out,T10out,T11out;
double T12in,T13in,T14in,T15in,T16in,T17in,T18in,T19in,w1,ccfill;
double ideal_hin[N];

double lambda;
double L,Mair;
double Ltot;

double DT;

int indice,index;

main(){
/* STEP 1 DEFINE THE VARIABLES */
double T[N][RN],EIN,EOUT,EMIN,EMOUT,Tnew[N][RN],dx,hout,alpha(),dr;
double Tp[NP][RN],Tpnew[NP][RN],dlam,hpool,Tb,hfilm,Revap,h_pool();
double Tpool[NP],alphapool,Cp_pool(),kpool(),rhopool();

```

```

double h_in();
double dTwalldt[N][RN],dTpwdt[NP][RN],Tpworld[NP][RN],Told[N][RN],Ro;
double Tbold[N]; /* this is the mixing cup film temperature */
double rhofilm(),Cp_film(),kfilm(),del[N];
double Tprdt[N][RN],Tpwprdt[NP][RN],dTwalldtp[N][RN],dTpwdtp[NP][RN];
double Tpwnew[NP][RN],Z,squig;
double k,rho,Cp(),time,r,hin,hfg,hevap,Tinf,term1;
double findTsat(),Vapvol,Vvap[N];
double UA[N],U[N],A[N],dele[N],E[N],Tbolde[N];
double tauwall,tauvap,B,rhovap;
double tauw(),mdot,tester,Tnot;
double Afilm,PM,FM,TM,densum,THEATER,timestamp,Trealddata[22];
double Rair,Pvac,Patm,Tair,Ptube,PofT,Vol_air;
float data;
extern double lambda,L;
register int i,rr,counter;
int cat;
void findfilm();
FILE *fp,*fp2,*fp3,*fp4,*fp5,*fp6,*fp7;
/* STEP 2 INITIAL VALUES ASSIGENED TO VARIABLES */
R=0.00723;
fillvalve=1.0;
lambda=(0.000042/((R)*(R)*PI ));
L=0.546-lambda;
Ltot=L+lambda;
Patm=32.25; /*in Hg */
Pvac=24.00; /*in Hg */
Rair=0.2870; /*kJ/kgK */
Ptube=(Patm-Pvac)*3.38638; /* converts in Hg to kPa */
Tair=281.29+5.283292*(Ptube)-
0.1703337*(Ptube*Ptube)+0.00200202*(Ptube*Ptube*Ptube); /* K */
Tair=289.0;
PofT=0.0-3252.328+33.5452*Tair-0.11575*Tair*Tair+0.0001337*Tair*Tair*Tair;
/*From EES Psat in kPa */
Mair=PofT*(PI*R*R*L)/(Rair*Tair)*0.622; /* mass of vapor in air in kg */

DT=0.00005125;
THOT=325.0;
TCOLD=289.0;
THOT=TCOLD; /* then set a temperature in the evaporator */
/* THOT=TCOLD; */ /*to check the film against Nusselt*/
/*EMIN=EMOUT= */

```

```

EIN=EOUT=0.0;
dx=L/(N-1);
dlam=lambda/(NP-1);
dr=tWALL/(RN-1);
/*Ro=R+tWALL;*/
hfg=2342000.0;
hout=17.5; /* to far field temperatures validated! */
rho=7823.0; /* wall density */
counter=0;
TSAT=TCOLD;
/* TSAT=350.0;*/ /* to check the film against Nusselt */
/* Tinf=TSAT;*/
/* Tb=Tinf; /* mixing cup film temp */
VM=PI*(R-0.001)*(R-0.001)*L*0.616; /* this is based on 298 K with initial del
thickness */
/* from the liquid fill information the pool mass is */
PM=PI*R*R*lambda*rhopool(TCOLD);
/* but some of the liquid must start on the wall for the model to work */
FM=PI*(R*R-(R-0.001)*(R-0.001))*L*rhofilm(TCOLD);
/* then the actual pool mass is less cuz some is on the wall */
PM=PM-FM;
/* now figure out the new lambda */
lambda=PM/(PI*R*R*rhopool(TCOLD));
/* that will change L too */
L=Ltot-lambda;
/* that adjusts dx and dlamb too */
dx=L/(N-1);
dlam=lambda/(NP-1);
/* the mass trapped in the vapor is then */
VM=PI*(R-0.001)*(R-0.001)*L*0.0255; /* at 300 k */

TM=FM+PM+VM;

/* STEP 3 OPEN DATA FILES FOR READ AND WRITE */
clrscr();
if ((fp = fopen("Euler10.txt","w"))== NULL) {
    printf("\n error writing file.....");
    getch();
}

if ((fp2 = fopen("Error2d.txt","w"))== NULL) {
    printf("\n error writing file.....");
    getch();
}

```

```

}

if ((fp3 = fopen("WALL.txt","w"))== NULL) {
    printf("\n error writing file.....");
    getch();
}

if ((fp4 = fopen("squig.txt","w"))== NULL) {
    printf("\n error writing file.....");
    getch();
}

if ((fp5 = fopen("42data.txt","r"))== NULL) {
    printf("\n error reading realdata file.....");
    getch();
}
/* if ((fp5 = fopen("shortcut.txt","r"))== NULL) { */
/* printf("\n error reading realdata file.....");*/
/* getch();*/
/* } */

if ((fp6 = fopen("avsp42cc.txt","w"))== NULL) {
    printf("\n error writing actual vs predicted file.....");
    getch();
}
if ((fp7 = fopen("ideal_h.txt","w"))== NULL) {
    printf("\n error writing ideal h.....");
    getch();
}

/* STEP 4 INITIALIZE THE ARRAYS */
/* initialize */
for(i=0;i<N;i++){
    ideal_hin[i]=1.0;
    for(rr=0;rr<RN;rr++){
        T[i][rr]=TCOLD;
        Told[i][rr]=TCOLD;
    }
    Tbold[i]=TCOLD; /* film temp */
} /* end for i */

for(i=0;i<NP;i++){

```



```

for(rr=0;rr<RN;rr++){
    Tp[i][rr]=TCOLD;
    Tpwold[i][rr]=TCOLD;
}
Tpool[i]=TCOLD;
} /* end for i */

for(i=0;i<N;i++){
    dele[i]=del[i]=0.001; /* fixed film thickness initially */
    A[i]=(R*R-(R-dele[i])*(R-dele[i]))*PI;
    UA[i]=U[i]*A[i];
}

timestamp=0.0; /* from the realdata file */

/*STEP 5 PRINT HEADINGS ON DATA FILES */
/* print the headings on the output file */
fprintf(fp6,"\rTimestamp");
for(i=1;i<21;i++){
    fprintf(fp6,"\tActual[%i]",i);
}
fprintf(fp6,"\tTarget");
for(i=1;i<20;i++){
    fprintf(fp6,"\tPredicted[%i]",i);
}
for(i=1;i<20;i++){
    fprintf(fp6,"\tError[%i]",i);
}
fprintf(fp6,"\tTSAT");

/* Now print headings on Euler10 */
fprintf(fp,"\rTimestamp");
for(i=0;i<N;i++){
    fprintf(fp,"\tT[%i][0]",i);
}
for(i=0;i<N;i++){
    fprintf(fp,"\tTbold[%i]",i);
}
for(i=0;i<N;i++){
    fprintf(fp,"\tdel[%i]",i);
}

```

```

fprintf(fp, "\trhovap\tFM\tPM\tVM\tTM\tlambda\tTsat");
for(i=0;i<N;i++){
    fprintf(fp, "\tU[%i]", i);
}
for(i=0;i<NP;i++){
    fprintf(fp, "\tTpool[%i]", i);
}
for(i=0;i<N;i++){
    fprintf(fp, "\tVvap[%i]", i);
}
for(i=0;i<N;i++){
    fprintf(fp, "\th_in[%i]", i);
}

```

```

/*STEP 6 BEGIN TIME STEP LOOP */
/*****START THE TIME LOOP *****/

```

```

/* for(time=33000000.0;time<MAXTIME;time=time+1.0){ shortcut here */
for(time=10.0;time<MAXTIME;time=time+1.0){
    realtime=time*DT;

```

```

/*STEP 7 RECORD CURRENT DATA */
/* whadaya got */
printf("\rstep %5.0f\tError=%5.5f\t Tpool[0]= %5.5f", time, EIN-EOUT, Tpool[0]);
counter++;
if(counter==20000){
    counter=0;
    printf(" W R I T I N G   D A T A\n ");
    fprintf(fp, "\n%5.5f", time);
    fprintf(fp3, "\n%5.5f", time);
    for(i=0;i<N;i++){
        fprintf(fp, "\t%5.5f", T[i][0]);
    }
    for(i=0;i<N;i++){
        fprintf(fp, "\t%5.4f", Tbold[i]);
    }
    for(i=0;i<N;i++){
        fprintf(fp, "\t%5.10f", del[i]);
    }

```

```

    }
    fprintf(fp, "\t%5.5f", VM/Vapvol);

fprintf(fp, "\t%5.5f\t%5.5f\t%5.5f\t%5.5f\t%5.6f\t%5.10f", FM, PM, VM, FM+PM+VM, lambda, TSAT)
    for(i=0; i<N; i++){
        fprintf(fp, "\t%5.5f", U[i]);
    }
    for(i=0; i<NP; i++){
        fprintf(fp, "\t%5.5f", Tpool[i]);
    }
    for(i=0; i<N; i++){
        fprintf(fp, "\t%5.5f", Vvap[i]);
    }
    for(i=0; i<N; i++){
        fprintf(fp, "\t%5.5f", h_in(Tbold[i], T[i][0], del[i], i, U[i], Vvap[i]));
    }

    rr=RN-1;
    for(i=0; i<N; i++){
        fprintf(fp3, "\n%i", i);
        for(rr=0; rr<RN; rr++){
            fprintf(fp3, "\t%5.5f", T[i][rr]);
        }/* end rr */
    }/* end i */
    for(i=0; i<NP; i++){
        fprintf(fp3, "\n%i", i);

        for(rr=0; rr<RN; rr++){
            fprintf(fp3, "\t%5.4f", Tp[i][rr]);
        }/* end rr */
    }/* end i */
/*    fprintf(fp, "\n%5.5f\t%5.5f", EIN, EOUT);*/
    fflush(fp3);
    fprintf(fp2, "\n%5.0f\t%5.5f\t%5.5f\t%5.5f\t%5.5f", time, EIN, EOUT, lambda, PM);
}/* end if counter */
/*    getch();*/

    EIN=EOUT=0.0;
/*    clrscr();*/

/* THIS IS THE STANDARD EXPLICIT SCHEME*/

```

```

/* input the actual distance [m] to the thermocouples from the top*/
/* L1 thru L11 are outputs and L12 thru L19 are inputs */
/* these don't have to be updated every time, but this is a good place */
/* to remember where they are and in the scope they are needed */
L1=0.000;
L2=0.030;
L3=0.060;
L4=0.090;
L5=0.120;
L6=0.150;
L7=0.180;
L8=0.210;
L9=0.240;
L10=0.270;
L11=0.300;
L12=0.330;
L13=0.360;
L14=0.390;
L15=0.420;
L16=0.450;
L17=0.480;
L18=0.510;
L19=0.540;

dx=L/(N-1);
dlam=lambda/(NP-1);

/*STEP 8 INTERPOLATE NODAL INFORMATION */
/***** Thermocouple interface *****/
/***L1 T1 out ***/
if(L1<=L) { /* then above the pool */
  indice=floor(L1/dx);
  if(indice>(N-2)) indice=N-2; /* don't walk off the array */
  w1=(L1/dx-floor(L1/dx)); /* weight factor */
  T1out=T[indice][RN-1]*w1+T[indice+1][RN-1]*(1.0-w1);
} /* end L1 T1out */
else { /* below the pool line */
  indice=floor((L1-L)/dlam);
  if(indice>(NP-2)) indice=NP-2;
  w1=((L1-L)/dlam)-floor((L1-L)/dlam); /* weight factor */

```

```

T1out=Tp[indice][RN-1]*w1+Tp[indice+1][RN-1]*(1.0-w1);
} /* end else L1 T1out */

```

```

/****L2 T2out *****/

```

```

if(L2<=L) { /* then above the pool */

```

```

    indice=floor(L2/dx);

```

```

    if(indice>(N-2)) indice=N-2; /* don't walk off the array */

```

```

    w1=(L2/dx-floor(L2/dx)); /* weight factor */

```

```

    T2out=T[indice][RN-1]*w1+T[indice+1][RN-1]*(1.0-w1);

```

```

} /* end L2 T2out */

```

```

else { /* below the pool line */

```

```

    indice=floor((L2-L)/dlam);

```

```

    if(indice>(NP-2)) indice=NP-2;

```

```

    w1=((L2-L)/dlam)-floor((L2-L)/dlam); /* weight factor */

```

```

    T2out=Tp[indice][RN-1]*w1+Tp[indice+1][RN-1]*(1.0-w1);

```

```

} /* end else L2 T2out */

```

```

/****L3 T3 out *****/

```

```

if(L3<=L) { /* then above the pool */

```

```

    indice=floor(L3/dx);

```

```

    if(indice>(N-2)) indice=N-2; /* don't walk off the array */

```

```

    w1=(L3/dx-floor(L3/dx)); /* weight factor */

```

```

    T3out=T[indice][RN-1]*w1+T[indice+1][RN-1]*(1.0-w1);

```

```

} /* end L3 T3out */

```

```

else { /* below the pool line */

```

```

    indice=floor((L3-L)/dlam);

```

```

    if(indice>(NP-2)) indice=NP-2;

```

```

    w1=((L3-L)/dlam)-floor((L3-L)/dlam); /* weight factor */

```

```

    T3out=Tp[indice][RN-1]*w1+Tp[indice+1][RN-1]*(1.0-w1);

```

```

} /* end else L3 T3out */

```

```

/****L4 T4 out *****/

```

```

if(L4<=L) { /* then above the pool */

```

```

    indice=floor(L4/dx);

```

```

    if(indice>(N-2)) indice=N-2; /* don't walk off the array */

```

```

    w1=(L4/dx-floor(L4/dx)); /* weight factor */

```

```

    T4out=T[indice][RN-1]*w1+T[indice+1][RN-1]*(1.0-w1);

```

```

} /* end L4 T4out */

```

```

else { /* below the pool line */

```

```

    indice=floor((L4-L)/dlam);

```

```

    if(indice>(NP-2)) indice=NP-2;

```

```

    w1=((L4-L)/dlam)-floor((L4-L)/dlam); /* weight factor */

```

```

T4out=Tp[indice][RN-1]*w1+Tp[indice+1][RN-1]*(1.0-w1);
} /* end else L4 T4out */

```

```

/*****L5 T5 out *****/
if(L5<=L) { /* then above the pool */
  indice=floor(L5/dx);
  if(indice>(N-2)) indice=N-2; /* don't walk off the array */
  w1=(L5/dx-floor(L5/dx)); /* weight factor */
  T5out=T[indice][RN-1]*w1+T[indice+1][RN-1]*(1.0-w1);
} /* end L5 T5out */
else { /* below the pool line */
  indice=floor((L5-L)/dlam);
  if(indice>(NP-2)) indice=NP-2;
  w1=((L5-L)/dlam)-floor((L5-L)/dlam); /* weight factor */
  T5out=Tp[indice][RN-1]*w1+Tp[indice+1][RN-1]*(1.0-w1);
} /* end else L5 T5out */

```

```

/*****L6 T6 out *****/
if(L6<=L) { /* then above the pool */
  indice=floor(L6/dx);
  if(indice>(N-2)) indice=N-2; /* don't walk off the array */
  w1=(L6/dx-floor(L6/dx)); /* weight factor */
  T6out=T[indice][RN-1]*w1+T[indice+1][RN-1]*(1.0-w1);
} /* end L6 T6out */
else { /* below the pool line */
  indice=floor((L6-L)/dlam);
  if(indice>(NP-2)) indice=NP-2;
  w1=((L6-L)/dlam)-floor((L6-L)/dlam); /* weight factor */
  T6out=Tp[indice][RN-1]*w1+Tp[indice+1][RN-1]*(1.0-w1);
} /* end else L6 T6out */

```

```

/*****L7 T7 out *****/
if(L7<=L) { /* then above the pool */
  indice=floor(L7/dx);
  if(indice>(N-2)) indice=N-2; /* don't walk off the array */
  w1=(L7/dx-floor(L7/dx)); /* weight factor */
  T7out=T[indice][RN-1]*w1+T[indice+1][RN-1]*(1.0-w1);
} /* end L7 T7out */
else { /* below the pool line */
  indice=floor((L7-L)/dlam);
  if(indice>(NP-2)) indice=NP-2;
  w1=((L7-L)/dlam)-floor((L7-L)/dlam); /* weight factor */

```

```

T7out=Tp[indice][RN-1]*w1+Tp[indice+1][RN-1]*(1.0-w1);
} /* end else L7 T7out */

```

```

/*****L8 T8 out *****/

```

```

if(L8<=L) { /* then above the pool */
  indice=floor(L8/dx);
  if(indice>(N-2)) indice=N-2; /* don't walk off the array */
  w1=(L8/dx-floor(L8/dx)); /* weight factor */
  T8out=T[indice][RN-1]*w1+T[indice+1][RN-1]*(1.0-w1);
} /* end L8 T8out */
else { /* below the pool line */
  indice=floor((L8-L)/dlam);
  if(indice>(NP-2)) indice=NP-2;
  w1=((L8-L)/dlam)-floor((L8-L)/dlam); /* weight factor */
  T8out=Tp[indice][RN-1]*w1+Tp[indice+1][RN-1]*(1.0-w1);
} /* end else L8 T8out */

```

```

/*****L9 T9 out *****/

```

```

if(L9<=L) { /* then above the pool */
  indice=floor(L9/dx);
  if(indice>(N-2)) indice=N-2; /* don't walk off the array */
  w1=(L9/dx-floor(L9/dx)); /* weight factor */
  T9out=T[indice][RN-1]*w1+T[indice+1][RN-1]*(1.0-w1);
} /* end L9 T9out */
else { /* below the pool line */
  indice=floor((L9-L)/dlam);
  if(indice>(NP-2)) indice=NP-2;
  w1=((L9-L)/dlam)-floor((L9-L)/dlam); /* weight factor */
  T9out=Tp[indice][RN-1]*w1+Tp[indice+1][RN-1]*(1.0-w1);
} /* end else L9 T9out */

```

```

/*****L10 T10 out *****/

```

```

if(L10<=L) { /* then above the pool */
  indice=floor(L10/dx);
  if(indice>(N-2)) indice=N-2; /* don't walk off the array */
  w1=(L10/dx-floor(L10/dx)); /* weight factor */
  T10out=T[indice][RN-1]*w1+T[indice+1][RN-1]*(1.0-w1);
} /* end L10 T10out */
else { /* below the pool line */
  indice=floor((L10-L)/dlam);
  if(indice>(NP-2)) indice=NP-2;
  w1=((L10-L)/dlam)-floor((L10-L)/dlam); /* weight factor */
  T10out=Tp[indice][RN-1]*w1+Tp[indice+1][RN-1]*(1.0-w1);
} /* end else L10 T10out */

```

```

} /* end else L10 T10out */

****L11 T11 out ****
if(L11<=L) { /* then above the pool */
    indice=floor(L11/dx);
    if(indice>(N-2)) indice=N-2; /* don't walk off the array */
    w1=(L11/dx-floor(L11/dx)); /* weight factor */
    T11out=T[indice][RN-1]*w1+T[indice+1][RN-1]*(1.0-w1);
} /* end L11 T11out */
else { /* below the pool line */
    indice=floor((L11-L)/dlam);
    if(indice>(NP-2)) indice=NP-2;
    w1=((L11-L)/dlam)-floor((L11-L)/dlam); /* weight factor */
    T11out=Tp[indice][RN-1]*w1+Tp[indice+1][RN-1]*(1.0-w1);
} /* end else L11 T11out */

***** End Thermocouple Interface *****/

/* STEP 9 READ IN REAL DATA AND INTROPOATE TO CORRECTE NODE */
***** Real Data Interface *****/
if(realtime>timestamp){ /* then read more data */
    if(!feof(fp5)){
        for(cat=0;cat<22;cat++){
            fscanf(fp5,"%f",&data);
            Trealdata[cat]=data;
        } /* end for cat */
        timestamp=Trealdata[0];
        T12in=Trealdata[12];
        T13in=Trealdata[13];
        T14in=Trealdata[14];
        T15in=Trealdata[15];
        T16in=Trealdata[16];
        T17in=Trealdata[17];
        T18in=Trealdata[18];
        T19in=Trealdata[19];
        TCOLD=Trealdata[20];
        printf("\n realtime is %5.2f",realtime);

        printf("\n T2 is %5.5f ",T2out);
        printf("\n T3 is %5.5f ",T3out);
        printf("\n T4 is %5.5f ",T4out);

```



```

printf("\n T5 is %5.5f ",T5out);
printf("\n T6 is %5.5f ",T6out);
printf("\n T7 is %5.5f ",T7out);
printf("\n T8 is %5.5f ",T8out);
printf("\n T9 is %5.5f ",T9out);
printf("\n T10 is %5.5f ",T10out);
printf("\n T11 is %5.5f ",T11out);
printf("\n T12 is %5.5f ",T12in);
printf("\n T13 is %5.5f ",T13in);
printf("\n T14 is %5.5f ",T14in);
printf("\n T15 is %5.5f target = %5.5f ",T15in,Trealdata[21]);
printf("\n T16 is %5.5f ",T16in);
printf("\n T17 is %5.5f ",T17in);
printf("\n T18 is %5.5f ",T18in);
printf("\n T19 is %5.5f ",T19in);

```

```

/*  getch();*/

```

```

/* now assign these temperatures to the correct nodes until next update */

```

```

/***** T12 in *****/
if(L12<L){ /* L12 is above the liquid line */
  if((L12/dx-floor(L12/dx))<0.5) {
    indice=floor(L12/dx);
    T[indice][RN-1]=T12in;
  } /* end if */
  else{
    indice=ceil(L12/dx);
    if(indice>N-1) indice=N-1;
    T[indice][RN-1]=T12in;
  } /* end inner else */
}/* end outter if */
else{ /* L12 is in the below the liquid line */
  if(((L12-L)/dlam-floor((L12-L)/dlam))<0.5) {
    indice=floor((L12-L)/dlam);
    Tp[indice][RN-1]=T12in;
  } /* end if */
  else{
    indice=ceil((L12-L)/dlam);
    if(indice>NP-1) indice=NP-1;

```

```

    Tp[indice][RN-1]=T12in;
  } /* end inner else */
} /* end outter else */

/***** T13 in *****/
if(L13<L){ /* L13 is above the liquid line */
  if((L13/dx-floor(L13/dx))<0.5) {
    indice=floor(L13/dx);
    T[indice][RN-1]=T13in;
  } /* end if */
else{
  indice=ceil(L13/dx);
  if(indice>N-1) indice=N-1;
  T[indice][RN-1]=T13in;
} /* end inner else */
}/* end outter if */
else{ /* L13 is in the below the liquid line */
  if(((L13-L)/dlam-floor((L13-L)/dlam))<0.5) {
    indice=floor((L13-L)/dlam);
    Tp[indice][RN-1]=T13in;
  } /* end if */
else{
  indice=ceil((L13-L)/dlam);
  if(indice>NP-1) indice=NP-1;
  Tp[indice][RN-1]=T13in;
} /* end inner else */
} /* end outter else */

/***** T14 in *****/
if(L14<L){ /* L14 is above the liquid line */
  if((L14/dx-floor(L14/dx))<0.5) {
    indice=floor(L14/dx);
    T[indice][RN-1]=T14in;
  } /* end if */
else{
  indice=ceil(L14/dx);
  if(indice>N-1) indice=N-1;
  T[indice][RN-1]=T14in;
} /* end inner else */
}/* end outter if */
else{ /* L14 is in the below the liquid line */
  if(((L14-L)/dlam-floor((L14-L)/dlam))<0.5) {

```

```

    indice=floor((L14-L)/dlam);
    Tp[indice][RN-1]=T14in;
} /* end if */
else{
    indice=ceil((L14-L)/dlam);
    if(indice>NP-1) indice=NP-1;
    Tp[indice][RN-1]=T14in;
} /* end inner else */
} /* end outter else */

/***** T15 in *****/
if(L15<L){ /* L15 is above the liquid line */
    if((L15/dx-floor(L15/dx))<0.5) {
        indice=floor(L15/dx);
        T[indice][RN-1]=T15in;
    } /* end if */
    else{
        indice=ceil(L15/dx);
        if(indice>N-1) indice=N-1;
        T[indice][RN-1]=T15in;
    } /* end inner else */
} /* end outter if */
else{ /* L15 is in the below the liquid line */
    if(((L15-L)/dlam-floor((L15-L)/dlam))<0.5) {
        indice=floor((L15-L)/dlam);
        Tp[indice][RN-1]=T15in;
    } /* end if */
    else{
        indice=ceil((L15-L)/dlam);
        if(indice>NP-1) indice=NP-1;
        Tp[indice][RN-1]=T15in;
    } /* end inner else */
} /* end outter else */

/***** T16 in *****/
if(L16<L){ /* L16 is above the liquid line */
    if((L16/dx-floor(L16/dx))<0.5) {
        indice=floor(L16/dx);
        T[indice][RN-1]=T16in;
    } /* end if */
    else{
        indice=ceil(L16/dx);
        if(indice>N-1) indice=N-1;

```

```

    T[indice][RN-1]=T16in;
  } /* end inner else */
} /* end outter if */
else{ /* L16 is in the below the liquid line */
  if(((L16-L)/dlam-floor((L16-L)/dlam))<0.5) {
    indice=floor((L16-L)/dlam);
    Tp[indice][RN-1]=T16in;
  } /* end if */
  else{
    indice=ceil((L16-L)/dlam);
    if(indice>NP-1) indice=NP-1;
    Tp[indice][RN-1]=T16in;
  } /* end inner else */
} /* end outter else */

```

```

/***** T17 in *****/
if(L17<L){ /* L17 is above the liquid line */
  if((L17/dx-floor(L17/dx))<0.5) {
    indice=floor(L17/dx);
    T[indice][RN-1]=T17in;
  } /* end if */
  else{
    indice=ceil(L17/dx);
    if(indice>N-1) indice=N-1;
    T[indice][RN-1]=T17in;
  } /* end inner else */
} /* end outter if */
else{ /* L17 is in the below the liquid line */
  if(((L17-L)/dlam-floor((L17-L)/dlam))<0.5) {
    indice=floor((L17-L)/dlam);
    Tp[indice][RN-1]=T17in;
  } /* end if */
  else{
    indice=ceil((L17-L)/dlam);
    if(indice>NP-1) indice=NP-1;
    Tp[indice][RN-1]=T17in;
  } /* end inner else */
} /* end outter else */

```

```

/***** T18 in *****/
if(L18<L){ /* L18 is above the liquid line */

```

```

if((L18/dx-floor(L18/dx))<0.5) {
    indice=floor(L18/dx);
    T[indice][RN-1]=T18in;
} /* end if */
else{
    indice=ceil(L18/dx);
    if(indice>N-1) indice=N-1;
    T[indice][RN-1]=T18in;
} /* end inner else */
}/* end outter if */
else{ /* L18 is in the below the liquid line */
    if(((L18-L)/dlam-floor((L18-L)/dlam))<0.5) {
        indice=floor((L18-L)/dlam);
        Tp[indice][RN-1]=T18in;
    } /* end if */
    else{
        indice=ceil((L18-L)/dlam);
        if(indice>NP-1) indice=NP-1;
        Tp[indice][RN-1]=T18in;
    } /* end inner else */
} /* end outter else */

Tp[NP-1][RN-1]=T19in; /* this is known */

/* Write the output file */
/* first the actual data */
fprintf(fp6,"r%5.5f",timestamp);
for(indice=1;indice<22;indice++){
    fprintf(fp6,"t%5.5f",Trealdata[indice]);
}
/* Now the predicted data */
fprintf(fp6,"t%5.5f\t%5.5f\t%5.5f\t%5.5f\t%5.5f",T1out,T2out,T3out,T4out,T5out);
fprintf(fp6,"t%5.5f\t%5.5f\t%5.5f\t%5.5f\t%5.5f",T6out,T7out,T8out,T9out,T10out);
fprintf(fp6,"t%5.5f\t%5.5f\t%5.5f\t%5.5f\t%5.5f",T11out,T12in,T13in,T14in,T15in);
fprintf(fp6,"t%5.5f\t%5.5f\t%5.5f\t%5.5f",T16in,T17in,T18in,T19in);

/* Now the error */
fprintf(fp6,"t%5.5f\t%5.5f\t%5.5f\t%5.5f\t%5.5f",
(Trealdata[1]-T1out),(Trealdata[2]-T2out),(Trealdata[3]-T3out),(Trealdata[4]-T4out),(Trealdata[5]-T5out));
fprintf(fp6,"t%5.5f\t%5.5f\t%5.5f\t%5.5f\t%5.5f",
T7out,Trealdata[8]-T8out,Trealdata[9]-T9out,Trealdata[10]-T10out);

```

```

    fprintf(fp6, "%5.5f%5.5f%5.5f%5.5f%5.5f", Trealdata[11]-
T11out, Trealdata[12]-T12in, Trealdata[13]-T13in, Trealdata[14]-T14in, Trealdata[15]-
T15in);

```

```

    fprintf(fp6, "%5.5f%5.5f%5.5f%5.5f", Trealdata[16]-T16in, Trealdata[17]-
T17in, Trealdata[18]-T18in, Trealdata[19]-T19in);

```

```

    Tnot=296.5;

```

```

/* fprintf(fp6, "%5.5f%5.5f%5.5f%5.5f%5.5f", 1-(T1out-Tnot)/(Trealdata[1]-
Tnot), 1-(T2out-Tnot)/(Trealdata[2]-Tnot), 1-(T3out-Tnot)/(Trealdata[3]-Tnot), 1-(T4out-
Tnot)/(Trealdata[4]-Tnot), 1-(T5out-Tnot)/(Trealdata[5]-Tnot)); */
/* fprintf(fp6, "%5.5f%5.5f%5.5f%5.5f%5.5f", 1-(T6out-Tnot)/(Trealdata[6]-
Tnot), 1-(T7out-Tnot)/(Trealdata[7]-Tnot), 1-(T8out-Tnot)/(Trealdata[8]-Tnot), 1-(T9out-
Tnot)/(Trealdata[9]-Tnot), 1-(T10out-Tnot)/(Trealdata[10]-Tnot)); */
/* fprintf(fp6, "%5.5f%5.5f%5.5f%5.5f%5.5f", 1-(T11out-Tnot)/(Trealdata[11]-
Tnot), 1-(T12in-Tnot)/(Trealdata[12]-Tnot), 1-(T13in-Tnot)/(Trealdata[13]-Tnot), 1-
(T14in-Tnot)/(Trealdata[14]-Tnot), 1-(T15in-Tnot)/(Trealdata[15]-Tnot)); */
/* fprintf(fp6, "%5.5f%5.5f%5.5f%5.5f", 1-(T16in-Tnot)/(Trealdata[16]-Tnot), 1-
(T17in-Tnot)/(Trealdata[17]-Tnot), 1-(T18in-Tnot)/(Trealdata[18]-Tnot), 1-(T19in-
Tnot)/(Trealdata[19]-Tnot)); */

```

```

/* now print Tsat just cuz it could prove useful */

```

```

    fprintf(fp6, "%5.5f", TSAT);

```

```

/* Now del for trending */

```

```

fprintf(fp6, "%5.5f%5.5f%5.5f%5.5f", del[6]*1000, del[7]*1000, del[8]*1000, del[9]*
1000);

```

```

} /* end not feof */

```

```

} /* end if realtime */

```

```

/*****End Real Data Interface *****/

```

```

/* STEP 10 SOLVE THE WALL PROBLEM */

```

```

/* generic wall nodes */

```

```

for(i=1; i<N-1; i++){

```

```

    for(rr=1; rr<RN-1; rr++){

```

```

        r=R+dr*rr;

```

```

/*Tnew[i][rr]=T[i][rr]+DT*(alpha*(T[i-1][rr]-
2.0*T[i][rr]+T[i+1][rr])/(dx*dx)+alpha/r*(T[i][rr+1]-T[i][rr-
1])/(2.0*dr)+alpha*(T[i][rr+1]-2.0*T[i][rr]+T[i][rr-1])/(dr*dr));*/
Tnew[i][rr]=T[i][rr]+DT*(alpha(T[i][rr])*(T[i-1][rr]-2.0*T[i][rr]+T[i+1][rr])/(dx*dx));
Tnew[i][rr]=Tnew[i][rr]+DT*alpha(T[i][rr])/r*(T[i][rr+1]-T[i][rr-1])/(2.0*dr);
Tnew[i][rr]=Tnew[i][rr]+DT*alpha(T[i][rr])*(T[i][rr+1]-2.0*T[i][rr]+T[i][rr-
1])/(dr*dr);
} /* end for rr */
} /* end for i */
/* generic pool wall nodes */
for(i=1;i<NP-1;i++){
for(rr=1;rr<RN-1;rr++){
r=R+dr*rr;
/*Tpnew[i][rr]=Tp[i][rr]+DT*(alpha*(Tp[i-1][rr]-
2.0*Tp[i][rr]+Tp[i+1][rr])/(dlam*dlam)+alpha/r*(Tp[i][rr+1]-Tp[i][rr-
1])/(2.0*dr)+alpha*(Tp[i][rr+1]-2.0*Tp[i][rr]+Tp[i][rr-1])/(dr*dr));*/
Tpnew[i][rr]=Tp[i][rr]+DT*(alpha(Tp[i][rr])*(Tp[i-1][rr]-
2.0*Tp[i][rr]+Tp[i+1][rr])/(dlam*dlam));
Tpnew[i][rr]=Tpnew[i][rr]+DT*alpha(Tp[i][rr])/r*(Tp[i][rr+1]-Tp[i][rr-1])/(2.0*dr);
Tpnew[i][rr]=Tpnew[i][rr]+DT*alpha(Tp[i][rr])*(Tp[i][rr+1]-2.0*Tp[i][rr]+Tp[i][rr-
1])/(dr*dr);
} /* end for rr */
} /* end for i */

/* top center nodes*/
for(rr=1;rr<RN-1;rr++){
r=R+dr*rr;
/* was Tnew[0][rr]=T[0][rr]+DT*(2.0*alpha*(T[1][rr]-
T[0][rr])/(dx*dx)+alpha/r*(T[0][rr+1]-T[0][rr-1])/(2.0*dr)+alpha*(T[0][rr+1]-
2.0*T[0][rr]+T[0][rr-1])/(dr*dr));*/
/* now these */
Tnew[0][rr]=T[0][rr]+DT*(2.0*alpha(T[0][rr])/fillvalve*(T[1][rr]-T[0][rr])/(dx*dx));
Tnew[0][rr]=Tnew[0][rr]+DT*alpha(T[0][rr])/fillvalve/r*(T[0][rr+1]-T[0][rr-
1])/(2.0*dr);
Tnew[0][rr]=Tnew[0][rr]+DT*alpha(T[0][rr])/fillvalve*(T[0][rr+1]-
2.0*T[0][rr]+T[0][rr-1])/(dr*dr);
} /* end for rr */

/* bottom center now pool wall nodes */
for(rr=1;rr<RN-1;rr++){
r=R+dr*rr;

```

```

/*Tpnew[NP-1][rr]=Tp[NP-1][rr]+DT*(2.0*alpha*(Tp[NP-2][rr]-Tp[NP-
1][rr])/(dlam*dlam)+alpha/r*(Tp[NP-1][rr+1]-Tp[NP-1][rr-1])/(2.0*dr)+alpha*(Tp[NP-
1][rr+1]-2.0*Tp[NP-1][rr]+Tp[NP-1][rr-1])/(dr*dr));*/
Tpnew[NP-1][rr]=Tp[NP-1][rr]+DT*(2.0*alpha*(Tp[NP-1][rr])*(Tp[NP-2][rr]-Tp[NP-
1][rr])/(dlam*dlam));
Tpnew[NP-1][rr]=Tpnew[NP-1][rr]+DT*alpha*(Tp[NP-1][rr])/r*(Tp[NP-1][rr+1]-
Tp[NP-1][rr-1])/(2.0*dr);
Tpnew[NP-1][rr]=Tpnew[NP-1][rr]+DT*alpha*(Tp[NP-1][rr])*(Tp[NP-1][rr+1]-
2.0*Tp[NP-1][rr]+Tp[NP-1][rr-1])/(dr*dr);
} /*end for rr */

/* inside generic nodes */
for(i=1;i<N-1;i++){
/*Tnew[i][0]=T[i][0]+DT*(alpha*(T[i+1][0]-2.0*T[i][0]+T[i-
1][0])/(dx*dx)+2.0*alpha*(T[i][1]-
T[i][0])/(dr*dr)+2.0*h_in(Tbold[i],T[i][0],del[i],i,U[i],Vvap[i])*(Tbold[i]-
T[i][0])/(dr*rho*Cp(T[i][0])));*/
Tnew[i][0]=T[i][0]+DT*(alpha*(T[i][0])*(T[i+1][0]-2.0*T[i][0]+T[i-1][0])/(dx*dx));
Tnew[i][0]=Tnew[i][0]+DT*2.0*alpha*(T[i][0])*(T[i][1]-T[i][0])/(dr*dr);

Tnew[i][0]=Tnew[i][0]+DT*2.0*h_in(Tbold[i],Tnew[i][0],del[i],i,U[i],Vvap[i])*(Tbold[i]
-T[i][0])/(dr*rho*Cp(T[i][0]));
}

index=floor(N/2);
hin=h_in(Tbold[index],T[index][0],del[index],index,U[index],Vvap[index]);
hfilm=kfilm(Tbold[index])/del[index]*(TSAT-T[index][0])/(TSAT-Tbold[index]);
hfilm=fabs(hfilm);

if(hfilm>50000.0) hfilm=50000; /* eliminates divide by zero error */

/* BACK TO WALL */

/* inside generic pool wallnodes */
Tp[0][0]=T[N-1][0];
for(i=1;i<NP-1;i++){
/*Tpnew[i][0]=Tp[i][0]+DT*(alpha*(Tp[i+1][0]-2.0*Tp[i][0]+Tp[i-
1][0])/(dlam*dlam)+2.0*alpha*(Tp[i][1]-
Tp[i][0])/(dr*dr)+2.0*h_pool(Tp[i][0],Tpool[i],0.0)*(Tpool[i]-Tp[i][0])/(dr*rho*Cp));*/

```



```

    Tpnnew[i][0]=Tp[i][0]+DT*(alpha(Tp[i][0])*(Tp[i+1][0]-2.0*Tp[i][0]+Tp[i-1][0]))/(dlam*dlam));
    Tpnnew[i][0]=Tpnnew[i][0]+DT*2.0*alpha(Tp[i][0])*(Tp[i][1]-Tp[i][0])/(dr*dr);
    Tpnnew[i][0]=Tpnnew[i][0]+DT*2.0*h_pool(Tp[i][0],Tpool[i],0.0)*(Tpool[i]-Tp[i][0])/(dr*rho*Cp(Tpnnew[i][0]));
}

/* inside bottom now pool node */
/*Tpnnew[NP-1][0]=Tp[NP-1][0]+DT*(2.0*alpha*(Tp[NP-2][0]-Tp[NP-1][0]))/(dlam*dlam)+2.0*alpha*(Tp[NP-1][1]-Tp[NP-1][0])/(dr*dr)+2.0*h_pool*(Tpool[NP-1]-Tp[NP-1][0])/(dr*rho*Cp));*/
Tpnnew[NP-1][0]=Tp[NP-1][0]+DT*(2.0*alpha(Tp[NP-1][0])*(Tp[NP-2][0]-Tp[NP-1][0]))/(dlam*dlam));
Tpnnew[NP-1][0]=Tpnnew[NP-1][0]+DT*2.0*alpha(Tp[NP-1][0])*(Tp[NP-1][1]-Tp[NP-1][0])/(dr*dr);
Tpnnew[NP-1][0]=Tpnnew[NP-1][0]+DT*2.0*h_pool(Tp[NP-1][0],Tpool[NP-1],0.0)*(Tpool[NP-1]-Tp[NP-1][0])/(dr*rho*Cp(Tp[NP-1][0]));

/* inside top node */
/*Tnew[0][0]=T[0][0]+DT*(2.0*alpha*(T[1][0]-T[0][0])/(dx*dx)+2.0*alpha*(T[0][1]-T[0][0])/(dr*dr)+2.0*h_in(Tbold[0],T[0][0],del[0],0,U[0],Vvap[0])*(Tbold[0]-T[0][0])/(dr*rho*Cp));*/
Tnew[0][0]=T[0][0]+DT*(2.0*alpha(T[0][0])/fillvalve*(T[1][0]-T[0][0])/(dx*dx)+2.0*alpha(T[0][0])/fillvalve*(T[0][1]-T[0][0])/(dr*dr));

Tnew[0][0]=Tnew[0][0]+DT*2.0*h_in(Tbold[0],Tnew[0][0],del[0],0,U[0],Vvap[0])*(Tbold[0]-T[0][0])/(dr*rho*Cp(Tnew[0][0]));

/* generic interfacial nodes */
/* recall that T[N-1] is the same node as Tp[0] */
for(rr=1;rr<RN-1;rr++){
    r=R+dr*rr;
/*    Tnew[N-1][rr]=T[N-1][rr]+DT*( alpha*(T[N-2][rr]-T[N-1][rr])/(dx/2.0+dlam/2.0)/dx+alpha*(Tp[1][rr]-T[N-1][rr])/(dx/2.0+dlam/2.0)/dlam+alpha/r*(T[N-1][rr+1]-T[N-1][rr-1])/(2.0*dr)+alpha*(T[N-1][rr+1]-2.0*T[N-1][rr]+T[N-1][rr-1])/(dr*dr)); */
    Tnew[N-1][rr]=T[N-1][rr]+DT*( alpha(T[N-1][rr])*(T[N-2][rr]-T[N-1][rr])/(dx/2.0+dlam/2.0)/dx);
    Tnew[N-1][rr]=Tnew[N-1][rr]+DT*(alpha(T[N-1][rr])*(Tp[1][rr]-T[N-1][rr])/(dx/2.0+dlam/2.0)/dlam);
    Tnew[N-1][rr]=Tnew[N-1][rr]+DT*(alpha(T[N-1][rr])/r*(T[N-1][rr+1]-T[N-1][rr-1])/(2.0*dr));
}

```

```

Tnew[N-1][rr]=Tnew[N-1][rr]+DT*(alpha(T[N-1][rr])*(T[N-1][rr+1]-2.0*T[N-
1][rr]+T[N-1][rr-1])/(dr*dr));

Tp[0][rr]=Tnew[N-1][rr]; /* try this to see if it helps */

/* Tnew[N-1][rr]=(T[N-2][rr]+Tp[1][rr])/2.0; // THIS MUST CHANGE*/
}
/* outer interfacial node */
/* was this Tnew[N-1][RN-1]=T[N-1][RN-1]+DT*(2.0*alpha*(T[N-1][RN-2]-T[N-
1][RN-1])/(dr*dr)-alpha*(T[N-1][RN-1]-T[N-2][RN-
1])/(dx*(dx/2.0+diam/2.0))+alpha*(Tp[1][RN-1]-T[N-1][RN-
1])/(diam*(diam/2.0+dx/2.0))-2.0*hout/(rho*Cp*dr)*(T[N-1][RN-1]-THOT));*/
/* now broken into these */
Tnew[N-1][RN-1]=T[N-1][RN-1]+DT*(2.0*alpha(T[N-1][RN-1])*(T[N-1][RN-2]-
T[N-1][RN-1])/(dr*dr));
Tnew[N-1][RN-1]=Tnew[N-1][RN-1]-DT*alpha(T[N-1][RN-1])*(T[N-1][RN-1]-T[N-
2][RN-1])/(dx*(dx/2.0+diam/2.0));
Tnew[N-1][RN-1]=Tnew[N-1][RN-1]+DT*alpha(T[N-1][RN-1])*(Tp[1][RN-1]-T[N-
1][RN-1])/(diam*(diam/2.0+dx/2.0));
Tnew[N-1][RN-1]=Tnew[N-1][RN-1]-DT*2.0*hout/(rho*Cp*(Tnew[N-1][RN-
1]*dr)*(T[N-1][RN-1]-THOT));
EIN+=hout*(THOT-Tnew[N-1][RN-1])*(dx/2.0+diam/2.0);
Tpnew[0][RN-1]=Tnew[N-1][RN-1];

/* inner interfacial node */
/* Tnew[N-1][0]=T[N-1][0]+DT*(hfilm*dx*(Tb-T[N-
1][0]/(rho*Cp*dr*(dx/2.0+diam/2.0))+hpool*diam*(Tpool[0]-T[N-
1][0])/(rho*Cp*dr*(dx/2.0+diam/2.0))+alpha*(T[N-2][0]-T[N-
1][0])/(dx*(dx/2.0+diam/2.0))+alpha*(Tp[1][0]-T[N-
1][0])/(diam*(dx/2.0+diam/2.0))+2.0*alpha*(R+dr/2.0)/(R*dr)*(T[N-1][1]-T[N-
1][0])/dr));*/
/* Tnew[N-1][0]=T[N-1][0]+DT*(hin*dx*(Tbold[N-1]-T[N-
1][0])/(rho*Cp*dr*(dx/2.0+diam/2.0))+hpool*diam*(Tpool[0]-T[N-
1][0])/(rho*Cp*dr*(dx/2.0+diam/2.0))+alpha*(T[N-2][0]-T[N-
1][0])/(dx*(dx/2.0+diam/2.0))+alpha*(Tp[1][0]-T[N-
1][0])/(diam*(dx/2.0+diam/2.0))+2.0*alpha*(T[N-1][1]-T[N-1][0])/(dr*dr));*/
/* now break it apart you fool */
/* was this Tnew[N-1][0]=T[N-1][0]+DT*(hin*dx*((T[N-1][0]+TSAT)/2.0-T[N-
1][0])/(rho*Cp*dr*(dx/2.0+diam/2.0))+hpool*diam*(Tpool[0]-T[N-
1][0])/(rho*Cp*dr*(dx/2.0+diam/2.0))+alpha*(T[N-2][0]-T[N-
1][0])/(dx*(dx/2.0+diam/2.0))+alpha*(Tp[1][0]-T[N-
1][0])/(diam*(dx/2.0+diam/2.0))+2.0*alpha*(T[N-1][1]-T[N-1][0])/(dr*dr));*/

```

```

/* was this ? Tnew[N-1][0]=T[N-1][0]+DT*(hin*dx*((T[N-1][0]+TSAT)/2.0-T[N-
1][0])/(rho*Cp*dr*(dx/2.0+diam/2.0))+hpool*diam*(Tpool[0]-T[N-
1][0])/(rho*Cp*dr*(dx/2.0+diam/2.0))+alpha*(T[N-2][0]-T[N-
1][0])/(dx*(dx/2.0+diam/2.0))+alpha*(Tp[1][0]-T[N-
1][0])/(diam*(dx/2.0+diam/2.0))+2.0*alpha*(T[N-1][1]-T[N-1][0])/(dr*dr));*/
/* now this */
#if TBOLD
    Tnew[N-1][0]=T[N-1][0]+DT*(h_in(Tbold[N-1],Tnew[N-1][0],del[N-1],N-1,U[N-
1],Vvap[N-1])*dx*((Tbold[N-1]-T[N-1][0])/(rho*Cp(T[N-
1][0])*dr*(dx/2.0+diam/2.0)));
#else
    Tnew[N-1][0]=T[N-1][0]+DT*(h_in(Tbold[N-1],Tnew[N-1][0],del[N-1],N-1,U[N-
1],Vvap[N-1])*dx*((T[N-1][0]+TSAT)/2.0-T[N-1][0])/(rho*Cp(T[N-
1][0])*dr*(dx/2.0+diam/2.0)));
#endif

    Tnew[N-1][0]=Tnew[N-1][0]+DT*h_pool(T[N-1][0],Tpool[0],0.0)*diam*(Tpool[0]-
T[N-1][0])/(rho*Cp(Tnew[N-1][0])*dr*(dx/2.0+diam/2.0));
    Tnew[N-1][0]=Tnew[N-1][0]+DT*alpha(T[N-1][0])*(T[N-2][0]-T[N-
1][0])/(dx*(dx/2.0+diam/2.0));
    Tnew[N-1][0]=Tnew[N-1][0]+DT*alpha(T[N-1][0])*(Tp[1][0]-T[N-
1][0])/(diam*(dx/2.0+diam/2.0));
    Tnew[N-1][0]=Tnew[N-1][0]+DT*2.0*alpha(T[N-1][0])*(T[N-1][1]-T[N-
1][0])/(dr*dr);

/* now the outer nodes */
for(i=1;i<N-1;i++){
    if(i>=N/2){ /* then exposed to THOT */
        /* was Tnew[i][RN-1]=T[i][RN-1]+DT*(alpha*(T[i+1][RN-1]-2.0*T[i][RN-1]+T[i-
1][RN-1])/(dx*dx)+2.0*alpha*(T[i][RN-2]-T[i][RN-
1])/(dr*dr)+hout*2.0/(dr*rho*Cp)*(THOT-T[i][RN-1])); */
        /* now broken into this */
        Tnew[i][RN-1]=T[i][RN-1]+DT*(alpha(T[i][RN-1])*(T[i+1][RN-1]-2.0*T[i][RN-
1]+T[i-1][RN-1])/(dx*dx));
        Tnew[i][RN-1]=Tnew[i][RN-1]+DT*2.0*alpha(T[i][RN-1])*(T[i][RN-2]-T[i][RN-
1])/(dr*dr);
        Tnew[i][RN-1]=Tnew[i][RN-1]+DT*hout*2.0/(dr*rho*Cp(Tnew[i][RN-1]))*(THOT-
T[i][RN-1]);

        EIN+=hout*dx*(THOT-Tnew[i][RN-1]);
    } /* end if */
    else{ /* exposed to TCOLD */

```

```

/* was this Tnew[i][RN-1]=T[i][RN-1]+DT*(alpha*(T[i+1][RN-1]-2.0*T[i][RN-
1]+T[i-1][RN-1))/(dx*dx)+2.0*alpha*(T[i][RN-2]-T[i][RN-1))/(dr*dr)-
hout*2.0/(dr*rho*Cp)*(T[i][RN-1]-TCOLD)); */
/* now these */
Tnew[i][RN-1]=T[i][RN-1]+DT*(alpha(T[i][RN-1])*(T[i+1][RN-1]-2.0*T[i][RN-
1]+T[i-1][RN-1))/(dx*dx));
Tnew[i][RN-1]=Tnew[i][RN-1]+DT*2.0*alpha(T[i][RN-1])*(T[i][RN-2]-T[i][RN-
1))/(dr*dr);
Tnew[i][RN-1]=Tnew[i][RN-1]-DT*hout*2.0/(dr*rho*Cp(Tnew[i][RN-1]))*(T[i][RN-
1]-TCOLD);
EOUT+=hout*dx*(Tnew[i][RN-1]-TCOLD);
} /* end else if */
}/* end for i */
/* pool nodes are also exposed to THOT */
for(i=1;i<NP-1;i++){
/* was Tpnnew[i][RN-1]=Tp[i][RN-1]+DT*(alpha*(Tp[i+1][RN-1]-2.0*Tp[i][RN-
1]+Tp[i-1][RN-1))/(dlam*dlam)+2.0*alpha*(Tp[i][RN-2]-Tp[i][RN-
1))/(dr*dr)+hout*2.0/(dr*rho*Cp)*(THOT-Tp[i][RN-1])); */
/* now these */
Tpnnew[i][RN-1]=Tp[i][RN-1]+DT*(alpha(Tp[i][RN-1])*(Tp[i+1][RN-1]-
2.0*Tp[i][RN-1]+Tp[i-1][RN-1))/(dlam*dlam));
Tpnnew[i][RN-1]=Tpnnew[i][RN-1]+DT*2.0*alpha(Tp[i][RN-1])*(Tp[i][RN-2]-
Tp[i][RN-1))/(dr*dr);
Tpnnew[i][RN-1]=Tpnnew[i][RN-1]+DT*hout*2.0/(dr*rho*Cp(Tpnnew[i][RN-
1]))*(THOT-Tp[i][RN-1]);
EIN+=hout*(THOT-Tpnnew[i][RN-1])*dlam;
}

/* now the outer top node */
/*Tnew[0][RN-1]=T[0][RN-1]+DT*(2.0*alpha*(T[0][RN-2]-T[0][RN-1))/(dr*dr)-
2.0*hout/(dr*Cp*rho)*(T[0][RN-1]-TCOLD)+2.0*alpha*(T[1][RN-1]-T[0][RN-
1))/(dx*dx));*/
Tnew[0][RN-1]=T[0][RN-1]+DT*(2.0*alpha(T[0][RN-1])/fillvalve*(T[0][RN-2]-
T[0][RN-1))/(dr*dr));
Tnew[0][RN-1]=Tnew[0][RN-1]-DT*2.0*hout/(dr*Cp(Tnew[0][RN-
1])*rho)*(T[0][RN-1]-TCOLD);
Tnew[0][RN-1]=Tnew[0][RN-1]+DT*2.0*alpha(T[0][RN-1])/fillvalve*(T[1][RN-1]-
T[0][RN-1))/(dx*dx);
EOUT+=hout*dx/2*(Tnew[0][RN-1]-TCOLD);
/* thermal mass simulated */

/* now the outer bottom pool node */

```

```

/*Tpnew[NP-1][RN-1]=Tp[NP-1][RN-1]+DT*(2.0*alpha*(Tp[NP-1][RN-2]-Tp[NP-
1][RN-1])/(dr*dr)+2.0*hout/(dr*Cp*rho)*(THOT-Tp[NP-1][RN-1])+2.0*alpha*(Tp[NP-
2][RN-1]-Tp[NP-1][RN-1])/(dlam*dlam));*/
Tpnew[NP-1][RN-1]=Tp[NP-1][RN-1]+DT*(2.0*alpha(Tp[NP-1][RN-1])*(Tp[NP-
1][RN-2]-Tp[NP-1][RN-1])/(dr*dr));
Tpnew[NP-1][RN-1]=Tpnew[NP-1][RN-1]+DT*2.0*hout/(dr*Cp(Tpnew[NP-1][RN-
1])*rho)*(THOT-Tp[NP-1][RN-1]);
Tpnew[NP-1][RN-1]=Tpnew[NP-1][RN-1]+DT*2.0*alpha(Tp[NP-1][RN-1])*(Tp[NP-
2][RN-1]-Tp[NP-1][RN-1])/(dlam*dlam);
EIN+=hout*dlam/2.0*(THOT-Tpnew[NP-1][RN-1]);

/* update pool wall */
for(i=1;i<NP;i++){
  for(rr=0;rr<RN;rr++){
    Tp[i][rr]=Tpnew[i][rr];
  }
}

/* now update wall */
for(i=0;i<N;i++){
  for(rr=0;rr<RN;rr++){
    T[i][rr]=Tnew[i][rr];
  }/* end for rr */

/* just to make sure it happens */
for(rr=0;rr<RN;rr++){
  Tp[0][rr]=T[N-1][rr];
}
} /* end for i */

/* STEP 11 SOLVE THE POOL PROBLEM */
/* now consider the pool */
for(i=1;i<NP-1;i++){
  /* was this Tpool[i]=Tpool[i]+DT*(alphapool*(Tpool[i+1]-2.0*Tpool[i]+Tpool[i-
1])/(dlam*dlam)-2.0*hpool/(rhopool(Tpool[i])*Cp_pool(Tpool[i])*R)*(Tpool[i]-
Tp[i][0]));*/
  /* now these */
  alphapool=5.0*kpool(Tpool[i])/(rhopool(Tpool[i])*Cp_pool(Tpool[i]));
  Tpool[i]=Tpool[i]+DT*(alphapool*(Tpool[i+1]-2.0*Tpool[i]+Tpool[i-
1])/(dlam*dlam));
  Tpool[i]=Tpool[i]-
DT*2.0*h_pool(Tp[i][0],Tpool[i],0.0)/(rhopool(Tpool[i])*Cp_pool(Tpool[i])*R)*(Tpool
[i]-Tp[i][0]);

```

```

    } /* end for i */
/* end points */
    alphapool=5.0*kpool(Tpool[NP-1])/(rhopool(Tpool[NP-1])*Cp_pool(Tpool[NP-1]));
    Tpool[NP-1]=Tpool[NP-1]+DT*(2.0*alphapool*(Tpool[NP-2]-Tpool[NP-
1])/(dlam*dlam)-2.0*h_pool(Tp[NP-1][0],Tpool[NP-1],0.0)/(rhopool(Tpool[NP-
1])*R*Cp_pool(Tpool[NP-1]))*(Tpool[NP-1]-Tp[NP-1][0]));
    alphapool=5.0*kpool(Tpool[0])/(rhopool(Tpool[0])*Cp_pool(Tpool[0]));
    Tpool[0]=Tpool[0]+DT*( 2.0*alphapool*(Tpool[1]-Tpool[0])/(dlam*dlam) -
2.0*h_pool(Tp[0][0],Tpool[0],0.0)/(rhopool(Tpool[0])*R*Cp_pool(Tpool[0]))*(Tpool[0]
-Tp[0][0]) + 2.0*hevap*(R-del[N-1])*(R-del[N-1])*(TSAT-
Tpool[0])/(rhopool(Tpool[0])*Cp_pool(Tpool[0])*dlam*R) );
    /* EULER11 changes here the evaporation area changed and the error went to-0.002
cool huh*/
    /* now add the energy from the film to the pool as it drops off */
/* Tpool[0]=Tpool[0]+DT*(rhofilm(Tbold[N-1])*Cp_film(Tbold[N-1])*(R*R-(R-del[N-
1])*(R-del[N-1]))*PI*U[N-1]*(Tbold[N-1]-
Tpool[0]))/(rhopool(Tpool[0])*Cp_pool(Tpool[0])*R*R*PI); turn this off for now*/

/* STEP 12 SOLVE THE VAPOR PROBLEM */
/* now the vapor stuff */
    for(i=1;i<N-1;i++){
# if TBOLD
        Revap=Vvap[i]*(R-del[i])/(0.01904-
0.00010437*TSAT+0.00000014583*TSAT*TSAT);
        Revap=Revap/0.02;
        VM=VM+hfilm/hfg*(2*PI*(R-del[i])*dx)*(Tbold[i]-TSAT)*DT;
# else
        VM=VM+hfilm/hfg*(2*PI*(R-del[i])*dx)*((T[i][0]+TSAT)/2.0-TSAT)*DT;
# endif
    }
    /* the ends */
# if TBOLD
        Revap=Vvap[0]*(R-del[i])/(0.01904-
0.00010437*TSAT+0.00000014583*TSAT*TSAT);
        Revap=Revap/0.02; /* modified */
        if(Revap>2.0) Revap=2.0; /* maximum allowed */
        VM=VM+hfilm/hfg*(PI*(R-del[0])*dx)*(Tbold[0]-TSAT)*DT;
# else
        VM=VM+hfilm/hfg*(PI*(R-del[0])*dx)*((T[0][0]+TSAT)/2.0-TSAT)*DT;
# endif
# if TBOLD
        Revap=Vvap[N-1]*(R-del[N-1])/(0.01904-
0.00010437*TSAT+0.00000014583*TSAT*TSAT);

```

```

Revap=Revap/0.02;    /* modified */
if(Revap>2.0) Revap=2.0; /* maximum allowed */

VM=VM+hfilm/hfg*(PI*(R-del[N-1])*dx)*(Tbold[N-1]-TSAT)*DT;
#else
VM=VM+hfilm/hfg*(PI*(R-del[N-1])*dx)*((Tp[0][0]+TSAT)/2.0-TSAT)*DT;
#endif
/* now from the pool to the vapor space */
/* hevap=500000.0; this was the arbitrarily high value mentioned*/
/* hevap=75000.0; turn this off */
hevap=2.0*rhovap*hfg*hfg/(Tpool[0]*sqrt(2.0*3.14159*0.46189*Tpool[0])); /* from
Lock */
VM=VM+hevap/hfg*(PI*(R-del[N-1])*(R-del[N-1]))*(Tpool[0]-TSAT)*DT;
/* PM=PM-hevap/hfg*(PI*(R-del[N-1])*(R-del[N-1]))*(Tpool[0]-TSAT)*DT; THIS?
*/
/* you might as well figure out the film mass too */

Vapvol=0.0;
for(i=1;i<N-1;i++){
Vapvol+=PI*(R-del[i])*(R-del[i])*dx;
}
Vapvol+=PI*(R-del[0])*(R-del[0])*dx/2.0;
Vapvol+=PI*(R-del[N-1])*(R-del[N-1])*dx/2.0;

Rair=0.287;
PofT=0.0-3252.328+33.5452*TSAT-
0.11575*TSAT*TSAT+0.0001337*TSAT*TSAT*TSAT; /*From EES Psat in kPa */
Vol_air=Mair*Rair*TSAT/PofT;
if(Vapvol>Vol_air)
Vapvol=Vapvol-Vol_air;

rhovap=VM/Vapvol;
if(rhovap>0.23) rhovap=0.23;
if(rhovap<0) {printf("\n OH NO !!! ");getch();} /* turn it off to check against Nusselt */
TSAT=findTsat(rhovap);/* turn it off to check film against Nusselt */

/* printf("\t TSAT=%5.5f",TSAT);*/

/* Now consider the film temperature */

#endif TBOLD

```

```

/* this is the energy in the film */
for(i=1;i<N-1;i++){
    Z=R-del[i];
    squig=U[i]/Tbold[i]*( (T[i][0]-TSAT)/del[i]*(R*R*R-Z*Z*Z)/3.0+T[i][0]*(R*R-
Z*Z)/2.0-(R*T[i][0]-R*TSAT)/del[i]*(R*R-Z*Z)/2.0);
    Revap=Vvap[i]*(R-del[i])/(0.01904-
0.00010437*TSAT+0.00000014583*TSAT*TSAT);
    if(Revap>2.0) Revap=2.0; /* maximum allowed */

    Tbold[i]=Tbold[i]+DT*(hfilm*(R-del[i])*(TSAT-
Tbold[i])/(R*rhofilm(Tbold[i])*Cp_film(Tbold[i])*del[i])-
h_in(Tbold[i],T[i][0],del[i],i,U[i],Vvap[i])*(Tbold[i]-
T[i][0])/(rhofilm(Tbold[i])*Cp_film(Tbold[i])*del[i])+kfilm(Tbold[i])/(rhofilm(Tbold[i])
*Cp_film(Tbold[i]))*squig*(Tbold[i+1]-2.0*Tbold[i]+Tbold[i-1])/(dx*dx)));

/* Tbold[i]=Tbold[i]+DT*( 2*hfilm*(R-del[i])*(TSAT-Tbold[i])/(
rhofilm(Tbold[i])*Cp_film(Tbold[i])*(R*R-(R-del[i])*(R-del[i])) )-
2.0*h_in(Tbold[i],T[i][0],del[i],i,U[i],Vvap[i])*(Tbold[i]-
T[i][0])/(rhofilm(Tbold[i])*Cp_film(Tbold[i])*(R*R-(R-del[i])*(R-del[i]))
)+kfilm(Tbold[i])/(rhofilm(Tbold[i])*Cp_film(Tbold[i]))*squig*(Tbold[i+1]-
2.0*Tbold[i]+Tbold[i-1])/(dx*dx)));*/
/* if(Tbold[i]<TCOLD) {printf("\n TOO COLD at i=%i",i );/* getch();} */
if(Tbold[i]>THOT) {/* printf("\n TOO HOT at i=%i",i );/* /*getch();*/ }
/* Tbold will be greater than Thot if Thot is set to Tcold and a fixed temperature is used
*/
}
/* end effects */
    Revap=Vvap[0]*(R-del[0])/(0.01904-
0.00010437*TSAT+0.00000014583*TSAT*TSAT);

    Tbold[0]=Tbold[0]+DT*(hfilm*(R-
del[0])/(rhofilm(Tbold[0])*Cp_film(Tbold[i])*R*del[0])*(TSAT-Tbold[0])-
h_in(Tbold[0],T[0][0],del[0],i,U[0],Vvap[0])*(Tbold[0]-
T[0][0])/(rhofilm(Tbold[0])*Cp_film(Tbold[0])*del[0])+2.0*kfilm(Tbold[0])*(Tbold[1]-
Tbold[0])/(rhofilm(Tbold[0])*Cp_film(Tbold[0])*dx*dx));
    Revap=Vvap[N-1]*(R-del[N-1])/(0.01904-
0.00010437*TSAT+0.00000014583*TSAT*TSAT);

    Tbold[N-1]=Tbold[N-1]+DT*(hfilm*(R-del[N-1])*(TSAT-Tbold[N-
1])/(R*rhofilm(Tbold[N-1])*Cp_film(Tbold[N-1])*del[N-1])-h_in(Tbold[N-1],T[N-
1][0],del[N-1],N-1,U[N-1],Vvap[N-1])*(Tbold[N-1]-T[N-1][0])/(rhofilm(Tbold[N-

```



```

1])*Cp_film(Tbold[N-1])*del[N-1])+2.0*kfilm(Tbold[N-1])/(rhofilm(Tbold[N-1])*Cp_film(Tbold[N-1]))*(Tbold[N-2]-Tbold[N-1])/(dx*dx));
#else
    for(i=0;i<N;i++){
        Tbold[i]=(T[i][0]+TSAT)/2.0;
    }
#endif

/* Now consider the vapor velocity */
Vvap[0]=0.0; /* can't get through the lid */
Revap=Vvap[1]*(R-del[1])/(0.01904-
0.00010437*TSAT+0.00000014583*TSAT*TSAT);
Revap=Revap/0.02; /* modified */
if(Revap>2.0) Revap=2.0; /* maximum allowed */

Vvap[1]=dx*(R-del[0])/((R-del[1])*(R-del[1]))*(hfilm/hfg)*(TSAT-
Tbold[0])/(VM/Vapvol);

for(i=1;i<N;i++){
    Revap=Vvap[i]*(R-del[i])/(0.01904-
0.00010437*TSAT+0.00000014583*TSAT*TSAT);
    Vvap[i]=hfilm/hfg*2.0*(R-del[i])*dx*(TSAT-Tbold[i-1])/((VM/Vapvol)*(R-
del[i])*(R-del[i]))+Vvap[i-1]*(R-del[i-1])*(R-del[i-1])/((R-del[i])*(R-del[i]));
} /* end for i */

/* now consider the film in more detail */

/* STEP 13 SOLVE THE FILM PROBLEM */
#if SUB_FILM
    del[0]=del[1]; /* move this inside findfilm */
    /* del[0]=0.0; */ /* for the Nusselt check */
    findfilm(time,T,del,U,TSAT,Tbold); /* calls the function,adjusts del, */
#endif

/* now adjust pool height via mass balance*/
FM=0.0;
for(i=1;i<N-1;i++){
    FM+=PI*(R*R-(R-del[i])*(R-del[i]))*dx*rhofilm(Tbold[i]); /* at the right temp */
}
FM+=PI*(R*R-(R-del[0])*(R-del[0]))*0.5*dx*rhofilm(Tbold[0]);
FM+=PI*(R*R-(R-del[N-1])*(R-del[N-1]))*0.5*dx*rhofilm(Tbold[N-1]);
/* PM+=UA[N-1]*rhofilm; /* at the appropriate temperature */
/* kitchen drawer the pool mass since it is the largest */

```

```

PM=TM-FM-VM;

/* printf("\nFM = %5.5f\tPM = %5.5f\tVM = %5.5f\tTM =
%5.5f",FM,PM,VM,FM+PM+VM);*/
/* getch();*/
/* rhopool should be a function of temperature */
densum=0.0; /* density of the pool */
for(i=1;i<NP-1;i++){
    densum+=rhopool(Tpool[i]); /* this should be a function of temperature */
}
densum+=rhopool(Tpool[NP-1])*0.5; /* this too bottom node */
densum+=rhopool(Tpool[0])*0.5; /* this is the top node */
/* Afiln=PI*(R*R-(R-del[N-1])*(R-del[N-1])); don't need this */
lambda=(NP-1)*PM/(PI*R*R*densum); /* after some algebra */
/* Dr Bowman Rocks */
/* printf("\n\t\t\t lambda = %5.5f\t\tpool mass =%5.5f\n\n",lambda,PM);*/
L=Ltot-lambda;
/* STEP 14 END THE TIME STEP LOOP */
} /* next time step END OF ALL TIME */
/* STEP 15 WRITE FILES */
/* for(i=0;i<N;i++){ */
    printf("\n T[%i] is\t%5.5g",i,T[i][RN-1]);
    getch();
/* } /* end for i */
/* for(i=1;i<NP;i++){ */
    printf("\n Tp[%i] is\t%5.5g",i,Tp[i][RN-1]);
/* } /* end for i */
printf("\t%5.3f\t%5.3f\t%5.5f",EIN,EOUT,EIN-EOUT);
for(i=0;i<N;i++){
    printf("\n");
    for(rr=0;rr<RN;rr++){
        printf("\t%5.5f",Tnew[i][rr]);
    }
}
for(i=0;i<NP;i++){
    printf("\n");
    for(rr=0;rr<RN;rr++){
        printf("\t%5.6f",Tpnew[i][rr]);
    }
}
getch();

fclose(fp);

```

```

fclose(fp2);
fclose(fp3);
fclose(fp4);
fclose(fp5);
fclose(fp6);
/* STEP 16 END */
}/* end main */

/* THE FOLLOWING ARE SUBROUTINES USED IN THE MAIN PROGRAM */
double rhopool(T) double T;{
    double answer;
    /* return(1140.3-0.4709*T);*/
    answer=(-1.0)*0.0025*T*T+1.135*T+880.25; /* from EES */
    return(answer);
}

double rhofilm(T) double T;{
    double rhopool(),myanswer;
    myanswer=rhopool(T);
    return(myanswer);
}

double findTsat(vapdens) double vapdens;{
    double answer,fprime,Tsatguess,TOL,D,a,b,c,d;
    int counter,hunting;
    /* curve fit saturated density */
    /* rho(Tsat)=-340.4578+2.727982T-0.007238T^2+0.00000639T^3 from EES
    R^2=99.72*/

    /* rho(Tsat)=a+bT+cT^2+dT^3 EES R^2= 99.95 275<T<450 */
    /* use Newton's method to find the zero */
    /* answer=Tsatsguess=(THOT+TCOLD)/2.0; /* this added answer to the equation*/
    Tsatguess=TSAT;
    counter=0;
    hunting=1;
    TOL=0.0001;
    a=(-50.54018);
    b=0.4850567;
    c=(-0.001554073);
    d=0.00000166482;
    do{
        D=(-b-2.0*c*Tsatguess-3*d*pow(Tsatguess,2.0));

```

```

    answer=Tsatguess-( vapdens-
(a+b*Tsatguess+c*pow(Tsatguess,2.0)+d*pow(Tsatguess,3.0)))/D;
    if(fabs(Tsatguess-answer)<TOL){ hunting=0; }
    /* else keep hunting */
    Tsatguess=answer;
    counter++;
    if(counter>25){
        printf("\n Newton failed to converge %c",7);
        getch();
    }
}while(hunting);
if(answer<275.0){
    printf("\n Tsat is predicted outside the bounds of the curve fit **** TOO LOW%c",7);
    printf("\n Vapdens is %5.5f",vapdens);
    getch();
}
if(answer>450.0){
    printf("\n Tsat is predicted outside the bounds of the curve fit **** TOO HIGH%c",7);
    printf("\n Vapdens is %5.5f",vapdens);
    getch();
}
return(answer);
} /* end function findTsat */

```

```

double tauw(U,del,mu,bigR,tauv,B) double U,del,mu,bigR,tauv,*B; {
    double a,b,c,c_old,result,term1,term2,A,Z,U2bar,numerator, bob;
    double flop2,flop3,flop4,flop5,squig,denom;
    int counter,hunting;
    register int j;
    static int sample;
    FILE *fp4;
    c_old=1000.0;
    counter=0;
    hunting=1;
    term1=(2.0*(bigR-del)*bigR-bigR*bigR);
    term2=2.0*(bigR-del);
    Z=bigR-del;
    A=(bigR*bigR-Z*Z)*PI;
    do{
        /*c=U*A/(2*PI*(term1*(bigR*bigR-Z*Z)/2.0+term2*(bigR*bigR*bigR-
Z*Z*Z)/3.0+(bigR*bigR*bigR*bigR-Z*Z*Z*Z)/4.0));*/
        c=U*A/(2*PI)+tauv/mu*bigR*(bigR*bigR-Z*Z)/2.0-tauv/mu*(bigR*bigR*bigR-
Z*Z*Z)/3.0;
    }
}

```

```

    c=c/(term1*(bigR*bigR-Z*Z)/2.0-term2*(bigR*bigR*bigR-
Z*Z*Z)/3.0+(bigR*bigR*bigR*bigR-Z*Z*Z*Z)/4.0);
    if(fabs(c-c_old)<0.001) hunting=0;
    else c_old=c;
    if(counter>1000){
        printf("\n Maximum iterations exceeded while finding C");
        getch();
    }
    counter++;
}while(hunting);

b=tauv/mu-2.0*c*Z;
a=(-1*b*bigR-c*bigR*bigR);
/* check Ubar to see if it matches */
/* result is Ubar now */
result=2.0*PI/A*(a*(bigR*bigR-Z*Z)/2.0+b*(bigR*bigR*bigR-
Z*Z*Z)/3.0+c*(bigR*bigR*bigR*bigR-Z*Z*Z*Z)/4.0);
if(fabs(result-U)>0.001) { printf("\n Ubar does not match *! *"); getch(); }
/* now find tauw */
/*result is now tauw, don't get mugged up */
result=(-1.0)*mu*(b+2.0*c*bigR);

/* now find B since a b and c were just found */
/* B is the shape factor for the momentum equation and is defined by */
/* B==(Usquared bar over Ubar squared) Ubar is already known above */
/* Usquared bar is given by */
U2bar=2/(bigR*bigR-Z*Z)*(a*a*(bigR*bigR-Z*Z)/2.0+2.0*a*b*((bigR*bigR*bigR-
Z*Z*Z)/3.0)+(2*a*c+b*b)*((bigR*bigR*bigR*bigR-
Z*Z*Z*Z)/4.0)+2*b*c*(bigR*bigR*bigR*bigR*bigR-
Z*Z*Z*Z*Z)/5.0+c*c*((bigR*bigR*bigR*bigR*bigR*bigR-Z*Z*Z*Z*Z*Z)/6.0));
*B=U2bar/(U*U);

/* now take a look at squiggle to see how it responds, don't do any thing */
/* with is at this point, however */
/* this part prove what we need, don't calculate with it, but keep this code */
/* around so that we can use it if we need to deomonstrate the consistancy of squig */
/* bob=(325-312)/del; /* this is twall-tsat */
/* numerator=U*(bob*(bigR*bigR*bigR-Z*Z*Z)/3.0+325*(bigR*bigR-Z*Z)/2.0-
bob*R*(bigR*bigR-Z*Z)/2.0);*/
/* flop2=(bigR*bigR-Z*Z)/2.0;*/
/* flop3=(bigR*bigR*bigR-Z*Z*Z)/3.0;*/

```

```

/* flop4=(bigR*bigR*bigR*bigR-Z*Z*Z*Z)/4.0;*/
/* flop5=(bigR*bigR*bigR*bigR*bigR-Z*Z*Z*Z*Z)/5.0;*/
/* denom=a*bob*flop3+325*a*flop2-bob*R*a*flop2;*/
/* denom+=b*bob*flop4+325*b*flop3-bob*R*b*flop3;*/
/* denom+=c*bob*flop5+325*c*flop4-bob*R*c*flop4;*/
/* squig=numerator/denom;*/
/* sample++;*/
/* if(sample>25000){ */
/* printf("S A M P L I N G ..... ");*/
/* if ((fp4 = fopen("squig.txt","a"))== NULL) { */
/* printf("\n error appending file.....");*/
/* }*/

/*
fprintf(fp4,"\n%5.5f\t%5.5f\t%5.5f\t%5.5f\t%5.5f\t%5.5f\t%5.5f",a,b,c,del,R,U,squig);*/
/* sample=0;*/
/* fclose(fp4);*/
/* }*/

/* squig is always very close to 1.0 1.0005 for example */
/* instead of calculating it an slowing us down, let's just */
/* let it be 1 since that is very close to the real answer */

return(result); /* returning tauw */
}/* end of function tauw*/

/* this is just the film, momentum and continuity */
/* this works well by itself */

/* now pass R to it, but R is global so no need to pass it */

void findfilm(time,Tw,delff,Uff,TSAT,Tbold) double
time,Tw[N][RN],delff[N],Uff[N],TSAT,Tbold[N];{
double A[N],UA[N],tauv[N];
double mdot,dx,rhol,rhov,a,b,c,del[N],hfilm,hfg;
double tauw(),B,mu_film(),tester,g,term1,term2,term3,term4,term5,term6;
void vapshear();
register int i,counter;

```

```

dx=L/(N-1);
B=1.0; /* initial value, gets changed in call to tauw */
/* tauw=0.20;*/
/* TSAT=350;*/
counter=0;
g=G;
tester=R;

/* initialize */
for(i=0;i<N;i++){
    tauv[i]=0.0;

/* U[i]=0.10;*/
    A[i]=(R*R-(R-delff[i])*(R-delff[i]))*PI;
    UA[i]=Uff[i]*A[i];
}
delff[0]=delff[1]-(delff[2]-delff[1])/2.0;
/* mdot=hfilm/hfg*(TSAT-Tbold[0]); */
/* Uff[0]=dx*PI*(R-delff[0])/rho*mdot;*/

/* these should have been set before we entered the function */

/* practice hike check on tauw */
/* tester=tauw(1.0,0.001,0.0085,0.25,0.0);*/

/* find the shear stress due to the vapor */
/* tauv[N] gets modified */
vapshear(time,Tbold,TSAT,delff,dx,hfg,tauv,hfilm);

for(i=1;i<N-1;i++){
    /* continuity */
    /* mdot=hfilm/hfg*(TSAT-(TSAT+Tw[i][0])/2.0); /* Tbold ? */
    mdot=hfilm/hfg*(TSAT-Tbold[i]);
    /* was A[i]=A[i]+DT*(mdot*2.0*PI*(R-delff[i])/rho-((U[i+1]-U[i-1])*A[i]+(A[i+1]-
A[i-1])*U[i])/(2.0*dx));*/
    term1=mdot*2.0*PI*(R-delff[i])/rho;
    term2=(Uff[i]-Uff[i-1])*A[i];
    term3=(A[i]-A[i-1])*Uff[i];
    term4=term1-(term2+term3)/(dx);
/* term4=term1; /* neglects advection */

```

```

A[i]=A[i]+DT*(term4); /* insert term4 here */
/* momentum */
/* B here */
UA[i]=UA[i]+DT*(A[i]*g-
tauw(Uff[i],delff[i],mu_film(Tbold[i]),R,tauv[i],&B)*2*PI*R/rhol-tauv[i]*2*PI*(R-
delff[i])/rhol-rhov/rhol*g*A[i]-B*(UA[i]*Uff[i]-UA[i-1]*Uff[i-1])/(dx)); /* backward
diff now */

/* if(UA[i]<0.0) UA[i]=0.0;*/
/* tester=tauw(Uff[i],delff[i],mu,R,tauv);*/
} /* end for i */

/* end effects */
/* continuity */
A[0]=A[1]-(A[2]-A[1])/2.0; /* linear projection */
mdot=hfilm/hfg*(TSAT-Tbold[N-1]);
A[N-1]=A[N-1]+DT*(mdot*PI*(R-delff[N-1])/rhol-((Uff[N-1]-Uff[N-2])*A[N-
1]+(A[N-1]-A[N-2])*Uff[N-1])/dx );
A[N-1]=A[N-2]+(A[N-2]-A[N-3])/2.0; /* linear projection */

/*momentum */
UA[0]=Uff[0]*A[0]; /* this turns out to be zero */
/* try this one */
UA[0]=UA[0]+DT*(A[0]*g-
tauw(Uff[0],delff[0],mu_film(Tbold[0]),R,tauv[0],&B)*2*PI*R/rhol-tauv[0]*2*PI*(R-
delff[0])/rhol-rhov/rhol*g*A[0]-(UA[1]*Uff[1]-UA[0]*Uff[0])/(dx)); /* backward diff
now */
/* you big dork */
/*UA[N-1]=UA[N-1]+DT*(A[N-1]*g-tauw(Uff[N-1],delff[N-
1],mu,R,tauv)*2*PI*R/rhol-tauv*2*PI*(R-delff[N-1])/rhol-rhov/rhol*g*A[N-1]-(UA[N-
1]*Uff[N-1]-UA[N-2]*Uff[N-2])/(dx));*/
term1=(A[N-1]*g);
term2=tauw(Uff[N-1],delff[N-1],mu_film(Tbold[N-1]),R,tauv[N-1],&B)*2*PI*R/rhol;
term3=tauv[N-1]*2*PI*(R-delff[N-1])/rhol;
term4=rhov/rhol*g*A[N-1];
term5=(UA[N-1]*Uff[N-1]-UA[N-2]*Uff[N-2])/(dx);
UA[N-1]=UA[N-1]+DT*(term1-term2-term3-term4);

/* now decode */
for(i=1;i<N;i++){

```



```

    if(A[i]<0.0){
        printf("\n weza hava a probrem ");
    /*  getch();*/
        A[i]=0.0;
        Uff[i]=0.0;
        UA[i]=Uff[i]*A[i];
    }
    else{
        term5=PI;
        term6=R*R-A[i]/term5;
        if(term6<=0.0){ printf(" BIG PROBLEM dryout at node [%i] ",i);
        getch();delff[i]=0.00000001;}
        else delff[i]=R-sqrt(term6);

        Uff[i]=UA[i]/A[i];
    }/* end for i */
    Uff[N-1]=Uff[N-2]+(Uff[N-2]-Uff[N-3])/2.0; /* linear projection */

/*  if(Uff[i]<0.0) Uff[i]=0.0;*/
} /* end decode */

}/* function findfilm */

/* this doesn't technically return anything, but it does modify tauv */
void vapshear(time,Tbold,TSAT,del,dx,hfg,tauv,hfilm) double
time,Tbold[N],TSAT,del[N],dx,hfg,tauv[N],hfilm;{
    double Lc,Rstar,sum,Vapvol,rhovap,Vvap[N],meanV,mu_vap,Mach[N],Vsound;
    double Vvap_rad[N],Re[N],Rew[N],f;
    register int i;

    /* this information comes from Dr. Bowman's paper " Transient Heat-Pipe Modeling:A
    Quasisteady, */
    /* Incompressible Vapor Model" Journal of Thermophysics and Heat Transfer V6 No3
    1992 pg 571-574 */
    /* equation numbers in this section of the code correspond to those used in the paper */

    /* find the total condensing length */
    Lc=0.0;
    for(i=1;i<N;i++){

```

```

if(Tbold[i]<TSAT){
    Lc+=dx;
}
}
/* end condition */
if(Tbold[0]<TSAT){
    Lc+=dx/2.0;
}
/* now we have Lc */

/* find the average vapor space radius */
Rstar=R;
sum=0.0;
for(i=0;i<N;i++){
    sum+=(R-del[i]);
}
Rstar=sum/(N);
/* now we have Rstar */
/* find the vapor density */
Vapvol=0.0;
for(i=1;i<N-1;i++){
    Vapvol+=PI*(R-del[i])*(R-del[i])*dx;
}
Vapvol+=PI*(R-del[0])*(R-del[0])*dx/2.0;
Vapvol+=PI*(R-del[N-1])*(R-del[N-1])*dx/2.0;

rhovap=VM/Vapvol;    /* VM is global */
/*This is not independent of TSAT, in fact, it is how TSAT is determined */
/* we now have rohvap */

/* find the speed of sound in the vapor space */
/* from EES for Saturated vapor */
Vsound=252.0315+0.5881*TSAT; /* m/s */

/* find the mean vapor velocity and local Mach number */
Vvap[0]=0.0; /* can't get through the lid */
Vvap[1]=dx*(R-del[0])/((R-del[1])*(R-del[1]))*(hfilm/hfg)*(TSAT-
Tbold[0])/(VM/Vapvol);
Mach[1]=Vvap[1]/Vsound;
sum=Vvap[1];
for(i=1;i<N-1;i++){

```

```

Vvap[i]=hfilm/hfg*2.0*(R-del[i])*dx*(TSAT-Tbold[i-1])/((VM/Vapvol)*(R-
del[i]*(R-del[i]))+Vvap[i-1]*(R-del[i-1])*(R-del[i-1])/((R-del[i])*(R-del[i])));
Mach[i]=Vvap[i]/Vsound;
} /* end for i */
/* end effects */

Vvap[N-1]=hfilm/hfg*(R-del[N-1])*dx*(TSAT-Tbold[N-2])/((VM/Vapvol)*(R-del[N-
1])*(R-del[N-1]))+Vvap[N-2]*(R-del[N-2])*(R-del[N-2])/((R-del[N-1])*(R-del[N-1]));
Mach[N-1]=Vvap[N-1]/Vsound;

/* we now have the mean axial velocity of the vapor at each location */
/* find the radial vapor velocity */
for(i=1;i<N;i++){
if(Tbold[i]<TSAT){
Vvap_rad[i]=hfilm/hfg*(TSAT-Tbold[i])/(rhovap);
}
else
Vvap_rad[i]=0;
}
/* end condition */
if(Tbold[0]<TSAT){
Vvap_rad[0]=hfilm/hfg*(TSAT-Tbold[0])/(rhovap);
}
else
Vvap_rad[0]=0.0;

/*find the viscosity of the vapor */
/* from EES mu=0.064375-0.00051576T+0.00000139T^2-1.253e-9T^3 */
/* kg/(m*s) */
mu_vap=0.064375-0.00051576*TSAT+0.00000139*TSAT*TSAT-
0.000000001253*TSAT*TSAT*TSAT;

for(i=0;i<N;i++){
Re[i]=2*rhovap*Vvap[i]*Rstar/mu_vap;
Rew[i]=2*rhovap*Vvap_rad[i]*Rstar/mu_vap;
}

for(i=1;i<N;i++){
if(Tbold[i]<TSAT) { /* then condensing */
if(Re[i]<0.0) { /*printf("\n BAD DOG ");*/ Re[i]=0.001;}
if(Vvap_rad[i]/Vvap[i] <0.0){ /*printf("\n YOU TURKEY ");*/ Vvap_rad[i]=0.0;}
if(Lc/Rstar<0.0) { printf("\n You Dork "); Lc=0;}
}
}

```

```

f=0.046/pow(Re[i],0.2);

f=f*(1+55*pow(Re[i],0.1)*pow(Vvap_rad[i]/Vvap[i],0.9)*pow(Lc/Rstar,0.1)*exp(6*Mach[i]*Mach[i]/5));
} /* end if */
else { /* then evaporating */
f=16/Re[i];
f=f*(1.2337-0.2337*exp(0.0363*Rew[i]))*exp(6*Mach[i]*Mach[i]/5);
}

/* then the shear stress is given by eqn 8 */
tauv[i]=f*rhovap*Vvap[i]*Vvap[i]/2.0;

/* if(time>10000){ */
/* printf("\n%i\t%5.5f",i,tauv[i]); */
/* getch(); */
/* } */
/* tauv[i]=0.0; */

/* this has just modified tauv and it is is used in the film model */
} /* end for i */
} /* end vapshear function */

double alpha(T) double T; {
double answer;
/* answer=(-1)*0.00002469*log(T)+0.0002593; /* 200<T<800 K */
/* if((answer<0.00011)|| (answer>0.00012)){ */
/* printf("We have a problem "); */
/* getch(); */
/* } */
if((T<200)|| (T>800)){
/* printf("We have a problem "); */
/* getch(); */
answer=0.00012; /* darn good fit for 300<T<400 */
}

/* answer=0.0001339-0.00000005773*T; /*300<T<400*/ /* faster */
answer=0.00011; /* darn good fit for 300<T<400 */
return(answer);
} /* end of alpha function */

```

```

double kfilm(T) double T;{
double answer;
answer=(-1)*(0.600791)+(0.00653861*T-0.00000832*T*T);
return(answer);
} /* end of kfilm */

double kpool(T) double T;{
double myanswer, kfilm();
myanswer=kgfilm(T)*20.0; /* due to mixing from El Genk*/
return(myanswer);
} /* end of kpool */

double Cp(T) double T;{ /* specific heat of the wall */
double answer;
/* from a curve fit of the data from Incropera and DeWitt for copper*/
answer=421.32-0.0697*T; /* R^2 = .9986 */
return(answer);
} /* end of Cp function */

double mu_film(T) double T;{ /* viscosity of the film from EES */
double answer;
answer=(-1.0)*(0.000000001253*T*T*T)+0.000001389*T*T-0.00051576*T+0.064375;
return(answer);
}

double Cp_film(T) double T;{ /* specific heat of the film from EES */
double answer;
/* answer=(((-1.0)*0.00000005847*T*T*T+0.000070692*T*T-
0.027132*T+7.534)*1000.0;*/
answer=(2.994-0.00353*T+0.0000155*T*T)*1000.0; /* EES steam x=0 */
return(answer);
}

double Cp_pool(T) double T;{
double myanswer;
myanswer=Cp_film(T)/12.5; /* due to mixing */
return(myanswer);
}

double h_in(Tbold,Twall,del,i,U,Vvap) double Tbold,Twall,del,U,Vvap;int i;{
double myanswer;
double kfilm();
double deltaT,Re,visc;

```

```

double Lair,Vol_air,Rair,PofT,dx;
extern double Mair;
double TONB,Tmin,Tmax,hconv,hcond,hboil,m1,m2,b1,b2;

Rair=0.2870; /* kJ/kgK */

PofT=0.0-3252.328+33.5452*TSAT-
0.11575*TSAT*TSAT+0.0001337*TSAT*TSAT*TSAT; /*From EES Psat in kPa */
Vol_air=Mair*Rair*TSAT/PofT;
Lair=Vol_air/(PI*R*R);
dx=L/(N-1);

if(Lair>dx*(i)){
    myanswer=0.00001; /* conduction in air */
}
else{

Tmin=285.0;
TONB=327.0;
Tmax=360.0;

hcond=60.0; /*From Incropera and Dewitt */

hconv=k_film(TSAT)*0.664*sqrt(U*L/(mu_film(TSAT)/rho_film(TSAT)))*pow(3.7,0.3
3)/Lcond;
if(hconv<60) hconv=60.0; /* conduction dominates */

hboil=27053.0; /* collier 1.01e-15*T^7.6 */

m1=(hconv-hcond)/(TONB-Tmin);
b1=hconv-m1*TONB;

m2=(hboil-hconv)/(Tmax-TONB);
b2=hconv-m2*TONB;

if(TSAT<TONB){ /* convection zone */
    myanswer=m1*TSAT+b1; /* conduction at Tmin, convection at TONB */
}
else{ /* Onset of Nucleate Boiling */
    myanswer=m2*(TSAT)+b2; /* Modified Colliers to include convection at low end */
} /* end else */

}/* end else */

```

```

return(myanswer);
}

double h_pool(Twall,Tpool,depth) double Twall,Tpool,depth;{
double answer,h_shirashi,blob;
double rhov,rhol,kl,Cpl,grav,P,Patm,deltaT,visc,hfg;

/* Temperatures come in in Kelvin, depth in meters */

/* curve fit data from EES */
rhov=65.066-.82707*Tpool+0.0039772*Tpool*Tpool-
0.00000860*Tpool*Tpool*Tpool+0.000000007079*Tpool*Tpool*Tpool*Tpool;
rhol=895.153+1.0422*Tpool-0.002339*Tpool*Tpool;
grav=9.81;
kl=(-.6005+0.0065*Tpool-0.000008*Tpool*Tpool);
Cpl=((-1.0)*0.00000005847*Tpool*Tpool*Tpool+0.000070692*Tpool*Tpool-
0.027132*Tpool+7.534)*1000.0;
hfg=2342000.0;
visc=(-1.0)*(0.000000001253*Tpool*Tpool*Tpool)+0.000001389*Tpool*Tpool-
0.00051576*Tpool+0.064375;
P=(-150.0175+1.384929*Tpool-
0.00426497*Tpool*Tpool+0.000004388091*Tpool*Tpool*Tpool);
P=P+rhol*grav*depth/10000.0; /*(Pa convert to bar)*/
if(P<0.02){P=0.02;} /* lower bounds on pressure */
Patm=1.0133;

blob=0.32*pow(rhol,0.65)*pow(kl,0.3)*pow(Cpl,0.7)*pow(grav,0.2)*pow(P/Patm,0.23)/
(pow(rhov,0.25)*pow(hfg,0.4)*pow(visc,0.1));
if(Twall>Tpool){
h_shirashi=pow((fabs(Twall-Tpool)),0.66666)*pow(blob,1.66667);
}
else { /* otherwise cooling */
h_shirashi=1.0; /* conduction */
h_shirashi=pow((fabs(Tpool-Twall)),0.66666)*pow(blob,1.66667);
}
/* printf("\n h shirashi = %5.5f ",h_shirashi);*/

answer=h_shirashi;
return(h_shirashi);
}/* end h_pool function */

```


APPENDIX B

Empirical Data

The data presented in this appendix are from the experiment performed in Chapter 4. The transient target temperature was as shown in Fig. 4.1. The experimental set up was as shown in Fig. 4.2 with the first thermocouple at the top of the thermosyphon and numbered sequentially towards the evaporator. The thermocouple data presented herein are the actual values that were compared to the numerical values in Chapter 5 for validation. Thermocouples 1 through 11 were exposed to the fan, with 12 through 19 were under insulation and not exposed. Thermocouple 20 was in the air stream of the fan to determine the environmental temperatures.

Time [s]	TC1	TC2	TC3	TC4	TC5	TC6	TC7	TC8	TC9	TC10	TC11
	TC12	TC13	TC14	TC15	TC16	TC17	TC18	TC19	TC20		
2.47	288.70	288.68	288.92	288.87	288.98	289.24	289.99	290.70	291.45	291.82	292.28
	297.42	301.25	301.82	302.01	301.84	302.10	301.01	300.54	296.09		
5.22	288.70	288.68	288.92	288.87	288.98	289.24	289.99	290.70	291.45	291.82	292.28
	297.42	300.56	301.24	301.48	301.26	301.54	300.26	299.70	294.50		
7.85	288.70	288.68	288.92	288.87	288.98	289.24	289.99	290.70	291.45	291.82	292.28
	297.42	299.89	300.69	300.98	300.70	301.00	299.52	298.86	292.91		
10.49	288.70	288.68	288.92	288.87	288.98	289.24	289.99	290.70	291.45	291.82	292.28
	297.42	299.22	300.12	300.46	300.13	300.45	298.79	298.02	291.31		
13.07	288.70	288.68	288.92	288.87	288.98	289.24	289.99	290.70	291.45	291.82	292.28
	297.42	298.54	299.56	299.93	299.56	299.88	298.05	297.19	289.71		
15.71	288.70	288.68	288.92	288.87	288.98	289.24	289.99	290.70	291.45	291.82	292.28
	297.42	297.88	298.66	299.42	299.00	299.33	297.31	296.35	288.12		
18.29	288.70	288.68	288.92	288.87	288.98	289.24	289.99	290.70	291.45	291.82	292.28
	297.42	298.12	298.97	299.73	299.24	299.56	297.36	296.35	288.10		
20.87	288.70	288.68	288.92	288.87	288.98	289.24	289.99	290.70	291.45	291.82	292.28
	297.42	298.23	299.12	299.89	299.35	299.63	297.41	296.37	288.09		
23.45	288.70	288.68	288.92	288.87	288.98	289.24	289.98	290.70	291.45	291.82	292.28
	297.42	298.24	299.14	299.93	299.37	299.59	297.44	296.40	288.09		
26.09	288.70	288.68	288.92	288.87	288.98	289.24	289.96	290.70	291.45	291.81	292.28
	297.42	298.22	299.11	299.91	299.34	299.49	297.46	296.42	288.09		
28.67	288.70	288.68	288.92	288.87	288.98	289.24	289.93	290.70	291.45	291.80	292.28
	297.42	298.21	299.11	299.90	299.34	299.43	297.48	296.44	288.08		
31.25	288.70	288.68	288.92	288.87	288.98	289.24	289.92	290.70	291.44	291.78	292.28
	297.42	298.25	299.16	299.94	299.37	299.42	297.51	296.45	288.07		
33.83	288.70	288.68	288.92	288.87	288.98	289.24	289.92	290.70	291.42	291.78	292.29
	297.42	298.30	299.20	299.97	299.39	299.41	297.54	296.46	288.07		
36.41	288.70	288.68	288.92	288.87	288.98	289.24	289.92	290.69	291.42	291.78	292.30
	297.42	298.31	299.18	299.95	299.38	299.37	297.56	296.49	288.09		
38.99	288.70	288.68	288.92	288.87	288.98	289.24	289.91	290.68	291.41	291.76	292.29
	297.42	298.33	299.18	299.94	299.38	299.34	297.56	296.50	288.10		
41.63	288.70	288.68	288.92	288.87	288.98	289.24	289.90	290.67	291.40	291.75	292.30
	297.42	298.36	299.22	299.97	299.41	299.34	297.57	296.51	288.11		
44.21	288.70	288.68	288.92	288.87	288.98	289.24	289.89	290.65	291.40	291.75	292.30
	297.42	298.39	299.58	299.82	299.42	299.34	297.58	296.52	288.11		
46.74	288.70	288.68	288.93	288.87	288.98	289.24	289.88	290.64	291.40	291.74	292.30
	297.57	298.56	299.78	300.10	299.59	299.53	297.63	296.54	288.12		
49.38	288.70	288.68	288.94	288.87	288.97	289.24	289.87	290.64	291.39	291.74	292.31
	297.78	298.76	299.99	300.36	299.77	299.74	297.68	296.55	288.13		
51.96	288.70	288.68	288.95	288.87	288.95	289.23	289.86	290.63	291.38	291.73	292.31
	297.93	298.90	300.15	300.54	299.91	299.88	297.73	296.55	288.13		
54.54	288.70	288.68	288.94	288.85	288.94	289.22	289.85	290.62	291.38	291.73	292.32
	298.04	299.02	300.26	300.67	300.02	299.98	297.76	296.55	288.13		
57.61	288.70	288.68	288.95	288.85	288.95	289.23	289.86	290.62	291.38	291.73	292.34
	298.10	299.09	300.31	300.73	300.07	300.03	297.79	296.56	288.15		
60.14	288.70	288.68	288.97	288.87	288.96	289.25	289.86	290.63	291.39	291.74	292.36
	298.10	299.10	300.30	300.72	300.07	300.01	297.81	296.58	288.16		
62.67	288.70	288.68	288.96	288.86	288.96	289.25	289.87	290.64	291.40	291.75	292.39
	298.07	299.11	300.28	300.68	300.07	299.97	297.81	296.60	288.16		
65.25	288.70	288.68	288.94	288.85	288.94	289.24	289.86	290.64	291.40	291.75	292.43
	298.09	299.13	300.30	300.70	300.08	299.99	297.82	296.60	288.14		
67.78	288.70	288.68	288.93	288.85	288.93	289.26	289.84	290.65	291.41	291.77	292.46
	298.11	299.15	300.34	300.72	300.10	300.00	297.84	296.61	288.14		
70.36	288.70	288.68	288.93	288.85	288.93	289.27	289.84	290.66	291.42	291.79	292.50
	298.09	299.14	300.33	300.71	300.10	299.98	297.86	296.62	288.13		
72.94	288.70	288.68	288.96	288.87	288.95	289.30	289.88	290.70	291.47	291.84	292.55
	298.11	299.16	300.36	300.89	300.13	299.99	297.90	296.65	288.16		
75.52	288.70	288.68	288.96	288.89	288.97	289.33	289.91	290.73	291.51	291.88	292.61
	297.96	299.02	300.18	300.61	299.99	299.80	297.91	296.68	288.18		
78.10	288.70	288.68	288.97	288.91	289.00	289.36	289.94	290.75	291.55	291.94	292.66
	297.76	298.87	299.98	300.36	299.83	299.59	297.90	296.72	288.20		
80.68	288.70	288.68	288.99	288.94	289.03	289.38	289.96	290.79	291.60	291.99	292.71
	297.61	298.76	299.85	300.17	299.71	299.44	297.90	296.75	288.23		

83.26	288.70	288.68	289.01	288.96	289.04	289.40	289.99	290.82	291.63	292.04	292.75
	297.51	298.69	299.77	300.05	299.64	299.35	297.91	296.78	288.27		
85.85	288.70	288.68	289.00	288.96	289.03	289.40	289.98	290.82	291.64	292.05	292.75
	297.44	298.64	299.72	299.98	299.60	299.31	297.90	296.78	288.26		
88.43	288.70	288.68	288.98	288.95	289.01	289.39	289.97	290.82	291.64	292.06	292.75
	297.44	298.65	299.75	300.00	299.61	299.35	297.89	296.77	288.26		
91.01	288.70	288.68	288.97	288.95	289.00	289.38	289.97	290.82	291.64	292.06	292.74
	297.47	298.66	299.79	300.03	299.63	299.40	297.90	296.78	288.26		
93.54	288.70	288.68	288.97	288.96	289.00	289.38	289.99	290.83	291.65	292.08	292.73
	297.45	298.64	299.77	300.01	299.64	299.40	297.90	296.79	288.27		
96.17	288.70	288.68	288.97	288.96	289.00	289.38	290.00	290.83	291.66	292.08	292.72
	297.44	298.64	299.74	299.99	299.62	299.40	297.91	296.80	288.27		
98.81	288.70	288.97	288.96	288.95	288.99	289.38	290.01	290.84	291.67	292.09	292.71
	297.45	298.65	299.73	300.00	299.63	299.43	297.93	296.81	288.28		
101.33	288.70	288.95	288.93	288.93	288.97	289.35	289.99	290.82	291.65	292.08	292.69
	297.41	298.62	299.68	299.96	299.59	299.40	297.92	296.80	288.26		
103.92	288.70	288.91	288.90	288.91	288.94	289.31	289.95	290.79	291.62	292.07	292.66
	297.39	298.60	299.67	299.94	299.58	299.41	297.91	296.78	288.23		
106.55	288.70	288.88	288.88	288.87	288.91	289.28	289.92	290.76	291.60	292.04	292.63
	297.40	298.60	299.68	299.96	299.59	299.44	297.91	296.75	288.20		
109.19	288.70	288.85	288.84	288.84	288.88	289.25	289.90	290.73	291.58	292.58	292.60
	297.40	298.58	299.65	299.96	299.59	299.44	297.90	296.74	288.17		
111.72	288.70	288.81	288.80	288.80	288.86	289.23	289.88	290.70	291.54	292.55	292.57
	297.39	298.56	299.64	299.95	299.58	299.45	297.89	296.73	288.14		
114.35	288.70	288.83	288.82	288.83	288.88	289.26	289.91	290.72	291.57	292.58	292.60
	297.44	298.60	299.72	300.00	299.63	299.51	297.93	296.76	288.16		
116.99	288.70	288.85	288.85	288.85	288.91	289.28	289.94	290.74	291.60	292.60	292.63
	297.46	298.60	299.74	300.01	299.65	299.52	297.97	296.81	288.19		
119.52	288.70	288.87	288.87	288.86	288.95	289.31	289.97	290.76	291.63	292.63	292.65
	297.46	298.60	299.74	299.99	299.65	299.52	298.01	296.84	288.22		
122.10	288.70	288.89	288.88	288.88	288.97	289.33	289.99	290.78	291.66	292.65	292.68
	297.47	298.61	299.76	300.00	299.68	299.56	298.04	296.88	288.25		
124.73	288.70	288.90	288.90	288.91	288.98	289.36	290.02	290.80	291.69	292.70	292.72
	297.51	298.64	299.82	300.03	299.73	299.61	298.09	296.92	288.28		
127.26	288.70	288.91	288.90	288.91	288.98	289.37	290.04	290.81	291.70	292.72	292.74
	297.52	298.63	299.83	300.02	299.74	299.62	298.11	296.94	288.29		
129.84	288.70	288.90	288.90	288.90	288.98	289.37	290.03	290.80	291.69	292.72	292.74
	297.52	298.62	299.83	300.00	299.76	299.62	298.12	296.95	288.29		
132.42	288.70	288.90	288.90	288.90	288.98	289.38	290.03	290.81	291.70	292.72	292.74
	297.53	298.62	299.84	300.01	299.78	299.64	298.13	296.97	288.30		
135.06	288.70	288.90	288.90	288.90	288.98	289.39	290.04	290.82	291.70	292.72	292.75
	297.54	298.62	299.83	300.01	299.80	299.66	298.15	297.00	288.30		
137.59	288.70	288.90	288.90	288.90	288.97	289.39	290.04	290.83	291.71	292.16	292.75
	297.54	298.62	299.83	300.01	299.82	299.68	298.17	297.01	288.30		
140.17	288.70	288.90	288.90	288.90	288.96	289.39	290.04	290.84	291.73	292.17	292.74
	297.54	298.62	299.83	300.02	299.83	299.69	298.18	297.02	288.29		
142.80	288.70	288.87	288.87	288.86	288.94	289.36	290.02	290.82	291.71	292.15	292.73
	297.52	298.60	299.76	300.00	299.82	299.68	298.18	297.02	288.26		
145.39	288.70	288.84	288.84	288.84	288.91	289.34	290.00	290.81	291.70	292.15	292.72
	297.50	298.58	299.72	299.98	299.82	299.67	298.18	297.02	288.23		
147.97	288.70	288.82	288.81	288.81	288.88	289.32	289.98	290.78	291.68	292.13	292.71
	297.48	298.57	299.70	299.97	299.82	299.67	298.18	297.01	288.20		
150.55	288.70	288.79	288.78	288.78	288.86	289.29	289.95	290.75	291.66	292.11	292.70
	297.48	298.57	299.70	299.99	299.82	299.68	298.18	296.97	288.16		
153.13	288.86	288.76	288.76	288.76	288.85	289.26	289.93	290.74	291.64	292.08	292.68
	297.47	298.55	299.69	299.99	299.81	299.67	298.17	296.95	288.14		
155.71	288.85	288.75	288.75	288.74	288.85	289.26	289.92	290.74	291.63	292.08	292.68
	297.46	298.55	299.68	300.00	299.81	299.68	298.18	296.96	288.13		
158.29	288.84	288.75	288.75	288.74	288.86	289.27	289.93	290.75	291.65	292.64	292.69
	297.48	298.57	299.69	300.03	299.83	299.71	298.20	296.97	288.13		
160.87	288.84	288.75	288.75	288.74	288.87	289.28	289.94	290.76	291.65	292.66	292.71
	297.47	298.57	299.69	300.04	299.84	299.72	298.22	296.99	288.15		
163.46	288.84	288.75	288.75	288.74	288.88	289.29	289.95	290.78	291.65	292.68	292.73
	297.45	298.56	299.68	300.02	299.82	299.70	298.24	297.01	288.17		

166.04	288.84	288.75	288.75	288.74	288.88	289.29	289.94	290.78	291.65	292.69	292.74
	297.43	298.56	299.67	300.02	299.80	299.70	298.26	297.03	288.18		
168.62	288.84	288.75	288.75	288.75	288.89	289.29	289.95	290.79	291.65	292.69	292.76
	297.46	298.58	299.70	300.03	299.83	299.73	298.28	297.05	288.19		
171.25	288.83	288.75	288.75	288.75	288.89	289.29	289.95	290.79	291.65	292.69	292.77
	297.44	298.57	299.69	300.01	299.82	299.73	298.30	297.06	288.20		
173.78	288.82	288.75	288.75	288.75	288.88	289.29	289.94	290.78	291.65	292.69	292.77
	297.43	298.58	299.69	300.01	299.83	299.75	298.30	297.06	288.20		
176.36	288.81	288.75	288.75	288.75	288.88	289.29	289.93	290.79	291.65	292.68	292.77
	297.43	298.59	299.72	300.02	299.85	299.77	298.31	297.07	288.20		
179.00	288.80	288.75	288.75	288.75	288.88	289.29	289.93	290.80	291.65	292.69	292.77
	297.43	298.59	299.73	300.03	299.86	299.78	298.33	297.11	288.21		
181.53	288.79	288.75	288.75	288.75	288.87	289.29	289.93	290.81	291.65	292.70	292.77
	297.40	298.58	299.73	300.01	299.84	299.77	298.37	297.13	288.22		
184.16	288.79	288.75	288.76	288.76	288.87	289.29	289.94	290.82	291.66	292.70	292.78
	297.38	298.59	299.74	300.01	299.85	299.78	298.39	297.14	288.22		
186.69	288.80	288.76	288.76	288.77	288.88	289.29	289.94	290.84	291.67	292.15	292.78
	297.38	298.60	299.78	300.03	299.86	299.80	298.42	297.17	288.22		
189.33	288.80	288.76	288.77	288.78	288.89	289.29	289.94	290.84	291.68	292.15	292.79
	297.35	298.59	299.76	300.01	299.85	299.79	298.44	297.19	288.21		
191.91	288.80	288.77	288.78	288.78	288.89	289.29	289.93	290.84	291.69	292.15	292.79
	297.33	298.58	299.76	300.00	299.86	299.79	298.46	297.20	288.20		
194.49	288.79	288.77	288.78	288.79	288.89	289.30	289.94	290.85	291.70	292.16	292.80
	297.35	298.59	299.77	300.02	299.88	299.82	298.48	297.21	288.19		
197.07	288.78	288.77	288.78	288.80	288.89	289.31	289.94	290.84	291.70	292.17	292.80
	297.34	298.58	299.77	300.02	299.89	299.82	298.49	297.22	288.19		
199.65	288.78	288.77	288.78	288.81	288.89	289.33	289.94	290.85	291.72	292.19	292.81
	297.35	298.58	299.76	300.01	299.88	299.82	298.51	297.24	288.20		
202.40	288.78	288.77	288.79	288.82	288.90	289.35	289.95	290.87	291.74	292.20	292.82
	297.36	298.58	299.77	300.02	299.89	299.84	298.54	297.25	288.20		
204.98	288.79	288.77	288.80	288.83	288.91	289.37	289.95	290.89	291.76	292.22	292.84
	297.39	298.59	299.78	300.02	299.90	299.86	298.56	297.28	288.22		
207.56	288.80	288.78	288.80	288.84	288.93	289.39	289.96	290.90	291.78	292.22	292.84
	297.39	298.59	299.77	300.01	299.89	299.86	298.57	297.30	288.24		
210.14	288.80	288.78	288.80	288.84	288.94	289.40	289.97	290.91	291.80	292.22	292.85
	297.42	298.61	299.78	300.02	299.90	299.88	298.56	297.33	288.25		
212.78	288.79	288.78	288.81	288.84	288.95	289.41	289.99	290.92	291.80	292.23	292.85
	297.45	298.62	299.79	300.02	299.91	299.89	298.58	297.35	288.25		
215.31	288.78	288.77	288.80	288.84	288.96	289.42	290.00	290.92	291.81	292.23	292.85
	297.44	298.61	299.76	300.00	299.90	299.88	298.58	297.36	288.25		
217.89	288.78	288.76	288.79	288.84	288.94	289.42	290.01	290.92	291.82	292.22	292.85
	297.47	298.62	299.79	300.01	299.91	299.90	298.59	297.38	288.25		
220.52	288.77	288.76	288.79	288.84	288.94	289.42	290.02	290.91	291.83	292.21	292.85
	297.51	298.62	299.82	300.02	299.92	299.92	298.60	297.40	288.26		
223.10	288.77	288.67	288.79	288.83	288.95	289.42	290.03	290.90	291.84	292.20	292.85
	297.51	298.62	299.82	300.01	299.91	299.91	298.60	297.41	288.27		
225.69	288.77	288.67	288.79	288.83	288.96	289.41	290.05	290.92	291.84	292.18	292.85
	297.53	298.62	299.84	300.01	299.92	299.93	298.61	297.44	288.28		
228.27	288.77	288.67	288.80	288.82	288.96	289.41	290.06	290.93	291.83	292.18	292.85
	297.52	298.62	299.86	300.02	299.93	299.93	298.62	297.45	288.28		
230.85	288.77	288.67	288.78	288.81	288.97	289.40	290.07	290.93	291.82	292.17	292.85
	297.48	298.60	299.84	300.01	299.90	299.93	298.62	297.47	288.28		
233.43	288.76	288.66	288.78	288.81	288.96	289.40	290.08	290.93	291.82	292.17	292.85
	297.47	298.60	299.85	300.02	300.37	299.94	298.63	297.48	288.27		
236.07	288.75	288.66	288.77	288.80	288.95	289.39	290.08	290.93	291.82	292.17	292.86
	297.48	298.59	299.85	300.02	300.38	299.95	298.64	297.49	288.26		
238.59	288.75	288.66	288.77	288.80	288.95	289.38	290.07	290.93	291.82	292.18	292.86
	297.48	298.58	299.84	300.02	300.38	299.96	298.65	297.50	288.24		
241.23	288.75	288.66	288.77	288.79	288.94	289.38	290.06	290.92	291.83	292.19	292.88
	297.49	298.57	299.85	300.03	300.39	299.98	298.66	297.50	288.23		
243.81	288.76	288.67	288.77	288.80	288.94	289.38	290.07	290.93	291.84	292.20	292.90
	297.52	298.56	299.85	300.03	300.40	300.00	298.68	297.51	288.22		
246.34	288.77	288.68	288.78	288.79	288.96	289.40	290.08	290.93	291.85	292.22	292.91
	297.52	298.56	299.83	300.03	300.40	300.01	298.70	297.52	288.22		

248.97	288.78	288.68	288.79	288.79	288.97	289.40	290.08	290.95	291.87	292.24	292.94
	297.56	298.62	299.87	300.10	300.45	300.09	298.73	297.54	288.22		
251.56	288.78	288.78	288.80	288.80	288.98	289.41	290.09	290.97	291.89	292.26	292.96
	297.84	298.85	300.18	300.42	300.70	300.41	298.80	297.56	288.22		
254.14	288.79	288.79	288.81	288.82	288.99	289.43	290.09	290.97	291.61	292.30	292.99
	298.19	299.15	300.54	300.81	301.00	300.79	298.89	297.57	288.23		
256.72	288.79	288.80	288.81	288.83	289.00	289.44	290.10	290.97	291.64	292.32	293.03
	298.28	299.46	300.92	301.22	301.33	301.18	298.99	297.59	288.24		
259.30	288.79	288.80	288.82	288.84	289.01	289.46	290.11	290.98	291.67	292.34	293.06
	298.64	299.77	301.27	301.62	301.65	301.52	299.09	297.62	288.24		
262.49	288.79	288.81	288.82	288.84	289.02	289.46	290.10	290.99	291.69	292.35	293.10
	298.96	299.89	301.59	301.99	301.46	301.82	299.18	297.66	288.25		
265.23	288.79	288.82	288.83	288.84	289.03	289.48	290.12	291.00	291.71	292.36	293.13
	299.27	300.20	301.93	302.37	301.76	302.12	299.31	297.71	288.26		
267.87	288.79	288.83	288.83	288.84	289.04	289.49	290.14	291.01	291.72	292.37	293.16
	299.56	300.51	302.26	302.74	302.04	302.41	299.45	297.77	288.28		
270.51	288.79	288.83	288.83	288.84	289.05	289.49	290.14	291.03	291.73	292.37	293.19
	299.86	300.80	302.59	303.10	302.32	302.68	299.55	297.81	288.28		
273.14	288.78	288.82	288.83	288.84	289.05	289.49	290.15	291.04	291.72	292.38	293.22
	300.18	301.10	302.94	303.48	302.62	302.98	299.65	297.86	288.29		
275.78	288.77	288.81	288.83	288.85	289.05	289.48	290.16	291.06	291.72	292.39	293.26
	300.51	301.41	303.30	303.86	302.91	303.28	299.74	297.90	288.29		
278.41	288.76	288.80	288.83	288.80	289.05	289.48	290.16	291.06	291.72	292.40	293.29
	300.79	301.67	303.60	304.18	303.14	303.50	299.82	297.94	288.29		
281.11	288.76	288.80	288.83	288.77	289.05	289.48	290.16	291.07	291.72	292.40	293.31
	300.86	301.76	303.68	304.26	303.20	303.48	299.86	297.98	288.28		
283.74	288.75	288.77	288.83	288.75	289.04	289.48	290.16	291.08	292.01	292.39	293.34
	300.83	301.79	303.68	304.26	303.18	303.39	299.89	298.01	288.28		
286.38	288.75	288.76	288.83	288.74	289.04	289.48	290.15	291.09	292.00	292.40	293.36
	301.11	301.82	303.68	304.25	303.18	303.32	299.90	298.05	288.27		
289.02	288.74	288.75	288.83	288.74	289.04	289.47	290.15	291.10	292.00	292.42	293.38
	301.14	301.86	303.70	304.26	303.19	303.27	299.92	298.08	288.26		
291.65	288.73	288.74	288.82	288.74	289.03	289.46	290.16	291.10	292.00	292.44	293.40
	301.16	302.09	303.73	304.28	303.20	303.24	299.93	298.11	288.25		
294.34	288.72	288.73	288.81	288.75	289.02	289.46	290.15	291.11	292.01	292.45	293.42
	301.19	302.14	303.77	304.31	303.21	303.23	299.96	298.12	288.23		
296.98	288.71	288.72	288.80	288.76	289.02	289.46	290.15	291.12	292.02	292.47	293.44
	301.22	302.18	303.82	304.35	303.24	303.22	299.96	298.13	288.22		
299.62	288.70	288.71	288.80	288.76	289.02	289.46	290.15	291.11	292.03	292.49	293.46
	301.23	302.24	303.88	304.37	303.26	303.22	299.97	298.15	288.21		
302.31	288.68	288.71	288.79	288.76	289.01	289.46	290.14	291.11	292.06	292.51	293.47
	301.25	302.30	303.92	304.41	303.28	303.23	299.98	298.18	288.20		
304.94	288.67	288.71	288.78	288.76	289.00	289.47	290.14	291.12	292.09	292.54	293.48
	301.28	302.35	303.97	304.44	303.31	303.22	299.99	298.20	288.19		
307.58	288.65	288.70	288.76	288.79	288.99	289.47	290.14	291.13	292.10	292.57	293.50
	301.30	302.41	304.00	304.47	303.33	303.22	300.02	298.23	288.18		
310.22	288.63	288.70	288.75	288.82	288.99	289.48	290.15	291.14	292.13	292.61	293.54
	301.34	302.48	304.03	304.51	303.35	303.23	300.03	298.26	288.18		
312.85	288.61	288.71	288.74	288.81	288.99	289.48	290.16	291.17	292.17	292.66	293.56
	301.37	302.54	304.07	304.54	303.36	303.24	300.05	298.29	288.18		
315.49	288.60	288.71	288.73	288.81	288.99	289.48	290.18	291.19	292.21	292.70	293.60
	301.40	302.61	304.12	304.56	303.37	303.23	300.07	298.32	288.18		
318.13	288.59	288.71	288.73	288.81	289.00	289.49	290.20	291.22	292.24	292.75	293.63
	301.43	302.67	304.17	304.59	303.38	303.23	300.10	298.38	288.19		
320.76	288.58	288.71	288.73	288.81	289.01	289.50	290.21	291.23	292.28	292.79	293.66
	301.47	302.72	304.23	304.62	303.40	303.25	300.12	298.42	288.20		
323.34	288.57	288.72	288.74	288.81	289.02	289.51	290.24	291.26	292.34	292.84	293.71
	301.52	302.78	304.28	304.65	303.42	303.27	300.11	298.45	288.22		
325.98	288.56	288.71	288.75	288.81	289.02	289.52	290.26	291.28	292.39	292.89	293.75
	301.58	302.83	304.32	304.68	303.45	303.29	300.12	298.48	288.61		
328.62	288.55	288.72	288.77	288.81	289.01	289.53	290.27	291.32	292.44	292.94	293.78
	301.65	302.88	304.36	304.71	303.48	303.32	300.14	298.50	288.62		
331.25	288.55	288.70	288.78	288.81	289.02	289.53	290.29	291.34	292.50	292.99	293.81
	301.71	302.92	304.39	304.74	303.50	303.33	300.16	298.52	288.63		

333.89	288.56	288.70	288.79	288.82	289.04	289.54	290.32	291.38	292.55	293.03	293.86
	301.76	302.96	304.44	304.77	303.53	303.34	300.21	298.54	288.65		
336.53	288.58	288.72	288.81	288.85	289.06	289.57	290.34	291.41	292.61	293.07	293.91
	301.77	302.97	304.47	304.80	303.55	303.34	300.24	298.58	288.66		
339.16	288.59	288.72	288.82	288.86	289.07	289.59	290.38	291.45	292.65	293.12	293.96
	301.76	302.98	304.50	304.80	303.56	303.33	300.29	298.62	288.68		
341.80	288.61	288.73	288.83	288.90	289.10	289.61	290.41	291.48	292.70	293.16	294.02
	301.76	302.99	304.52	304.81	303.58	303.34	300.34	298.66	288.70		
344.44	288.63	288.74	288.84	288.92	289.11	289.63	290.44	291.52	292.74	293.19	294.05
	301.77	303.00	304.55	304.83	303.60	303.36	300.37	298.69	288.70		
347.02	288.64	288.75	288.85	288.94	289.13	289.65	290.46	291.56	292.78	293.21	294.10
	301.78	302.99	304.57	304.84	303.62	303.38	300.41	298.69	288.70		
349.65	288.64	288.76	288.86	288.96	289.15	289.67	290.48	291.61	292.82	293.24	294.14
	301.78	302.99	304.59	304.85	303.65	303.40	300.43	298.71	288.70		
352.29	288.66	288.76	288.87	288.98	289.16	289.70	290.51	291.66	292.85	293.28	294.18
	301.76	302.98	304.62	304.88	303.67	303.41	300.47	298.73	288.71		
354.93	288.68	288.78	288.89	289.00	289.18	289.74	290.54	291.70	292.90	293.31	294.22
	301.74	302.96	304.63	304.88	303.69	303.40	300.54	298.77	288.35		
357.51	288.70	288.80	288.90	289.01	289.21	289.76	290.58	291.76	292.95	293.35	294.28
	301.68	302.92	304.62	304.87	303.69	303.40	300.60	298.80	288.36		
360.14	288.71	288.82	288.90	289.03	289.24	289.79	290.62	291.82	292.98	293.38	294.32
	301.64	302.88	304.61	304.87	303.68	303.40	300.65	298.84	288.37		
362.78	289.33	288.83	288.90	289.04	289.24	289.81	290.65	291.87	293.03	293.42	294.35
	301.58	302.86	304.59	304.86	303.68	303.42	300.68	298.87	288.38		
365.36	289.35	288.85	288.91	289.07	289.27	289.84	290.70	291.93	293.08	293.46	294.38
	301.58	302.86	304.59	304.88	303.72	303.46	300.72	298.90	288.39		
368.00	289.36	288.88	288.92	289.10	289.29	289.88	290.73	292.00	293.16	293.50	294.40
	301.59	302.86	304.58	304.89	303.75	303.50	300.76	298.94	288.41		
370.63	289.38	288.90	288.96	289.12	289.32	289.92	290.78	292.07	293.24	293.56	294.42
	301.57	302.84	304.54	304.87	303.77	303.52	300.82	298.98	288.44		
373.27	289.40	288.91	289.00	289.15	289.35	289.96	290.83	292.13	293.32	293.63	294.46
	301.55	302.83	304.49	304.84	303.79	303.54	300.87	299.03	288.46		
375.91	289.43	288.93	289.03	289.18	289.38	290.00	290.88	292.19	293.40	293.71	294.50
	301.55	302.83	304.44	304.82	303.82	303.58	300.92	299.07	288.49		
378.49	289.45	288.95	289.06	289.20	289.40	290.04	290.95	292.26	293.47	293.78	294.52
	301.57	302.84	304.43	304.84	303.86	303.63	300.98	299.12	288.51		
381.07	289.45	288.95	289.07	289.21	289.43	290.07	290.99	292.30	293.53	293.83	294.54
	301.56	302.83	304.40	304.81	303.87	303.66	301.02	299.16	288.51		
383.71	289.45	288.96	289.07	289.21	289.44	290.09	291.03	292.34	293.57	293.88	294.56
	301.57	302.85	304.38	304.81	303.90	303.70	301.02	299.20	288.52		
386.34	289.45	288.96	289.08	289.23	289.46	290.11	291.07	292.39	293.62	293.93	294.58
	301.62	302.90	304.39	304.83	303.94	303.76	301.04	299.24	288.52		
388.98	289.45	288.97	289.09	289.24	289.47	290.15	291.10	292.44	293.67	293.98	294.62
	301.67	302.94	304.39	304.85	303.98	303.80	301.08	299.28	288.54		
391.56	288.84	288.97	289.11	289.26	289.50	290.18	291.14	292.46	293.71	294.02	294.65
	301.70	302.95	304.38	304.82	304.00	303.81	301.11	299.32	288.56		
394.20	288.83	288.96	289.11	289.26	289.52	290.20	291.15	292.46	293.73	294.04	294.68
	301.70	302.94	304.36	304.77	303.98	303.80	301.13	299.36	288.56		
397.00	288.81	288.93	289.11	289.25	289.52	290.20	291.16	292.47	293.74	294.05	294.70
	301.74	302.94	304.39	304.76	304.00	303.82	301.16	299.38	288.56		
399.64	288.79	288.91	289.09	289.24	289.50	290.20	291.16	292.47	293.74	294.06	294.73
	301.80	302.96	304.44	304.79	304.03	303.88	301.18	299.39	288.56		
402.16	288.78	288.90	289.07	289.24	289.50	290.19	291.16	292.49	293.74	294.06	294.74
	301.85	302.97	304.47	304.81	304.06	303.90	301.20	299.40	288.55		
404.80	288.76	288.89	289.06	289.22	289.50	290.20	291.16	292.51	293.76	294.06	294.75
	301.88	302.97	304.51	304.83	304.06	303.93	301.22	299.41	288.54		
407.43	288.75	288.88	289.04	289.22	289.50	290.20	291.16	292.53	293.78	294.08	294.78
	301.91	302.98	304.51	304.83	304.07	303.94	301.25	299.44	288.54		
410.07	288.75	288.89	289.04	289.23	289.51	290.22	293.89	292.57	293.81	294.11	294.81
	301.95	302.97	304.51	304.84	304.09	303.95	301.28	299.47	288.55		
412.65	288.76	288.90	289.04	289.25	289.52	290.23	293.91	292.59	293.83	294.12	294.83
	301.97	302.95	304.52	304.83	304.11	303.95	301.31	299.50	288.56		
415.29	288.77	288.89	289.04	289.25	289.53	290.24	293.92	292.61	293.85	294.13	294.85
	301.99	302.95	304.52	304.84	304.13	303.96	301.34	299.52	288.56		

417.93	288.77	288.88	289.04	289.25	289.53	290.24	293.92	292.63	293.87	294.15	294.87
	302.02	302.96	304.53	304.83	304.14	303.98	301.36	299.54	288.56		
420.51	288.77	288.88	289.03	289.25	289.53	290.24	293.93	292.65	293.89	294.16	294.88
	302.07	302.98	304.54	304.85	304.18	304.02	301.40	299.56	288.56		
423.14	288.77	288.88	289.03	289.25	289.53	290.24	293.94	292.68	293.93	294.20	294.90
	302.09	303.00	304.55	304.89	304.21	304.06	301.44	299.59	288.55		
425.78	288.77	288.89	289.03	289.25	289.52	290.25	293.96	292.70	293.96	294.23	294.91
	302.09	303.02	304.54	304.91	304.23	304.08	301.46	299.61	288.55		
428.42	288.76	288.89	289.03	289.25	289.53	290.25	293.97	292.72	293.98	294.26	294.92
	302.07	303.02	304.51	304.89	304.23	304.08	301.49	299.64	288.54		
431.00	288.75	288.89	289.03	289.25	289.53	290.26	293.98	292.74	293.99	294.27	294.92
	302.07	303.03	304.51	304.90	304.24	304.11	301.51	299.67	288.53		
433.63	288.75	288.88	289.03	289.25	289.53	290.26	294.00	292.74	294.00	294.28	294.93
	302.07	303.04	304.51	304.91	304.24	304.11	301.53	299.70	288.52		
436.27	288.75	288.87	289.03	289.25	289.52	290.26	294.00	292.74	293.98	294.28	294.93
	302.05	303.03	304.50	304.89	304.23	304.10	301.56	299.72	288.50		
438.85	288.73	288.86	289.03	289.24	289.52	290.25	291.29	292.73	293.96	294.28	294.92
	302.05	303.05	304.50	304.91	304.24	304.13	301.61	299.77	288.49		
441.49	288.70	288.85	289.03	289.24	289.51	290.25	291.28	292.72	293.96	294.29	294.93
	302.06	303.07	304.47	304.93	304.25	304.16	301.64	299.80	288.48		
444.07	288.68	288.85	289.03	289.24	289.51	290.24	291.27	292.71	293.95	294.31	294.93
	302.02	303.05	304.42	304.87	304.22	304.14	301.66	299.82	288.48		
446.65	288.67	288.85	289.04	289.24	289.51	290.24	291.27	292.70	293.93	294.32	294.92
	302.03	303.11	304.45	304.92	304.20	304.22	301.69	299.85	288.47		
449.29	288.66	288.85	289.04	289.24	289.50	290.24	291.28	292.69	293.92	294.33	294.92
	302.30	303.37	304.78	305.24	304.45	304.56	301.77	299.88	288.47		
451.92	288.65	288.85	289.04	289.24	289.50	290.24	291.27	292.68	293.90	294.33	294.94
	302.70	303.68	305.16	305.64	304.77	304.95	301.87	299.90	288.47		
454.45	288.64	288.85	289.03	289.24	289.51	290.24	291.26	292.66	293.88	294.33	294.96
	303.05	303.95	305.50	306.02	305.07	305.30	301.97	299.93	288.47		
457.09	288.64	288.85	289.03	289.24	289.50	290.24	291.27	292.64	293.87	294.33	294.99
	303.36	304.21	305.82	306.38	305.34	305.60	302.07	299.97	288.47		
460.38	288.64	288.84	289.03	289.24	289.51	290.24	291.27	292.64	293.86	294.34	295.02
	303.65	304.46	306.12	306.72	305.59	305.86	302.17	300.02	288.47		
463.13	288.63	288.84	289.03	289.24	289.51	290.24	291.27	292.63	293.85	294.35	295.05
	303.92	304.71	306.41	307.04	305.85	306.13	302.27	300.06	288.47		
465.77	288.64	288.86	289.03	289.26	289.53	290.25	291.28	292.62	293.87	294.38	295.11
	304.23	304.99	306.74	307.41	306.14	306.42	302.39	300.12	288.49		
468.40	288.66	288.88	289.04	289.28	289.56	290.27	291.28	292.63	293.89	294.40	295.17
	304.53	305.28	307.08	307.76	306.41	306.70	302.49	300.16	288.52		
471.09	288.67	288.90	289.05	289.30	289.59	290.29	291.30	292.64	293.91	294.44	295.24
	304.82	305.58	307.44	308.11	306.69	306.97	302.60	300.23	288.55		
473.78	288.70	288.91	289.07	289.32	289.61	290.30	291.34	292.67	293.94	294.48	295.31
	305.13	305.88	307.82	308.52	307.00	307.28	302.74	300.31	288.58		
476.48	288.72	288.93	289.09	289.34	289.62	290.33	291.36	292.70	293.96	294.52	295.38
	305.40	306.12	308.12	308.83	307.30	307.49	302.85	300.38	289.84		
479.11	288.71	288.92	289.08	289.32	289.62	290.32	291.35	292.70	293.96	294.53	295.43
	305.38	306.12	308.12	308.85	307.30	307.39	302.88	300.43	289.82		
481.80	288.71	288.91	289.08	289.29	289.61	290.31	291.34	292.71	293.97	294.55	295.46
	305.29	306.08	308.08	308.79	307.24	307.26	302.89	300.48	289.81		
484.44	288.70	288.91	289.07	289.27	289.60	290.30	291.34	292.72	293.98	294.56	295.50
	305.23	306.09	308.07	308.76	307.21	307.16	302.90	300.53	289.80		
487.13	288.69	288.89	289.05	289.25	289.60	290.29	291.34	292.72	293.99	294.58	295.53
	305.23	306.13	308.10	308.76	307.21	307.14	302.92	300.58	289.79		
489.77	288.68	288.88	289.03	289.24	289.60	290.28	291.33	292.72	294.00	294.61	295.57
	305.25	306.18	308.16	308.77	307.24	307.15	302.95	300.62	289.78		
492.46	288.67	288.86	289.02	289.22	289.59	290.27	291.32	292.71	294.02	294.64	295.60
	305.29	306.24	308.22	308.81	307.27	307.16	302.98	300.66	289.76		
495.21	288.64	288.84	289.00	289.18	289.56	290.24	291.29	292.71	294.02	294.64	295.61
	305.30	306.26	308.25	308.81	307.28	307.15	302.98	300.68	289.71		
497.84	288.62	288.81	288.98	289.14	289.53	290.22	291.27	292.71	294.02	294.65	295.61
	305.32	306.28	308.28	308.82	307.28	307.15	302.99	300.69	289.67		
500.53	288.61	288.78	288.95	289.11	289.50	290.20	291.26	292.71	294.03	294.65	295.60
	305.34	306.31	308.32	308.83	307.29	307.16	303.00	300.70	289.62		

503.22	288.58	288.75	288.92	289.07	289.48	290.19	291.24	292.70	294.04	294.66	295.60
	305.38	306.35	308.36	308.85	307.30	307.16	303.02	300.72	289.58		
505.86	288.54	288.72	288.89	289.04	289.45	290.18	291.22	292.69	294.00	294.68	295.61
	305.38	306.39	308.39	308.84	307.31	307.18	303.05	300.74	288.30		
508.55	288.54	288.72	288.89	289.04	289.45	290.18	291.24	292.71	294.04	294.72	295.65
	305.41	306.47	308.45	308.88	307.36	307.23	303.10	300.79	288.30		
511.19	288.54	288.72	288.89	289.05	289.45	290.19	291.25	292.74	294.08	294.76	295.67
	305.42	306.54	308.50	308.92	307.40	307.27	303.15	300.84	288.30		
513.88	288.54	288.72	288.89	289.05	289.45	290.20	291.26	292.77	294.13	294.80	295.70
	305.44	306.61	308.55	308.95	307.43	307.29	303.20	300.87	288.28		
516.52	288.54	288.72	288.91	289.05	289.45	290.21	291.28	292.81	294.16	294.84	295.72
	305.47	306.69	308.61	308.97	307.45	307.31	303.25	300.92	288.26		
519.21	288.54	288.72	288.92	289.05	289.45	290.22	291.30	292.85	294.20	294.87	295.76
	305.50	306.76	308.65	309.00	307.48	307.32	303.35	300.99	288.25		
583.47	288.26	288.44	288.60	288.80	289.24	289.99	291.37	294.20	294.64	294.96	296.10
	306.55	308.28	310.41	310.66	308.80	308.70	304.28	301.73	288.17		
586.11	288.72	288.89	289.20	289.38	289.83	290.59	291.97	294.81	295.26	295.72	296.86
	306.65	308.63	310.50	310.74	309.10	308.79	304.93	302.50	288.90		
588.74	288.73	288.90	289.22	289.39	289.85	290.72	291.99	294.85	295.31	295.77	296.92
	306.18	308.34	310.04	310.24	308.76	308.34	304.90	302.52	288.68		
591.38	288.74	288.90	289.22	289.39	289.85	290.72	291.98	294.88	295.35	295.81	296.96
	305.89	308.11	309.74	309.90	308.51	308.07	304.87	302.53	288.44		
594.18	288.74	288.90	289.22	289.39	289.85	290.72	291.98	293.83	295.38	295.85	296.98
	305.74	307.97	309.58	309.71	308.40	307.96	304.86	302.52	288.45		
596.82	288.75	288.90	289.22	289.40	289.86	290.73	292.00	293.86	295.43	295.89	296.99
	306.08	307.91	309.53	309.63	308.38	307.97	304.88	302.55	288.46		
599.45	288.75	288.89	289.22	289.41	289.87	290.73	292.02	293.88	295.48	295.94	297.00
	306.32	307.91	309.55	309.65	308.41	308.06	304.91	302.57	288.46		
602.09	288.74	288.89	289.22	289.42	289.86	290.73	292.03	293.92	295.54	295.97	297.01
	306.43	307.92	309.56	309.70	308.46	308.15	304.94	302.58	288.46		
604.73	288.73	288.87	289.20	289.41	289.85	290.73	292.04	293.95	295.58	295.99	297.01
	306.46	307.90	309.54	309.72	308.48	308.21	304.97	302.59	288.44		
607.31	288.69	288.84	289.16	289.40	289.83	290.72	292.04	293.98	295.61	296.01	296.99
	306.44	307.88	309.49	309.72	308.47	308.23	304.98	302.59	288.42		
609.94	288.66	288.82	289.12	289.38	289.82	290.71	292.04	294.00	295.64	296.00	296.97
	306.41	307.83	309.46	309.72	308.46	308.26	305.00	302.61	288.39		
612.58	288.64	288.79	289.09	289.37	289.80	290.70	292.04	294.02	295.66	296.00	296.95
	306.36	307.79	309.43	309.70	308.46	308.29	305.02	302.62	288.37		
615.22	288.61	288.76	289.05	289.35	289.78	290.69	292.04	294.02	295.67	295.99	296.95
	306.33	307.76	309.40	309.68	308.46	308.30	305.04	302.63	288.34		
617.85	288.60	288.75	289.03	289.35	289.77	290.68	292.06	294.04	295.69	295.99	296.95
	306.32	307.72	309.39	309.68	308.48	308.32	305.06	302.65	288.32		
620.49	288.61	288.75	289.02	289.35	289.77	290.70	292.10	294.08	295.72	295.99	296.98
	306.27	307.70	309.39	309.69	308.50	308.34	305.09	302.68	288.59		
623.13	288.60	288.75	289.02	289.36	289.78	290.71	292.12	294.12	295.75	296.01	297.01
	306.21	307.70	309.38	309.69	308.51	308.35	305.13	302.72	288.59		
625.76	288.60	288.75	289.01	289.36	289.80	290.72	292.13	294.15	295.77	296.03	297.03
	306.15	307.69	309.37	309.70	308.52	308.36	305.17	302.76	288.60		
628.40	288.61	288.74	289.01	289.37	289.80	290.74	292.14	294.19	295.78	296.04	297.05
	306.11	307.69	309.37	309.70	308.52	308.38	305.20	302.81	288.60		
631.04	288.61	288.74	289.01	289.35	289.74	290.76	292.17	294.22	295.80	296.08	297.04
	306.07	307.70	309.37	309.70	308.54	308.39	305.24	302.85	288.60		
633.67	288.60	288.74	289.02	289.34	289.76	290.76	292.19	294.24	295.82	296.12	297.04
	306.03	307.69	309.38	309.70	308.56	308.40	305.27	302.89	288.61		
636.31	288.61	288.74	289.03	289.35	289.78	290.77	292.21	294.25	295.84	296.14	297.04
	306.00	307.68	309.38	309.70	308.58	308.40	305.32	302.92	288.59		
638.95	288.61	288.74	289.03	289.36	289.78	290.78	292.23	294.26	295.85	296.17	297.05
	305.98	307.67	309.37	309.69	308.60	308.40	305.35	302.95	288.60		
641.53	288.60	288.74	289.03	289.36	289.79	290.79	292.25	294.28	295.86	296.21	297.07
	305.98	307.65	309.37	309.68	308.63	308.43	305.37	302.98	288.60		
644.16	288.59	288.74	289.03	289.37	289.80	290.80	292.27	294.30	295.89	296.24	297.08
	305.99	307.64	309.37	309.68	308.65	308.46	305.40	303.00	288.60		
646.80	288.58	288.74	289.03	289.38	289.81	290.81	292.28	294.32	295.92	296.27	297.09
	306.08	307.69	309.44	309.76	308.74	308.57	305.44	303.04	288.60		

649.44	288.49	288.66	288.96	289.30	289.73	290.74	292.21	294.26	295.88	296.22	297.00
	306.34	307.86	309.69	310.00	308.94	308.84	305.44	303.00	288.24		
652.07	288.40	288.58	288.88	289.20	289.65	290.67	292.14	294.19	295.81	296.16	296.91
	306.71	308.10	310.04	310.35	309.22	309.19	305.48	302.96	288.15		
654.71	288.35	288.54	288.84	289.15	289.60	290.64	292.12	294.16	295.79	296.12	296.87
	307.09	308.38	310.36	310.74	309.54	309.55	305.54	302.95	288.10		
657.35	288.35	288.55	288.84	289.15	289.62	290.67	292.15	294.16	295.80	296.14	296.90
	307.48	308.68	310.74	311.15	309.85	309.90	305.67	303.00	288.10		
660.59	288.34	288.56	288.85	289.18	289.71	290.68	292.17	294.17	295.81	296.15	296.94
	307.81	308.94	311.08	311.49	310.12	310.19	305.79	303.06	288.10		
663.50	288.34	288.57	288.86	289.19	289.73	290.70	292.18	294.17	295.82	296.16	296.98
	308.11	309.21	311.40	311.82	310.39	310.45	305.92	303.11	288.10		
666.19	288.33	288.58	288.87	289.19	289.73	290.71	292.18	294.17	295.82	296.17	297.03
	308.40	309.48	311.74	312.13	310.62	310.72	306.02	303.21	288.12		
668.83	288.33	288.60	288.89	289.20	289.74	290.72	292.18	294.17	295.83	296.19	297.09
	308.71	309.76	312.09	312.47	310.88	310.99	306.13	303.31	288.68		
671.46	288.34	288.61	288.91	289.82	289.75	290.74	292.18	294.17	295.84	296.21	297.13
	309.04	310.06	312.45	312.83	311.12	311.24	306.24	303.38	288.68		
674.15	288.35	288.62	288.92	289.83	289.77	290.75	292.19	294.17	295.84	296.22	297.18
	309.36	310.37	312.80	313.17	311.37	311.50	306.35	303.46	288.68		
676.90	288.36	288.63	288.94	289.84	289.79	290.76	292.19	294.18	295.84	296.24	297.24
	309.61	310.63	313.08	313.44	311.56	311.68	306.47	303.53	288.68		
679.59	288.45	288.73	289.04	289.94	289.90	290.86	292.28	294.26	295.93	296.36	297.40
	309.69	310.80	313.19	313.55	311.65	311.71	306.62	303.68	288.77		
682.34	288.55	288.83	289.14	290.06	290.02	290.96	292.38	294.37	296.04	296.46	297.56
	309.68	310.89	313.20	313.55	311.65	311.66	306.74	303.83	288.86		
685.03	288.60	288.89	289.20	290.13	290.09	291.00	292.43	294.44	296.11	296.55	297.67
	309.65	310.94	313.24	313.50	311.62	311.58	306.83	303.94	288.91		
687.72	288.61	288.89	289.21	290.13	290.10	291.00	292.43	294.46	296.14	296.60	297.73
	309.60	310.96	313.23	313.43	311.58	311.51	306.86	303.99	288.90		
690.41	288.62	288.89	289.22	290.14	290.09	290.99	292.42	294.48	296.16	296.66	297.78
	309.62	311.00	313.24	313.42	311.57	311.50	306.89	304.03	288.89		
693.16	288.63	288.89	289.22	290.14	290.09	290.98	292.42	294.51	296.20	296.73	297.86
	309.70	311.06	313.26	313.44	311.58	311.53	306.92	304.08	288.88		
695.85	288.64	288.89	289.23	290.15	290.10	290.98	292.44	294.53	296.25	296.80	297.94
	309.80	311.10	313.29	313.48	311.62	311.56	306.96	304.10	288.87		
698.54	288.65	288.88	289.23	290.15	290.09	290.99	292.46	294.56	296.30	296.87	298.02
	309.86	311.13	313.31	313.50	311.63	311.58	307.01	304.12	288.30		
701.23	288.65	288.88	289.23	289.54	290.08	291.00	292.48	294.59	296.35	296.94	298.09
	309.90	311.16	313.32	313.52	311.66	311.59	307.06	304.16	288.31		
703.92	288.65	288.88	289.23	289.54	290.08	291.02	292.51	294.62	296.40	297.01	298.15
	309.92	311.19	313.34	313.54	311.68	311.60	307.11	304.21	288.31		
706.61	288.65	288.87	289.23	289.52	290.07	291.04	292.53	294.66	296.45	297.06	298.21
	309.96	311.21	313.35	313.55	311.70	311.62	307.15	304.24	288.32		
709.31	288.65	288.87	289.22	289.51	290.06	291.05	292.56	294.68	296.48	297.11	298.24
	310.02	311.22	313.35	313.57	311.72	311.64	307.19	304.29	288.32		
712.00	288.65	288.87	289.21	289.51	290.05	291.06	292.60	294.70	296.51	297.17	298.28
	310.05	311.22	313.36	313.58	311.75	311.67	307.24	304.33	288.33		
714.69	288.66	288.87	289.21	289.51	290.04	291.07	292.62	294.73	296.55	297.21	298.32
	310.08	311.23	313.38	313.60	311.78	311.70	307.29	304.37	288.34		
717.38	288.66	288.88	289.22	289.50	290.05	291.09	292.65	294.75	296.60	297.26	298.35
	310.10	311.26	313.41	313.63	311.82	311.73	307.33	304.43	288.35		
720.02	288.67	288.88	289.22	289.50	290.06	291.11	292.69	294.79	296.66	297.29	298.40
	310.10	311.29	313.44	313.66	311.87	311.76	307.39	304.48	288.37		
722.71	288.68	288.88	289.22	289.50	290.07	291.13	292.73	294.82	296.70	297.31	298.42
	310.08	311.31	313.46	313.68	311.91	311.78	307.44	304.53	288.38		
725.40	288.68	288.06	288.41	288.69	289.26	290.33	291.94	294.05	295.93	296.53	297.63
	309.44	310.76	312.95	313.17	311.36	311.29	306.72	303.80	287.58		
728.09	288.68	287.23	287.59	287.87	287.91	288.98	290.58	292.73	294.62	295.22	296.30
	309.10	310.28	312.87	313.13	310.91	311.04	305.62	302.53	286.77		
730.73	288.68	287.23	287.59	287.87	287.93	288.73	290.32	292.51	294.40	294.98	296.06
	309.80	310.81	313.71	314.00	311.49	311.78	305.60	302.32	286.50		
733.42	288.68	287.23	287.59	287.88	287.95	288.75	290.34	292.55	294.46	295.00	296.12
	310.59	311.47	314.60	314.91	312.18	312.57	305.82	302.39	286.50		

736.11	288.68	287.23	287.59	287.90	287.97	288.76	290.38	292.59	294.54	295.04	296.17
	311.13	311.96	315.22	315.57	312.67	313.08	306.01	302.48	286.50		
740.56	288.68	287.22	287.61	287.92	287.99	288.79	290.41	292.65	294.62	295.08	296.23
	311.45	312.28	315.60	315.99	312.97	313.35	306.17	302.56	286.50		
743.52	288.68	287.21	287.62	287.94	288.01	288.82	290.45	292.71	294.69	295.14	296.30
	311.65	312.50	315.83	316.21	313.13	313.46	306.28	302.66	286.49		
746.11	288.68	287.21	287.62	287.96	288.03	288.85	290.48	292.77	294.75	295.20	296.40
	311.74	312.64	315.92	316.30	313.18	313.46	306.38	302.75	286.48		
748.69	288.68	287.20	287.62	287.98	288.04	288.87	290.51	292.82	294.80	295.27	296.51
	311.79	312.74	315.95	316.33	313.20	313.42	306.46	302.84	286.47		
751.27	288.68	287.20	287.62	288.01	288.05	288.90	290.54	292.87	294.84	295.32	296.61
	311.87	312.84	316.00	316.35	313.21	313.41	306.53	302.92	286.46		
753.79	288.68	287.20	287.62	288.02	288.06	288.92	290.58	292.92	294.89	295.38	296.70
	311.97	312.94	316.06	316.38	313.24	313.42	306.61	303.00	286.46		
756.38	288.68	288.02	288.43	288.85	288.88	289.76	291.43	293.78	295.77	296.24	297.58
	312.66	313.64	316.64	316.93	313.86	313.96	307.45	303.86	287.26		
758.96	288.63	288.85	289.25	289.67	290.25	291.14	292.84	295.20	297.18	297.64	299.00
	313.05	314.26	316.78	317.02	314.38	314.26	308.67	305.24	288.06		
761.65	288.64	288.87	289.25	289.69	290.25	291.43	293.17	295.52	297.52	297.98	299.33
	312.41	313.85	316.01	316.19	313.89	313.59	308.81	305.56	288.33		
764.29	288.65	288.87	289.25	289.71	290.25	291.44	293.20	295.58	297.57	298.04	299.38
	311.69	313.31	315.20	315.32	313.27	312.87	308.72	305.61	288.32		
766.92	288.64	288.87	289.26	289.72	290.26	291.44	293.23	295.64	297.61	298.11	299.42
	311.22	312.93	314.65	314.72	312.87	312.44	308.66	305.66	288.30		
769.61	288.63	288.87	289.26	289.73	290.26	291.45	293.25	295.67	297.66	298.17	299.47
	310.95	312.72	314.34	314.36	312.66	312.24	308.63	305.69	288.28		
772.25	288.62	288.88	289.26	289.73	290.27	291.46	293.27	295.71	297.71	298.22	299.49
	310.84	312.61	314.18	314.20	312.59	312.18	308.64	305.76	288.60		
774.89	288.61	288.88	289.26	289.73	290.27	291.48	293.30	295.75	297.76	298.26	299.49
	311.06	312.73	314.43	314.02	312.77	312.45	308.67	305.80	288.60		
777.58	288.60	288.88	289.26	289.73	290.28	291.50	293.33	295.78	297.82	298.29	299.49
	312.32	313.60	315.81	315.20	313.77	313.73	308.85	305.83	288.60		
780.21	288.59	288.89	289.26	289.73	290.29	291.52	293.35	295.83	297.88	298.34	299.50
	312.53	319.71	316.86	316.31	314.69	314.73	309.07	305.88	288.60		
782.85	288.59	288.90	289.26	289.74	290.31	291.54	293.37	295.88	297.95	298.40	299.54
	313.08	320.16	317.50	317.12	315.34	315.33	309.26	305.92	288.61		
785.49	288.60	288.91	289.25	289.74	290.33	291.56	293.40	295.91	298.01	298.47	299.60
	313.49	320.52	317.98	317.68	315.77	315.74	309.42	306.00	288.62		
790.10	288.60	288.91	289.25	289.75	290.34	291.58	293.43	295.94	298.05	298.53	299.67
	313.75	320.79	318.29	318.02	316.01	315.96	309.56	306.08	288.63		
792.68	288.60	288.91	289.25	289.75	290.37	291.59	293.45	295.97	298.08	298.58	299.74
	313.90	320.97	318.45	318.22	316.14	316.05	309.66	306.17	288.63		
795.37	288.59	288.91	289.24	289.75	290.38	291.61	293.47	295.99	298.12	298.63	299.80
	313.75	321.08	318.52	318.30	316.19	316.05	309.36	306.24	288.62		
797.95	288.58	288.91	289.22	289.75	290.39	291.64	293.49	296.01	298.15	298.67	299.84
	313.70	321.14	318.56	318.32	316.18	316.00	309.42	306.31	288.62		
800.48	288.59	288.91	289.23	289.75	290.42	291.66	293.52	296.04	298.18	298.73	299.89
	313.69	321.20	318.62	318.33	316.17	315.97	309.51	306.39	288.61		
803.06	288.60	288.91	289.24	289.75	290.44	291.68	293.55	296.08	297.86	298.79	299.96
	313.71	321.26	318.69	318.34	316.20	315.98	309.58	306.41	288.27		
805.59	288.59	288.91	289.26	289.76	290.46	291.70	293.58	296.12	297.92	298.86	300.04
	313.50	321.16	318.44	318.51	316.06	315.80	309.64	306.46	288.26		
808.17	288.59	288.92	289.27	289.77	290.46	291.69	293.60	296.16	297.97	298.94	300.11
	312.31	320.32	317.11	317.38	315.16	314.64	309.56	306.53	288.26		
810.81	288.60	288.93	289.29	289.77	290.48	291.70	293.63	296.21	298.03	299.01	300.15
	312.14	314.23	316.09	316.33	314.33	313.73	309.45	306.59	288.25		
813.50	288.60	288.93	289.32	289.78	290.50	291.72	293.66	296.25	298.08	299.06	300.18
	311.59	313.78	315.48	315.57	313.78	313.21	309.36	306.64	288.25		
816.14	288.59	288.93	289.34	289.78	290.51	291.74	293.69	296.30	298.14	299.11	300.19
	311.18	313.41	315.02	315.06	313.44	312.88	309.31	306.67	288.24		
818.77	288.59	288.93	289.36	289.79	290.53	291.75	293.71	296.34	298.20	299.16	300.19
	310.90	313.11	314.71	314.76	313.27	312.73	309.28	306.69	288.23		
821.35	288.59	288.93	289.38	289.80	290.55	291.78	293.75	296.39	298.25	299.21	300.19
	310.73	312.90	314.57	314.61	313.20	312.69	309.29	306.71	288.23		

823.99	288.60	288.94	289.40	289.81	290.57	291.80	293.78	296.44	298.31	299.25	300.21
	310.86	312.76	314.52	314.56	313.22	312.75	309.68	306.75	288.24		
826.63	288.60	288.94	289.43	289.82	290.59	291.82	293.82	296.48	298.38	299.29	300.24
	310.88	312.66	314.48	314.58	313.28	312.86	309.71	306.77	288.25		
829.26	288.60	288.95	289.44	289.84	290.59	291.82	293.85	296.53	298.44	299.32	300.25
	310.86	312.57	314.41	314.61	313.35	312.94	309.72	306.80	288.26		
831.90	288.60	288.95	289.44	289.85	290.60	291.84	293.87	296.57	298.84	299.32	300.24
	310.81	312.48	314.33	314.61	313.39	312.99	309.75	306.84	288.26		
834.54	288.62	288.96	289.44	289.86	290.61	291.86	293.89	296.61	298.87	299.30	300.21
	310.76	312.40	314.28	314.60	313.43	313.04	309.78	306.87	288.25		
837.17	288.63	288.96	289.44	289.87	290.62	291.91	293.91	296.64	298.90	299.29	300.18
	310.71	312.32	314.23	314.59	313.46	313.08	309.83	306.90	288.24		
839.81	288.64	288.96	289.44	289.89	290.65	291.94	293.94	296.68	298.93	299.29	300.16
	310.67	312.25	314.19	314.58	313.49	313.14	309.87	306.94	288.24		
842.44	288.65	288.97	289.44	289.90	290.66	291.95	293.97	296.71	298.96	299.30	300.14
	310.63	312.19	314.14	314.57	313.52	313.18	309.91	306.98	288.23		
845.08	288.65	288.98	289.44	289.91	290.67	291.98	293.96	296.71	298.99	299.30	300.14
	310.61	312.15	314.11	314.57	313.54	313.23	309.96	307.03	288.24		
847.72	288.65	288.98	289.44	289.92	290.67	292.01	293.98	296.73	299.02	299.30	300.14
	310.58	312.12	314.10	314.55	313.57	313.26	310.00	307.07	288.24		
850.35	288.65	288.99	289.45	289.92	290.68	292.03	293.99	296.75	299.04	299.30	300.13
	310.56	312.09	314.07	314.53	313.59	313.30	310.04	307.10	288.25		
852.99	288.65	289.00	289.45	289.93	290.68	292.04	294.01	296.77	299.06	299.32	300.13
	310.54	312.07	314.03	314.52	313.61	313.33	310.09	307.13	288.25		
855.63	288.65	289.01	289.45	289.93	290.69	292.07	294.03	296.79	299.08	299.34	300.13
	310.53	312.05	314.01	314.51	313.63	313.36	310.13	307.17	288.26		
858.26	288.64	289.02	289.45	289.94	290.71	292.10	294.05	296.81	299.11	299.37	300.14
	310.53	312.03	314.01	314.50	313.65	313.38	310.18	307.23	288.27		
860.90	288.65	289.03	289.45	289.93	290.72	292.11	294.07	296.82	299.14	299.39	300.12
	310.34	312.01	314.01	314.50	313.67	313.40	310.21	307.30	288.28		
863.54	288.65	289.04	289.45	289.93	290.73	292.12	294.10	296.83	299.17	299.42	300.12
	310.33	311.98	314.02	314.50	313.68	313.42	310.25	307.34	288.30		
866.17	288.65	289.05	289.45	289.93	290.74	292.13	294.11	296.84	299.18	299.44	300.15
	310.32	311.96	314.02	314.50	313.70	313.43	310.28	307.39	288.32		
868.81	288.64	289.04	289.46	289.94	290.74	292.14	294.12	296.84	299.18	299.45	300.17
	310.32	311.95	314.03	314.50	313.71	313.44	310.32	307.42	288.33		
871.45	288.62	289.04	289.46	289.95	290.74	292.14	294.13	296.84	299.18	299.46	300.18
	310.32	311.94	314.05	314.50	313.72	313.45	310.35	307.45	288.69		
874.08	288.63	289.04	289.47	289.96	290.75	292.15	294.18	296.89	299.18	299.45	300.17
	310.32	311.94	314.07	314.50	313.72	313.46	310.38	307.49	288.69		
876.72	288.64	289.04	289.47	289.98	290.77	292.16	294.20	296.91	299.18	299.44	300.16
	310.34	311.96	314.08	314.50	313.71	313.46	310.43	307.44	288.69		
879.35	288.65	289.04	289.48	290.00	290.78	292.17	294.21	296.92	299.18	299.43	300.16
	310.37	311.99	314.09	314.51	313.72	313.47	310.47	307.46	288.69		
882.05	288.65	289.04	289.49	290.01	290.79	292.17	294.22	296.95	299.19	299.42	300.14
	310.36	312.00	314.10	314.51	313.72	313.49	310.50	307.49	288.69		
884.68	288.66	289.04	289.49	290.03	290.80	292.18	294.24	296.95	299.18	299.40	300.12
	310.34	312.03	314.13	314.50	313.73	313.51	310.52	307.52	288.69		
887.32	288.67	289.04	289.50	290.05	290.81	292.19	294.25	296.96	299.18	299.39	300.12
	310.34	312.06	314.13	314.52	313.74	313.53	310.56	307.54	288.69		
889.96	288.68	289.04	289.51	290.06	290.82	292.20	294.25	296.97	299.16	299.39	300.16
	310.52	312.10	314.13	314.53	313.74	313.55	310.59	307.55	288.70		
892.59	288.69	289.04	289.51	290.07	290.82	292.22	294.25	296.97	299.16	299.39	300.18
	310.52	312.14	314.13	314.52	313.74	313.56	310.62	307.58	288.70		
895.23	288.70	289.04	289.52	290.09	290.83	292.23	294.26	296.98	299.15	299.39	300.18
	310.52	312.16	314.13	314.52	313.74	313.58	310.65	307.60	288.70		
897.86	288.71	289.04	289.52	290.10	290.84	292.24	294.25	296.31	299.16	299.39	300.17
	310.52	312.17	314.13	314.52	313.74	313.60	310.68	307.63	288.70		
900.50	288.72	289.04	289.53	290.10	290.85	292.26	294.25	296.33	299.18	299.39	300.17
	310.52	312.17	314.13	314.52	313.74	313.61	310.70	307.67	288.34		
903.14	288.72	289.04	289.52	290.11	290.84	292.27	294.25	296.34	299.17	299.40	300.18
	310.52	312.16	314.13	314.52	313.73	313.62	310.72	307.71	288.34		
905.77	288.72	289.04	289.53	290.11	290.84	292.28	294.25	296.34	299.16	299.41	300.19
	310.51	312.15	314.13	314.52	313.74	313.64	310.73	307.83	288.34		

908.41	288.73	289.04	289.53	290.12	290.84	292.27	294.25	296.33	299.14	299.42	300.19
	310.51	312.15	314.13	314.52	313.75	313.65	310.76	307.88	288.35		
911.05	288.74	289.04	289.53	290.12	290.83	292.27	294.24	296.33	299.10	299.43	300.21
	310.52	312.15	314.13	314.53	313.76	313.66	310.79	307.92	288.35		
913.68	288.74	289.04	289.53	290.12	290.83	292.27	294.23	296.33	299.08	299.43	300.23
	310.53	312.15	314.13	314.54	313.77	313.67	310.81	307.96	288.34		
916.32	288.75	289.04	289.53	290.12	290.82	292.26	294.22	296.33	299.07	299.42	300.22
	310.52	312.14	314.13	314.54	313.78	313.68	310.83	307.99	288.34		
918.96	288.75	289.04	289.53	290.12	290.83	292.25	294.22	296.32	299.06	299.41	300.19
	310.50	312.10	314.13	314.54	313.79	313.68	310.85	308.02	288.34		
921.59	288.75	289.04	289.54	290.12	290.82	292.24	294.20	296.32	299.04	299.40	300.17
	310.47	312.06	314.12	314.55	313.80	313.69	310.87	308.05	288.33		
924.23	288.75	289.04	289.53	290.12	290.82	292.22	294.19	296.30	299.02	299.39	300.15
	310.44	312.05	314.11	314.56	313.80	313.69	310.89	308.07	288.33		
926.86	288.74	289.04	289.53	290.12	290.82	292.21	294.19	296.96	299.00	299.38	300.16
	310.42	312.05	314.10	314.58	313.80	313.70	310.91	308.10	288.33		
929.50	288.73	289.05	289.53	290.12	290.82	292.20	294.18	296.93	298.97	299.38	300.15
	310.40	312.07	314.10	314.59	313.81	313.71	310.94	308.12	288.32		
932.14	288.73	289.05	289.54	290.11	290.82	292.20	294.17	296.91	298.95	299.36	300.15
	310.38	312.09	314.09	314.60	313.83	313.71	310.96	308.14	288.32		
934.77	288.72	289.05	289.54	290.12	290.82	292.19	294.17	296.89	298.94	299.34	300.15
	310.36	312.09	314.08	314.62	313.84	313.72	310.98	308.15	288.31		
937.41	288.72	289.05	289.54	290.12	290.82	292.19	294.16	296.87	298.93	299.32	300.13
	310.31	312.07	314.07	314.63	313.84	313.72	310.99	308.18	288.31		
940.05	288.72	289.05	289.54	290.12	290.83	292.19	294.15	296.85	298.94	299.30	300.10
	310.28	312.05	314.06	314.63	313.84	313.72	311.01	308.20	288.31		
942.68	288.72	289.05	289.54	290.12	290.83	292.18	294.14	296.83	298.92	299.29	300.09
	310.26	312.03	314.05	314.63	313.84	313.72	311.03	308.22	288.32		
945.32	288.72	289.05	289.54	290.12	290.83	292.17	294.14	296.82	298.91	299.27	300.08
	310.25	312.02	314.05	314.63	313.84	313.72	311.05	308.25	288.32		
947.96	288.71	289.05	289.54	290.13	290.83	292.16	294.13	296.80	298.89	299.24	300.08
	310.24	312.03	314.04	314.63	313.84	313.72	311.08	308.27	288.32		
950.59	288.71	289.05	289.54	290.14	290.83	292.17	294.14	296.79	298.88	299.22	300.06
	310.24	312.04	314.02	314.64	313.84	313.73	311.11	308.30	288.33		
953.23	288.71	289.05	289.54	290.13	290.82	292.17	294.13	296.77	298.88	299.19	300.04
	310.25	312.05	314.02	314.64	313.86	313.74	311.12	308.33	288.32		
955.87	288.73	289.05	289.53	290.13	290.81	292.17	294.12	296.76	298.86	299.16	300.01
	310.26	312.05	314.02	314.64	313.87	313.74	311.14	308.36	288.33		
958.50	288.73	289.06	289.52	290.14	290.81	292.17	294.11	296.75	298.85	299.16	300.00
	310.26	312.02	314.02	314.63	313.87	313.76	311.16	308.38	288.34		
961.14	288.73	289.06	289.53	290.15	290.80	292.16	294.11	296.73	298.85	299.16	300.00
	310.26	312.00	314.02	314.62	313.88	313.78	311.18	308.40	288.33		
963.77	288.74	289.06	289.53	290.14	290.77	292.15	294.10	296.74	298.86	299.17	299.99
	310.27	311.99	314.02	314.62	313.90	313.81	311.20	308.43	288.33		
966.41	288.74	289.06	289.53	290.13	290.74	292.14	294.09	296.75	298.86	299.17	300.00
	310.30	312.01	314.02	314.62	313.92	313.84	311.22	308.46	288.33		
969.05	288.74	289.06	289.53	290.13	290.73	292.14	294.08	296.76	298.87	299.18	300.02
	310.32	312.02	314.02	314.63	313.93	313.86	311.24	308.47	288.33		
971.68	288.74	289.06	289.52	290.12	290.72	292.14	294.08	296.77	298.89	299.18	300.04
	310.33	312.03	314.02	314.63	313.95	313.89	311.26	308.50	288.33		
974.32	288.74	289.06	289.53	290.12	290.72	292.64	294.08	296.77	298.90	299.20	300.05
	310.34	312.03	314.01	314.62	313.97	313.92	311.27	308.51	288.33		
976.90	288.75	289.06	289.53	290.12	290.71	292.59	294.08	296.78	298.90	299.20	300.05
	310.34	312.02	314.02	314.62	313.99	313.94	311.28	308.52	288.33		
979.54	288.73	289.06	289.53	290.12	290.71	292.58	294.08	296.78	298.89	299.20	300.07
	310.34	312.00	314.02	314.60	314.00	313.96	311.29	308.54	288.33		
982.17	288.72	289.07	289.53	290.11	290.71	292.57	294.08	296.77	298.87	299.20	300.08
	310.40	312.05	314.08	314.67	314.08	314.06	311.33	308.56	288.32		
984.81	288.72	289.06	289.54	290.09	290.71	292.57	294.08	296.76	298.85	299.18	300.08
	310.71	312.28	314.39	314.98	314.34	314.39	311.40	308.59	288.31		
987.50	288.72	289.07	289.54	290.09	290.71	292.57	294.07	296.74	298.84	299.14	300.10
	312.00	313.46	315.88	316.47	315.54	315.87	311.58	308.62	288.31		
990.25	288.73	289.08	289.54	290.09	290.72	292.57	294.07	296.72	298.82	299.10	300.08
	312.70	314.52	317.24	317.85	316.62	317.18	311.82	308.66	288.31		

992.89	288.74	289.10	289.55	290.09	290.77	292.58	294.08	296.71	298.82	299.07	300.10
	313.63	315.36	318.29	318.96	317.48	318.12	312.04	308.71	288.32		
996.18	288.75	289.12	289.56	290.10	290.80	292.58	294.09	296.70	298.82	299.06	300.13
	314.39	316.03	319.12	319.86	318.15	318.83	312.23	308.76	288.33		
998.93	288.76	289.14	289.58	290.11	290.82	292.58	294.11	296.66	298.82	299.05	300.15
	314.90	316.49	319.67	320.50	318.60	319.26	312.38	308.84	288.34		
1003.43	288.77	289.15	289.59	290.12	290.84	292.58	294.11	296.65	298.81	299.05	300.18
	315.24	316.84	320.07	320.92	318.88	319.49	312.50	308.90	288.36		
1005.96	288.77	289.15	289.58	290.12	290.85	292.58	294.11	296.63	298.79	299.06	300.23
	315.52	317.17	320.41	321.26	319.10	319.66	312.60	308.98	288.37		
1008.54	288.78	289.15	289.57	290.12	290.86	292.58	294.11	296.63	298.80	299.09	300.30
	315.81	317.50	320.76	321.61	319.32	319.84	312.69	309.04	288.38		
1011.07	288.81	289.14	289.57	290.12	290.86	292.58	294.12	296.64	298.82	299.13	300.37
	316.12	317.82	321.14	321.99	319.54	320.06	312.79	309.11	288.38		
1013.65	288.82	289.15	289.57	290.13	290.87	292.58	294.13	296.67	298.84	299.19	300.46
	316.37	318.08	321.44	322.28	319.72	320.20	312.88	314.40	288.40		
1016.28	288.82	289.16	289.57	290.15	290.88	292.58	294.14	296.70	298.89	299.25	300.54
	316.36	318.14	321.50	322.33	319.73	320.13	312.94	314.46	288.40		
1018.98	288.82	289.17	289.57	290.15	290.89	292.58	294.15	296.74	298.96	299.33	300.60
	315.39	317.29	320.39	321.22	318.82	318.91	312.87	314.51	288.39		
1021.67	288.81	289.17	289.58	290.16	290.89	292.58	294.17	296.80	299.03	299.42	300.67
	315.00	316.53	319.39	320.21	318.00	317.87	312.77	314.55	288.39		
1024.36	288.80	289.17	289.58	290.16	290.89	292.58	294.18	296.84	299.08	299.51	300.72
	314.38	315.97	318.69	319.46	317.41	317.18	312.68	314.57	288.39		
1027.05	288.80	289.16	289.56	290.16	290.89	292.16	294.20	296.89	299.14	299.60	300.78
	313.94	315.58	318.19	318.92	317.00	316.72	312.61	314.59	288.38		
1029.74	288.79	289.15	289.54	290.16	290.89	292.17	294.21	296.96	299.20	299.69	300.85
	313.76	315.41	317.99	318.63	316.83	316.56	312.60	314.59	288.36		
1032.43	288.78	289.14	289.55	290.17	290.89	292.19	294.24	297.01	299.29	299.78	300.91
	313.74	315.37	317.94	318.56	316.83	316.60	312.62	314.62	288.74		
1035.12	288.78	289.15	289.57	290.18	290.90	292.21	294.27	297.06	299.40	299.86	300.95
	313.78	315.37	317.97	318.60	316.90	316.71	312.66	314.68	288.72		
1037.76	288.77	289.17	289.60	290.19	290.92	292.24	294.30	297.11	299.49	299.94	300.98
	313.79	315.37	317.99	318.62	316.96	316.10	312.72	314.71	288.72		
1040.45	288.76	289.19	289.61	290.20	290.94	292.27	294.34	297.16	299.59	300.01	301.01
	313.79	315.36	317.98	318.63	317.02	316.18	312.77	314.74	288.72		
1043.14	288.76	289.20	289.63	290.20	290.96	292.29	294.37	297.22	299.66	300.07	301.04
	313.79	315.34	317.98	318.62	317.06	316.24	312.82	309.54	289.51		
1045.83	288.76	289.20	289.65	290.21	290.98	292.33	294.42	297.28	299.72	300.12	301.08
	313.80	315.36	317.98	318.63	317.09	316.29	312.86	309.56	289.53		
1048.52	288.76	289.20	289.66	290.22	290.99	292.36	294.47	297.33	299.76	300.17	301.11
	313.81	315.38	317.99	318.64	317.11	316.33	312.92	309.59	289.56		
1051.22	288.76	289.20	289.67	290.22	290.99	292.40	294.50	297.36	299.79	300.20	301.14
	313.81	315.41	318.00	318.65	317.14	316.35	312.95	309.63	289.58		
1053.91	288.76	289.21	289.68	290.22	291.00	292.44	294.53	297.41	299.83	300.23	301.16
	313.83	315.46	318.02	318.66	317.17	316.38	312.98	309.67	289.60		
1056.60	288.76	289.21	289.69	290.23	291.00	292.47	294.56	297.46	299.87	300.26	301.18
	313.84	315.50	318.07	318.67	317.18	316.40	313.02	309.71	289.62		
1059.24	288.76	289.22	289.68	290.23	291.02	292.49	294.60	297.51	299.92	300.29	301.20
	313.85	315.52	318.10	318.70	317.20	316.42	313.05	309.75	289.63		
1061.93	288.75	289.23	289.68	290.23	291.04	292.51	294.62	297.55	299.95	300.30	301.23
	313.86	315.55	318.14	318.71	317.21	316.43	313.09	309.78	289.26		
1064.62	288.75	289.24	289.67	290.23	291.05	292.53	294.65	297.60	299.98	300.31	301.25
	313.87	315.57	318.16	318.72	317.22	316.43	313.13	309.77	289.28		
1067.25	288.75	289.24	289.68	290.23	291.06	292.55	294.68	297.64	300.01	300.31	301.28
	313.90	315.57	318.17	318.72	317.23	317.15	313.16	309.79	289.30		
1069.95	288.75	289.24	289.68	290.23	291.07	292.56	294.69	297.67	300.04	300.33	301.31
	313.93	315.56	318.19	318.72	317.26	317.16	313.20	309.82	289.32		
1072.64	288.75	289.24	289.69	290.23	291.07	292.58	294.72	297.69	300.08	300.37	301.34
	313.94	315.56	318.10	318.75	317.28	317.18	313.23	309.85	288.55		
1075.33	288.75	289.24	289.69	290.23	291.08	292.59	294.74	297.71	300.12	300.41	301.36
	313.95	315.55	324.09	318.76	317.30	317.20	313.27	309.88	288.55		
1077.97	288.74	289.24	289.69	290.23	291.09	292.60	294.74	297.72	300.16	300.45	301.40
	313.94	315.56	324.09	318.75	317.32	317.22	313.31	309.93	288.55		

1080.66	288.74	289.26	289.70	290.26	291.13	292.62	294.76	297.74	300.19	300.50	301.45
	313.96	315.58	324.10	318.76	317.35	317.26	313.35	309.97	288.56		
1083.35	288.75	289.28	289.72	290.28	291.16	292.64	294.59	297.76	300.22	300.52	301.50
	313.97	315.59	324.11	318.77	317.39	317.30	313.41	310.01	288.57		
1085.98	288.76	289.29	289.75	290.30	291.18	292.66	294.61	297.78	300.24	300.55	301.52
	313.96	315.59	324.12	318.78	317.43	317.33	313.47	310.06	288.58		
1088.68	288.77	289.30	289.79	290.30	291.20	292.67	294.63	297.80	300.24	300.56	301.53
	313.95	315.59	324.12	318.78	317.45	317.35	313.52	310.10	288.58		
1091.37	288.78	289.32	289.82	290.32	291.22	292.69	294.65	297.82	300.25	300.58	301.55
	313.94	315.51	324.10	318.78	317.51	317.38	313.56	310.15	288.58		
1094.06	288.78	289.33	289.84	290.34	291.24	292.70	294.67	297.81	300.24	300.59	301.57
	313.94	315.49	324.10	318.78	317.56	317.41	313.61	310.20	288.58		
1096.69	288.80	289.34	289.85	290.35	291.25	292.71	294.68	297.82	300.24	300.62	301.59
	313.94	315.52	324.10	318.80	317.60	317.44	313.66	310.24	288.58		
1099.39	288.81	289.36	289.87	290.36	291.26	292.72	294.69	297.84	300.24	300.63	301.60
	313.96	315.57	324.11	318.83	317.63	317.46	313.69	310.29	288.58		
1102.02	288.82	289.37	289.89	290.38	291.26	292.75	294.70	297.86	300.24	300.62	301.61
	313.99	315.62	324.22	318.83	317.66	317.48	313.73	310.33	288.58		
1104.71	288.82	289.39	289.91	290.39	291.28	292.77	294.72	297.89	300.25	300.61	301.62
	314.01	315.70	318.27	318.85	317.68	317.50	313.77	310.38	288.58		
1107.41	288.84	289.41	289.92	290.40	291.30	292.79	294.75	297.92	300.26	300.60	301.62
	314.06	315.74	318.28	318.86	317.70	317.50	313.80	310.42	288.58		
1110.04	288.84	289.40	289.93	290.40	291.30	292.80	294.78	297.93	300.26	300.59	301.63
	314.08	315.74	318.28	318.85	317.71	317.50	313.82	310.45	288.57		
1112.73	288.84	289.39	289.93	290.41	291.30	292.81	294.96	297.94	300.26	300.61	301.65
	314.11	315.75	318.27	318.84	317.72	317.50	313.85	310.49	288.96		
1115.37	288.84	289.40	289.93	290.42	291.32	292.83	294.97	297.95	300.27	300.64	301.70
	314.17	315.77	318.25	318.83	317.73	317.52	313.87	310.52	288.96		
1118.06	288.84	289.40	289.93	290.45	291.32	292.84	294.97	297.96	300.28	300.65	301.71
	314.24	315.79	318.23	318.83	317.75	317.56	313.90	310.55	288.96		
1120.70	288.84	289.40	289.92	290.45	291.31	292.84	294.96	297.97	300.30	300.66	301.72
	314.30	315.88	318.23	318.84	317.74	317.59	313.92	310.56	288.96		
1123.39	288.85	289.40	289.91	290.45	291.29	292.84	294.96	297.99	300.32	300.68	301.72
	314.35	315.91	318.24	318.86	317.75	317.62	313.94	310.58	288.96		
1126.08	288.85	289.41	289.91	290.46	291.29	292.84	294.96	298.01	300.33	300.67	301.72
	314.38	315.91	318.26	318.86	317.76	317.63	313.96	310.60	288.96		
1128.72	288.85	289.39	289.90	290.46	291.29	292.84	294.97	298.01	300.33	300.67	301.73
	314.39	315.91	318.26	318.84	317.76	317.64	313.98	310.62	288.95		
1131.41	288.84	289.38	289.89	290.46	291.31	292.84	294.98	298.01	300.32	300.68	301.74
	314.39	315.90	318.26	318.83	317.76	317.66	314.01	310.64	288.95		
1134.04	288.83	289.36	289.88	290.47	291.32	292.85	294.98	298.02	300.27	300.69	301.75
	314.40	315.87	318.25	318.82	317.79	317.68	314.04	310.66	288.95		
1136.74	288.82	289.36	289.87	290.48	291.32	292.86	294.97	298.02	300.25	300.70	301.78
	314.39	315.83	318.23	318.83	317.80	317.70	314.07	310.69	288.95		
1139.37	288.81	289.36	289.86	290.48	291.32	292.86	294.96	298.03	300.26	300.71	301.79
	314.36	315.81	318.21	318.85	317.82	317.71	314.09	310.72	288.94		
1142.06	288.81	289.36	289.85	290.47	291.32	292.86	294.98	298.04	300.28	300.71	301.77
	314.32	315.79	318.21	318.87	317.82	317.72	314.11	310.74	288.53		
1144.75	288.81	289.36	289.84	290.46	291.31	292.86	294.99	298.06	300.29	300.70	301.75
	314.26	315.78	318.24	318.89	317.82	317.72	314.14	310.77	288.52		
1147.39	288.81	289.35	289.84	290.46	291.31	292.87	295.01	298.06	300.30	300.70	301.75
	314.19	315.78	318.28	318.91	317.82	317.72	314.16	310.81	288.52		
1150.03	288.80	289.35	289.85	290.47	291.32	292.88	295.04	298.06	300.31	300.70	301.75
	314.12	315.79	318.31	318.92	317.83	317.72	314.19	310.84	288.52		
1152.72	288.80	289.36	289.86	290.48	291.34	292.90	295.05	298.07	300.33	300.70	301.77
	314.08	315.77	318.28	318.92	317.83	317.72	314.22	310.88	288.52		
1155.36	288.80	289.37	289.88	290.49	291.35	292.91	295.07	298.09	300.35	300.72	301.79
	314.04	315.76	318.26	318.92	317.83	317.73	314.24	310.92	288.52		
1158.05	288.81	289.38	289.88	290.50	291.35	292.92	295.09	298.11	300.38	300.74	301.79
	314.02	315.77	318.26	318.94	317.85	317.75	314.27	310.97	288.53		
1160.68	288.81	289.40	289.88	290.50	291.36	292.93	295.10	298.14	300.44	300.77	301.81
	314.00	315.78	318.26	318.95	317.87	317.76	314.30	311.01	288.53		
1163.32	288.81	289.41	289.88	290.51	291.37	292.92	295.12	298.17	300.53	300.81	301.83
	313.98	315.79	318.27	318.96	317.86	317.76	314.33	311.05	288.53		

1166.01	288.81	289.41	289.89	290.52	291.38	292.86	295.14	298.19	300.60	300.84	301.84
	313.98	315.82	318.30	318.95	317.86	317.78	314.37	311.08	288.53		
1168.65	288.81	289.42	289.90	290.54	291.39	292.85	295.16	298.21	300.76	300.87	301.86
	314.00	315.84	318.33	318.95	317.87	317.79	314.41	311.12	288.54		
1171.34	288.81	289.42	289.91	290.56	291.40	292.85	295.18	298.22	300.83	300.89	301.88
	314.02	315.87	318.36	318.94	317.89	317.80	314.43	311.15	288.54		
1173.97	288.81	289.42	289.92	290.57	291.40	292.86	295.19	298.23	300.85	300.91	301.90
	313.83	315.89	318.37	318.94	317.90	317.82	314.44	311.17	288.55		
1176.61	288.81	289.44	289.93	290.58	291.42	292.87	295.20	298.25	300.88	300.92	301.93
	313.86	315.90	318.37	318.93	317.93	317.83	314.47	311.19	288.56		
1179.30	288.81	289.46	289.94	290.59	291.43	292.89	295.21	298.28	300.90	300.95	301.95
	313.91	315.91	318.35	318.93	317.95	317.85	314.50	311.22	288.58		
1181.99	288.81	289.47	289.94	290.60	291.44	292.91	295.22	298.30	300.91	300.98	301.98
	313.94	315.94	318.39	318.94	317.97	317.88	314.52	311.24	288.60		
1184.63	288.81	289.47	289.94	290.61	291.45	292.74	295.23	298.31	300.93	301.02	302.02
	314.07	316.02	318.51	319.03	318.04	317.98	314.55	311.27	288.62		
1187.43	288.81	289.47	291.85	291.98	291.46	292.74	295.24	298.32	300.96	301.06	302.06
	314.47	316.29	318.86	319.40	318.35	318.36	314.62	311.29	288.64		
1190.12	288.96	289.47	291.86	292.00	291.46	292.74	295.25	298.32	300.97	301.08	302.10
	314.95	316.60	319.21	319.83	318.69	318.77	314.70	311.30	289.06		
1192.76	288.94	289.48	291.88	292.01	291.46	292.77	295.24	298.32	300.97	301.09	302.13
	315.34	316.88	319.55	320.22	319.00	319.12	314.78	311.31	289.07		
1195.45	288.92	289.48	291.88	292.02	291.46	292.83	295.24	298.31	300.96	301.09	302.14
	315.64	317.12	319.86	320.58	319.27	319.40	314.85	311.33	289.07		
1198.86	288.91	289.48	291.88	292.02	291.46	292.85	295.24	298.29	300.83	301.10	302.16
	315.92	317.37	320.17	320.93	319.52	319.68	314.93	311.35	289.07		
1201.60	288.91	289.48	291.88	292.02	291.46	292.86	295.25	298.31	300.81	301.12	302.18
	316.19	317.63	320.51	321.30	319.77	319.94	315.02	311.39	289.07		
1204.29	288.92	289.49	291.90	292.01	291.47	292.86	295.27	298.35	300.84	301.17	302.22
	316.70	317.90	320.87	321.66	320.03	320.22	315.13	311.43	289.08		
1207.04	288.92	289.49	291.90	291.99	291.48	292.87	295.28	298.38	300.88	301.22	302.26
	317.02	318.20	321.24	322.03	320.28	320.49	315.21	311.48	289.07		
1209.79	288.91	289.48	291.90	291.99	291.48	292.88	295.30	298.41	300.92	301.27	302.32
	317.37	318.50	321.62	322.38	320.54	320.76	315.30	311.52	289.05		
1212.53	288.90	289.47	291.90	291.99	291.50	292.88	295.32	298.44	300.96	301.33	302.37
	317.72	318.79	322.01	322.73	320.79	321.02	315.40	311.57	289.04		
1215.33	288.89	289.48	291.90	291.99	291.51	293.09	295.34	298.47	301.00	301.40	302.43
	317.97	319.02	322.30	323.00	320.99	321.19	315.50	311.61	289.03		
1218.08	288.90	289.49	290.02	290.63	291.53	293.12	295.36	298.50	301.02	301.46	302.51
	317.96	319.07	322.34	323.00	320.96	321.10	315.55	311.67	289.02		
1220.83	288.91	289.50	290.03	290.63	291.55	293.13	295.38	298.53	301.05	301.52	302.58
	317.89	319.07	322.35	322.94	320.89	320.96	315.59	311.72	288.60		
1223.57	288.91	289.51	290.05	290.64	291.57	293.16	295.41	298.57	301.07	301.57	302.66
	317.91	319.11	322.40	322.92	320.86	320.90	315.64	311.78	288.61		
1226.32	288.93	289.52	290.06	290.65	291.59	293.19	295.44	298.57	301.08	301.62	302.73
	318.01	319.20	322.49	322.92	320.87	320.90	315.70	311.82	288.62		
1229.07	288.94	289.53	290.07	290.66	291.61	293.21	295.47	298.62	301.11	301.65	302.78
	318.15	319.30	322.57	322.95	320.89	320.92	315.74	311.88	288.62		
1231.81	288.94	289.54	290.08	290.66	291.62	293.24	295.48	298.64	301.13	301.69	302.84
	318.28	319.38	322.64	322.97	320.93	320.94	315.77	311.92	288.63		
1234.56	288.93	289.54	290.08	290.66	291.63	293.26	295.49	298.65	304.52	304.39	302.88
	318.37	319.46	322.68	322.99	320.96	320.96	315.81	311.96	288.63		
1237.30	288.94	289.54	290.08	290.69	291.63	293.27	295.51	298.66	304.54	304.41	302.92
	318.43	319.51	322.70	323.01	320.98	320.98	315.85	311.99	288.64		
1240.05	288.94	289.54	290.08	290.70	291.64	293.28	295.53	298.68	304.55	304.41	302.95
	318.47	319.54	322.70	323.04	321.01	321.00	315.90	312.02	288.64		
1242.80	288.93	289.55	290.09	290.71	291.64	293.28	295.54	298.70	304.57	304.42	303.00
	318.52	319.56	322.68	323.06	321.04	321.02	315.94	312.06	288.65		
1245.54	288.93	289.55	290.10	290.71	291.65	293.29	295.56	298.69	304.60	304.42	303.04
	318.56	319.57	322.69	323.07	321.07	321.05	315.99	312.10	288.66		
1248.29	288.93	289.55	290.10	290.72	291.66	293.30	295.58	298.71	304.63	304.42	303.07
	318.59	319.59	322.72	323.09	321.09	321.07	316.03	312.14	288.67		
1250.98	288.94	289.55	290.09	290.72	291.67	293.32	295.62	298.74	304.68	304.42	303.09
	318.60	319.61	322.75	323.10	321.11	321.10	316.06	312.18	288.68		

1253.73	288.97	289.56	290.10	290.73	291.69	293.35	295.66	298.77	304.73	304.44	303.11
	318.62	319.66	322.77	323.12	321.15	321.14	316.12	312.24	288.69		
1256.47	288.99	289.57	290.10	290.74	291.71	293.37	295.68	298.86	304.82	304.47	303.13
	318.64	319.70	322.77	323.14	321.20	321.17	316.16	312.30	288.71		
1259.16	289.01	289.58	290.11	290.74	291.72	293.40	295.71	298.93	304.89	304.52	303.17
	318.66	319.72	322.77	323.15	321.24	321.20	316.21	312.35	288.73		
1261.91	289.02	289.59	290.11	290.76	291.72	293.40	295.74	298.99	304.95	304.59	303.21
	318.68	319.71	322.77	323.16	321.27	321.24	316.27	312.40	288.74		
1264.66	289.04	289.60	290.12	290.78	291.74	293.41	295.77	299.05	301.62	301.99	303.28
	318.70	319.71	322.76	323.17	321.31	321.28	316.32	312.45	288.75		
1267.35	289.06	289.62	290.13	290.80	291.76	293.44	295.80	299.45	301.66	302.06	303.35
	318.74	319.72	322.78	323.18	321.35	321.32	316.38	312.50	288.76		
1270.09	289.07	289.62	290.14	290.81	291.78	293.46	295.82	299.51	301.72	302.14	303.41
	318.75	319.75	322.81	323.19	321.38	321.36	316.59	312.60	288.77		
1272.79	289.09	289.62	290.15	290.84	291.80	293.48	295.85	299.56	301.78	302.20	303.45
	318.74	319.81	322.84	323.20	321.42	321.39	316.82	312.70	288.77		
1275.53	289.10	289.62	290.15	290.84	291.80	293.50	295.88	299.64	301.83	302.26	303.50
	318.76	319.89	322.86	323.21	321.45	321.39	316.92	312.77	288.77		
1278.22	289.11	289.62	290.16	290.84	291.81	293.52	295.91	299.70	301.88	302.31	303.53
	318.49	319.94	322.89	323.22	321.48	321.39	317.00	312.82	288.77		
1280.97	289.11	289.62	290.16	290.85	291.82	293.53	295.94	299.76	301.91	302.37	303.56
	318.54	319.98	322.91	323.23	321.52	321.41	317.06	312.88	288.77		
1283.66	289.10	289.61	290.16	290.85	291.82	293.52	295.95	299.80	301.95	302.43	303.58
	318.56	319.96	322.93	323.24	321.54	321.42	317.10	312.92	288.76		
1286.41	289.09	289.61	290.16	290.85	291.82	293.53	295.97	299.85	302.00	302.49	303.63
	318.55	319.92	322.94	323.26	321.55	321.44	317.14	312.95	288.76		
1289.15	289.09	289.61	290.16	290.85	291.83	293.54	296.00	299.88	302.06	302.56	303.69
	318.50	319.90	322.92	323.26	321.55	321.44	317.18	313.00	288.75		
1291.84	289.09	289.60	290.16	290.84	291.84	293.56	296.03	299.92	302.12	302.60	303.72
	318.45	319.91	322.90	323.26	321.55	321.44	317.21	313.03	288.75		
1294.59	289.07	289.60	290.16	290.84	291.85	293.56	296.02	299.96	302.17	302.62	303.74
	318.43	319.93	322.89	323.26	321.57	321.46	317.26	313.08	288.75		
1297.28	289.06	289.59	290.16	290.84	291.85	293.56	296.02	299.62	302.22	302.65	303.73
	318.44	319.93	322.89	323.26	321.58	321.47	317.37	314.77	288.75		
1299.97	289.06	289.58	290.15	290.83	291.85	293.56	296.04	299.64	302.25	302.65	303.71
	318.46	319.93	322.86	323.26	321.60	321.50	317.31	314.77	288.74		
1302.67	289.06	289.59	290.15	290.83	291.86	293.57	296.04	299.66	302.27	302.66	303.70
	318.49	319.92	322.83	323.27	321.63	321.53	317.19	314.77	288.74		
1305.41	289.06	289.60	290.15	290.84	291.87	293.59	296.04	299.67	302.28	302.66	303.70
	318.48	319.89	322.85	323.29	321.67	321.58	317.20	314.80	288.74		
1308.10	289.06	289.60	290.15	290.84	291.87	293.60	296.04	299.67	302.29	302.67	303.71
	318.74	319.87	322.83	323.31	321.70	321.64	317.23	314.83	288.73		
1310.85	289.06	289.60	290.15	290.84	291.88	293.61	296.04	299.68	302.31	302.67	303.74
	318.71	319.87	322.80	323.32	321.73	321.67	317.28	314.86	288.72		
1313.54	289.04	289.60	290.15	290.84	291.88	293.64	296.05	299.68	302.32	302.68	303.75
	318.70	319.89	322.75	323.31	321.75	321.70	317.32	314.89	289.61		
1316.29	289.04	289.59	290.15	290.85	291.88	293.65	296.06	299.68	302.30	302.69	303.76
	318.73	319.93	322.70	323.31	321.79	321.74	317.38	314.93	289.60		
1318.98	289.03	289.57	290.15	290.84	291.88	293.64	296.03	299.63	302.24	302.65	303.73
	318.68	319.86	322.58	323.25	321.75	321.70	317.36	314.90	289.59		
1321.67	289.02	289.57	290.15	290.84	291.88	293.63	296.01	299.59	302.19	302.60	303.72
	318.69	319.82	322.53	323.22	321.74	321.69	317.36	314.87	289.58		
1324.36	289.02	289.56	290.15	290.84	291.88	293.64	296.03	299.56	302.13	302.55	303.72
	318.71	319.79	322.54	323.22	321.74	321.70	317.33	314.84	289.57		
1327.05	289.03	289.56	290.15	290.84	291.88	293.64	296.03	299.53	302.09	302.50	303.70
	318.72	319.78	322.54	323.22	321.74	321.70	317.25	313.16	289.56		
1329.80	289.02	289.56	290.15	290.83	291.88	293.64	296.01	299.50	302.04	302.48	303.69
	318.73	319.77	322.55	323.21	321.73	321.70	317.19	313.14	289.55		
1332.60	289.02	289.55	290.16	290.83	291.87	293.64	296.01	299.50	302.03	302.49	303.74
	318.82	319.87	322.66	323.29	321.79	321.77	317.22	313.18	289.54		
1335.35	289.02	289.55	290.16	290.82	291.85	293.62	296.02	299.50	302.03	302.51	303.77
	318.94	319.96	322.69	323.33	321.83	321.82	317.26	313.22	289.52		

1338.04	289.02	289.56	290.17	290.80	291.85	293.61	296.03	299.51	302.05	302.54	303.80
	319.04	320.03	322.71	323.36	321.86	321.83	317.29	313.26	289.51		
1340.78	289.02	289.56	290.17	290.78	291.85	293.60	296.04	299.51	302.05	302.56	303.83
	319.09	320.08	322.73	323.37	321.88	321.84	317.32	313.30	289.50		
1343.47	289.03	289.57	290.16	290.78	291.86	293.60	296.04	299.51	302.06	302.56	303.87
	319.13	320.12	322.77	323.39	321.89	321.83	317.35	313.35	288.59		
1346.17	289.04	289.58	290.16	290.77	291.86	293.60	296.04	299.50	302.06	302.56	303.90
	319.17	320.18	322.84	323.41	321.89	321.82	317.38	313.40	288.58		
1348.80	289.03	289.58	290.16	290.78	291.87	293.62	296.06	299.53	302.09	302.60	303.97
	319.30	320.34	323.02	323.51	321.99	321.91	317.49	313.50	288.57		
1351.49	289.03	289.57	290.17	290.79	291.88	293.64	296.08	299.54	302.12	302.66	304.02
	319.39	320.46	323.12	323.56	322.05	321.97	317.60	313.61	288.56		
1354.19	289.03	289.56	290.18	290.81	291.89	293.66	296.10	299.56	302.17	302.72	304.08
	319.46	320.56	323.15	323.59	322.10	322.01	317.71	313.72	288.55		
1356.88	289.03	289.56	290.19	290.82	291.90	293.68	296.12	299.58	302.22	302.77	304.15
	319.21	320.61	323.17	323.62	322.14	322.04	317.81	313.83	288.55		
1359.57	289.05	289.56	290.19	290.83	292.52	293.69	296.15	299.62	302.29	302.82	304.22
	319.22	320.66	323.19	323.66	322.19	322.08	317.91	313.93	288.55		
1362.26	289.04	289.56	290.19	290.84	292.53	293.70	296.16	299.63	302.32	302.82	304.22
	319.12	320.60	323.12	323.60	322.16	322.04	317.94	313.96	288.55		
1364.95	289.03	289.56	290.19	290.85	292.55	293.72	296.16	299.64	302.33	302.83	304.21
	319.03	320.55	323.08	323.56	322.16	322.03	317.96	314.00	288.55		
1367.64	289.00	289.55	290.19	290.89	292.56	293.74	296.16	299.64	302.34	302.83	304.20
	318.95	320.54	323.08	323.54	322.18	322.06	318.00	314.04	288.55		
1370.33	289.00	289.56	290.20	290.91	292.57	293.75	296.17	299.66	302.37	302.85	304.18
	318.90	320.54	323.09	323.55	322.21	322.10	318.05	314.08	288.55		
1373.02	289.00	289.56	290.21	290.92	292.58	293.75	296.18	299.69	302.42	302.88	304.16
	318.83	320.54	323.08	323.56	322.25	322.16	318.10	314.13	289.02		
1375.72	289.00	289.57	290.22	290.94	292.58	293.75	296.20	299.73	302.47	302.89	304.14
	318.73	320.51	323.08	323.57	322.27	322.20	318.14	314.16	289.02		
1378.41	289.00	289.58	290.22	290.94	292.58	293.75	296.22	299.77	302.52	302.89	304.11
	318.66	320.48	323.08	323.57	322.30	322.24	318.18	314.19	289.02		
1381.10	289.00	289.59	290.23	290.95	292.59	293.75	296.23	299.83	302.55	302.88	304.06
	318.56	320.46	323.07	323.58	322.32	322.26	318.21	314.22	289.02		
1383.79	289.00	289.60	290.23	290.95	292.60	293.75	296.25	299.88	302.58	302.88	304.01
	318.45	320.44	323.07	323.59	322.35	322.29	318.25	314.26	289.02		
1386.48	289.00	289.61	290.23	290.95	292.60	293.75	296.27	299.92	302.60	302.88	303.98
	318.64	320.43	323.08	323.60	322.38	322.31	318.28	314.30	289.02		
1389.17	289.00	289.61	290.23	290.95	292.00	293.75	296.28	299.95	302.62	302.89	303.97
	318.66	320.49	323.18	323.71	322.50	322.45	318.34	314.35	289.01		
1392.03	289.00	289.60	290.22	290.95	292.00	293.75	296.30	299.98	302.64	302.90	303.97
	318.73	320.76	323.57	324.12	322.83	322.85	318.44	314.39	289.00		
1394.67	289.02	289.61	290.23	290.95	292.01	293.75	296.31	300.00	302.67	302.91	303.98
	319.19	321.04	323.98	324.58	323.18	323.27	318.55	314.43	288.98		
1397.36	289.05	289.62	290.23	290.95	292.01	293.76	296.31	300.03	302.70	302.91	304.00
	319.58	321.27	324.34	324.99	323.49	323.60	318.67	314.48	288.97		
1400.05	289.05	289.61	290.22	290.95	292.01	293.76	296.33	300.05	302.71	302.92	304.02
	319.89	321.49	324.66	325.35	323.75	323.88	318.77	314.52	288.94		
1403.51	289.05	289.61	290.22	290.94	292.01	293.76	296.34	300.06	302.68	302.92	304.04
	320.21	321.50	324.97	325.69	324.01	324.14	318.87	314.57	288.46		
1406.31	289.04	289.59	290.21	290.94	292.02	293.76	296.34	300.07	302.67	302.94	304.08
	320.57	321.60	325.31	326.05	324.29	324.43	318.98	314.63	288.46		
1409.00	289.04	289.59	290.21	290.94	292.03	293.77	296.35	299.89	302.67	302.98	304.14
	320.93	321.82	325.66	326.44	324.58	324.72	319.08	314.70	288.46		
1411.75	289.05	289.60	290.22	290.94	292.03	293.78	296.35	299.89	302.69	303.03	304.23
	321.30	322.07	326.03	326.81	324.86	325.01	319.19	314.77	288.45		
1414.55	289.06	289.61	290.22	290.94	292.03	293.79	296.36	299.89	302.69	303.08	304.31
	321.68	322.36	326.40	327.19	325.12	325.29	319.31	314.84	288.45		
1417.35	289.07	289.62	290.21	290.94	292.03	293.79	296.37	299.88	302.69	303.13	304.38
	322.06	322.66	326.78	327.56	325.40	325.58	319.44	314.91	288.46		
1420.15	289.09	289.64	290.22	290.94	292.03	293.80	296.38	299.87	302.69	303.18	304.43
	322.34	322.89	327.06	327.82	325.58	325.75	319.54	314.98	288.47		
1422.90	289.10	289.65	290.23	290.95	292.04	293.82	296.40	299.89	302.70	303.21	304.46
	322.57	322.91	327.07	327.81	325.54	325.66	319.61	315.06	288.48		

1425.70	289.12	289.66	290.24	290.96	292.05	293.84	296.42	299.91	302.72	303.25	304.48
	322.43	322.92	327.03	327.74	325.47	325.54	319.67	315.15	288.50		
1428.44	289.14	289.67	290.25	290.96	292.06	293.85	296.45	299.94	302.76	303.30	304.53
	322.38	322.98	327.03	327.72	325.46	325.51	319.73	315.22	288.53		
1431.25	289.16	289.68	290.26	290.97	292.06	293.87	296.48	299.97	302.79	303.33	304.57
	322.41	323.04	327.10	327.74	325.49	325.53	319.44	315.29	289.05		
1433.99	289.16	289.69	290.28	290.99	292.06	293.88	296.48	299.99	302.86	303.36	304.60
	322.44	323.32	327.17	327.78	325.54	325.57	319.52	315.36	289.05		
1436.79	289.17	289.70	290.29	291.00	292.06	293.90	296.49	300.00	302.89	303.40	304.63
	322.47	323.54	327.16	327.80	325.57	325.60	319.59	315.42	289.06		
1439.54	289.17	289.71	290.30	291.01	292.06	293.91	296.49	300.19	302.92	303.44	304.67
	322.48	323.63	327.15	327.81	325.63	325.64	319.66	315.48	289.08		
1442.29	289.18	289.72	290.30	291.01	292.07	293.92	296.52	300.21	302.95	303.49	304.72
	322.50	323.67	327.13	327.82	325.69	325.67	319.75	315.54	289.09		
1445.09	289.19	289.73	290.30	291.02	292.08	293.94	296.54	300.20	303.00	303.53	304.78
	322.54	323.70	327.13	327.83	325.75	325.71	319.82	315.61	289.10		
1447.83	289.20	289.72	290.29	291.02	292.09	293.96	296.56	300.21	303.08	303.58	304.83
	322.58	323.72	327.12	327.84	325.79	325.76	319.89	315.68	289.10		
1450.58	289.20	289.72	290.28	291.02	292.10	293.98	296.58	300.25	303.15	303.66	304.91
	322.62	323.73	327.13	327.85	325.84	325.81	319.95	315.73	289.10		
1453.33	289.20	289.73	290.28	291.02	292.10	294.00	296.60	300.28	303.22	303.76	305.01
	322.65	323.72	327.13	327.86	325.90	325.86	320.02	315.78	289.10		
1456.13	289.20	289.73	290.27	291.02	292.10	294.00	296.61	300.32	303.27	303.84	305.12
	322.68	323.72	327.14	327.87	325.96	325.92	320.07	315.83	289.08		
1458.87	289.19	289.73	290.26	291.03	292.11	294.00	296.63	300.34	303.31	303.90	305.20
	322.72	323.73	327.15	327.88	326.01	325.96	320.14	315.88	289.07		
1461.62	289.19	289.72	290.25	291.03	292.12	294.00	296.64	300.36	303.34	303.97	305.29
	322.78	323.76	327.17	327.89	326.06	326.02	320.55	315.94	288.58		
1464.37	289.20	289.72	290.24	291.03	292.13	294.01	296.66	300.38	303.37	304.07	305.39
	322.82	323.76	327.16	327.90	326.09	326.06	320.61	316.00	288.58		
1467.11	289.22	289.72	290.24	291.03	292.14	294.02	296.68	300.42	303.43	304.13	305.48
	322.85	323.75	327.20	327.90	326.10	326.08	320.67	316.06	288.57		
1469.91	289.24	289.73	290.23	291.04	292.15	294.03	296.71	300.48	303.48	304.17	305.54
	322.87	323.75	327.21	327.91	326.08	326.10	320.72	316.12	288.55		
1472.66	289.24	289.73	290.23	291.04	292.14	294.03	296.72	300.53	303.55	304.22	305.57
	322.89	323.76	327.24	327.92	326.08	326.13	320.76	316.17	288.55		
1475.41	289.24	289.73	290.23	291.03	292.14	294.03	296.73	300.62	303.61	304.28	305.61
	322.89	323.78	327.25	327.94	326.09	326.16	320.81	316.23	288.55		
1478.15	289.24	289.74	290.24	291.03	292.14	294.03	296.74	300.70	303.65	304.34	305.66
	322.90	323.80	326.91	327.96	326.12	326.18	320.87	316.29	288.54		
1480.90	289.24	289.74	290.25	291.04	292.14	294.03	296.75	300.74	303.68	304.37	305.70
	322.92	323.84	326.90	327.96	326.14	326.20	320.94	316.35	288.54		
1483.64	289.25	289.74	290.25	291.04	292.14	294.04	296.76	300.77	303.70	304.37	305.71
	322.96	323.90	326.88	327.96	326.16	326.22	321.00	316.42	288.54		
1486.39	289.25	289.75	290.25	291.04	292.14	294.06	296.78	300.81	303.74	304.38	305.73
	323.00	323.93	326.88	327.97	326.17	326.25	321.07	316.48	288.55		
1489.19	289.25	289.74	290.24	291.03	292.13	294.07	296.79	300.84	303.77	304.39	305.74
	323.02	323.86	326.87	327.96	326.18	326.26	321.12	316.53	288.54		
1491.88	289.25	289.74	290.23	291.00	292.12	294.06	296.80	300.88	303.81	304.40	305.73
	323.01	323.81	326.87	327.96	326.20	326.28	321.16	316.57	288.52		
1494.68	289.24	289.73	290.23	290.99	292.12	294.06	296.81	300.93	303.86	304.39	305.71
	323.01	323.82	326.90	327.96	326.26	326.31	321.21	316.63	288.50		
1497.43	289.23	289.71	290.22	290.98	292.11	294.06	296.83	300.96	303.89	304.41	305.71
	323.02	323.86	326.95	327.98	326.33	326.36	321.26	316.67	288.48		
1500.18	289.22	289.70	290.21	290.98	292.10	294.06	296.84	300.98	303.93	304.43	305.72
	323.03	323.90	327.00	328.00	326.38	326.40	321.32	316.72	288.46		
1502.92	289.21	289.69	290.21	290.97	292.11	294.06	296.84	301.01	303.90	304.42	305.73
	323.02	323.92	327.05	328.01	326.41	326.42	321.37	316.76	288.44		
1505.67	289.21	289.67	290.20	290.97	292.11	294.07	296.87	301.03	303.90	304.40	305.72
	323.00	323.94	327.06	328.02	326.43	326.43	321.42	316.80	288.44		
1508.42	289.21	289.66	290.19	290.97	292.11	294.07	296.89	301.07	303.92	304.37	305.68
	322.96	323.96	327.44	328.03	326.44	326.43	321.47	316.84	288.43		
1511.16	289.21	289.65	290.19	290.96	292.11	294.08	296.92	301.11	303.95	304.35	305.66
	322.90	323.99	327.49	328.06	326.45	326.42	321.52	316.89	288.42		

1513.85	288.92	289.35	289.91	290.67	291.83	293.81	296.94	301.13	303.99	304.35	305.64
	322.84	324.02	328.75	328.07	326.47	326.43	321.55	316.93	289.46		
1516.60	288.92	289.06	288.54	289.29	290.46	292.44	295.60	299.82	302.68	303.05	304.31
	322.19	323.38	328.31	327.79	325.86	326.14	320.36	315.67	290.51		
1519.35	288.92	288.22	287.73	288.48	289.65	291.64	294.81	299.04	301.91	302.30	303.53
	322.33	323.50	328.64	328.15	325.94	326.43	319.78	314.95	289.69		
1522.04	288.92	288.23	287.75	288.51	289.67	291.68	294.82	299.07	301.93	302.35	303.58
	323.14	324.20	329.53	329.12	326.67	327.27	319.99	315.02	289.70		
1524.78	288.92	288.24	287.76	288.53	289.69	291.70	294.82	299.09	301.95	302.39	303.66
	323.68	324.69	330.13	329.82	327.15	327.79	320.16	315.10	289.72		
1527.53	288.92	288.26	287.78	288.54	289.71	291.73	294.85	299.11	301.97	302.43	303.76
	323.99	324.97	330.44	330.25	327.42	328.07	320.29	315.19	289.74		
1532.14	288.92	288.28	287.81	288.56	289.74	291.76	294.88	299.13	301.96	302.47	303.85
	324.11	325.15	330.57	330.44	327.54	328.15	320.39	315.28	289.76		
1535.00	288.92	288.30	287.83	288.58	289.76	291.78	294.90	299.14	302.02	302.51	303.95
	324.13	325.24	330.57	330.50	327.57	328.13	320.48	315.38	289.77		
1537.53	288.92	288.33	287.86	288.61	289.77	291.80	294.92	299.16	302.05	302.57	304.04
	324.12	325.30	330.57	330.52	327.58	328.09	320.54	315.47	289.77		
1540.11	288.92	288.35	287.89	288.62	289.79	291.82	294.94	299.16	302.07	302.65	304.13
	323.82	325.30	330.54	330.52	327.60	328.08	320.60	315.56	289.78		
1542.63	288.92	288.36	287.91	288.64	289.80	291.84	294.94	299.16	302.10	302.73	304.21
	323.83	325.34	330.53	330.54	327.63	328.10	320.66	315.63	289.78		
1545.22	288.92	288.66	288.20	288.94	290.09	292.13	294.94	299.17	302.06	302.78	304.30
	323.86	325.39	329.32	330.58	327.68	328.14	320.73	315.71	288.74		
1547.91	288.92	288.90	289.59	290.33	291.48	293.51	296.32	300.52	303.38	304.14	305.69
	324.48	326.10	329.81	330.91	328.36	328.48	322.02	317.09	287.70		
1550.60	289.29	289.74	290.43	291.17	292.32	294.34	297.14	301.33	304.18	304.96	306.53
	324.30	326.14	329.54	330.60	328.34	328.24	322.71	317.93	288.53		
1553.35	289.29	289.75	290.44	291.18	292.32	294.34	297.17	301.33	304.18	304.97	306.53
	323.47	325.55	328.68	329.67	327.68	327.46	322.63	317.99	288.53		
1556.04	289.29	289.75	290.45	291.19	292.33	294.35	297.20	301.35	304.20	304.98	306.52
	322.90	325.16	328.13	329.02	327.24	326.99	322.59	318.02	288.52		
1558.73	289.29	289.74	290.45	291.20	292.33	294.35	297.22	301.38	304.24	305.00	306.51
	322.57	324.94	327.85	328.65	327.03	326.76	322.58	318.06	288.52		
1561.42	289.32	289.73	290.44	291.19	292.33	294.35	297.24	301.43	304.30	305.02	306.51
	322.43	324.81	327.76	328.49	326.97	326.73	322.59	318.08	288.52		
1564.11	289.33	289.72	290.43	291.19	292.33	294.36	297.26	301.47	304.36	305.04	306.50
	322.41	324.76	327.76	328.46	327.00	326.80	322.64	318.11	288.52		
1566.80	289.33	289.71	290.43	291.18	292.33	294.36	297.28	301.49	304.42	305.07	306.51
	322.40	324.71	327.79	328.48	327.06	326.90	322.69	318.14	288.50		
1569.49	289.34	289.70	290.43	291.19	292.34	294.36	297.29	301.53	304.46	305.10	306.53
	322.68	324.70	327.83	328.50	327.11	326.97	322.74	318.17	288.50		
1572.18	289.33	289.71	290.43	291.20	292.35	294.37	297.32	301.58	304.51	305.12	306.54
	322.69	324.66	327.85	328.50	327.15	327.03	322.80	318.22	289.05		
1574.88	289.32	289.71	290.43	291.19	292.35	294.38	297.34	301.61	304.60	305.15	306.55
	322.69	324.62	327.85	328.49	327.17	327.08	322.85	318.25	289.04		
1577.57	289.32	289.78	290.43	291.19	292.35	294.39	297.37	301.66	304.67	305.17	306.58
	322.67	324.59	327.84	328.49	327.20	327.12	322.91	318.29	289.04		
1580.26	289.33	289.79	290.43	291.20	292.36	294.41	297.40	301.70	304.68	305.20	306.63
	322.65	324.56	327.83	328.50	327.22	327.15	322.96	318.34	289.04		
1582.95	289.31	289.80	290.43	291.21	292.37	294.43	297.43	301.72	304.70	305.23	306.70
	322.64	324.53	327.80	328.49	327.24	327.18	322.99	318.38	289.04		
1585.64	289.30	289.81	290.43	291.22	292.38	294.45	297.41	301.73	304.72	305.26	306.75
	322.64	324.49	327.77	328.47	327.26	327.21	323.03	318.43	289.05		
1588.39	289.30	289.81	290.43	291.23	292.38	294.46	297.42	301.74	304.73	305.29	306.75
	322.62	324.43	327.75	328.46	327.28	327.22	323.07	318.47	289.05		
1591.08	289.27	289.82	290.44	291.24	292.38	294.48	297.43	301.74	304.73	305.31	306.71
	322.60	324.38	327.71	328.46	327.30	327.25	323.10	318.52	289.04		
1593.88	289.26	289.82	290.45	291.26	292.39	294.50	297.44	301.74	304.73	305.34	306.69
	322.57	324.33	327.68	328.46	327.32	327.27	323.13	318.56	289.03		
1596.63	289.25	289.83	290.45	291.27	292.39	294.02	297.45	301.76	304.72	305.35	306.68
	322.56	324.29	327.66	328.45	327.36	327.29	323.16	318.60	289.04		
1599.32	289.24	289.83	290.45	291.26	292.39	294.03	297.47	301.76	304.72	305.35	306.69
	322.56	324.28	327.64	328.45	327.37	327.30	323.19	318.63	289.05		

1602.01	289.24	289.82	290.45	291.26	292.38	294.03	297.47	301.76	304.70	305.34	306.71
	322.53	324.26	327.62	328.46	327.39	327.33	323.22	318.67	288.50		
1604.70	289.24	289.81	290.45	291.27	292.39	294.03	297.48	301.76	304.70	305.36	306.72
	322.48	324.22	327.59	328.48	327.40	327.35	323.25	318.71	288.51		
1607.39	289.24	289.80	290.45	291.29	292.40	294.03	297.48	301.76	304.72	305.38	306.71
	322.41	324.18	327.54	328.46	327.41	327.36	323.27	318.74	288.51		
1610.08	289.23	289.79	290.45	291.28	292.41	294.02	297.43	301.70	304.78	305.42	306.68
	322.36	324.15	327.51	328.45	327.42	327.37	323.29	318.76	288.50		
1612.77	289.24	289.78	290.45	291.28	292.41	294.02	297.39	301.68	304.85	305.44	306.66
	322.32	324.10	327.49	328.45	327.43	327.38	323.32	318.80	288.49		
1615.47	289.25	289.77	290.45	291.28	292.42	294.01	297.43	301.69	304.89	305.45	306.64
	322.28	324.07	327.46	328.45	327.44	327.39	323.35	318.83	288.48		
1618.16	289.25	289.77	290.45	291.27	292.42	294.00	297.44	301.70	304.90	305.45	306.62
	322.25	324.06	327.43	328.45	327.45	327.40	323.37	318.86	288.47		
1620.90	289.25	289.76	290.45	291.28	292.42	294.01	297.45	301.72	304.91	305.47	306.63
	322.23	324.07	327.41	328.45	327.45	327.42	323.40	318.89	288.46		
1623.59	289.23	289.75	290.45	291.27	292.43	294.01	297.46	301.73	304.92	305.47	306.64
	322.22	324.08	327.38	328.43	327.44	327.44	323.42	318.92	288.44		
1626.29	289.21	289.75	290.45	291.27	292.45	294.51	297.47	301.74	304.91	305.46	306.64
	322.22	324.09	327.37	328.44	327.41	327.45	323.45	318.95	288.42		
1628.98	289.19	289.75	290.45	291.28	292.46	294.52	297.48	301.74	304.91	305.44	306.61
	322.23	324.10	327.37	328.43	327.42	327.48	323.47	318.99	288.40		
1631.67	289.17	289.75	290.45	291.28	292.48	294.53	297.48	301.74	304.92	305.43	306.57
	322.22	324.13	327.37	328.43	327.44	327.50	323.49	319.02	289.50		
1634.36	289.16	289.75	290.45	291.29	292.49	294.53	297.48	301.76	304.92	305.41	306.55
	322.22	324.14	327.39	328.43	327.45	327.52	323.52	319.06	289.49		
1637.11	289.15	289.75	290.45	291.28	292.50	294.54	297.48	301.77	304.91	305.38	306.55
	322.26	324.15	327.41	328.45	327.46	327.54	323.55	319.10	289.47		
1639.80	289.15	289.76	290.44	291.27	292.51	294.56	297.52	301.85	304.90	305.35	306.54
	322.28	324.16	327.44	328.48	327.47	327.55	323.56	319.14	289.45		
1642.49	289.15	289.75	290.44	291.27	292.52	294.56	297.57	301.89	304.87	305.33	306.53
	322.27	324.18	327.44	328.49	327.47	327.55	323.58	319.17	289.43		
1645.18	289.15	289.74	290.44	291.28	292.52	294.58	297.58	301.90	304.85	305.33	306.53
	322.30	324.19	327.44	328.50	327.47	327.56	323.59	319.19	289.42		
1647.87	289.15	289.74	290.44	291.29	292.53	294.60	297.59	301.89	304.84	305.32	306.55
	322.32	324.18	327.44	328.50	327.47	327.56	323.60	319.22	289.42		
1650.56	289.15	289.74	290.44	291.30	292.55	294.61	297.60	301.88	304.84	305.30	306.57
	322.33	324.16	327.46	328.50	327.48	327.56	323.62	319.25	289.42		
1653.25	289.15	289.74	290.44	291.30	292.55	294.61	297.60	301.88	304.86	305.30	306.59
	322.32	324.14	327.48	328.51	327.50	327.57	323.64	319.28	289.43		
1655.95	289.15	289.75	290.44	291.31	292.55	294.62	297.62	301.90	304.89	305.33	306.59
	322.32	324.14	327.48	328.53	327.53	327.59	323.66	319.31	289.44		
1658.64	289.15	289.76	290.44	291.32	292.56	294.64	297.62	301.93	304.91	305.34	306.60
	322.32	324.16	327.48	328.55	327.51	327.59	323.67	319.34	289.44		
1661.33	289.15	289.76	290.44	291.32	292.57	294.64	297.61	301.94	304.92	305.35	306.62
	322.31	324.16	327.49	328.55	327.49	327.58	323.70	319.37	288.30		
1664.02	289.15	289.76	290.44	291.32	292.58	294.64	297.60	301.95	304.93	305.37	306.63
	322.31	324.18	327.49	328.55	327.46	327.56	323.72	319.40	288.30		
1666.71	289.15	289.76	290.45	291.34	292.58	294.63	297.60	301.95	304.93	305.38	306.64
	322.31	324.19	327.48	328.54	327.44	327.55	323.74	319.42	288.31		
1669.40	289.15	289.76	290.45	291.35	292.58	294.63	297.60	301.95	304.92	305.38	306.65
	322.32	324.21	327.48	328.53	327.44	327.55	323.76	319.46	288.32		
1672.09	289.15	289.77	290.46	291.35	292.58	294.63	297.60	301.95	304.92	305.38	306.64
	322.34	324.23	327.51	328.53	327.45	327.55	323.78	319.54	288.91		
1674.79	289.15	289.80	290.47	291.35	292.58	294.63	297.59	301.95	304.93	305.37	306.62
	322.32	324.26	327.54	328.53	327.45	327.55	323.80	319.60	288.92		
1677.48	289.15	289.81	290.47	291.35	292.58	294.63	297.58	301.96	304.93	305.37	306.61
	322.32	324.30	327.54	328.50	327.46	327.55	323.83	319.64	288.92		
1680.17	289.15	289.82	290.47	291.35	292.59	294.63	297.57	301.97	304.93	305.36	306.59
	322.31	324.32	327.54	328.51	327.48	327.56	323.85	319.67	288.92		
1682.86	289.15	289.84	290.48	291.35	292.60	294.63	297.56	301.95	304.91	305.35	306.60
	322.34	324.33	327.55	328.51	327.50	327.58	323.87	319.71	288.93		
1685.55	289.27	289.84	290.49	291.35	292.60	294.62	297.54	301.93	304.90	305.33	306.62
	322.34	324.33	327.56	328.52	327.52	327.59	323.91	319.74	288.94		

1688.24	289.28	289.84	290.50	291.35	292.59	294.61	297.53	301.92	304.90	305.33	307.38
	322.35	324.31	327.55	328.53	327.55	327.61	323.93	319.75	288.95		
1690.99	289.29	289.85	290.51	291.35	292.58	294.61	297.55	301.92	304.90	305.34	307.38
	321.80	324.27	327.52	328.53	327.58	327.62	323.94	319.77	288.96		
1693.73	289.30	289.86	290.52	291.35	292.57	294.63	297.57	301.91	304.90	305.32	307.36
	321.77	324.24	327.49	328.53	326.19	327.63	323.94	319.79	288.97		
1696.43	289.30	289.86	290.52	291.35	292.57	294.64	297.59	301.91	304.90	305.31	307.36
	321.74	324.23	327.49	328.53	326.22	327.63	323.96	319.81	288.96		
1699.06	289.32	289.87	290.52	291.36	292.58	294.64	297.60	301.91	304.91	305.30	307.35
	321.72	324.22	327.50	328.53	326.24	327.64	323.98	319.89	289.55		
1701.75	289.32	289.87	290.51	291.36	292.58	294.64	297.61	301.90	304.89	305.00	307.34
	321.71	324.20	327.49	328.53	326.23	327.66	324.00	319.88	288.99		
1704.45	289.32	289.86	290.50	291.36	292.58	294.64	297.62	301.90	304.85	304.86	307.33
	321.68	324.18	327.48	328.54	326.24	327.68	324.02	319.87	288.99		
1707.14	289.33	289.88	290.50	291.37	292.58	294.64	297.62	301.91	304.83	304.81	307.32
	321.66	324.18	327.47	328.57	326.24	327.70	324.04	319.89	289.00		
1709.83	289.34	289.88	290.50	291.37	292.57	294.64	297.62	301.91	304.83	304.79	307.31
	321.62	324.18	327.47	328.58	326.24	327.70	324.04	319.90	289.01		
1712.52	289.35	289.88	290.50	291.37	292.56	294.63	297.64	301.93	304.82	304.77	307.29
	321.59	324.19	327.45	328.58	326.24	327.70	324.05	319.99	290.17		
1715.21	289.36	289.89	290.51	291.38	292.55	294.61	297.65	301.95	304.82	304.75	307.28
	321.56	324.19	327.44	328.58	326.24	327.70	324.06	320.04	290.18		
1717.90	289.37	289.90	290.50	291.38	292.55	294.61	297.67	301.95	304.81	304.74	306.53
	321.55	324.20	327.43	328.57	326.26	327.70	324.07	320.07	290.20		
1720.59	289.38	289.91	290.51	291.39	292.56	294.62	297.67	301.94	304.80	304.74	306.53
	322.12	324.22	327.43	328.56	326.27	327.71	324.09	320.10	290.22		
1723.28	289.39	289.92	290.52	291.40	292.58	294.63	297.67	301.94	304.81	304.74	306.56
	322.15	324.21	327.43	328.56	327.72	327.74	324.12	320.13	290.23		
1725.98	289.40	289.93	290.54	291.40	292.59	294.64	297.68	301.95	304.82	304.76	306.56
	322.17	324.20	327.40	328.56	327.74	327.77	324.15	320.16	290.25		
1728.67	289.41	289.94	290.55	291.40	292.60	294.64	297.68	301.97	304.84	304.77	306.58
	322.19	324.20	327.37	328.56	327.77	327.80	324.16	320.12	289.68		
1731.36	289.42	289.95	290.57	291.41	292.62	294.66	297.69	302.01	304.91	305.07	306.60
	322.30	324.29	327.47	328.66	327.89	327.93	324.20	320.12	289.68		
1734.05	289.43	289.96	290.59	292.41	292.63	294.67	297.71	302.04	304.98	305.23	306.63
	322.68	324.59	327.88	329.06	328.24	328.33	324.28	320.13	289.68		
1736.74	289.44	289.96	290.61	292.42	292.64	294.68	297.74	302.06	305.04	305.30	306.65
	323.15	324.91	328.32	329.50	328.60	328.76	324.37	320.16	289.68		
1739.43	289.44	289.96	290.63	292.43	292.65	294.70	297.77	302.08	305.06	305.33	306.69
	323.59	325.16	328.69	329.91	328.91	329.11	324.47	320.19	289.69		
1742.12	289.48	289.96	290.64	292.43	292.67	294.72	297.78	302.08	305.07	305.34	306.72
	323.96	325.42	329.04	330.28	329.18	329.39	324.57	320.16	288.53		
1745.64	289.50	289.96	290.64	292.42	292.70	294.75	297.78	302.10	305.08	305.36	306.75
	324.27	325.65	329.37	330.63	329.43	329.65	324.65	320.16	288.52		
1748.44	289.50	289.96	290.65	292.43	292.72	294.76	297.78	302.12	305.09	305.38	306.80
	324.58	325.88	329.71	330.99	329.67	329.93	324.74	320.19	288.52		
1751.13	289.48	289.96	290.65	292.43	292.72	294.78	297.80	302.14	305.10	305.40	306.82
	324.92	326.15	330.07	331.36	329.92	330.20	324.83	320.22	288.51		
1753.82	289.48	289.96	290.64	292.43	292.73	294.78	297.82	302.15	305.11	305.42	306.85
	325.27	326.43	330.43	331.74	330.16	330.47	324.92	320.26	288.50		
1756.62	289.48	289.96	290.63	292.43	292.71	294.77	297.82	302.15	305.11	305.43	306.87
	325.61	326.72	330.80	332.12	330.41	330.74	325.00	320.30	288.50		
1759.48	289.48	289.95	290.63	292.43	292.71	294.76	297.82	302.14	305.09	305.44	306.88
	325.92	327.01	331.17	332.49	330.66	331.01	325.09	320.33	288.50		
1762.28	289.48	289.95	290.63	292.43	292.71	294.75	297.82	302.12	305.06	305.45	306.92
	326.15	327.20	331.44	332.74	330.82	331.16	325.18	320.37	288.50		
1765.08	289.47	289.95	290.63	291.44	292.71	294.73	297.79	302.10	305.03	305.46	306.97
	326.11	327.19	331.42	332.72	330.78	331.06	325.21	320.40	288.50		
1767.83	289.45	289.95	290.63	291.43	292.71	294.72	297.78	302.10	305.03	305.48	307.02
	326.02	327.18	333.91	332.64	330.71	330.93	325.25	320.43	288.50		
1770.63	289.44	289.95	290.63	291.42	292.70	294.72	297.76	302.11	305.05	305.50	307.09
	325.98	327.23	333.90	332.60	330.69	330.88	325.29	320.46	288.51		
1773.43	289.40	289.95	290.63	291.42	292.69	294.71	297.75	302.11	305.07	305.54	307.15
	325.99	327.29	333.91	332.61	330.71	330.91	325.32	320.50	288.52		

1776.23	289.39	289.95	290.63	291.42	292.68	294.71	297.72	302.08	305.10	305.57	307.18
	326.06	327.39	333.96	332.64	330.76	330.96	325.37	320.53	288.53		
1778.98	289.39	289.94	290.63	291.42	292.67	294.71	297.72	302.06	305.12	305.58	307.17
	326.12	327.48	334.02	332.66	330.80	331.00	325.42	320.56	288.54		
1781.78	289.40	289.94	290.63	291.42	292.67	294.71	297.73	302.08	305.14	305.61	307.19
	326.16	327.56	334.06	332.68	330.85	331.04	325.46	320.60	288.54		
1784.58	289.40	289.94	290.64	291.42	292.67	294.71	297.74	302.11	305.18	305.64	307.23
	326.20	327.63	334.10	332.68	330.89	331.06	325.51	320.64	288.55		
1787.33	289.40	289.95	290.65	291.43	292.68	294.72	297.76	302.15	305.22	305.69	307.28
	326.26	327.67	334.14	332.68	330.92	331.10	325.56	320.69	289.14		
1790.13	289.40	289.95	290.65	291.43	292.69	294.74	297.79	302.20	305.27	305.74	307.34
	326.33	327.73	334.21	332.70	330.97	331.14	325.61	320.73	289.14		
1792.93	289.40	289.95	290.65	291.42	292.68	294.76	297.82	302.25	305.34	305.79	307.40
	326.40	327.80	334.23	332.73	331.03	331.18	325.66	320.76	289.13		
1795.84	289.41	289.95	290.65	291.41	292.68	294.76	297.85	302.30	305.41	305.85	307.44
	326.45	327.84	334.25	332.75	331.06	331.22	325.71	320.82	289.13		
1798.59	289.43	289.95	290.65	291.41	292.68	294.77	297.89	302.35	305.46	305.90	307.47
	326.48	327.89	331.70	332.76	331.09	331.24	325.75	320.86	289.13		
1801.39	289.44	289.95	290.65	291.42	292.71	294.78	297.93	302.40	305.52	305.96	307.50
	326.52	327.91	331.70	332.77	331.12	331.28	325.80	320.91	289.13		
1804.13	289.44	289.95	290.65	291.42	292.72	294.78	297.96	302.46	305.57	306.01	307.52
	326.54	327.90	331.72	332.78	331.16	331.31	325.84	320.95	289.13		
1806.88	289.43	289.95	290.64	291.42	292.73	294.80	298.03	302.55	305.62	306.06	307.56
	326.53	327.88	331.70	332.79	331.18	331.34	325.89	320.98	289.12		
1809.68	289.41	289.94	290.63	291.42	292.73	294.80	298.05	302.60	305.66	306.11	307.60
	326.52	327.86	331.70	332.79	331.20	331.37	325.94	321.02	289.10		
1812.43	290.75	289.93	290.61	291.41	292.72	294.80	298.06	302.62	305.70	306.16	307.64
	326.52	327.82	331.69	332.79	331.23	331.40	325.98	321.05	289.08		
1815.17	290.73	289.91	290.60	291.40	292.71	294.80	298.06	302.64	305.74	306.22	307.68
	326.52	327.79	331.67	332.81	331.26	331.43	326.02	321.07	289.05		
1817.98	290.70	289.89	290.58	291.39	292.70	294.80	298.06	302.64	305.78	306.27	307.70
	326.53	327.77	331.64	332.83	331.31	331.46	326.06	321.10	288.43		
1820.72	290.67	289.88	290.57	291.38	292.69	294.80	298.05	302.66	305.80	306.32	307.72
	326.52	327.76	331.59	332.84	331.34	331.49	326.10	321.13	288.40		
1823.52	290.66	289.87	290.56	291.38	292.69	294.79	298.05	302.67	305.82	306.36	307.72
	326.51	327.73	331.54	332.84	331.35	331.52	326.15	321.17	288.38		
1826.27	290.64	289.86	290.55	291.38	292.69	294.80	298.05	302.68	305.83	306.40	307.74
	326.52	327.70	331.52	332.85	331.38	331.54	326.19	321.20	288.36		
1829.02	290.62	289.86	290.54	291.38	292.70	294.82	298.04	302.69	305.85	306.44	307.75
	326.51	327.65	331.49	332.86	331.40	331.57	326.23	321.23	288.33		
1831.76	290.60	289.85	290.53	291.38	292.70	294.83	298.05	302.70	305.87	306.48	307.78
	326.49	327.61	331.49	332.86	331.42	331.59	326.27	321.27	288.30		
1834.51	290.58	289.83	290.51	291.38	292.70	294.84	298.07	302.73	305.91	306.56	307.82
	326.49	327.62	331.49	332.86	331.45	331.61	326.32	321.30	288.29		
1837.31	290.56	289.82	290.50	291.39	292.72	294.85	298.09	302.78	305.97	306.63	307.87
	326.50	327.61	331.48	332.87	331.47	331.63	326.36	321.35	288.28		
1840.06	290.57	289.82	290.50	291.40	292.74	294.87	298.13	302.84	306.04	306.69	307.93
	326.52	327.63	331.48	332.87	331.50	331.66	326.40	321.41	288.28		
1842.80	289.21	289.82	290.51	291.42	292.76	294.90	298.17	302.90	306.10	306.72	307.97
	326.55	327.68	331.48	332.90	331.52	331.69	326.45	321.46	288.29		
1845.55	289.21	289.83	290.52	291.44	292.78	294.94	298.21	302.97	306.15	306.75	308.01
	326.56	327.75	331.50	332.91	331.54	331.71	326.50	321.51	288.30		
1848.30	289.21	289.83	290.53	291.46	292.80	294.97	298.25	303.02	306.20	306.76	308.05
	326.57	327.79	331.52	332.91	331.55	331.72	326.53	321.56	288.31		
1851.10	289.22	289.83	290.54	291.46	292.81	295.00	298.30	303.07	306.26	306.78	308.10
	326.60	327.82	331.56	332.92	331.57	331.73	326.56	321.61	288.32		
1853.84	289.22	289.84	290.55	291.46	292.83	295.04	298.35	303.13	306.27	306.80	308.14
	326.62	327.87	331.61	332.94	331.59	331.74	326.59	321.66	288.33		
1856.59	289.24	289.85	290.54	291.47	292.84	295.08	298.39	303.18	306.32	306.83	308.18
	326.63	327.92	331.64	332.94	331.60	331.74	326.61	321.70	289.57		
1859.34	289.25	289.84	290.54	291.48	292.87	295.10	298.43	303.23	306.36	306.84	308.20
	326.64	327.98	331.67	332.96	331.60	331.75	326.65	321.75	289.58		
1862.08	289.25	289.85	290.54	291.50	292.88	295.13	298.46	303.27	306.40	306.83	308.22
	326.65	328.05	331.69	333.00	331.62	331.76	326.69	321.80	289.59		

1864.83	289.25	289.86	290.56	291.52	292.90	295.15	298.48	303.30	306.41	306.80	308.22
	326.67	328.08	331.71	333.02	331.63	331.76	326.73	321.85	289.59		
1867.52	289.27	289.87	290.58	291.54	292.90	295.18	298.50	303.31	306.41	306.77	308.21
	326.66	328.13	331.76	333.04	331.64	331.75	326.76	321.89	289.59		
1870.27	289.29	289.88	290.59	291.55	292.92	295.20	298.52	303.33	306.39	306.76	308.21
	326.64	328.17	331.80	333.08	331.64	331.73	326.96	321.92	289.59		
1873.01	289.31	289.90	290.61	291.58	292.95	295.23	298.53	303.34	306.39	306.75	308.21
	326.63	328.18	331.83	333.10	331.65	331.72	327.01	321.98	289.61		
1875.76	289.34	289.93	290.64	291.60	292.97	295.26	298.56	303.35	306.38	306.74	308.21
	326.60	328.16	331.85	333.12	331.66	331.71	327.05	322.03	289.63		
1878.45	289.38	289.97	290.66	291.62	293.00	295.28	298.60	303.37	306.38	306.76	308.19
	326.54	328.15	331.86	333.15	331.68	331.72	327.11	322.10	289.65		
1881.20	289.41	290.00	290.68	291.65	293.03	295.31	298.62	303.37	306.37	306.78	308.18
	326.47	328.13	331.84	333.15	331.68	331.72	327.16	322.15	289.66		
1883.94	289.43	290.02	290.71	291.69	293.05	295.33	298.62	303.37	306.42	306.81	308.19
	326.42	328.09	331.83	333.15	331.70	331.74	327.21	322.20	289.68		
1886.63	289.44	290.04	290.74	291.70	293.06	295.34	298.63	303.37	306.42	306.83	308.22
	326.38	328.05	331.82	333.16	331.73	331.76	327.28	322.26	288.47		
1889.38	289.46	290.07	290.77	291.70	293.06	295.36	298.64	303.37	306.41	306.85	308.25
	326.35	328.02	331.79	333.17	331.76	331.78	327.32	322.31	288.49		
1892.07	289.48	290.10	290.79	291.72	293.09	295.37	298.65	303.38	306.42	306.87	308.28
	326.33	327.98	331.76	333.18	331.80	331.81	327.36	322.35	288.50		
1894.87	289.50	290.12	290.81	291.74	293.10	295.40	298.67	303.40	306.44	306.91	308.30
	326.30	327.93	331.70	333.18	331.83	331.84	327.41	322.40	288.52		
1897.62	289.51	290.14	290.82	291.75	293.12	295.42	298.68	303.43	306.47	306.93	308.31
	326.26	327.88	331.62	333.16	331.86	331.87	327.45	322.45	288.54		
1900.36	289.51	290.16	290.83	291.74	293.11	295.43	298.71	303.45	306.52	306.97	308.32
	326.21	327.82	331.56	333.13	331.88	331.89	327.32	322.50	288.55		
1903.06	289.50	290.17	290.83	291.72	293.09	295.43	298.73	303.47	306.55	307.01	308.32
	325.84	327.77	331.53	333.12	331.90	331.93	327.36	322.52	288.55		
1905.80	289.50	290.16	290.82	291.72	293.10	295.43	298.72	303.48	306.58	307.05	308.32
	325.82	327.75	331.50	333.11	331.94	331.98	327.40	322.56	288.55		
1908.49	289.50	290.15	290.82	291.73	293.11	295.43	298.71	303.49	306.60	307.08	308.35
	325.84	327.72	331.48	333.10	331.97	332.03	327.44	322.41	288.55		
1911.18	289.47	290.14	290.83	291.74	293.11	295.44	298.73	303.50	306.60	307.12	308.38
	325.86	327.71	331.47	333.11	332.02	332.08	327.48	322.45	289.80		
1913.99	289.44	290.14	290.84	291.75	293.13	295.46	298.75	303.50	306.62	307.15	308.41
	325.86	327.72	331.47	333.13	332.07	332.13	327.54	322.48	289.80		
1916.68	289.43	290.14	290.84	291.78	293.15	295.47	298.76	303.50	306.62	307.16	308.42
	325.84	327.73	331.47	333.14	332.10	332.17	327.58	322.52	289.80		
1919.42	289.42	290.14	290.86	291.80	293.16	295.48	298.77	303.51	306.63	307.19	308.41
	325.81	327.72	331.50	333.13	332.14	332.21	327.61	322.55	289.81		
1922.17	289.43	290.13	290.86	291.80	293.16	295.48	298.78	303.52	306.64	307.22	308.41
	325.78	327.71	331.55	333.13	332.16	332.25	327.64	322.59	289.82		
1924.86	289.43	290.12	290.87	291.79	293.16	295.48	298.79	303.51	306.63	307.25	308.39
	325.78	327.72	331.62	333.13	332.20	332.28	327.68	322.62	289.82		
1927.61	289.42	290.12	290.87	291.79	293.16	295.45	298.75	303.20	306.59	307.28	308.42
	325.81	327.72	331.67	333.14	332.42	332.33	327.72	322.65	289.82		
1930.30	289.42	290.12	290.87	291.81	293.18	295.43	298.71	303.18	306.54	307.30	308.46
	325.86	327.75	331.69	333.17	332.47	332.39	327.76	322.68	289.79		
1933.05	289.42	290.12	290.87	291.81	293.18	295.42	298.69	303.16	306.51	307.29	308.48
	326.24	327.79	331.71	333.17	332.51	332.43	327.80	322.71	289.79		
1935.74	289.42	290.12	290.87	291.81	293.19	295.42	298.69	303.15	306.50	307.27	308.48
	326.26	327.85	331.74	333.18	332.53	332.45	327.83	322.75	289.79		
1938.48	289.42	290.14	290.87	291.81	293.19	295.43	298.70	303.17	306.52	307.26	308.50
	326.37	327.98	331.86	333.27	332.62	332.58	327.88	322.96	289.79		
1941.23	289.45	291.33	290.87	291.80	293.19	295.42	298.70	303.19	306.54	307.26	308.51
	326.80	328.35	332.28	333.67	332.95	333.01	327.99	322.99	288.54		
1943.98	289.48	291.34	290.87	291.80	293.19	295.40	298.70	303.21	306.56	307.25	308.51
	327.30	328.73	332.75	334.13	333.32	333.46	328.10	323.03	288.54		
1946.67	289.50	291.35	290.86	291.80	293.19	295.41	298.70	303.24	306.58	307.25	308.52
	327.74	329.07	333.13	334.52	333.61	333.80	328.21	323.08	288.54		
1949.41	289.51	291.35	290.86	291.81	293.18	295.42	298.72	303.27	306.61	307.27	308.55
	328.10	329.37	333.42	334.88	333.86	334.08	328.32	323.13	288.53		

1953.09	289.51	291.35	290.86	291.81	293.19	295.43	298.73	303.28	306.64	307.28	308.59
	328.47	329.67	333.72	335.23	334.11	334.36	328.43	323.18	288.52		
1955.89	289.51	291.35	290.86	291.82	293.20	295.43	298.74	303.30	306.65	307.29	308.61
	328.84	330.00	334.06	335.61	334.37	334.65	328.53	323.24	288.52		
1958.59	289.51	291.34	290.87	291.83	293.21	295.47	298.79	303.61	306.70	307.29	308.63
	329.21	330.35	334.45	336.00	334.46	334.94	328.63	323.29	288.52		
1961.39	289.51	291.34	290.87	291.84	293.22	295.50	298.84	303.63	306.75	307.29	308.64
	329.59	330.68	334.82	336.39	334.71	335.20	328.73	323.35	288.54		
1964.30	289.51	291.34	290.88	291.85	293.24	295.51	298.86	303.65	306.78	307.31	308.66
	329.94	331.00	335.18	336.78	334.97	335.46	328.84	323.40	288.54		
1967.15	289.51	291.34	290.89	291.86	293.25	295.52	298.88	303.67	306.80	307.35	308.72
	330.31	331.30	335.54	337.17	335.23	335.73	328.95	323.46	288.54		
1970.01	289.51	291.34	290.90	291.88	293.25	295.52	298.89	303.66	306.80	307.37	308.80
	330.62	331.52	335.81	337.46	335.42	335.89	329.04	323.51	288.55		
1972.81	289.51	290.15	290.90	291.89	293.25	295.53	298.90	303.66	306.79	307.37	308.87
	330.62	331.50	335.78	337.44	335.36	335.75	329.09	323.57	288.55		
1975.61	289.51	290.14	290.90	291.89	293.25	295.54	298.91	303.66	306.81	307.39	308.93
	330.51	331.47	335.70	337.36	335.28	335.60	329.11	323.62	288.55		
2029.22	289.42	290.14	290.86	291.84	293.24	295.59	299.10	304.10	307.26	308.00	309.72
	331.35	332.02	336.50	338.22	336.19	336.50	329.67	324.10	289.17		
2031.97	289.44	290.16	290.89	291.88	293.30	295.67	299.20	304.29	307.46	308.19	309.91
	331.21	332.12	336.41	338.17	336.20	336.39	330.01	324.44	289.18		
2034.77	289.45	290.16	290.89	291.90	293.32	295.70	299.25	304.37	307.58	308.33	310.02
	330.79	331.83	336.06	337.77	335.89	336.00	330.02	324.51	289.18		
2037.57	289.45	290.17	290.90	291.92	293.34	295.74	299.31	304.43	307.69	308.46	310.09
	330.58	331.68	335.96	337.60	335.78	335.85	330.05	324.56	289.19		
2040.37	289.46	290.17	290.90	291.95	293.36	295.78	299.37	304.50	307.77	308.53	310.12
	333.43	336.50	335.96	337.60	335.82	335.89	330.12	324.61	289.20		
2043.12	289.47	290.17	290.90	291.96	293.38	295.82	299.42	304.92	307.84	308.58	310.14
	333.44	336.52	336.02	337.66	335.91	335.98	330.20	324.66	289.21		
2045.92	289.48	290.17	290.91	291.97	293.40	295.85	299.48	305.00	307.93	308.61	310.14
	333.42	336.54	336.05	337.69	335.97	336.04	330.28	324.73	289.23		
2048.66	289.49	290.18	290.92	291.99	293.42	295.87	299.52	305.07	308.00	308.64	310.12
	333.37	336.54	336.04	337.70	336.00	336.07	330.36	324.78	289.24		
2051.46	289.50	290.19	290.94	292.01	293.45	295.90	299.57	305.12	308.04	308.64	310.10
	333.33	336.54	336.00	337.68	336.03	336.10	330.43	324.86	289.24		
2054.27	289.50	290.20	290.96	292.03	293.48	295.94	299.61	305.15	308.07	308.62	310.08
	333.34	336.59	336.00	337.70	336.06	336.14	330.49	324.97	289.24		
2057.01	289.49	290.20	290.97	292.05	293.50	295.97	299.64	305.17	308.09	308.62	310.07
	333.34	336.63	336.01	337.71	336.09	336.19	330.77	325.15	288.60		
2059.81	289.50	290.20	290.99	292.06	293.52	295.99	299.68	305.19	308.09	308.61	310.08
	333.35	336.65	336.01	337.72	336.12	336.23	330.83	325.21	288.61		
2062.56	289.49	290.20	291.00	292.07	293.54	296.02	299.71	305.23	308.12	308.63	310.10
	333.39	336.68	336.02	337.71	336.14	336.26	330.90	325.26	288.63		
2065.36	289.49	290.20	291.01	292.08	293.56	296.04	299.72	305.23	308.08	308.56	310.05
	333.43	336.69	336.02	337.73	336.16	336.31	330.95	325.32	288.63		
2068.11	289.49	290.20	291.01	292.08	293.57	296.04	299.71	305.24	308.04	308.50	310.02
	333.46	336.72	336.00	337.73	336.19	336.36	331.01	325.38	288.63		
2070.91	289.49	290.21	291.02	292.07	293.58	296.04	299.71	305.24	308.03	308.50	310.03
	330.60	331.88	336.04	337.73	336.20	336.40	331.06	325.43	288.62		
2073.71	289.48	290.21	291.02	292.08	293.60	296.05	299.72	304.90	308.04	308.52	310.08
	330.66	331.90	336.06	337.74	336.22	336.43	331.12	325.49	288.61		
2076.46	289.47	290.21	291.04	292.09	293.61	296.06	299.74	304.90	308.04	308.52	310.12
	330.71	331.91	336.08	337.75	336.24	336.46	331.17	325.54	288.60		
2079.20	289.46	290.21	291.04	292.10	293.63	296.08	299.76	304.91	308.06	308.56	310.19
	330.75	331.91	336.10	337.76	336.26	336.48	331.22	325.59	288.60		
2082.00	289.46	290.21	291.05	292.11	293.64	296.08	299.79	304.94	308.09	308.60	310.27
	330.79	331.90	336.15	337.78	336.28	336.50	331.27	325.64	288.59		
2084.75	289.47	290.21	291.05	292.12	293.66	296.10	299.82	304.99	308.14	308.68	310.36
	330.81	331.83	336.16	337.78	336.29	336.52	331.31	325.69	288.59		
2087.55	289.48	290.21	291.05	292.12	293.68	296.12	299.85	305.03	308.19	308.74	310.44
	330.84	331.76	336.16	337.78	336.30	336.53	331.15	325.52	288.57		

2090.30	289.48	290.22	290.94	292.12	293.69	296.14	299.89	305.07	308.25	308.79	310.50
	330.86	331.72	336.16	337.76	336.31	336.55	331.18	325.56	288.56		
2093.04	289.48	290.22	290.95	292.13	293.69	296.17	299.92	305.10	308.30	308.81	310.56
	330.86	331.71	336.15	337.77	336.34	336.58	333.79	325.60	288.55		
2095.84	289.49	290.24	290.97	292.13	293.70	296.19	299.95	305.13	308.33	308.83	310.58
	330.86	331.73	336.16	337.80	336.39	336.62	333.84	325.65	288.56		
2098.59	289.50	290.26	290.98	292.14	293.72	296.22	299.98	305.16	308.35	308.83	310.58
	330.85	331.75	336.18	337.82	336.43	336.64	333.98	325.69	288.58		
2101.39	289.51	290.27	290.99	292.18	293.74	296.25	300.00	305.20	308.36	308.86	310.63
	330.82	331.76	336.20	337.82	336.44	336.65	334.02	325.74	288.60		
2104.25	289.52	290.28	291.00	292.20	293.75	296.27	300.02	305.21	308.37	308.89	310.68
	330.83	331.78	336.21	337.81	336.46	336.66	334.05	325.78	288.62		
2106.99	289.53	290.30	291.01	292.20	293.77	296.29	300.03	305.24	308.39	308.92	310.71
	330.85	331.84	336.22	337.82	336.49	336.69	334.09	325.83	288.64		
2109.74	289.54	290.31	291.03	292.21	293.78	296.30	300.04	305.26	308.40	308.92	310.72
	330.85	331.90	336.22	337.83	336.52	336.86	334.13	325.87	289.35		
2112.49	289.54	290.33	291.04	292.22	293.79	296.32	300.06	305.27	308.41	308.21	310.70
	330.84	331.98	336.25	337.84	336.55	336.90	334.17	325.93	289.39		
2115.23	289.54	290.35	291.06	292.24	293.80	296.33	300.06	305.29	308.44	308.21	310.68
	330.82	332.08	336.26	337.85	336.57	336.92	334.20	325.98	289.41		
2118.03	289.55	290.36	291.08	292.24	293.81	296.35	300.08	305.33	308.46	308.19	310.65
	330.81	332.17	336.30	337.87	336.60	336.95	334.24	326.03	289.43		
2120.78	289.56	290.39	291.21	292.27	293.84	296.37	300.09	305.36	308.49	308.20	310.63
	330.82	332.25	336.35	337.92	336.63	336.97	334.29	326.09	289.47		
2123.53	289.59	290.41	291.22	292.29	293.86	296.39	300.10	305.39	308.52	308.20	310.61
	330.79	332.28	336.36	337.94	336.63	336.97	331.77	326.15	289.50		
2126.27	289.34	290.15	290.98	292.12	293.68	296.21	299.93	305.23	308.35	308.04	310.44
	330.56	332.10	336.17	337.75	336.46	336.46	331.63	326.02	289.32		
2129.02	289.02	289.84	290.66	291.80	293.36	295.91	299.63	304.93	308.06	307.76	310.18
	330.38	331.92	336.02	337.60	336.30	336.35	331.31	325.78	289.02		
2131.77	288.83	289.65	290.48	291.61	293.17	295.74	299.45	304.76	307.91	307.58	310.00
	329.71	331.96	336.15	337.74	336.33	336.43	331.17	325.59	288.77		
2134.51	288.85	289.66	290.50	291.62	293.18	295.75	299.45	304.78	307.92	307.58	309.99
	329.98	332.15	336.41	338.01	336.55	336.67	331.25	325.64	288.79		
2137.26	288.86	289.68	290.51	291.64	293.19	295.76	299.47	304.80	307.94	307.60	309.97
	330.07	332.25	336.50	338.12	336.64	336.74	331.32	325.70	288.81		
2140.33	288.88	289.68	290.52	291.66	293.21	295.78	299.49	304.83	307.96	307.62	309.98
	330.05	336.26	336.49	338.12	336.64	336.58	331.37	325.76	288.16		
2143.41	288.90	289.69	290.52	291.67	293.23	295.80	299.50	304.84	307.97	308.38	310.04
	330.03	332.23	336.44	338.09	336.63	336.55	331.50	725.81	288.18		
2146.10	288.92	289.70	290.53	291.69	293.24	295.82	299.52	304.84	307.97	308.41	310.11
	330.04	332.21	336.44	338.08	336.66	336.56	331.56	325.85	288.22		
2148.63	288.93	289.70	290.54	291.70	293.25	295.83	299.53	304.85	307.99	308.46	310.17
	330.17	332.32	336.56	338.21	336.80	336.69	331.63	325.90	288.25		
2151.32	288.93	289.70	290.55	291.70	293.24	295.83	299.53	304.86	308.01	308.52	310.20
	329.70	332.64	336.97	338.64	337.18	337.10	331.72	325.94	288.25		
2154.01	288.93	289.70	290.56	291.70	293.24	295.83	299.53	304.87	308.05	308.60	310.28
	330.23	332.97	337.40	339.11	337.59	337.53	331.84	325.99	288.26		
2156.81	289.20	289.96	290.83	291.90	293.45	296.03	299.72	305.07	308.26	308.86	310.54
	330.84	333.44	337.96	339.70	338.12	338.38	332.13	326.22	288.46		
2159.61	289.54	290.30	291.16	292.24	293.78	296.35	300.05	305.40	308.60	309.24	310.91
	331.35	333.90	338.44	340.20	338.57	338.79	332.50	326.57	288.80		
2163.18	289.74	290.50	291.36	292.44	293.97	296.54	300.25	305.61	308.83	309.51	311.17
	332.38	334.11	338.66	340.44	338.84	339.02	332.80	326.86	289.07		
2165.98	289.75	290.51	291.36	292.44	293.97	296.55	300.27	305.65	308.89	309.61	311.27
	332.45	334.16	338.67	340.55	338.94	339.11	332.88	326.92	289.08		
2168.73	289.73	290.51	291.35	292.45	293.97	296.56	300.28	305.66	308.93	309.70	311.38
	332.68	334.31	338.84	340.81	339.17	339.39	332.97	326.97	289.09		
2171.53	289.73	290.51	291.35	292.44	293.96	296.56	300.28	305.66	308.96	309.78	311.48
	333.04	334.56	339.26	341.22	339.51	339.77	333.10	327.02	289.09		
2174.44	289.73	290.51	291.35	292.44	293.96	296.56	300.28	305.67	308.99	309.84	311.57
	333.43	334.88	339.69	341.65	339.84	340.13	333.15	327.08	289.08		
2177.35	289.73	290.49	291.34	292.44	293.96	296.56	300.29	305.69	309.02	309.90	311.63
	333.79	335.20	340.06	342.03	340.13	340.45	333.27	327.14	289.07		

2180.26	289.73	290.48	291.34	292.44	293.96	296.56	300.30	305.69	309.05	309.95	311.70
	334.03	335.40	340.27	342.28	340.30	340.65	333.38	327.22	289.06		
2183.12	289.73	290.49	291.33	292.44	293.97	296.57	300.31	305.70	309.05	309.98	311.80
	334.84	335.38	340.22	342.23	340.25	340.58	333.46	327.28	289.07		
2185.92	289.73	290.48	291.32	292.44	293.98	296.58	300.31	305.71	309.07	310.02	311.85
	334.69	335.37	340.19	342.15	340.18	340.50	333.52	327.35	289.07		
2188.78	289.72	290.49	291.32	292.44	293.98	296.59	300.31	305.75	309.11	310.06	311.90
	334.68	335.44	340.22	342.14	340.15	340.50	333.59	327.42	289.07		
2191.63	289.72	290.49	291.32	292.44	294.00	296.60	300.31	305.78	309.11	310.06	311.93
	334.73	335.54	340.23	342.18	340.19	340.55	333.66	327.48	289.08		
2194.49	289.72	290.49	291.33	292.45	294.01	296.61	300.32	305.81	309.11	310.06	311.97
	334.82	335.67	340.24	342.20	340.23	340.58	333.72	327.54	289.09		
2197.40	289.71	290.48	291.33	292.44	294.02	296.61	300.32	305.82	309.10	310.08	312.01
	334.91	335.82	340.36	342.20	340.25	340.60	333.78	327.60	289.09		
2200.20	289.71	290.49	291.34	292.44	294.01	296.61	300.32	305.83	309.11	310.10	312.07
	335.00	335.93	340.50	342.20	340.28	340.62	333.85	327.67	289.09		
2203.06	289.71	290.49	291.34	292.45	294.01	296.62	300.33	305.86	309.13	310.13	312.12
	335.09	336.01	340.53	342.20	340.32	340.64	333.91	327.73	289.08		
2205.91	289.71	290.50	291.34	292.45	294.00	296.62	300.33	305.88	309.18	310.17	312.15
	335.16	336.07	340.58	342.22	340.37	340.69	333.98	327.79	289.08		
2208.88	289.71	290.51	291.35	292.45	294.00	296.62	300.33	305.91	309.22	310.24	312.20
	335.22	336.11	340.63	342.25	340.42	340.73	334.04	327.85	289.08		
2211.79	289.71	290.51	291.35	292.44	293.99	296.62	300.33	305.95	309.26	310.30	312.27
	335.28	336.16	340.70	342.27	340.47	340.76	334.10	327.91	289.08		
2214.65	289.71	290.51	291.35	292.44	293.98	296.62	300.34	305.99	309.31	310.38	312.35
	335.32	336.20	340.73	342.29	340.51	340.78	334.15	327.97	289.08		
2217.50	289.71	290.51	291.35	292.43	293.96	296.62	300.37	306.01	309.36	310.44	312.42
	335.35	336.24	340.74	342.30	340.55	340.80	334.20	328.02	289.08		
2220.31	289.72	290.51	291.35	292.41	293.94	296.62	300.40	306.04	309.40	310.49	312.47
	335.35	336.28	340.76	342.31	340.59	340.82	334.26	328.07	289.09		
2223.11	289.72	290.51	291.35	292.41	293.94	296.62	300.42	306.05	309.47	310.54	312.52
	335.36	336.32	340.84	342.33	340.64	340.85	334.32	328.12	289.09		
2225.96	289.72	290.51	291.34	292.42	293.94	296.63	300.43	306.07	309.53	310.56	312.53
	335.32	336.34	340.93	342.36	340.69	340.90	334.40	328.18	289.09		
2228.76	289.73	290.52	291.34	292.43	293.94	296.63	300.45	306.11	309.59	310.58	312.54
	335.25	336.34	341.00	342.41	340.74	340.94	334.47	328.25	289.10		
2231.57	289.73	290.50	291.34	292.43	293.92	296.61	300.47	306.16	309.66	310.59	312.53
	335.16	336.34	341.04	342.46	340.77	340.96	334.53	328.31	289.10		
2234.42	289.74	290.50	291.34	292.44	293.93	296.61	300.48	306.21	309.72	310.60	312.51
	335.11	336.37	341.04	342.47	340.78	340.95	334.58	328.37	289.10		
2237.22	289.74	290.50	291.35	292.45	293.95	296.63	300.51	306.25	309.75	310.61	312.49
	335.06	336.38	341.03	342.48	340.79	340.94	334.63	328.42	289.10		
2240.02	289.74	290.51	291.36	292.46	293.96	296.64	300.53	306.27	309.77	310.60	312.48
	335.01	336.37	341.03	342.48	340.80	340.94	334.69	328.48	289.10		
2242.82	289.75	290.52	291.38	292.48	293.98	296.66	300.56	306.27	309.77	310.59	312.46
	334.96	336.38	341.02	342.48	340.82	340.97	334.76	328.55	289.09		
2245.63	289.77	290.53	291.38	292.48	294.00	296.67	300.58	306.28	309.79	310.57	312.45
	334.93	336.39	341.04	342.50	340.86	341.00	334.82	328.61	289.08		
2248.43	289.79	290.54	291.39	292.50	294.03	296.68	300.59	306.29	309.80	310.55	312.42
	334.93	336.40	341.08	342.52	340.89	341.03	334.88	328.67	289.06		
2251.23	289.81	290.55	291.40	292.51	294.05	296.70	300.61	306.31	309.81	310.54	312.42
	334.92	336.38	341.10	342.54	340.92	341.05	334.94	328.74	289.04		
2254.03	289.82	290.56	291.39	292.52	294.06	296.72	300.63	306.33	309.81	310.55	312.43
	334.88	336.36	341.10	342.56	340.95	341.07	335.00	328.80	289.02		
2256.89	289.84	290.57	291.39	292.52	294.06	296.72	300.64	306.35	309.81	310.56	312.47
	334.86	336.33	341.08	342.57	340.97	341.08	335.05	328.87	289.01		
2259.69	289.85	290.59	291.39	292.52	294.07	296.73	300.66	306.36	309.81	310.60	312.50
	334.83	336.31	341.06	342.58	341.00	341.10	335.10	328.93	288.99		
2262.43	289.86	290.61	291.40	292.53	294.09	296.75	300.67	306.38	309.84	310.64	312.54
	334.81	336.28	341.05	342.58	341.02	341.12	335.14	328.99	288.99		
2265.23	289.87	290.62	291.40	292.53	294.09	296.75	300.69	306.40	309.85	310.65	312.54
	334.75	336.25	341.06	342.57	341.03	341.16	335.20	329.05	288.98		
2268.04	289.85	290.63	291.40	292.54	294.10	296.76	300.72	306.44	309.88	310.66	312.54
	334.69	336.25	341.10	342.58	341.05	341.21	335.24	329.12	288.97		

2270.78	289.85	290.63	291.40	292.54	294.10	296.77	300.74	306.48	309.92	310.69	312.54
	334.64	336.24	341.14	342.60	341.10	341.27	335.24	329.18	288.96		
2273.58	289.84	290.63	291.40	292.54	294.10	296.78	300.76	306.53	309.97	310.71	312.56
	334.59	336.22	341.16	342.63	341.14	341.30	335.28	329.23	288.96		
2276.38	289.83	290.62	291.40	292.55	294.10	296.80	300.77	306.57	309.99	310.69	312.56
	334.53	336.22	341.15	342.64	341.16	341.34	335.33	329.28	288.95		
2279.19	289.81	290.62	291.39	292.57	294.10	296.82	300.79	306.58	310.01	310.68	312.56
	334.46	336.21	341.11	342.65	341.19	341.37	335.38	329.34	290.43		
2281.99	289.80	290.62	291.39	292.59	294.10	296.82	300.82	306.60	310.04	310.69	312.56
	334.42	336.19	341.06	342.65	341.21	341.40	335.43	329.39	290.43		
2284.79	289.78	290.61	291.41	292.60	294.10	296.83	300.85	306.62	310.10	310.70	312.54
	334.02	336.18	341.06	342.64	341.22	341.42	335.49	328.74	290.42		
2287.53	289.78	290.61	291.43	292.61	294.11	296.85	300.88	306.65	310.14	310.72	312.51
	334.01	336.18	341.08	342.64	341.26	341.46	335.54	328.79	290.41		
2290.34	289.78	290.61	291.43	292.61	294.12	296.87	300.90	306.68	310.18	310.72	312.49
	334.02	336.21	341.09	342.65	341.28	341.50	335.59	328.84	290.42		
2293.14	289.79	290.61	291.43	292.61	294.14	296.89	300.93	306.70	310.20	310.74	312.50
	334.04	336.26	341.10	342.64	341.33	341.53	335.66	328.89	290.40		
2295.88	289.81	290.61	291.44	292.61	294.15	296.92	300.95	346.71	310.22	310.77	312.54
	334.08	336.28	341.10	342.66	341.39	341.58	335.72	328.94	290.40		
2298.68	289.82	290.61	291.45	292.62	294.17	296.94	300.97	306.72	310.23	310.78	312.58
	334.13	336.29	341.06	342.68	341.46	341.62	335.79	329.00	290.41		
2301.49	289.83	290.61	291.45	292.63	294.17	296.95	300.99	306.73	310.23	310.78	312.59
	334.16	336.30	341.04	342.69	341.50	341.64	335.89	329.05	290.40		
2304.29	289.85	290.63	291.46	292.63	294.18	296.96	301.01	306.74	310.25	310.80	312.58
	334.19	336.32	341.02	342.70	341.52	341.67	335.95	329.10	290.40		
2307.09	289.87	290.64	291.47	292.64	294.19	296.96	301.04	306.70	310.28	310.84	312.60
	334.20	336.33	341.05	342.70	341.55	341.70	336.00	329.16	290.41		
2309.89	289.88	290.65	291.49	292.65	294.21	296.96	301.06	306.71	310.33	310.88	312.63
	334.22	336.34	341.08	342.69	341.57	341.73	336.06	329.20	288.93		
2312.64	289.90	290.66	291.50	292.66	294.22	296.98	301.08	306.73	310.36	310.91	312.64
	334.26	336.36	341.12	342.70	341.59	341.77	336.11	329.25	288.94		
2315.44	289.92	290.68	291.51	292.66	294.24	297.00	301.09	306.75	310.39	310.94	312.68
	334.66	336.35	341.16	342.73	341.64	341.82	336.16	330.00	288.96		
2318.18	289.92	290.69	291.52	292.66	294.26	297.01	301.10	306.78	310.42	310.96	312.70
	334.66	336.32	341.19	342.74	341.65	341.85	336.21	330.05	288.97		
2320.98	289.93	290.70	291.53	292.67	294.28	297.03	301.12	306.82	310.47	310.98	318.55
	334.65	336.25	341.21	342.74	341.67	341.87	336.26	330.11	288.97		
2323.73	289.93	290.70	291.54	292.68	294.29	297.05	301.14	306.85	310.52	311.00	318.58
	334.65	336.19	341.21	342.77	341.70	341.90	336.30	330.17	288.99		
2326.53	289.93	290.71	291.55	292.69	294.30	297.06	301.15	306.87	310.55	311.03	318.60
	334.63	336.13	341.21	342.80	341.72	341.91	336.34	330.22	289.00		
2329.28	289.94	290.73	291.56	292.69	294.32	297.08	301.17	306.89	310.58	311.05	318.61
	334.60	336.08	341.23	342.81	341.69	341.91	336.38	330.27	288.98		
2332.02	289.95	290.74	291.58	292.69	294.31	297.11	301.20	306.92	310.63	311.09	318.64
	334.57	336.06	341.20	342.79	341.69	341.91	336.43	330.32	288.98		
2334.83	289.95	290.75	291.59	292.68	294.32	297.14	301.22	306.94	310.66	311.12	318.68
	334.54	336.02	341.17	342.77	341.71	341.93	336.48	330.36	288.97		
2337.57	289.95	290.75	291.62	292.68	294.32	297.16	301.24	307.04	310.70	311.15	318.72
	334.52	335.97	341.13	342.78	341.74	341.96	336.52	330.41	288.96		
2340.32	289.95	290.75	291.64	292.69	294.33	297.18	301.26	307.10	310.74	311.18	318.74
	334.52	335.94	341.11	342.80	341.78	342.00	336.57	330.47	288.95		
2343.12	289.95	290.75	291.66	292.70	294.34	297.19	301.27	307.15	310.77	311.21	318.76
	334.49	335.92	341.09	342.79	341.82	342.03	336.60	330.53	288.94		
2345.87	289.96	290.75	291.67	292.72	294.35	297.20	301.29	307.19	310.81	311.25	318.78
	334.47	335.94	341.06	342.77	341.83	342.06	336.65	330.59	288.93		
2348.67	289.96	290.75	291.69	292.74	294.36	297.20	301.32	307.22	310.85	311.27	318.83
	334.48	335.97	341.03	342.77	341.85	342.11	336.70	330.63	288.92		
2351.47	289.96	290.75	291.71	292.75	294.37	297.20	301.34	307.23	310.85	311.30	313.06
	334.47	336.04	341.00	342.76	341.87	342.16	336.74	330.67	288.91		
2354.21	289.97	290.75	291.71	292.78	294.37	297.21	301.36	307.22	310.86	311.32	313.09
	334.45	336.11	340.97	342.75	341.90	342.19	336.79	330.71	288.89		
2356.96	289.98	290.75	291.71	292.79	294.38	297.22	301.37	307.23	310.86	311.35	313.12
	334.49	336.18	340.95	342.71	341.92	342.24	336.83	330.75	288.88		

2359.76	289.98	290.75	291.71	292.80	294.39	297.23	301.37	307.25	310.88	311.37	313.17
	334.68	336.38	341.09	342.82	342.07	342.43	336.90	330.79	288.88		
2362.56	289.98	290.76	291.71	292.82	294.42	297.23	301.37	307.26	310.88	311.39	313.20
	335.16	336.78	341.56	343.27	342.45	342.91	337.02	330.84	288.88		
2365.31	289.98	290.76	291.71	292.84	294.42	297.22	301.37	307.25	310.86	311.40	313.23
	335.68	337.16	342.03	343.75	342.83	343.36	337.16	330.90	288.88		
2368.11	289.99	290.76	291.69	292.84	294.42	297.22	301.37	307.24	310.84	311.42	313.25
	336.08	337.49	342.40	344.14	343.11	343.70	337.26	330.95	288.88		
2370.91	290.00	290.76	291.68	292.84	294.43	297.21	301.37	307.23	310.84	311.45	313.27
	336.44	337.77	342.71	344.47	343.36	343.98	337.36	331.01	288.88		
2374.65	290.00	290.76	291.67	292.84	294.43	297.22	301.37	307.22	310.83	311.48	313.27
	336.79	338.07	343.04	344.85	343.64	344.28	337.47	331.06	288.87		
2377.50	290.00	290.76	291.65	292.83	294.42	297.22	301.36	307.20	310.82	311.49	313.28
	337.16	338.39	343.38	345.25	343.97	344.57	337.57	331.11	288.85		
2380.25	289.99	290.76	291.64	292.83	294.43	297.22	301.35	307.19	310.82	311.52	313.29
	337.53	338.74	343.72	345.63	344.27	344.86	337.68	331.17	288.84		
2383.10	290.00	290.77	291.66	292.83	294.43	297.23	301.36	307.20	310.84	311.53	313.29
	337.93	339.06	344.09	346.03	344.57	345.15	337.80	331.24	288.84		
2386.07	289.99	290.77	291.67	292.83	294.43	297.24	301.36	307.22	310.86	311.53	313.31
	338.34	339.34	344.47	346.43	344.85	345.43	337.90	331.31	288.84		
2388.98	289.98	290.78	291.68	292.99	295.51	298.01	301.99	307.55	311.13	311.84	313.49
	338.74	339.64	344.81	346.76	345.03	345.65	338.00	331.38	288.83		
2391.89	289.99	290.69	291.76	293.44	296.84	299.26	303.04	308.34	311.80	312.58	313.98
	339.26	339.86	344.94	346.85	344.98	345.70	338.09	331.44	288.82		
2394.75	290.00	290.72	291.94	294.05	298.21	300.72	304.32	309.29	312.63	313.41	314.60
	339.69	339.95	344.85	346.68	344.71	345.56	338.12	331.50	288.81		
2397.60	290.01	290.80	292.20	294.74	299.56	302.23	305.69	310.30	313.51	314.26	315.26
	340.29	340.10	344.78	346.48	344.43	345.45	338.13	331.57	288.80		
2400.52	290.00	290.91	292.53	295.48	300.87	303.77	307.06	311.32	314.38	315.08	315.91
	340.99	340.29	344.77	346.36	344.22	345.43	338.15	331.64	288.80		
2403.54	290.02	291.07	292.91	296.24	302.14	305.30	308.44	312.34	315.24	315.90	316.57
	341.74	340.49	344.80	346.28	344.01	345.44	338.18	331.71	288.79		
2406.83	290.04	291.24	293.32	297.01	303.37	306.84	309.85	313.38	316.12	316.74	317.24
	342.50	340.66	344.81	346.17	343.78	345.45	338.17	331.78	288.80		
2410.02	290.07	291.44	293.75	297.79	304.58	308.37	311.27	314.42	317.02	317.55	317.89
	343.23	340.80	344.82	346.06	343.52	345.48	338.16	331.77	288.81		
2413.15	290.11	291.65	294.20	298.57	305.76	309.88	312.68	315.51	317.92	318.36	318.52
	343.94	340.92	344.81	345.95	343.29	345.51	338.12	331.63	288.81		
2416.44	290.15	291.88	294.66	299.33	306.92	311.39	314.10	316.61	318.82	319.17	319.14
	344.16	341.01	344.76	345.83	343.05	345.54	338.08	331.62	288.81		
2419.63	290.20	292.11	295.12	300.11	308.08	312.92	315.54	317.78	319.75	320.01	319.74
	344.87	341.13	344.71	345.72	342.83	345.58	338.05	331.65	288.81		
2422.76	290.25	292.37	295.59	300.72	308.17	313.66	316.40	318.68	320.45	320.53	320.20
	345.51	342.06	344.70	345.69	342.71	345.69	338.02	331.70	288.81		
2425.89	290.31	292.70	295.99	301.05	308.00	313.92	316.86	319.14	320.75	320.63	320.35
	345.92	342.12	344.76	345.76	342.71	345.83	338.00	331.74	288.82		
2429.02	290.38	292.94	296.31	301.22	307.80	314.00	317.12	319.45	320.90	320.62	320.35
	346.12	342.07	344.74	345.78	342.72	345.91	338.00	331.78	288.83		
2432.15	290.44	293.14	296.55	301.31	307.63	314.03	321.40	319.73	320.63	320.60	320.31
	346.10	342.00	344.69	345.81	342.74	345.97	338.01	331.82	288.84		
2435.34	290.52	293.31	296.73	301.37	307.55	314.08	321.64	319.99	320.70	320.56	320.25
	346.04	341.92	344.66	345.84	342.81	346.04	338.02	331.86	288.84		
2438.41	290.60	293.45	296.86	301.42	307.54	314.14	321.85	320.14	320.67	320.41	320.11
	345.90	341.81	344.65	345.90	342.92	346.12	338.04	331.89	288.84		
2441.55	290.66	293.57	296.98	301.50	307.62	314.22	321.99	320.21	320.52	320.19	319.93
	345.70	341.69	344.61	345.96	343.04	346.19	338.10	331.92	288.83		
2444.68	290.72	293.66	297.07	301.59	307.82	314.38	322.13	320.28	320.38	320.02	319.78
	345.46	341.66	344.50	345.97	343.14	346.24	338.16	332.04	288.82		
2447.75	290.78	293.75	297.16	301.73	308.07	314.58	322.28	320.30	320.21	319.81	319.60
	345.22	341.59	344.44	346.00	343.26	346.32	338.09	332.28	288.81		
2450.77	290.84	293.83	297.24	301.84	308.41	314.82	322.45	320.26	320.00	319.59	319.41
	345.47	341.52	344.40	346.04	343.39	346.40	338.20	332.37	288.80		
2453.79	290.90	293.92	297.33	302.00	308.82	315.14	322.66	320.27	319.85	319.45	319.32
	345.26	341.46	344.37	346.06	343.48	346.46	338.30	332.44	288.79		

2456.81	290.97	294.00	297.45	302.22	309.25	315.51	322.89	320.31	319.77	319.38	319.27
	345.11	340.60	344.36	346.08	343.57	346.50	338.40	332.51	288.78		
2459.95	291.03	294.06	297.58	302.47	309.68	315.90	323.11	320.36	319.70	319.32	319.23
	344.98	340.56	344.35	346.11	343.66	346.55	338.48	332.58	288.78		
2462.97	291.09	294.12	297.74	302.75	310.12	316.30	323.35	320.41	319.66	319.28	319.22
	344.86	340.54	344.34	346.13	343.73	346.56	338.55	332.64	288.77		
2465.99	291.14	294.22	297.93	303.06	310.56	316.71	319.50	320.46	320.00	319.26	319.21
	344.77	340.54	344.35	346.14	343.77	346.56	338.61	332.71	288.76		
2469.12	291.19	294.33	298.11	303.36	310.96	317.09	319.68	320.50	319.99	319.28	319.23
	344.72	340.56	344.37	346.13	343.80	346.56	338.69	332.77	288.75		
2472.19	291.25	294.45	298.31	303.68	311.36	317.48	319.91	320.62	320.08	319.38	319.31
	344.74	340.62	344.39	346.13	343.80	346.54	338.77	332.84	288.74		
2475.21	291.31	294.58	298.53	304.00	311.75	317.83	320.18	320.87	320.29	319.57	319.46
	345.92	341.45	345.44	347.04	344.52	347.54	338.91	332.91	288.74		
2478.29	291.38	294.72	298.74	304.30	312.15	318.10	320.45	321.14	320.56	319.84	319.69
	346.81	342.04	346.13	347.59	345.06	348.02	339.06	332.98	288.74		
2481.31	291.44	294.84	298.94	304.58	312.49	318.35	320.71	321.48	320.91	320.19	320.00
	347.33	342.38	346.38	347.80	345.25	348.26	339.34	333.06	288.74		
2484.39	291.50	294.98	299.14	304.90	312.69	318.54	320.95	321.86	321.31	320.56	320.33
	347.61	342.74	346.42	347.79	345.29	348.28	339.43	333.14	288.74		
2487.41	291.57	295.09	299.34	305.15	312.80	318.64	321.13	322.17	321.62	320.82	320.53
	347.77	342.85	346.43	347.77	345.30	348.26	339.51	333.22	288.74		
2492.35	291.62	295.20	299.50	305.32	312.85	318.66	321.29	322.38	321.83	320.98	320.66
	347.85	342.95	346.44	347.77	345.33	348.29	339.57	333.29	288.74		
2494.93	291.68	295.34	299.66	305.46	312.91	318.67	321.10	322.55	321.98	321.09	320.73
	347.91	343.03	346.48	347.76	345.37	348.34	339.65	333.35	288.73		
2497.62	291.74	295.46	299.76	305.58	313.02	318.72	321.28	322.70	322.11	321.17	320.78
	347.97	343.12	346.52	347.80	345.45	348.40	339.76	333.42	288.73		
2500.65	291.80	295.55	299.85	305.66	313.13	318.80	321.44	322.82	322.20	321.24	320.83
	348.00	343.23	346.54	347.82	345.52	348.46	339.86	333.49	288.73		
2503.67	291.85	295.62	299.93	305.55	313.28	318.90	321.58	322.92	322.28	321.28	320.86
	348.01	343.31	346.56	347.84	345.56	348.52	339.97	333.55	288.73		
2506.74	291.91	295.69	300.02	305.67	313.44	319.01	321.69	323.00	322.33	321.30	320.88
	348.01	343.38	346.57	347.85	345.62	348.58	340.09	333.62	288.74		
2509.82	291.97	295.75	300.10	305.77	313.57	319.12	321.76	323.01	322.32	321.26	320.84
	346.87	342.70	345.58	346.95	344.94	347.63	340.12	333.68	288.74		
2512.78	292.04	295.82	300.19	305.87	313.62	319.23	321.86	323.00	322.24	321.15	320.73
	346.04	342.15	345.01	346.43	344.45	347.20	340.15	333.74	288.74		
2515.80	292.09	295.90	300.29	305.97	313.72	319.36	321.95	322.93	322.08	320.96	320.57
	345.59	341.90	344.84	346.24	344.29	346.98	340.18	333.80	288.74		
2518.83	292.14	295.96	300.39	306.07	313.89	319.53	322.07	322.84	321.93	320.81	320.42
	345.37	341.63	344.86	346.26	344.28	346.98	340.22	333.84	288.74		
2521.85	292.21	296.04	300.49	306.19	314.08	319.70	322.17	322.74	321.79	320.67	320.30
	345.26	341.61	344.93	346.30	344.34	347.04	340.28	333.88	288.74		
2524.81	292.22	296.07	300.60	306.34	314.33	319.94	322.28	322.68	321.68	320.57	320.21
	345.16	341.59	344.96	346.34	344.37	347.05	340.37	333.92	288.74		
2527.89	292.26	296.13	300.72	306.52	314.57	320.15	322.69	322.63	321.60	320.48	320.15
	345.04	341.56	344.96	346.36	344.39	347.03	340.42	333.95	288.75		
2530.85	292.31	296.21	300.83	306.68	314.74	320.28	322.67	322.55	321.50	320.41	320.10
	344.92	341.53	344.94	346.34	344.38	347.01	340.45	333.99	288.75		
2533.88	292.37	296.30	300.97	306.86	314.92	320.41	322.70	322.51	321.44	320.36	320.06
	344.82	341.47	344.95	346.34	344.38	347.01	340.50	334.02	288.75		
2536.90	292.44	296.40	301.11	307.24	315.07	320.51	322.75	322.49	321.40	320.31	320.02
	344.75	341.44	344.96	346.36	344.40	347.03	340.53	334.06	288.75		
2539.92	292.50	296.48	301.23	307.38	315.16	320.56	322.78	322.50	321.37	320.28	320.00
	344.69	341.44	344.98	346.35	344.41	347.05	340.55	334.09	288.75		
2542.94	292.55	296.57	301.35	307.51	315.27	320.66	322.86	322.55	321.39	320.30	320.02
	344.66	341.44	345.00	346.36	344.43	347.06	340.58	334.13	288.75		
2545.96	292.61	296.66	301.45	307.63	315.37	320.73	322.91	322.56	321.38	320.30	320.02
	344.64	341.44	345.03	346.37	344.46	347.08	340.61	334.16	288.75		
2548.92	292.68	296.73	301.55	307.73	315.14	320.72	322.96	322.61	321.42	320.34	320.02
	344.60	341.42	345.03	346.37	344.48	347.09	340.64	334.20	288.75		
2551.95	292.72	296.80	301.64	307.80	315.18	320.72	322.99	322.63	321.43	320.35	320.02
	344.58	341.42	345.03	346.37	344.49	347.09	340.67	334.21	288.73		

2554.97	292.76	296.86	301.72	307.86	315.23	320.72	323.00	322.65	321.43	320.34	320.01
	344.56	341.41	344.34	346.39	344.50	347.10	340.69	334.23	288.71		
2557.93	292.84	296.97	301.79	307.93	315.29	320.72	322.98	322.64	321.41	320.33	320.00
	344.53	341.40	344.35	346.40	344.51	347.11	340.71	334.25	288.69		
2560.90	292.90	297.04	301.85	307.99	315.36	320.72	323.00	322.63	321.38	320.32	319.99
	344.51	341.40	344.36	346.40	344.52	347.11	340.73	334.28	288.67		
2563.92	292.95	297.09	301.91	308.05	315.44	320.74	323.04	322.63	321.37	320.32	319.99
	344.48	341.39	344.37	346.41	344.54	347.12	340.75	334.30	288.66		
2566.94	292.99	297.12	301.95	308.10	315.48	320.74	323.04	322.64	321.35	320.30	319.99
	344.44	341.37	344.36	346.41	344.56	347.12	340.76	334.31	288.64		
2569.96	293.01	297.14	301.97	308.10	315.48	320.71	323.01	322.62	321.32	320.30	319.98
	344.35	341.30	344.26	346.31	344.49	347.04	340.67	334.25	288.62		
2572.93	293.04	297.15	301.99	308.10	315.46	320.71	323.05	322.66	321.36	320.34	320.02
	344.39	341.30	344.20	346.30	344.46	347.03	340.60	334.18	288.59		
2575.89	293.07	297.16	301.99	308.09	315.43	320.67	323.09	322.68	321.39	320.34	320.02
	344.44	341.32	344.16	346.29	344.43	347.03	340.54	334.12	288.58		
2578.91	293.09	297.19	302.00	308.08	315.42	320.66	323.09	322.69	321.40	320.33	320.00
	344.46	341.35	344.12	346.27	344.38	347.00	340.47	334.05	288.57		
2581.93	293.13	297.23	302.03	308.11	315.76	320.76	323.15	322.70	321.41	320.32	319.65
	344.54	341.44	344.13	346.32	344.40	347.04	340.47	334.04	288.57		
2585.18	293.18	297.27	302.06	308.16	315.85	320.84	323.17	322.72	321.43	320.32	319.67
	344.60	341.50	344.17	346.38	344.44	347.08	340.51	334.08	288.59		
2588.25	293.24	297.29	302.09	308.22	315.92	320.89	323.20	322.73	321.42	320.31	319.68
	344.57	341.51	344.83	346.35	344.47	347.06	340.53	334.12	288.61		
2591.22	293.30	297.33	302.13	308.26	315.98	320.84	323.22	322.54	321.40	320.28	319.67
	344.37	341.42	344.64	346.16	344.26	346.87	340.32	334.15	288.63		
2594.24	293.35	297.37	302.17	308.28	315.88	320.72	323.13	322.44	321.32	320.20	319.63
	343.96	341.22	344.30	345.81	343.98	346.53	340.27	334.39	290.31		
2597.20	293.39	297.43	302.19	308.27	315.68	320.46	322.90	322.26	321.19	320.07	319.54
	343.42	340.97	343.86	345.35	343.65	346.10	340.21	334.43	290.33		
2600.06	293.46	297.50	302.23	308.24	315.50	320.22	322.65	322.06	321.05	319.96	319.46
	342.80	340.66	343.35	344.81	343.28	345.60	340.15	334.46	290.35		
2602.64	293.54	297.58	302.28	308.22	315.33	319.95	322.38	321.86	320.91	319.86	319.41
	342.12	340.35	342.86	344.28	342.96	345.12	340.19	334.56	290.37		
2605.17	293.64	297.67	302.31	308.15	315.06	319.54	321.96	321.53	320.69	319.70	319.31
	341.27	339.94	342.30	343.65	342.56	344.55	340.20	334.66	290.39		
2607.75	293.72	297.74	302.33	308.06	314.74	319.08	321.46	321.16	320.42	319.53	319.20
	340.34	339.47	341.68	342.94	342.13	343.93	340.19	334.75	290.41		
2610.33	293.81	297.79	302.33	307.92	314.41	318.64	321.02	320.83	320.21	319.40	319.14
	339.41	338.96	341.01	342.20	341.69	343.30	340.17	334.82	290.42		
2612.86	293.89	297.83	302.28	307.73	313.96	318.07	320.47	320.42	319.93	319.24	319.39
	338.39	338.38	340.28	341.37	341.16	342.56	340.07	334.84	290.42		
2615.44	293.95	297.87	302.22	307.49	313.40	317.40	319.84	319.94	319.61	319.02	319.22
	337.35	337.80	339.50	340.51	340.60	341.81	339.92	334.82	290.42		
2617.97	294.00	297.90	302.14	307.21	312.76	316.60	319.12	319.41	319.30	318.79	319.04
	336.35	337.26	338.77	339.70	340.03	341.12	339.78	334.79	290.42		
2620.55	294.02	297.92	302.02	306.86	312.03	315.81	318.32	319.03	318.94	318.55	318.84
	335.50	336.80	338.18	339.03	339.68	340.57	339.86	334.76	290.41		
2623.07	294.06	297.91	301.88	306.48	311.49	315.24	317.69	318.61	318.68	318.39	318.70
	334.82	336.42	337.72	338.49	339.36	340.14	339.76	334.52	288.73		
2625.66	294.12	298.83	301.71	306.12	311.05	314.79	317.22	318.28	318.48	318.28	318.58
	334.27	336.06	337.33	338.04	339.08	339.80	339.67	334.46	288.72		
2628.18	294.15	298.77	301.52	305.78	310.53	314.24	316.70	317.90	317.92	318.10	318.41
	333.80	335.74	337.00	337.66	338.83	339.51	339.56	334.41	288.71		
2630.76	294.16	298.69	301.32	305.42	309.98	313.64	316.12	317.55	317.54	317.90	318.22
	333.39	335.48	336.71	337.33	338.60	339.25	339.45	334.35	288.70		
2633.45	294.18	298.61	301.11	305.06	309.48	313.07	315.56	317.15	317.21	317.68	318.02
	333.03	335.23	336.46	337.04	338.39	339.02	339.33	334.29	288.70		
2636.04	294.18	298.52	300.89	304.70	308.93	312.45	314.98	316.76	316.94	317.45	317.80
	332.67	334.99	336.24	336.77	338.20	338.81	339.21	334.22	288.69		
2638.56	294.18	298.42	300.67	304.32	308.29	311.69	314.30	316.33	316.66	317.18	317.54
	332.32	334.79	336.05	336.53	338.03	338.62	339.09	334.15	288.68		
2641.14	294.18	298.31	300.45	303.92	307.66	310.94	313.62	315.91	316.38	316.92	317.30
	331.99	334.58	335.87	336.32	337.86	338.49	338.97	334.08	288.67		

2643.73	294.18	298.21	300.21	303.51	307.06	310.24	312.99	315.52	316.13	315.97	317.10
	331.70	334.40	335.70	336.12	337.70	338.33	338.85	334.00	288.66		
2646.25	294.19	298.09	299.56	303.08	306.50	309.61	312.42	315.18	315.91	315.76	316.92
	330.90	334.15	335.51	335.93	337.53	338.17	338.73	333.99	289.46		
2648.83	294.24	297.98	299.33	302.71	305.97	309.01	311.90	314.86	315.72	315.54	316.74
	330.64	333.92	335.33	335.75	337.36	338.02	338.62	333.93	289.46		
2651.36	294.09	297.87	299.10	302.33	305.32	308.22	311.24	314.48	315.51	315.30	316.54
	330.40	333.73	335.17	335.59	337.22	337.89	338.52	333.85	289.46		
2653.94	293.90	296.80	298.86	301.93	304.65	307.39	310.54	314.08	315.29	315.07	316.35
	330.18	333.54	335.02	335.44	337.09	337.76	338.41	333.77	289.46		
2656.47	293.82	296.68	298.62	301.52	304.00	306.61	309.86	313.71	315.40	314.85	316.17
	329.96	333.36	334.89	335.30	336.95	337.63	338.30	333.69	289.46		
2659.05	293.78	296.55	298.36	301.09	303.38	305.89	309.27	313.31	315.34	314.65	316.00
	329.73	333.18	334.77	335.18	336.82	337.52	338.19	333.59	289.46		
2661.58	293.74	296.41	298.11	300.67	302.80	305.24	308.74	313.04	315.24	314.47	315.84
	329.52	332.99	334.64	335.06	336.69	337.38	338.07	333.50	289.47		
2664.16	293.71	296.27	297.85	300.27	302.26	304.67	308.26	312.77	315.09	314.31	315.70
	329.32	332.81	334.49	334.94	336.56	337.26	337.96	333.41	289.47		
2666.68	293.68	296.14	297.60	299.88	301.78	304.17	307.83	312.52	314.96	314.14	315.56
	329.14	332.64	334.35	334.82	336.43	337.14	337.86	333.32	289.46		
2669.27	293.66	296.00	297.35	299.52	301.34	303.72	307.45	312.28	314.83	313.99	315.42
	328.97	332.47	334.21	334.69	336.30	337.02	337.76	333.23	289.45		
2671.79	293.63	295.86	297.14	299.21	300.94	303.32	307.11	312.07	314.70	314.54	315.25
	328.82	332.30	334.08	334.58	336.18	336.90	337.66	333.14	289.44		
2674.37	293.59	295.73	297.32	298.91	300.57	302.95	306.80	311.87	314.56	314.41	315.10
	329.13	332.19	333.95	334.46	336.07	336.78	337.55	332.98	288.63		
2676.90	293.56	295.61	297.11	298.62	300.23	302.62	306.50	311.68	314.44	314.28	314.96
	328.93	332.07	333.82	334.33	335.97	336.66	337.44	332.86	288.63		
2679.48	293.68	295.48	296.90	298.34	299.92	302.31	306.23	311.49	314.32	314.15	314.82
	328.73	331.93	333.69	334.20	335.86	336.53	337.33	332.77	288.63		
2682.01	293.83	295.36	296.70	298.08	299.63	302.03	305.98	311.30	314.19	314.01	314.67
	328.54	331.80	333.57	334.09	335.76	336.42	337.22	332.68	288.62		
2684.59	293.86	295.24	296.51	297.84	299.36	301.78	305.76	311.13	314.06	313.88	314.54
	328.36	331.66	333.43	333.97	335.65	336.30	337.11	332.59	288.62		
2687.17	293.76	295.14	296.33	297.62	299.12	301.54	305.54	310.96	313.93	313.74	314.41
	328.19	331.52	333.27	333.83	335.54	336.18	336.99	332.50	290.19		
2689.70	293.47	295.04	296.16	297.42	298.90	301.33	305.34	310.80	313.82	313.63	314.29
	328.04	331.36	333.12	333.70	335.42	336.07	336.88	332.41	290.17		
2692.28	293.36	294.94	296.01	297.22	298.70	301.12	305.16	310.64	313.72	313.52	314.17
	327.90	331.22	332.98	333.56	335.30	335.96	336.77	332.32	290.17		
2694.81	293.30	294.84	295.86	297.04	298.50	300.93	304.98	310.38	313.57	313.41	314.05
	327.76	331.08	332.85	333.42	335.19	335.86	336.66	332.23	290.17		
2697.39	293.26	294.75	295.71	296.87	298.32	300.76	304.81	310.23	313.41	313.29	313.93
	327.61	330.95	332.71	333.29	335.08	338.26	336.56	332.14	290.17		
2699.91	293.22	294.66	295.56	296.70	298.14	300.59	304.63	310.09	313.27	313.16	313.83
	327.43	330.81	332.56	333.15	334.96	338.13	336.45	332.04	290.17		
2702.50	293.19	294.57	295.43	296.55	297.98	300.43	304.48	309.95	313.14	313.04	313.72
	327.31	330.67	332.40	332.99	334.84	338.01	336.34	331.95	290.16		
2705.02	293.16	294.49	295.31	296.40	297.82	300.29	304.33	309.82	313.03	312.92	313.61
	327.18	330.53	332.23	332.84	334.70	337.89	336.22	331.86	290.15		
2707.60	293.14	294.41	295.19	296.27	297.67	300.14	304.18	309.69	312.90	312.82	313.51
	327.04	330.39	332.07	332.69	334.55	337.77	336.10	331.76	290.14		
2710.13	293.11	294.34	295.09	296.14	297.53	300.00	304.03	309.57	312.80	312.74	313.44
	326.91	330.24	331.90	332.52	334.40	337.65	335.97	331.65	290.14		
2712.71	293.08	294.28	295.00	296.00	297.38	299.82	303.89	309.45	312.69	312.64	313.35
	326.79	330.10	331.75	332.37	334.26	337.53	335.85	331.55	290.13		
2715.24	293.15	294.22	294.91	295.88	297.24	299.69	303.76	309.32	312.58	312.54	313.25
	326.66	329.97	331.60	332.22	333.89	337.40	335.74	331.45	288.55		
2717.82	293.40	294.17	294.83	295.78	297.13	299.58	303.64	309.21	312.47	312.43	313.16
	326.54	329.83	331.45	332.07	333.60	337.27	335.62	331.35	288.55		
2720.35	293.47	294.12	294.76	295.68	297.02	299.46	303.53	309.09	312.33	312.37	313.09
	326.41	329.67	331.29	331.94	333.40	337.12	335.50	331.25	288.55		
2722.93	293.48	294.07	294.69	295.59	296.93	299.36	303.43	309.09	312.25	312.32	313.04
	326.28	329.50	331.13	331.80	333.24	336.98	335.37	331.14	288.55		

2725.46	293.48	294.02	294.64	295.51	296.84	299.26	303.35	308.99	312.19	312.26	312.97
	326.15	329.32	330.97	331.66	333.09	334.33	335.23	331.04	288.55		
2728.04	293.47	293.98	294.58	295.44	296.76	299.17	303.27	308.91	312.12	312.19	312.89
	326.01	329.16	330.82	331.54	332.95	334.21	335.09	330.93	288.55		
2730.62	293.46	293.96	294.53	295.38	296.70	299.09	303.19	308.82	312.04	312.11	312.82
	325.88	328.96	330.70	331.44	332.81	334.08	334.96	330.82	288.55		
2733.20	293.45	293.93	294.49	295.32	296.63	299.02	303.12	308.73	311.96	312.05	312.76
	325.75	328.80	330.60	331.35	332.68	333.94	334.82	330.70	288.55		
2735.73	293.42	293.89	294.44	295.27	296.58	298.96	303.06	308.64	311.88	311.98	312.69
	325.62	328.66	330.48	331.24	332.56	333.80	334.70	330.58	288.54		
2738.31	293.39	293.84	294.39	295.21	296.51	298.89	303.00	308.56	311.80	311.90	312.60
	325.49	328.55	330.37	331.14	332.42	333.65	334.57	330.46	288.53		
2740.83	293.37	293.80	294.33	295.15	296.47	298.87	302.94	308.49	311.73	311.81	312.49
	325.35	328.42	330.25	331.03	332.30	333.50	334.42	330.34	288.52		
2743.42	293.34	293.76	294.27	295.10	296.42	298.83	302.88	308.43	311.67	311.75	312.41
	325.21	328.28	330.14	330.92	332.39	333.35	334.28	330.27	290.01		
2745.94	293.30	293.72	294.22	295.04	296.36	298.77	302.81	308.35	311.60	311.67	312.31
	325.06	328.15	330.02	330.80	332.41	333.21	334.14	330.18	290.01		
2768.52	293.26	293.69	294.17	294.98	296.30	298.71	302.74	308.28	311.55	311.56	312.19
	324.91	328.02	329.91	330.67	332.33	333.07	333.99	330.08	290.01		
2751.05	293.23	293.66	294.12	294.93	296.25	298.66	302.65	308.20	311.48	311.44	312.07
	324.75	327.87	329.79	330.54	332.22	332.93	333.85	329.96	290.01		
2753.63	293.19	293.61	294.06	294.86	296.18	298.59	302.56	308.10	311.39	311.34	311.97
	324.16	327.72	329.67	330.42	332.09	332.79	333.72	329.83	290.01		
2756.16	293.14	293.57	294.02	294.80	296.12	298.52	302.47	308.01	311.29	311.24	311.87
	324.04	327.61	329.55	330.28	331.95	332.66	333.59	329.70	290.01		
2758.74	293.09	293.52	293.96	294.73	296.06	298.46	302.38	307.91	311.20	311.14	311.78
	323.92	327.52	329.42	330.12	331.79	332.52	333.45	329.57	290.01		
2761.27	293.04	293.48	293.89	294.66	296.00	298.38	302.28	307.81	311.10	311.04	311.67
	323.80	327.40	329.27	329.97	331.63	332.39	333.31	329.45	290.01		
2763.85	293.00	293.44	293.84	294.60	295.93	298.31	302.19	307.71	310.99	310.93	311.57
	323.68	327.26	329.14	329.82	331.48	332.25	333.18	329.33	290.00		
2766.37	292.97	293.41	293.81	294.54	295.88	298.25	302.10	307.61	310.88	310.81	311.46
	323.54	327.11	328.99	329.67	331.34	332.11	333.04	329.21	290.00		
2768.96	292.93	293.37	293.76	294.50	295.83	298.18	302.02	307.50	310.74	310.70	311.37
	323.40	326.96	328.85	329.53	331.21	331.97	332.89	329.09	290.00		
2771.48	292.90	293.34	293.72	294.46	295.78	298.11	301.92	307.37	310.61	310.58	311.26
	323.28	326.83	328.71	329.39	331.08	331.84	332.75	328.91	288.50		
2774.06	292.87	293.29	293.70	294.42	295.74	298.06	301.84	307.26	310.48	310.47	311.16
	323.16	326.71	328.57	329.26	330.95	331.70	332.62	328.76	288.50		
2776.59	292.84	293.25	293.67	294.38	295.69	298.00	301.76	307.15	310.37	310.36	311.08
	323.04	326.61	328.44	329.14	330.82	331.57	332.48	328.61	288.50		
2779.17	292.82	293.21	293.64	294.34	295.64	297.95	301.70	307.06	310.28	310.25	311.00
	322.93	326.51	328.33	329.02	330.70	331.43	332.34	328.48	288.50		
2781.70	292.79	293.18	293.61	294.31	295.60	297.90	301.64	306.98	310.19	310.15	310.90
	323.28	326.42	328.22	328.90	330.59	331.29	332.20	328.38	288.50		
2784.28	292.77	293.16	293.57	294.27	295.55	297.84	301.57	306.90	310.12	310.06	310.81
	323.18	326.31	328.11	328.79	330.48	331.16	332.05	328.30	288.50		
2786.81	292.76	293.13	293.54	294.25	295.51	297.79	301.51	306.84	310.05	309.98	310.72
	323.07	326.17	328.00	328.69	330.38	331.03	331.92	328.20	288.50		
2789.39	292.76	293.10	293.51	294.23	295.38	297.75	301.46	306.78	309.99	309.89	310.64
	322.95	326.03	327.88	328.59	330.29	330.91	331.80	328.09	288.51		
2791.92	292.75	293.06	293.49	294.19	295.11	297.71	301.42	306.72	309.92	309.83	310.57
	322.82	325.89	327.76	328.49	330.20	330.80	331.68	327.98	288.52		
2794.50	292.75	293.03	293.46	294.15	294.99	297.68	301.36	306.66	309.87	309.78	310.52
	322.70	325.76	327.64	328.38	330.11	330.68	331.56	327.87	288.53		
2797.02	292.75	293.00	293.44	294.12	294.92	297.64	301.31	306.60	309.81	309.72	310.47
	322.59	325.64	327.50	328.28	330.00	330.57	331.46	327.76	288.54		
2799.60	292.74	292.97	293.42	294.10	294.88	297.60	301.27	306.56	309.77	309.66	310.41
	322.48	325.50	327.35	328.16	329.88	330.46	331.35	327.65	288.55		
2802.13	292.72	292.96	293.39	294.07	294.84	297.57	301.23	306.51	309.73	309.62	310.35
	322.37	325.37	327.22	328.03	329.75	330.34	331.23	327.54	288.55		

2804.71	292.70	292.94	293.36	294.03	294.81	297.53	301.20	306.45	309.66	309.56	310.28
	322.26	325.24	327.08	327.90	329.61	330.20	331.12	327.45	288.55		
2807.29	292.64	292.92	293.32	293.99	294.78	297.49	301.16	306.39	309.59	309.51	310.22
	322.15	325.11	326.94	327.78	329.48	330.08	331.00	327.36	288.55		
2809.82	292.58	292.90	293.29	293.97	294.75	297.46	301.12	306.33	309.52	309.45	310.18
	322.02	324.98	326.80	327.66	329.34	329.95	330.89	327.23	288.55		
2812.40	292.54	292.88	293.27	293.94	294.72	297.42	301.06	306.26	309.45	309.40	310.14
	321.88	324.83	326.66	327.53	329.21	329.81	330.77	327.10	288.55		
2814.93	292.51	292.85	293.25	293.91	294.70	297.40	301.03	306.20	309.38	309.33	310.08
	321.76	324.70	326.50	327.39	329.09	329.68	330.64	326.98	288.55		
2817.51	292.48	292.83	293.23	293.89	294.77	297.37	300.98	306.13	309.31	309.27	310.01
	321.64	324.58	326.36	327.25	328.96	329.55	330.53	326.88	288.55		
2820.04	292.45	292.79	293.21	293.88	294.98	297.34	300.93	306.07	309.24	309.20	309.93
	321.51	324.46	326.22	327.12	328.83	329.42	330.41	326.79	288.56		
2822.62	292.43	292.78	293.18	293.88	295.03	297.30	300.89	306.01	309.17	309.12	309.83
	321.38	324.32	326.09	326.97	328.70	329.29	330.29	326.72	288.58		
2825.31	292.40	292.77	293.15	293.86	295.03	297.27	300.84	305.95	309.11	309.06	309.74
	321.24	324.19	325.96	326.82	328.58	329.17	330.17	326.66	288.59		
2827.89	292.38	292.76	293.13	293.84	295.01	297.24	300.80	305.88	309.04	309.01	309.67
	321.10	324.06	325.85	326.69	328.46	329.05	330.06	326.58	288.60		
2830.42	292.38	292.75	293.11	293.82	294.99	297.22	300.75	305.76	308.94	308.96	309.59
	320.95	323.93	325.74	326.56	328.34	328.94	329.95	326.49	288.62		
2833.00	292.30	292.73	293.09	293.81	294.96	297.18	300.70	305.66	308.86	308.90	309.53
	320.80	323.80	325.64	326.44	328.22	328.83	329.84	326.40	288.64		
2835.53	292.30	292.71	293.07	293.79	294.94	297.14	300.66	305.59	308.80	308.85	309.45
	320.65	323.68	325.54	326.32	328.12	328.72	329.73	326.30	288.65		
2838.11	292.32	292.69	293.05	293.76	294.91	297.12	300.61	305.52	308.73	308.80	309.36
	320.52	323.54	325.42	326.22	328.01	328.59	329.62	326.20	288.66		
2840.63	292.32	292.67	293.04	293.73	294.88	297.09	300.57	305.46	308.66	308.75	309.27
	320.38	323.42	325.30	326.11	327.90	328.48	329.51	326.09	288.66		
2843.22	292.30	292.65	293.02	293.71	294.85	297.05	300.52	305.40	308.58	308.70	309.18
	320.25	323.28	325.18	325.99	327.78	328.36	329.40	325.98	288.67		
2845.74	292.28	292.63	292.99	293.67	294.82	297.01	300.47	305.33	308.52	308.64	309.11
	320.13	323.16	325.05	325.87	327.66	328.25	329.27	325.87	288.69		
2848.32	292.26	292.64	292.97	293.63	294.79	296.98	300.43	305.26	308.45	308.58	309.06
	320.04	323.05	324.94	325.74	327.54	328.13	329.15	325.75	288.69		
2850.85	292.20	292.63	292.95	293.60	294.77	296.95	300.38	305.19	308.38	308.51	309.01
	319.95	322.95	324.82	325.62	327.41	328.02	329.02	325.60	288.69		
2853.43	292.17	292.61	292.93	293.57	294.74	296.91	300.34	305.12	308.30	308.42	308.94
	319.87	322.84	324.71	325.49	327.28	327.90	328.89	325.45	288.70		
2855.96	292.14	292.58	292.90	293.54	294.72	296.88	300.29	305.07	308.23	308.31	308.87
	319.78	322.75	324.59	325.38	327.15	327.79	328.76	325.08	288.70		
2858.54	292.12	292.56	292.88	293.52	294.69	296.86	300.25	305.07	308.20	308.21	308.83
	319.72	322.66	324.47	325.25	327.02	327.66	328.61	324.80	288.69		
2861.07	292.16	292.54	292.87	293.49	294.67	296.84	300.21	305.06	308.16	308.13	308.79
	319.67	322.58	324.34	325.13	326.90	327.53	328.47	324.63	288.68		
2863.65	292.16	292.53	292.85	293.48	294.64	296.82	300.17	305.03	308.11	308.04	308.73
	319.62	322.50	324.21	325.01	326.77	327.40	328.32	324.49	288.68		
2866.17	292.16	292.51	292.83	293.47	294.62	296.80	300.14	304.98	308.05	307.94	308.66
	319.56	322.42	324.10	324.89	326.63	327.27	328.18	324.36	288.69		
2868.76	292.15	292.50	292.82	293.46	294.60	296.78	300.10	304.94	308.00	307.87	308.59
	319.49	322.33	324.01	324.76	326.50	327.14	328.04	324.23	288.69		
2871.28	292.14	292.48	292.80	293.44	294.59	296.76	300.08	304.89	307.95	307.80	308.53
	319.43	322.25	323.92	324.64	326.37	327.01	327.90	324.11	288.69		
2873.86	292.13	292.47	292.79	293.44	294.57	296.73	300.04	304.84	307.89	307.73	308.46
	319.35	322.17	323.82	324.52	326.24	326.87	327.76	323.99	288.69		
2876.39	292.12	292.45	292.78	293.43	294.55	296.70	300.01	304.79	307.83	307.68	308.38
	319.27	322.08	323.72	324.41	326.12	326.74	327.63	323.86	288.68		
2878.97	292.16	292.43	292.77	293.42	294.53	296.67	299.98	304.76	307.80	307.63	308.30
	319.17	321.98	323.61	324.30	325.99	326.60	327.50	323.74	288.68		
2881.55	292.16	292.42	292.76	293.41	294.51	296.64	299.96	304.72	307.77	307.58	308.23
	319.05	321.87	323.51	324.21	325.87	326.45	327.36	323.63	288.67		
2884.08	292.16	292.41	292.76	293.40	294.48	296.59	299.93	304.68	307.75	307.55	308.16
	318.95	321.76	323.40	324.11	325.75	326.31	327.24	323.74	288.66		

2886.66	292.16	292.40	292.76	293.40	294.46	296.55	299.90	304.63	307.71	307.51	308.07
	318.84	321.63	323.29	324.02	325.64	326.17	327.11	323.78	288.66		
2889.19	292.16	292.38	292.75	293.39	294.44	296.51	299.86	304.58	307.66	307.47	307.97
	318.72	321.49	323.18	323.91	325.52	326.06	326.99	323.72	288.66		
2891.77	292.15	292.37	292.75	293.37	294.42	296.48	299.82	304.52	307.60	307.44	307.90
	318.60	321.37	323.06	323.79	325.40	325.95	326.87	323.63	288.66		
2894.30	292.13	292.36	292.75	293.35	294.40	296.44	299.78	304.46	307.53	307.39	307.84
	318.47	321.26	322.94	323.66	325.27	325.84	326.75	323.52	288.66		
2896.88	292.12	292.36	292.75	293.33	294.39	296.40	299.73	304.39	307.45	307.33	307.79
	318.35	321.15	322.80	323.52	325.13	325.72	326.63	323.42	288.65		
2899.40	292.11	292.36	292.74	293.32	294.36	296.37	299.68	304.32	307.38	307.27	307.74
	318.23	321.05	322.67	323.39	325.00	325.60	326.52	323.31	288.66		
2901.99	292.10	292.35	292.72	293.30	294.34	296.34	299.64	304.25	307.31	307.20	307.69
	318.12	320.94	322.55	323.26	324.88	325.49	326.40	323.21	288.67		
2904.51	292.10	292.33	292.70	293.27	294.32	296.30	299.59	304.20	307.24	307.14	307.65
	318.02	320.83	322.42	323.14	324.75	325.38	326.28	323.11	288.68		
2907.09	292.09	292.31	292.68	293.26	294.31	296.27	299.54	304.14	307.17	307.07	307.61
	317.92	320.72	322.31	323.04	324.64	325.27	326.16	323.01	288.69		
2909.62	292.08	292.29	292.66	293.24	294.30	296.25	299.50	304.08	307.10	307.00	307.56
	317.84	320.62	322.19	322.92	324.53	325.18	326.04	322.90	288.69		
2912.20	292.07	292.27	292.65	293.22	294.29	296.25	299.45	304.02	307.03	306.93	307.52
	317.75	320.51	322.06	322.81	324.43	325.08	325.93	322.79	288.69		
2914.73	292.06	292.25	292.63	293.20	294.27	296.23	299.41	303.97	306.96	306.87	307.48
	317.64	320.40	321.93	322.68	324.32	324.99	325.82	322.68	288.69		
2917.31	292.05	292.24	292.61	293.17	294.26	296.22	299.37	303.92	306.90	306.80	307.43
	317.53	320.29	321.82	322.57	324.22	324.89	325.71	322.57	288.69		
2919.89	292.05	292.22	292.59	293.16	294.24	296.20	299.33	303.85	306.83	306.73	307.37
	317.43	320.18	321.71	322.46	324.12	324.78	325.60	322.47	288.69		
2922.42	292.05	292.20	292.57	293.13	294.22	296.17	299.28	303.80	306.77	306.67	307.31
	317.33	320.06	321.61	322.38	324.03	324.67	325.50	322.37	288.69		
2925.00	292.03	292.17	292.53	293.10	294.19	296.13	299.22	303.73	306.70	306.60	307.24
	317.22	319.94	321.52	322.29	323.92	324.55	325.38	322.26	288.68		
2927.53	292.01	292.14	292.51	293.06	294.17	296.09	299.18	303.68	306.64	306.52	307.16
	317.13	319.82	321.43	322.20	323.81	324.43	325.28	322.14	288.66		
2930.11	291.99	292.11	292.48	293.04	294.14	296.06	299.13	303.62	306.57	306.44	307.08
	317.03	319.70	321.33	322.12	323.68	324.30	325.18	322.03	288.64		
2932.69	291.96	292.10	292.46	293.01	294.10	295.45	299.08	303.55	306.50	306.36	307.01
	316.93	319.59	321.23	322.04	323.56	324.17	325.07	321.93	288.62		
2935.22	291.93	292.09	292.43	292.98	294.07	295.41	299.02	303.46	306.41	306.29	306.95
	316.83	319.50	321.13	321.94	323.43	324.04	324.96	321.84	288.58		
2937.80	291.91	292.07	292.40	292.95	294.03	295.38	298.96	303.37	306.31	306.23	306.89
	316.74	319.43	321.04	321.83	323.30	323.90	324.86	321.74	288.55		
2940.32	291.88	292.06	292.37	292.92	294.00	295.33	298.89	303.28	306.22	306.16	306.83
	316.65	319.36	320.96	321.72	323.16	323.78	324.75	321.64	288.52		
2942.91	291.85	292.04	292.35	292.88	293.97	295.28	298.83	303.20	306.14	306.08	306.75
	316.57	319.30	320.89	321.62	323.02	323.65	324.64	321.55	288.49		
2945.43	291.82	292.02	292.32	292.85	293.93	295.23	298.77	303.12	306.08	306.02	306.69
	316.51	319.23	320.82	321.51	322.88	323.52	324.53	321.45	288.47		
2948.01	291.80	292.00	292.29	292.83	293.90	295.17	298.71	303.06	306.02	305.96	306.64
	316.45	323.76	320.73	321.39	322.74	323.40	324.42	321.35	288.44		
2950.54	291.77	291.98	292.26	292.80	294.43	295.13	298.66	303.00	305.95	305.88	306.58
	316.37	323.70	320.62	321.26	322.62	323.28	324.31	321.24	288.41		
2953.12	291.76	291.98	292.23	292.79	294.41	295.10	298.62	302.92	305.88	305.82	306.55
	316.30	323.63	320.51	321.16	322.52	323.19	324.20	321.14	288.39		
2955.65	291.75	291.96	292.21	292.78	294.37	295.06	298.57	302.85	305.82	305.78	306.53
	316.23	323.55	320.39	321.05	322.42	323.09	324.08	321.03	288.38		
2958.23	291.67	291.95	292.19	292.75	294.35	295.02	298.51	302.78	305.76	305.75	306.50
	316.17	323.47	320.29	320.93	322.34	323.00	323.96	320.93	288.37		
2960.76	291.61	291.93	292.17	292.72	294.32	295.55	298.46	302.72	305.69	305.72	306.46
	316.11	323.36	320.17	320.82	322.24	322.92	323.85	320.82	288.36		
2963.34	291.59	291.91	292.15	292.70	294.29	295.51	298.42	302.48	305.63	305.66	306.40
	316.03	323.24	320.07	320.71	322.15	322.83	323.74	320.69	288.36		
2965.86	291.57	291.89	292.13	292.67	294.26	295.47	298.37	302.42	305.58	305.60	306.36
	315.94	323.13	319.96	320.60	322.05	322.74	323.62	320.57	288.35		

2968.45	291.55	291.86	292.10	292.63	294.21	295.42	298.32	302.35	305.50	305.55	306.32
	315.85	323.00	319.82	320.47	321.95	322.63	323.50	320.45	288.33		
2970.97	291.52	291.83	292.07	292.59	294.17	295.38	298.26	302.28	305.42	305.50	306.28
	315.76	322.87	319.66	320.35	321.85	322.53	323.38	320.32	288.31		
2973.55	291.49	291.80	292.04	292.56	294.14	295.35	298.21	302.20	305.35	305.46	306.23
	315.65	322.73	319.50	320.22	321.76	322.44	323.27	320.20	288.29		
2976.08	291.46	291.77	292.00	292.51	294.10	295.31	298.15	302.13	305.26	305.41	306.17
	315.53	317.99	319.35	320.10	321.68	322.35	323.15	320.08	288.26		
2978.66	291.44	291.74	291.96	292.47	293.48	295.26	298.09	301.54	305.18	305.36	306.10
	315.42	317.85	319.22	319.99	321.58	322.25	323.05	319.96	288.24		
2981.24	291.41	291.70	291.93	292.42	293.44	295.22	298.03	301.46	305.11	305.30	306.02
	315.31	317.73	319.10	319.87	321.48	322.15	322.94	319.86	288.21		
2983.77	291.39	291.68	291.91	292.37	293.40	295.17	297.98	301.40	305.03	305.22	305.93
	315.21	317.63	319.00	319.75	321.37	322.05	322.84	319.76	288.18		
2986.35	291.44	291.64	291.89	292.34	293.37	295.13	297.94	301.33	304.95	305.14	305.83
	315.11	317.52	318.91	319.64	321.25	321.95	322.75	319.66	288.15		
2988.88	291.47	291.61	291.87	292.30	293.34	295.09	297.88	301.26	304.87	305.06	305.74
	315.01	317.45	318.83	319.55	321.14	321.84	322.65	319.55	288.13		
2991.46	291.46	291.57	291.84	292.26	293.30	295.04	297.82	301.37	304.80	304.99	305.65
	314.91	317.36	318.74	319.44	321.03	321.73	322.54	319.46	288.10		
2993.99	291.45	291.55	291.81	292.22	293.26	294.99	297.76	301.31	304.73	304.91	305.54
	314.81	317.26	318.65	319.34	320.92	321.62	322.44	319.36	288.08		
2996.57	291.44	291.54	291.78	292.19	293.20	294.95	297.72	301.27	304.68	304.83	305.43
	314.72	317.18	318.58	319.26	320.81	321.52	322.34	319.28	288.07		
2999.09	291.43	291.52	291.75	292.17	293.14	294.91	297.66	301.22	304.62	304.73	305.32
	314.61	317.10	318.51	319.17	320.71	321.41	322.23	319.19	288.04		
3001.68	291.42	291.50	291.72	292.14	293.11	294.86	297.61	301.18	304.56	304.63	305.21
	314.49	317.02	318.46	319.09	320.61	321.29	322.12	319.09	288.03		
3004.20	291.41	291.49	291.70	292.12	293.07	294.81	297.97	301.13	304.50	304.54	305.12
	314.39	316.96	318.41	319.02	320.51	321.18	322.02	319.00	288.02		
3006.78	291.40	291.47	291.68	292.10	293.04	294.77	297.93	301.61	304.45	304.47	305.04
	314.30	316.88	318.35	318.95	320.40	321.07	321.91	318.91	288.00		
3009.31	291.39	291.47	291.66	292.09	293.01	294.74	297.90	301.59	304.40	304.39	304.97
	314.21	316.78	318.28	318.86	320.28	320.96	321.80	318.82	287.98		
3011.89	291.38	291.46	291.64	292.07	292.98	294.71	297.86	301.56	304.36	304.31	304.89
	314.10	316.68	318.20	318.77	320.16	320.85	321.68	318.71	287.96		
3014.64	291.37	291.45	291.62	292.05	292.95	294.68	297.82	301.53	304.32	304.25	304.84
	314.00	316.59	318.11	318.68	320.05	320.74	321.56	318.61	287.96		
3017.16	291.36	291.44	291.60	292.04	292.91	294.66	297.80	301.50	304.28	304.18	304.78
	313.91	316.52	318.02	318.59	319.94	320.63	321.45	318.52	287.96		
3019.75	291.35	291.43	291.60	292.03	292.88	294.65	297.78	301.47	304.24	304.13	304.74
	313.81	316.43	317.93	318.51	319.83	320.52	321.32	318.42	287.96		
3022.27	291.34	291.42	291.60	292.02	292.87	294.64	297.75	301.42	304.19	304.08	304.70
	313.73	316.32	317.84	318.43	319.73	320.40	321.20	318.31	287.95		
3024.85	291.33	291.40	291.58	292.00	292.88	294.62	297.72	302.15	304.13	304.04	304.67
	313.64	316.22	317.75	318.35	319.62	320.27	321.06	318.20	287.93		
3027.38	291.32	291.39	291.57	291.98	292.87	294.60	297.69	302.10	304.08	304.03	304.66
	313.57	316.12	317.64	318.26	319.50	320.15	320.93	318.08	287.93		
3029.96	291.30	291.36	291.54	291.97	292.85	294.57	297.65	302.05	304.04	304.00	304.64
	313.51	316.02	317.53	318.16	319.39	320.03	320.80	317.96	287.91		
3032.49	291.29	291.33	291.51	291.95	292.81	294.55	297.21	302.01	303.99	303.96	304.60
	313.46	315.92	317.41	318.05	319.27	319.91	320.67	317.84	287.90		
3035.07	291.27	291.30	291.49	291.93	292.78	294.53	297.14	301.90	303.94	303.93	304.55
	313.40	315.82	317.28	317.93	319.16	319.79	320.54	317.73	287.88		
3037.60	291.25	291.28	291.46	291.91	292.76	294.50	297.09	301.84	303.90	303.89	304.51
	313.34	315.73	317.16	317.82	319.07	319.66	320.40	317.61	287.86		
3040.18	291.23	291.25	291.43	291.89	292.74	294.48	297.04	301.78	303.85	303.86	304.46
	313.28	315.63	317.04	317.71	318.98	319.54	320.27	317.50	287.82		
3042.70	291.21	291.22	291.39	291.87	292.72	294.43	297.01	301.73	303.80	303.81	304.39
	313.19	315.53	316.91	317.58	318.88	319.42	320.14	317.38	287.77		
3045.29	291.20	291.20	291.36	291.84	292.70	294.36	296.93	301.68	303.76	303.77	304.34
	313.09	315.42	316.78	317.46	318.79	319.32	320.02	317.27	287.72		
3047.81	291.18	291.19	291.32	291.81	292.68	294.31	296.87	301.64	303.68	303.74	304.28
	312.99	315.32	316.65	317.32	318.70	319.21	319.91	317.16	287.68		

3050.39	291.16	291.17	291.28	291.78	292.66	294.26	296.82	301.61	303.63	303.69	304.22
	312.91	315.24	316.52	317.19	318.61	319.11	319.80	317.06	287.64		
3052.92	291.14	291.15	291.26	291.76	292.65	294.23	296.78	300.80	303.59	303.64	304.16
	312.84	315.15	316.42	317.08	318.52	319.02	319.70	316.96	287.60		
3055.50	291.12	291.12	291.23	291.73	292.63	294.19	296.75	300.75	303.54	303.57	304.07
	312.76	315.06	316.32	316.98	318.43	318.92	319.60	316.87	287.54		
3058.03	291.10	291.10	291.22	291.70	292.60	294.16	296.72	300.71	303.51	303.51	303.99
	312.68	314.98	316.22	316.89	318.34	318.83	319.51	316.78	287.48		
3060.61	291.08	291.08	291.22	291.68	292.59	294.13	296.70	300.68	303.47	303.44	303.92
	312.59	314.91	316.12	316.80	318.25	318.74	319.41	316.69	287.43		
3063.19	291.06	291.07	291.21	291.65	292.58	294.11	296.71	300.69	303.41	303.37	303.85
	312.51	314.84	316.03	316.72	318.16	318.65	319.30	316.60	287.38		
3065.72	291.04	291.05	291.20	291.62	292.56	294.08	296.69	300.65	303.35	303.29	303.77
	312.43	314.77	315.94	316.64	318.07	318.56	319.21	316.50	287.34		
3068.30	291.01	291.02	291.17	291.59	292.52	294.03	296.64	300.59	303.28	303.22	303.70
	312.33	314.69	315.84	316.54	317.98	318.44	319.10	316.40	287.31		
3070.83	290.96	290.96	291.12	291.54	292.46	293.99	296.57	300.50	303.20	303.13	303.62
	312.23	314.59	315.73	316.43	317.86	318.31	318.97	316.31	287.30		
3073.41	290.90	290.90	291.06	291.49	292.40	293.95	296.54	300.41	303.09	303.03	303.54
	312.13	314.50	315.61	316.32	317.73	318.17	318.84	316.21	287.29		
3075.93	290.83	290.84	291.01	291.44	292.34	293.91	296.49	300.31	303.03	302.93	303.46
	312.02	314.37	315.50	316.22	317.60	318.02	318.70	316.11	287.29		
3078.52	290.77	290.78	290.96	291.38	292.28	293.85	296.43	300.22	302.93	302.83	303.37
	311.91	314.23	315.37	316.10	317.46	317.87	318.56	316.01	287.30		
3081.04	290.71	290.71	290.89	291.31	292.21	293.80	296.35	300.12	302.81	302.71	303.28
	311.79	314.09	315.23	315.97	317.32	317.72	318.41	315.91	287.33		
3083.62	290.66	290.66	290.83	291.25	292.14	293.74	296.28	300.02	302.70	302.62	303.20
	311.67	313.96	315.09	315.84	317.18	317.57	318.26	315.81	287.36		
3086.15	290.61	290.60	290.77	291.19	292.08	293.68	296.20	299.92	302.58	302.52	303.13
	311.57	313.83	314.99	315.35	316.71	317.45	318.12	315.74	288.41		
3088.73	290.56	290.56	290.71	291.14	292.02	293.63	296.13	299.82	302.46	302.43	303.07
	311.52	313.74	314.93	315.26	316.63	317.36	317.99	315.72	289.46		
3091.26	290.47	290.51	290.67	291.08	291.95	293.57	296.06	299.74	302.37	302.35	303.00
	311.47	313.65	314.88	315.19	316.55	317.29	317.88	315.66	290.00		
3093.84	290.40	290.46	290.62	291.03	291.88	293.52	295.99	299.66	302.27	302.28	302.95
	311.42	313.56	314.82	315.12	316.46	317.21	317.76	315.59	290.06		
3096.37	290.35	290.43	290.60	290.99	291.84	293.49	295.94	299.59	302.19	302.20	302.89
	311.38	313.49	314.76	315.05	316.38	317.14	317.67	315.52	290.11		
3099.06	290.32	290.41	290.59	290.96	291.82	293.46	295.91	299.54	302.13	302.13	302.84
	311.34	313.41	314.71	315.00	316.31	317.08	317.58	315.45	290.14		
3101.64	290.30	290.41	290.59	290.94	291.80	293.45	295.89	299.50	302.06	302.06	302.78
	311.30	313.33	314.66	314.94	316.25	317.00	317.49	315.38	290.15		
3104.17	290.28	290.41	290.59	290.93	291.79	293.43	295.86	299.46	302.01	301.99	302.72
	311.26	313.28	314.61	314.88	316.20	316.95	317.41	315.31	290.16		
3106.75	290.27	290.41	290.59	290.93	291.78	293.41	295.83	299.43	301.96	301.94	302.66
	311.20	313.22	314.56	314.82	316.14	316.90	317.34	315.24	290.18		
3109.33	290.28	290.42	290.60	290.94	291.78	293.40	295.83	299.41	301.93	301.90	302.60
	311.15	313.16	314.53	314.76	316.08	316.85	317.28	315.19	290.21		
3111.86	290.28	290.42	290.62	290.95	291.79	293.38	295.82	299.38	301.90	301.85	302.55
	311.10	313.11	314.49	314.71	316.03	316.79	317.22	315.13	290.23		
3114.44	290.28	290.42	290.64	290.95	291.80	293.37	295.81	299.36	301.86	301.80	302.51
	311.02	313.04	314.42	315.00	316.30	316.70	317.17	315.04	289.24		
3116.96	290.27	290.42	290.64	290.95	291.80	293.35	295.79	299.33	301.82	301.75	302.46
	310.89	312.94	314.31	314.90	316.18	316.57	317.09	314.90	288.24		
3119.55	290.30	290.40	290.63	290.94	291.79	293.33	295.76	299.29	301.77	301.69	302.40
	310.75	312.81	314.18	314.76	316.06	316.44	317.01	314.80	287.73		
3122.07	290.30	290.39	290.38	290.93	291.77	293.30	295.73	299.24	301.72	301.63	302.34
	310.60	312.69	314.06	314.63	315.93	316.30	316.92	314.72	287.73		
3124.65	290.30	290.37	290.35	290.92	291.76	293.27	295.69	299.19	301.66	301.58	302.27
	310.48	312.56	313.94	314.50	315.80	316.18	316.84	314.63	287.72		
3127.18	290.30	290.36	290.33	290.90	291.73	293.25	295.66	299.14	301.60	301.53	302.21
	310.36	312.44	313.84	314.38	315.67	316.07	316.76	314.55	287.72		
3129.76	290.30	290.34	290.30	290.88	291.70	293.23	295.62	299.62	301.55	301.48	302.14
	310.24	312.31	313.72	314.27	315.46	315.97	316.68	314.47	287.71		

3132.29	290.30	290.32	290.27	290.85	291.67	293.19	295.59	299.57	301.50	301.42	302.07
	310.11	312.13	313.58	314.16	315.34	315.86	316.60	314.38	287.69		
3134.87	290.30	290.30	290.24	290.82	291.63	293.15	295.54	299.52	301.46	301.36	301.99
	310.00	311.97	313.46	314.05	315.23	315.75	316.51	314.30	287.64		
3137.45	290.28	290.29	290.22	290.80	291.59	293.12	295.49	299.46	301.40	301.30	301.93
	309.89	311.85	313.35	313.94	315.12	315.65	316.42	314.21	287.56		
3139.98	290.27	290.27	290.16	290.77	291.56	293.09	295.45	299.41	301.35	301.25	301.86
	309.78	311.73	313.25	313.83	315.01	315.56	316.32	314.12	287.49		
3142.56	290.26	290.26	290.10	290.74	291.52	293.05	295.40	299.36	301.30	301.20	301.79
	309.68	311.60	313.14	313.73	314.90	315.46	316.22	314.04	287.42		
3145.09	290.24	290.24	290.03	290.70	291.48	293.01	295.35	299.31	301.24	301.16	301.71
	309.58	311.46	313.02	313.62	314.80	315.37	316.13	313.94	287.36		
3147.67	290.23	290.22	289.99	290.68	291.45	292.97	295.31	299.26	301.20	301.12	301.64
	309.48	311.35	312.91	313.53	314.71	315.28	316.03	313.85	287.30		
3150.19	290.22	290.20	290.20	290.65	291.43	292.93	295.28	299.21	301.15	301.08	301.57
	309.38	311.24	312.81	313.45	314.62	315.20	315.93	313.76	287.24		
3152.78	290.19	290.18	290.18	290.62	291.41	292.90	295.25	299.16	301.11	301.03	301.52
	309.27	311.15	312.72	313.37	314.55	315.10	315.84	313.69	287.18		
3155.30	290.06	290.15	290.16	290.60	291.38	292.85	295.20	299.12	301.06	300.98	301.44
	309.16	311.07	312.63	313.28	314.47	315.00	315.73	313.60	287.58		
3157.88	290.03	290.12	290.13	290.56	291.35	292.81	295.16	298.54	301.02	300.93	301.38
	309.08	311.01	312.54	313.21	314.48	314.91	315.63	313.51	287.51		
3160.41	290.00	290.10	290.10	290.52	291.32	292.77	295.12	298.49	300.97	300.88	301.33
	308.99	311.01	312.49	313.13	314.40	314.82	315.52	313.43	287.45		
3162.99	289.98	290.07	290.07	290.48	291.30	292.74	295.09	298.44	300.91	300.84	301.29
	308.90	310.99	312.43	313.07	314.31	314.73	315.43	313.35	287.41		
3165.52	289.95	290.04	290.04	290.45	291.27	292.70	295.06	298.40	300.87	300.79	301.24
	308.82	310.93	312.34	312.99	314.22	314.63	315.34	313.26	287.40		
3168.10	289.92	290.01	290.04	290.41	291.24	292.66	295.02	298.36	300.83	300.74	301.20
	308.74	310.86	312.24	312.91	314.14	314.54	315.24	313.18	287.38		
3170.63	289.89	289.99	290.04	290.38	291.22	292.64	294.99	298.33	300.80	300.69	301.16
	308.68	310.80	312.15	312.82	314.05	314.45	315.15	313.10	287.38		
3173.21	289.87	289.97	290.06	290.36	291.20	292.62	294.96	298.24	300.77	300.64	301.14
	308.62	310.74	312.08	312.74	313.98	314.37	315.07	313.04	287.40		
3175.73	289.86	289.96	290.05	290.35	291.18	292.60	294.94	298.20	300.75	300.61	301.12
	308.57	310.68	312.00	312.66	313.90	314.29	314.98	312.97	287.42		
3178.32	289.84	289.96	290.04	290.33	291.16	292.58	294.91	298.18	300.74	300.58	301.10
	308.54	310.62	311.91	312.57	313.81	314.21	314.58	312.90	287.44		
3180.84	289.84	289.91	290.03	290.30	291.15	292.56	294.88	298.17	300.72	300.56	301.07
	308.50	310.55	311.81	312.48	313.72	314.13	314.39	312.83	287.46		
3183.42	289.95	289.89	290.02	290.29	291.14	292.55	294.87	298.16	300.71	300.54	301.04
	308.45	310.48	311.72	312.39	313.64	314.06	314.30	312.77	287.03		
3185.95	289.95	289.88	290.02	290.29	291.13	292.55	294.85	298.15	300.70	300.52	301.02
	308.41	310.40	311.63	312.30	313.56	314.00	314.22	312.71	287.08		
3188.53	289.94	289.86	290.00	290.28	291.11	292.54	294.83	298.13	300.68	300.50	300.98
	308.36	310.30	311.52	312.21	313.48	313.94	314.15	312.64	287.12		
3191.11	289.94	289.84	289.99	290.27	291.10	292.52	294.81	298.10	300.66	300.47	300.94
	308.30	310.20	311.41	312.11	313.39	313.86	314.07	312.57	287.13		
3193.64	289.93	289.83	289.97	290.26	291.08	292.50	294.79	298.06	300.62	300.42	300.89
	308.25	310.11	311.31	312.02	313.30	313.79	313.99	312.50	287.15		
3196.22	289.92	289.81	289.96	290.25	291.06	292.48	294.77	298.03	300.58	300.40	300.84
	308.18	310.04	311.23	311.92	313.38	313.72	313.91	312.43	287.17		
3198.75	289.91	289.79	289.95	290.24	291.04	292.46	294.75	297.98	300.54	300.37	300.80
	308.12	309.97	311.15	311.83	313.30	313.65	313.83	312.36	287.18		
3201.44	289.90	289.77	289.94	290.23	291.02	292.80	294.72	298.00	300.48	300.32	300.74
	308.04	309.90	311.07	311.75	313.21	313.57	313.74	312.28	287.18		
3204.02	289.89	289.75	289.93	290.20	291.00	292.77	294.69	297.97	300.41	300.32	300.67
	307.96	309.82	310.99	311.67	313.12	313.50	313.65	312.21	287.65		
3206.55	289.64	289.50	289.67	289.91	290.64	292.28	293.99	296.97	299.18	300.32	299.40
	306.03	307.72	308.78	309.40	310.74	311.07	311.47	309.89	287.64		
3209.13	289.38	289.29	289.40	289.63	290.28	291.79	293.29	295.96	297.94	300.32	298.15
	304.10	305.63	306.58	307.15	308.36	308.65	309.09	307.58	287.65		
3211.66	289.35	289.27	289.38	289.61	290.24	291.75	293.25	295.87	297.85	300.32	298.19
	307.26	308.36	310.28	310.89	311.28	311.81	309.68	307.54	287.64		

3214.24	289.32	290.43	289.36	289.59	290.21	291.72	293.20	295.79	297.76	300.32	298.26
	310.06	310.72	313.39	314.06	313.64	314.11	310.16	307.52	287.61		
3216.76	289.30	290.43	289.36	289.57	290.19	291.69	293.15	295.72	297.68	300.32	298.39
	312.41	312.75	315.76	316.54	315.46	315.86	310.53	307.50	287.61		
3223.30	289.27	290.43	289.36	289.55	290.17	291.66	293.11	295.66	297.62	300.32	298.58
	314.43	314.58	317.89	318.76	316.93	317.24	310.83	307.51	287.64		
3230.66	289.25	290.43	289.36	289.53	290.15	291.64	293.08	295.61	297.56	300.32	298.78
	315.95	316.22	319.53	320.43	318.21	318.42	311.08	307.51	287.67		
3234.01	289.23	290.43	289.36	289.51	290.13	291.63	293.04	295.56	297.52	304.32	299.02
	317.34	317.65	321.06	321.94	319.10	319.37	311.30	307.53	287.70		
3236.54	289.21	290.43	289.36	289.50	290.11	291.61	293.00	295.52	297.50	300.32	299.26
	318.57	318.94	322.44	323.30	320.07	320.14	311.49	307.54	287.72		
3239.12	289.18	290.43	289.36	289.48	290.09	291.22	292.98	295.50	297.50	300.32	299.52
	319.67	320.12	323.69	324.52	320.87	320.81	311.67	307.54	287.73		
3241.64	289.16	290.43	289.36	289.46	290.06	291.21	292.96	295.50	297.51	300.32	299.83
	320.68	321.21	324.85	325.62	321.64	321.39	311.84	307.55	287.28		
3244.23	289.37	290.43	289.36	289.71	290.38	291.65	293.62	296.46	298.70	300.32	301.33
	323.46	324.25	328.06	328.84	324.67	324.28	314.40	309.78	287.29		
3246.75	289.59	290.43	289.36	289.97	290.70	292.10	294.27	297.43	299.90	300.32	302.81
	326.15	327.23	331.21	331.99	327.65	327.12	316.96	312.02	287.30		
3249.33	289.59	290.43	289.36	289.96	290.70	292.09	294.28	297.48	300.00	300.30	303.00
	323.70	325.32	328.41	329.07	325.31	324.35	316.47	312.00	287.30		
3251.86	289.58	290.43	289.36	289.95	290.69	292.08	294.29	297.54	300.10	300.28	303.15
	321.60	323.77	326.17	326.70	323.51	322.41	316.07	311.96	287.31		
3254.44	289.57	290.43	289.72	289.95	290.69	292.07	294.31	297.61	300.23	300.26	303.24
	319.92	322.53	324.63	324.99	322.24	321.01	315.78	311.92	287.31		
3256.97	289.57	290.43	289.71	289.95	290.68	292.07	294.34	297.70	300.35	300.24	303.31
	318.54	321.48	323.31	323.51	321.34	319.99	315.57	311.87	287.30		
3259.55	289.57	291.43	289.70	289.95	290.68	292.08	294.37	297.80	300.49	300.22	303.39
	317.64	320.56	322.43	322.56	320.61	319.17	315.41	311.82	287.29		
3262.08	289.56	291.43	289.69	289.95	290.68	292.07	294.41	297.90	300.63	300.20	303.42
	316.83	319.82	321.63	321.75	320.08	318.56	315.30	311.78	287.29		
3264.66	289.55	289.55	289.68	289.95	290.68	292.06	294.44	298.00	300.76	300.18	303.43
	316.18	319.20	320.97	321.08	319.68	318.12	315.21	311.74	287.28		
3267.24	289.55	289.55	289.68	289.95	290.68	292.08	294.50	298.10	300.88	300.16	303.42
	315.63	318.66	320.40	320.52	319.37	317.80	315.15	311.72	287.28		
3269.77	289.55	289.55	289.68	289.96	290.69	292.11	294.55	298.19	301.00	300.14	303.39
	315.18	318.19	319.91	320.05	319.11	317.55	315.10	311.72	287.29		
3272.35	289.55	289.55	289.68	289.98	290.71	292.14	294.60	298.27	301.13	300.12	303.36
	314.80	317.77	319.50	319.65	318.89	317.35	315.07	311.73	287.30		
3274.87	289.55	289.55	289.68	290.00	290.73	292.17	294.66	298.36	301.24	300.10	303.35
	314.48	317.40	319.13	319.31	318.72	317.20	315.05	311.74	287.31		
3277.46	289.55	289.55	289.69	290.02	290.75	292.22	294.73	298.44	301.33	300.08	303.33
	314.20	317.08	318.79	319.01	318.56	317.07	315.04	311.74	287.32		
3279.98	289.55	289.55	289.70	290.04	290.77	292.26	294.79	298.51	301.40	300.06	303.32
	313.92	316.76	318.48	318.73	318.41	316.96	315.04	311.75	287.34		
3282.56	289.55	289.55	289.71	290.05	290.79	292.31	294.85	298.58	301.46	300.04	303.31
	313.68	316.47	318.19	318.47	318.28	316.86	315.04	311.76	287.35		
3285.09	289.55	289.55	289.72	290.06	290.82	292.35	294.90	298.63	301.50	300.02	303.26
	313.46	316.21	317.93	318.23	318.14	316.78	315.03	311.79	287.36		
3287.67	289.54	289.54	289.71	290.07	290.83	292.38	294.94	298.68	301.54	300.00	303.20
	313.28	315.97	317.68	317.99	318.00	316.70	315.02	311.81	287.37		
3290.20	289.54	289.54	289.70	290.07	290.84	292.40	294.96	298.71	301.55	299.98	303.14
	313.12	315.75	317.44	317.76	317.86	316.61	315.00	311.83	287.37		
3292.78	289.52	289.53	289.70	290.07	290.84	292.44	295.00	298.72	301.56	299.96	303.07
	312.96	315.53	317.23	317.54	317.71	316.52	314.98	311.85	287.37		
3295.31	289.52	289.52	289.70	290.06	290.85	292.46	295.02	298.74	301.57	299.94	303.00
	312.78	315.32	317.02	317.34	317.57	316.45	314.97	311.86	287.37		
3297.89	289.51	289.51	289.68	290.05	290.85	292.47	295.04	298.74	301.56	299.92	302.93
	312.61	315.14	316.82	317.14	317.43	316.38	314.95	311.86	287.37		
3300.42	289.50	289.50	289.66	290.04	290.85	292.48	295.04	298.74	301.55	299.90	302.86
	312.44	314.97	316.62	316.95	317.29	316.29	314.93	311.86	287.36		
3303.00	289.49	289.49	289.65	290.03	290.85	292.48	295.05	298.74	301.53	299.88	302.77
	311.95	314.81	316.42	316.76	317.15	316.22	314.90	311.86	287.34		

3305.58	289.48	289.48	289.63	290.02	290.85	292.47	295.05	298.74	301.51	299.86	302.69
	311.79	314.64	316.23	316.58	317.02	316.14	314.87	311.86	287.32		
3308.16	289.47	289.47	289.61	290.01	290.85	292.46	295.05	298.73	301.49	299.84	302.62
	311.64	314.48	316.04	316.40	316.88	316.06	314.84	311.86	287.30		
3310.69	289.46	289.46	289.80	290.00	290.84	292.45	295.04	298.35	301.47	299.82	302.56
	311.49	314.32	315.86	316.22	316.74	315.98	314.82	311.86	287.29		
3313.27	289.44	289.45	289.80	290.00	290.82	292.44	295.02	298.34	301.46	299.80	302.52
	311.34	314.14	315.68	316.05	316.60	315.90	314.79	311.86	287.28		
3315.79	289.43	289.45	289.80	290.01	290.82	292.45	295.03	298.32	301.45	299.78	302.48
	311.18	313.98	315.51	315.89	316.47	315.82	314.77	311.86	287.26		
3318.38	289.42	289.45	289.81	290.02	290.82	292.47	295.04	298.31	301.44	299.76	302.42
	311.02	313.83	315.34	315.75	316.35	315.75	314.75	311.87	287.25		
3320.90	289.41	289.45	289.80	290.02	290.83	292.48	295.04	298.30	301.43	299.74	302.37
	310.88	313.68	315.18	315.60	316.24	315.68	314.73	311.88	287.22		
3323.48	289.40	289.45	289.80	290.03	290.83	292.49	295.04	298.30	301.41	299.72	302.31
	310.76	313.54	315.01	315.45	316.12	315.61	314.71	311.89	287.19		
3326.01	289.39	289.45	289.81	290.03	290.84	292.49	295.03	298.29	301.39	299.70	302.25
	310.63	313.40	314.85	315.31	316.01	315.53	314.70	311.89	287.17		
3328.59	289.38	289.45	289.82	290.03	290.84	292.49	295.03	298.29	301.37	299.68	302.18
	310.51	313.25	314.69	315.16	315.89	315.46	314.69	311.89	287.16		
3331.12	289.37	289.45	289.83	290.03	290.84	292.49	295.02	298.28	301.35	299.66	302.12
	310.72	313.07	314.52	315.03	315.78	315.39	314.68	311.89	287.16		
3333.70	289.36	289.45	289.83	290.03	290.84	292.49	295.01	298.27	301.34	299.64	302.06
	310.59	312.91	314.36	314.88	315.66	315.32	314.66	311.89	287.17		
3336.23	289.30	289.45	289.81	290.02	290.83	292.49	294.99	298.26	301.32	299.62	301.98
	310.46	312.76	314.21	314.74	315.53	315.24	314.64	311.89	287.18		
3338.81	289.30	289.45	289.60	290.01	290.83	293.56	294.97	298.62	301.31	299.60	301.89
	310.34	312.62	314.07	314.62	315.41	315.16	314.61	311.91	287.18		
3341.33	289.30	289.44	289.58	290.01	290.84	293.56	294.96	298.60	301.28	299.58	301.80
	310.22	312.50	313.94	314.48	315.28	315.07	314.59	311.93	287.19		
3343.92	289.30	289.43	289.56	290.01	290.84	293.56	294.95	298.58	301.26	299.56	301.72
	310.10	312.38	313.80	314.35	315.15	314.98	314.57	311.93	287.19		
3346.50	289.29	289.42	289.56	290.01	290.84	293.55	294.94	298.57	301.23	299.54	301.66
	309.97	312.26	313.68	314.22	315.03	314.89	314.55	311.92	287.21		
3349.02	289.28	289.42	289.56	290.01	290.84	293.51	294.89	298.54	301.19	299.52	301.60
	309.83	312.14	313.55	314.09	314.91	314.80	314.52	311.91	287.24		
3351.61	289.27	289.42	289.55	290.02	290.84	293.49	294.86	298.51	301.14	299.50	301.55
	309.70	312.03	313.43	313.97	314.80	314.71	314.49	311.90	287.26		
3354.13	289.26	289.40	289.54	290.03	290.83	293.47	294.84	298.48	301.10	299.48	301.49
	309.59	311.92	313.31	313.85	314.69	314.62	314.45	311.88	287.29		
3356.71	289.26	289.38	289.53	290.03	290.83	293.46	294.82	298.46	301.07	299.46	301.46
	309.49	311.84	313.20	313.74	314.58	314.54	314.41	311.86	287.31		
3359.24	289.25	289.37	289.52	290.02	290.83	293.45	294.81	298.44	301.03	299.44	301.41
	309.39	311.77	313.10	313.63	314.48	314.45	314.36	311.85	287.32		
3361.82	289.24	289.36	289.53	290.01	290.83	293.45	294.80	298.42	301.00	299.42	301.38
	309.29	311.70	313.00	313.52	314.38	314.37	314.32	311.83	287.32		
3364.35	289.28	289.36	289.54	290.01	290.84	293.44	294.80	298.40	300.96	299.40	301.37
	309.20	311.63	312.90	313.43	314.29	314.30	314.29	311.81	287.32		
3366.93	289.27	289.35	289.55	290.01	290.84	292.36	294.80	298.38	300.91	299.38	301.35
	309.12	311.55	312.80	313.33	314.20	314.22	314.26	311.77	287.33		
3369.46	289.26	289.34	289.55	290.00	290.83	292.35	294.79	298.34	300.85	299.36	301.32
	309.03	311.47	312.69	313.24	314.10	314.14	314.21	311.72	287.33		
3372.04	289.25	289.33	289.55	289.99	290.82	292.34	294.78	298.31	300.79	299.34	301.28
	308.95	311.38	312.58	313.14	314.01	314.07	314.16	311.68	287.32		
3374.56	289.24	289.32	289.55	289.98	290.81	292.33	294.76	298.27	300.74	299.32	301.25
	308.89	311.28	312.47	313.02	313.91	313.98	314.12	311.66	287.31		
3377.15	289.24	289.31	289.55	289.98	290.80	292.35	294.79	298.23	300.69	299.30	301.21
	308.83	311.19	312.35	312.90	313.80	313.90	314.07	311.63	287.32		
3379.67	289.24	289.30	289.55	289.96	290.79	292.35	294.78	298.19	300.65	299.28	301.17
	308.77	311.10	312.24	312.78	313.70	313.82	314.01	311.60	287.32		
3382.25	289.24	289.30	289.55	289.96	290.79	292.34	294.76	298.16	300.59	299.26	301.12
	308.71	311.01	312.12	312.68	313.60	313.75	313.96	311.59	287.31		
3384.78	289.24	289.30	289.55	289.95	290.78	292.33	294.74	298.12	300.55	299.24	301.07
	308.63	310.91	312.02	312.56	313.50	313.67	313.91	311.56	287.29		

3387.36	289.24	289.30	289.55	289.95	290.77	292.29	294.71	298.08	300.50	299.22	301.02
	308.55	310.82	311.91	312.45	313.40	313.59	313.86	311.54	287.28		
3389.89	289.24	289.28	289.55	289.95	290.76	292.26	294.68	298.05	300.46	299.20	300.96
	308.47	310.72	311.80	312.35	313.31	313.51	313.79	311.51	287.26		
3392.47	289.23	289.26	289.54	289.94	290.75	292.22	294.65	298.00	300.40	299.18	300.90
	308.39	310.62	311.68	312.23	313.21	313.43	313.73	311.48	287.24		
3395.00	289.21	289.24	289.50	289.92	290.74	292.18	294.62	297.94	300.34	299.16	300.84
	308.30	310.51	311.57	312.11	313.12	313.35	313.66	311.44	287.21		
3397.58	289.19	289.23	289.47	289.91	290.73	292.16	294.58	297.89	300.29	299.14	300.77
	308.21	310.42	311.46	312.00	313.03	313.27	313.60	311.41	287.19		
3400.27	289.18	289.22	289.45	289.89	290.72	292.13	294.55	297.85	300.24	299.12	300.71
	308.14	310.32	311.36	311.92	312.95	313.20	313.52	311.36	287.17		
3402.85	289.16	289.20	289.44	289.87	290.71	292.10	294.51	297.80	300.18	299.10	300.64
	308.05	310.22	311.27	311.84	312.87	313.13	313.44	311.32	287.14		
3405.38	289.14	289.19	289.43	289.85	290.69	292.07	294.47	297.69	300.09	299.08	300.56
	307.95	310.13	311.19	311.77	312.79	313.06	313.37	311.27	287.10		
3407.96	289.12	289.18	289.42	289.83	290.66	292.03	294.42	297.62	300.02	299.06	300.50
	307.84	310.03	311.11	311.69	312.63	312.99	313.31	311.22	287.06		
3410.49	289.11	289.16	289.42	289.58	290.63	292.00	294.36	297.51	299.92	299.04	300.42
	307.74	309.92	311.02	311.61	312.34	312.93	313.25	311.17	287.04		
3413.07	289.09	289.15	289.42	289.55	290.61	291.98	294.32	297.43	299.84	299.02	300.36
	307.66	309.82	310.94	311.53	312.19	312.86	313.19	311.13	287.02		
3415.59	289.08	289.14	289.42	289.53	290.58	291.98	294.28	297.36	299.76	299.00	300.29
	307.58	309.73	310.86	311.45	312.07	312.79	313.14	311.09	287.00		
3418.18	289.06	289.12	289.42	289.50	290.55	291.96	294.24	297.29	299.69	298.98	300.24
	307.51	309.65	310.78	311.36	311.98	312.71	313.08	311.04	286.97		
3420.70	289.05	289.12	289.42	289.50	290.54	291.98	294.20	297.24	299.64	298.96	300.22
	307.46	309.58	310.72	311.29	311.90	312.66	313.03	311.00	286.95		
3423.28	289.06	289.14	289.42	289.51	290.54	291.98	294.18	297.21	299.62	298.94	300.19
	307.42	309.53	310.67	311.22	311.82	312.61	312.99	310.96	286.93		
3425.81	289.06	289.15	289.42	289.52	290.53	291.98	294.16	297.18	299.59	298.92	300.14
	307.38	309.49	310.61	311.16	311.75	312.56	312.95	310.92	286.93		
3428.39	289.06	288.16	289.42	289.52	289.52	290.98	293.14	296.17	298.59	298.90	299.29
	306.37	308.49	309.62	310.13	310.74	311.56	311.97	309.92	286.36		
3430.92	289.06	288.16	289.42	289.52	288.26	289.73	291.87	294.90	297.34	298.88	299.29
	305.20	307.30	308.47	308.94	309.57	310.43	310.75	308.68	285.78		
3433.50	289.06	288.16	289.42	289.52	287.25	288.72	290.84	293.92	296.37	298.86	299.29
	304.37	306.44	307.65	308.10	308.72	309.62	309.78	307.66	284.78		
3436.08	289.06	288.16	289.42	289.52	287.26	288.72	290.85	293.92	296.36	298.84	299.29
	304.54	306.56	307.82	308.27	308.94	309.79	309.76	307.61	284.77		
3438.61	289.06	288.16	289.42	289.52	287.28	288.72	290.85	293.94	296.38	298.82	299.29
	304.68	306.67	307.96	308.42	309.28	309.94	309.76	307.55	284.77		
3441.30	289.06	288.16	289.42	289.52	287.29	288.72	290.84	293.95	296.38	298.80	299.29
	304.79	306.75	308.05	308.55	309.45	310.04	309.75	307.50	284.78		
3444.05	289.06	288.16	289.42	289.52	287.31	288.72	290.85	293.95	296.38	298.78	299.29
	304.87	306.80	308.12	308.66	309.55	310.12	309.74	307.45	284.80		
3446.68	289.06	288.80	289.42	289.52	287.33	288.73	290.86	293.95	296.37	298.76	299.29
	304.92	306.83	308.17	308.74	309.61	310.17	309.73	307.40	284.83		
3449.21	289.06	288.80	289.42	289.52	287.34	288.72	290.85	293.93	296.34	298.74	299.29
	304.94	306.84	308.20	308.80	309.64	310.19	309.70	307.35	284.85		
3451.79	289.06	288.80	289.42	289.52	287.33	288.71	290.84	293.89	296.30	298.72	299.29
	304.93	306.83	308.21	308.85	309.86	310.19	309.67	307.30	284.85		
3454.32	289.06	288.80	289.42	289.52	287.33	288.70	290.83	293.85	296.25	298.70	299.29
	304.91	306.80	308.21	308.88	309.86	310.17	309.64	307.25	284.85		
3456.90	289.06	288.80	289.42	289.52	288.33	289.70	291.82	294.76	297.19	298.68	299.29
	305.85	307.74	309.15	309.87	310.81	311.09	310.55	308.18	285.43		
3459.42	288.13	288.80	289.42	289.52	289.59	290.95	293.07	295.96	298.38	298.66	299.29
	306.95	308.84	310.24	311.00	311.91	312.16	311.70	309.34	285.98		
3462.01	289.15	288.80	289.42	289.52	290.59	291.95	294.05	296.94	299.33	298.64	299.29
	307.71	309.62	310.98	311.79	312.69	312.88	312.59	310.26	287.02		
3464.53	289.16	288.16	289.42	289.52	290.60	291.95	294.04	296.92	299.29	298.62	299.23
	307.47	309.41	310.74	311.57	312.48	312.63	312.52	310.23	287.05		

3467.11	289.16	289.25	289.45	289.52	290.59	291.94	294.02	296.89	299.24	298.60	299.18
	307.24	309.22	310.53	311.35	312.29	312.40	312.29	310.20	287.49		
3469.64	289.06	289.11	289.30	289.66	290.43	291.79	293.85	296.73	299.07	298.58	298.98
	306.90	308.83	310.23	311.03	312.02	312.11	311.91	310.06	287.40		
3472.22	288.80	288.80	289.12	289.48	290.24	291.60	293.64	296.52	298.86	298.56	298.74
	306.56	308.48	309.92	310.70	311.70	311.78	311.59	309.85	287.64		
3474.75	288.59	288.75	288.94	289.30	290.05	291.40	293.44	296.31	298.64	298.28	298.51
	306.24	308.16	309.62	310.39	311.42	311.48	311.32	309.63	287.45		
3477.33	288.57	288.74	288.92	289.28	290.01	290.99	293.41	296.27	298.60	298.38	298.92
	306.10	308.01	309.49	310.21	311.16	311.29	311.16	309.51	287.38		
3479.86	288.56	288.72	288.90	289.27	289.98	290.96	293.38	296.24	298.56	298.32	298.86
	305.96	307.86	309.37	310.08	310.84	311.18	311.07	309.45	287.39		
3482.44	288.53	288.70	288.89	289.26	289.95	290.93	293.35	296.22	298.50	298.26	298.80
	305.86	307.72	309.27	309.96	310.76	311.07	310.99	309.38	287.39		
3485.02	288.52	288.68	288.87	289.24	289.93	290.90	293.31	296.23	298.45	298.21	298.75
	305.75	307.59	309.16	309.85	310.66	310.98	310.91	309.30	287.40		
3487.55	288.50	288.66	288.85	289.22	289.90	290.86	293.26	296.22	298.40	298.16	298.69
	305.66	307.47	309.06	309.73	310.56	310.89	310.83	309.24	287.42		
3490.13	288.47	288.64	288.83	289.19	289.87	290.82	293.23	296.18	298.36	298.12	298.64
	305.56	307.35	308.96	309.60	310.46	310.80	310.76	309.18	287.40		
3492.65	288.45	288.63	288.81	289.17	289.84	290.78	293.20	296.14	298.32	298.08	298.60
	305.48	307.25	308.84	309.49	310.35	310.71	310.68	309.12	287.38		
3495.24	288.43	288.61	288.80	289.15	289.82	290.74	293.17	296.10	298.28	298.04	298.55
	305.16	307.15	308.74	309.38	310.26	310.62	310.77	309.05	286.94		
3497.82	288.57	288.73	288.92	289.26	289.94	290.85	293.29	296.19	298.38	298.14	298.64
	305.20	307.28	308.77	309.40	310.26	310.63	310.98	309.08	287.02		
3500.34	288.73	288.88	289.09	289.42	290.09	290.99	293.43	296.32	298.50	298.27	298.79
	305.29	307.39	308.83	309.46	310.31	310.71	311.14	309.18	286.76		
3502.93	288.91	289.04	289.25	289.57	290.25	291.15	293.58	296.44	298.61	298.40	298.93
	305.39	307.50	308.90	309.51	310.36	310.78	311.25	309.28	286.93		
3505.45	288.91	289.04	289.25	289.56	290.25	291.51	293.55	296.40	298.56	298.36	298.91
	305.33	307.45	308.81	309.44	310.41	310.76	311.26	309.29	286.99		
3508.03	288.90	289.02	289.25	289.56	290.25	291.49	293.53	296.36	298.52	298.34	298.89
	305.27	307.40	308.72	309.34	310.32	310.68	311.19	309.22	286.98		
3510.62	288.90	289.01	289.23	289.54	290.25	291.47	293.51	296.28	298.45	298.31	298.88
	305.22	307.34	308.64	309.24	310.22	310.61	311.12	309.16	287.00		
3513.14	288.90	289.00	289.22	289.53	290.25	291.46	293.49	296.23	298.38	298.30	298.85
	305.15	307.27	308.55	309.14	310.13	310.53	311.05	309.10	287.00		
3515.72	288.89	288.99	289.20	289.52	290.25	291.44	293.48	296.19	298.33	298.27	298.83
	305.09	307.20	308.47	309.05	310.05	310.45	310.98	309.04	287.01		
3518.25	288.88	288.98	289.18	289.52	290.24	291.42	293.45	296.15	298.28	298.25	298.80
	305.04	307.14	308.03	308.77	309.96	310.37	310.91	308.97	287.02		
3520.83	288.87	288.97	289.16	289.51	290.24	291.41	293.43	296.12	298.23	298.21	298.77
	304.97	307.09	307.95	308.69	309.89	310.30	310.84	308.90	287.02		
3523.36	288.84	288.96	289.14	289.50	290.23	291.40	293.41	296.08	298.18	298.17	298.74
	305.16	307.03	307.87	308.60	309.81	310.24	310.76	308.83	287.03		
3525.94	288.83	288.94	289.13	289.49	290.22	291.39	293.39	296.04	298.13	298.14	298.72
	305.12	306.97	307.80	308.53	309.74	310.17	310.69	308.77	287.03		
3528.47	288.82	288.92	289.11	289.48	290.21	291.38	293.37	296.00	298.08	298.11	298.68
	305.06	306.91	307.73	308.46	309.68	310.10	310.63	308.71	287.03		
3531.05	288.82	288.91	289.09	289.47	290.20	291.37	293.34	295.96	298.04	298.07	298.64
	305.00	306.85	307.65	308.39	309.63	310.04	310.56	308.64	287.03		
3533.57	288.81	288.90	289.07	289.46	290.19	291.36	293.32	295.92	297.98	298.03	298.61
	304.95	306.78	307.56	308.33	309.57	309.98	310.50	308.59	287.03		
3536.16	288.80	288.90	289.06	289.45	290.18	291.34	293.29	295.89	297.94	297.99	298.58
	304.89	306.72	307.49	308.27	309.51	309.93	310.43	308.54	287.03		
3538.68	288.79	288.90	289.06	289.45	290.17	291.33	293.26	295.89	297.93	297.96	298.58
	304.82	306.67	307.41	308.20	309.45	309.87	310.37	308.49	287.01		
3541.26	288.79	288.90	289.07	289.45	290.16	291.32	293.24	295.87	297.88	297.91	298.58
	304.76	306.63	307.33	308.13	309.39	309.81	310.31	308.44	286.99		
3543.79	288.79	288.90	289.08	289.45	290.15	291.31	293.21	295.83	297.84	297.88	298.58
	304.71	306.58	307.25	308.06	309.34	309.74	310.25	308.38	286.97		
3546.37	288.79	288.89	289.08	289.45	290.14	291.30	293.18	295.79	297.79	297.85	298.58
	304.64	306.52	307.53	308.18	309.27	309.69	310.19	308.82	286.96		

3548.90	288.79	288.88	289.08	289.45	290.12	291.29	293.17	295.76	297.74	297.81	298.58
	304.58	306.45	307.46	308.11	309.21	309.62	310.12	308.77	286.95		
3551.48	288.80	288.88	289.08	289.44	290.10	291.27	293.14	295.72	297.71	297.78	298.58
	304.51	306.37	307.37	308.04	309.14	309.55	310.06	308.72	286.94		
3554.06	288.81	288.88	289.08	289.43	290.09	291.25	293.11	295.70	297.68	297.74	298.58
	304.44	306.29	307.29	307.97	309.06	309.48	310.00	308.67	286.93		
3556.59	288.82	288.88	289.08	289.42	290.07	291.24	293.08	295.67	297.64	297.70	298.58
	304.38	306.20	307.22	307.89	308.97	309.41	309.93	308.61	286.92		
3559.17	288.83	288.88	289.08	289.92	290.05	291.22	293.06	295.65	297.62	297.66	298.58
	304.31	306.12	307.15	307.82	308.90	309.35	309.85	308.55	286.91		
3561.70	288.84	288.88	289.08	289.91	290.03	291.20	293.03	295.64	297.60	297.62	298.58
	304.25	306.04	307.09	307.75	308.83	309.28	309.79	308.48	286.90		
3564.28	288.85	288.87	289.08	289.90	290.01	291.18	293.00	295.62	297.58	297.60	298.58
	304.19	305.96	307.03	307.68	308.76	309.21	309.72	308.42	286.89		
3566.80	288.85	288.86	289.07	289.90	290.00	291.16	292.98	295.59	297.55	297.57	298.58
	304.14	305.88	306.98	307.61	308.69	309.14	309.65	308.35	286.88		
3569.39	288.85	288.86	289.06	289.89	289.97	291.13	292.95	295.57	297.55	297.54	298.14
	304.09	305.80	306.92	307.55	308.62	309.08	309.58	308.29	286.85		
3571.91	288.84	288.85	289.04	289.87	289.94	291.10	292.93	295.55	297.54	297.25	298.09
	304.05	305.74	306.87	307.48	308.55	309.02	309.51	308.23	286.85		
3574.49	288.83	288.85	289.02	289.85	289.92	291.07	292.90	295.51	297.52	297.22	298.05
	304.01	305.68	306.80	307.42	308.48	308.95	309.44	307.67	286.84		
3577.02	288.82	288.84	289.00	289.83	289.92	291.05	292.87	295.48	297.50	297.19	298.01
	303.98	305.63	306.75	307.36	308.41	308.88	309.38	307.61	286.83		
3579.60	288.83	288.85	289.01	289.84	289.93	291.06	292.87	295.48	297.48	297.17	297.99
	303.96	305.60	306.72	307.31	308.36	308.84	309.33	307.57	286.85		
3582.13	288.84	288.86	289.02	289.85	289.95	291.06	292.88	295.47	297.47	297.16	297.96
	303.93	305.56	306.68	307.26	308.32	308.81	309.28	307.53	286.88		
3584.71	288.85	288.87	289.03	289.86	289.97	291.07	292.89	295.47	297.47	297.16	297.94
	303.91	305.54	306.64	307.22	308.29	308.76	309.24	307.50	286.90		
3587.40	288.86	288.88	289.04	289.36	289.99	291.08	292.91	295.47	297.47	297.16	297.92
	303.89	305.51	306.60	307.18	308.24	308.71	309.22	307.47	286.93		
3589.98	288.87	288.89	289.05	289.37	290.01	291.09	292.92	295.47	297.47	297.14	297.89
	303.85	305.48	306.53	307.14	308.20	308.66	309.18	307.44	286.96		
3592.51	288.87	288.89	289.05	289.37	290.01	291.10	292.93	295.46	297.45	297.10	297.84
	303.81	305.46	306.47	307.09	308.14	308.62	309.14	307.40	286.98		
3595.09	288.87	288.89	289.04	289.35	290.01	291.09	292.93	295.44	297.42	297.06	297.80
	303.75	305.44	306.40	307.04	308.08	308.56	309.09	307.37	287.36		
3597.62	288.87	288.89	289.03	289.35	290.02	291.09	292.92	295.41	297.40	297.03	297.78
	303.70	305.40	306.35	306.99	308.02	308.49	309.04	307.34	287.41		
3600.20	288.88	288.89	289.03	289.35	290.03	291.09	292.92	295.39	297.37	297.26	297.76
	303.64	305.35	306.30	306.96	307.97	308.42	308.99	307.30	287.44		
3602.73	288.89	288.90	289.04	289.35	290.04	291.09	292.91	295.38	297.35	297.22	297.75
	303.60	305.29	306.27	306.92	307.92	308.38	308.93	307.26	287.46		
3605.31	288.90	288.91	289.05	289.35	290.05	291.09	292.89	295.36	297.33	297.20	297.72
	303.55	305.25	306.23	306.89	307.87	308.32	308.88	307.22	287.49		
3607.83	288.89	288.89	289.03	289.33	290.03	291.06	292.83	295.32	297.28	297.15	297.67
	303.48	305.18	306.18	306.84	307.82	308.24	308.81	307.15	287.50		
3610.41	288.88	288.88	289.02	289.31	290.01	291.04	292.78	295.27	297.22	297.10	297.62
	303.41	305.12	306.13	306.78	307.75	308.17	308.73	307.08	287.50		
3612.94	288.87	288.87	289.01	289.29	289.99	291.01	292.75	295.22	297.16	297.04	297.57
	303.34	305.06	306.09	306.71	307.68	308.09	308.65	307.01	287.50		
3615.52	288.86	288.86	289.00	289.28	289.98	290.98	292.71	295.16	297.09	297.00	297.54
	303.28	305.00	306.04	306.65	307.61	308.02	308.56	306.95	287.50		
3618.05	288.85	288.85	288.99	289.26	289.96	290.96	292.67	295.11	297.03	296.95	297.51
	303.24	304.94	306.00	306.59	307.54	307.95	308.48	306.88	287.49		
3620.63	288.85	288.85	288.99	289.25	289.95	290.93	292.63	295.06	296.98	296.92	297.50
	303.21	304.87	305.97	306.54	307.48	307.89	308.42	306.82	287.49		
3623.16	288.85	288.85	289.00	289.25	289.95	290.91	292.60	295.02	296.95	296.89	297.48
	303.19	304.80	305.94	306.48	307.41	307.83	308.35	306.74	287.13		
3625.74	288.85	288.85	289.00	289.25	289.95	290.90	292.58	294.99	296.92	296.87	297.46
	303.16	304.75	305.89	306.43	307.35	307.78	308.29	306.66	287.13		
3628.27	288.85	288.85	289.00	289.25	289.95	290.89	292.56	294.96	296.88	296.85	297.44
	303.13	304.69	305.84	306.36	307.28	307.72	308.23	306.60	287.13		

3630.85	288.85	288.85	289.01	289.25	289.95	290.88	292.55	294.94	296.85	296.84	297.42
	303.10	304.65	305.78	306.29	307.20	307.65	308.17	306.54	287.13		
3633.37	288.85	288.85	289.01	289.25	289.95	290.87	292.56	294.91	296.82	296.83	297.41
	303.07	304.60	305.71	306.22	307.12	307.59	308.11	306.47	287.13		
3635.96	288.85	288.85	289.01	289.25	289.95	290.86	292.57	294.88	296.80	296.80	297.40
	303.05	304.55	305.65	306.15	307.04	307.52	308.04	306.42	287.13		
3638.48	288.85	288.85	289.01	289.25	289.93	290.85	292.57	294.86	296.76	296.79	297.38
	303.03	304.50	305.58	306.08	306.97	307.45	307.97	306.36	287.13		
3641.06	288.85	288.85	289.01	289.25	289.92	290.84	292.56	294.84	296.74	296.76	297.36
	303.00	304.45	305.51	306.03	306.89	307.38	307.91	306.30	287.13		
3643.64	288.85	288.85	289.01	289.25	289.90	290.82	292.55	294.82	296.71	296.73	297.34
	302.97	304.39	305.44	305.97	306.82	307.31	307.84	306.24	287.15		
3646.17	288.85	288.85	289.00	289.25	289.90	290.80	292.55	294.80	296.68	296.70	297.31
	302.92	304.35	305.37	305.92	306.75	307.25	307.77	306.17	287.17		
3648.75	288.84	288.84	288.98	289.25	289.88	290.80	292.53	294.78	296.63	296.67	297.27
	302.87	304.31	305.30	305.86	306.67	307.17	307.69	306.11	287.19		
3651.28	288.84	288.84	288.98	289.26	289.87	290.81	292.52	294.76	296.60	296.63	297.24
	302.82	304.28	305.24	305.80	306.61	307.10	307.62	306.05	287.20		
3653.86	288.84	288.84	288.99	289.26	289.86	290.81	292.51	294.74	296.56	296.61	297.23
	302.77	304.25	305.18	305.74	306.54	307.04	307.55	306.00	287.22		
3656.39	288.84	288.84	288.99	289.27	289.85	290.81	292.50	294.72	296.54	296.58	297.22
	302.73	304.22	305.14	305.69	306.48	306.98	307.49	305.95	287.24		
3658.97	288.84	288.84	289.00	289.28	289.84	290.81	292.49	294.70	296.51	296.55	297.22
	302.68	304.18	305.08	305.64	306.44	306.93	307.44	305.89	287.26		
3661.50	288.84	288.84	289.01	289.29	289.84	290.81	292.48	294.68	296.49	296.54	297.20
	302.65	304.18	305.04	305.60	306.40	306.88	307.38	305.85	287.27		
3664.08	288.84	288.84	289.02	289.30	289.83	290.81	292.47	294.67	296.46	296.52	297.19
	302.60	304.18	305.00	305.55	306.36	306.84	307.33	305.79	287.29		
3666.60	288.83	288.83	289.00	289.30	289.83	290.80	292.45	294.64	296.42	296.50	297.16
	302.55	304.15	304.94	305.50	306.29	306.78	307.26	305.73	287.30		
3669.19	288.82	288.82	288.98	289.30	289.82	290.78	292.43	294.60	296.38	296.47	297.14
	302.50	304.12	304.89	305.45	306.24	306.72	307.18	305.66	287.30		
3671.71	288.81	288.81	288.96	289.30	289.82	290.77	292.39	294.57	296.34	296.45	297.11
	302.45	304.07	304.84	305.39	306.19	306.66	307.10	305.59	287.30		
3674.29	288.80	288.80	288.95	289.30	289.81	290.76	292.36	294.53	296.30	296.42	297.09
	302.40	304.02	304.79	305.33	306.14	306.59	307.04	305.53	287.29		
3676.82	288.80	288.80	288.95	289.30	289.81	290.76	292.34	294.51	296.28	296.40	297.07
	302.36	303.97	304.75	305.10	306.10	306.54	306.97	305.47	287.29		
3679.40	288.80	288.80	288.94	289.30	289.79	290.74	292.32	294.48	296.22	296.37	297.04
	302.35	303.95	304.75	305.13	306.08	306.51	306.91	305.41	287.28		
3681.98	288.79	288.79	288.92	289.29	289.77	290.72	292.29	294.44	296.17	296.34	297.00
	302.37	303.95	304.77	305.17	306.09	306.51	306.85	305.34	287.28		
3684.56	288.78	288.78	288.90	289.27	289.75	290.70	292.26	294.39	296.11	296.30	296.96
	302.37	303.94	304.78	305.18	306.08	306.50	306.80	305.28	287.27		
3687.09	288.77	288.77	288.89	289.25	289.73	290.69	292.24	294.35	296.06	296.26	296.92
	302.36	303.92	304.79	305.19	306.07	306.48	306.74	305.20	287.27		
3689.78	288.76	288.76	288.87	289.24	289.71	290.67	292.21	294.30	296.00	296.22	296.88
	302.33	303.88	304.78	305.18	306.01	306.45	306.68	305.13	287.27		
3692.31	288.74	288.75	288.85	289.22	289.70	290.65	292.17	294.26	295.96	296.18	296.82
	302.30	303.82	304.77	305.17	305.97	306.41	306.62	305.07	287.27		
3694.89	288.74	288.75	288.85	289.21	289.69	290.65	292.14	294.23	295.93	296.15	296.79
	302.28	303.80	304.77	305.16	305.95	306.38	306.59	305.02	287.28		
3697.42	288.73	288.73	288.85	289.20	289.68	290.65	292.12	294.21	295.91	296.12	296.75
	302.25	303.78	304.76	305.14	305.93	306.35	306.55	304.97	287.30		
3700.00	288.71	288.71	288.85	289.19	289.67	290.64	292.11	294.18	295.89	296.09	296.73
	302.22	303.77	304.76	305.13	305.90	306.32	306.51	304.93	287.31		
3702.52	288.69	288.71	288.85	289.18	289.66	290.63	292.10	294.16	295.86	296.06	296.70
	302.19	303.75	304.75	305.11	305.88	306.29	306.47	304.89	287.32		
3705.11	288.68	288.71	288.85	289.16	289.65	290.62	292.09	294.13	295.83	296.03	296.67
	302.15	303.73	304.72	305.26	305.86	306.26	306.43	304.84	287.33		
3707.63	288.66	288.71	288.85	289.14	289.65	290.61	292.08	294.11	295.82	296.00	296.64
	302.08	303.67	304.65	305.16	305.80	306.20	306.39	304.80	287.34		
3710.21	288.64	288.71	288.85	289.14	289.65	290.60	292.07	294.09	295.80	295.97	296.62
	301.97	303.58	304.56	305.04	305.73	306.10	306.34	304.75	287.35		

3712.80	288.62	288.71	288.85	289.13	289.65	290.59	292.06	294.06	295.77	295.94	296.58
	301.86	303.51	304.47	304.91	305.66	306.00	306.27	704.70	287.35		
3715.32	288.61	288.71	288.85	289.12	289.65	290.58	292.05	294.04	295.74	295.90	296.54
	301.76	303.43	304.39	304.81	305.58	305.92	306.21	304.67	287.35		
3717.90	288.60	288.71	288.85	289.12	289.65	290.57	692.04	294.01	295.71	295.87	296.51
	301.69	303.36	304.33	304.74	305.55	305.84	306.16	304.63	287.35		
3720.43	288.59	288.71	288.85	289.12	289.65	290.56	292.02	293.98	295.68	295.85	296.48
	301.62	303.30	304.27	304.67	305.51	305.78	306.10	304.59	287.35		
3723.01	288.59	288.71	288.85	289.12	289.64	290.56	292.00	293.95	295.64	295.83	296.47
	301.56	303.22	304.21	304.61	305.47	305.73	306.05	304.54	287.35		
3725.54	288.60	288.74	288.85	289.12	289.64	290.55	291.99	293.92	295.60	295.81	296.45
	301.49	303.16	304.16	304.56	305.42	305.67	306.02	304.50	287.35		
3728.12	288.62	288.75	288.85	289.12	289.64	290.55	291.97	293.89	295.57	295.78	296.42
	301.42	303.10	304.10	304.50	305.38	305.62	305.97	304.45	287.36		
3730.65	288.63	288.75	288.85	289.13	289.64	290.55	291.95	293.86	295.54	295.76	296.39
	301.37	303.04	304.05	304.45	305.32	305.56	305.92	304.41	287.37		
3733.23	288.64	288.75	288.85	289.13	289.62	290.54	291.93	293.84	295.52	295.73	296.37
	301.32	302.99	304.01	304.41	305.28	305.51	305.88	304.37	287.39		
3735.75	288.64	288.74	288.85	289.13	289.62	290.53	291.91	293.81	295.48	295.70	296.34
	301.27	302.94	303.95	304.36	305.22	305.46	305.83	304.34	287.41		
3738.34	288.65	288.73	288.85	289.12	289.61	290.52	291.88	293.80	295.46	295.68	296.32
	301.22	302.88	303.90	304.32	305.16	305.41	305.78	304.30	287.43		
3740.86	288.65	288.72	288.85	289.11	289.60	290.51	291.85	293.79	295.44	295.66	296.29
	301.19	302.83	303.83	304.29	305.11	305.36	305.74	304.27	287.44		
3743.44	288.66	288.71	288.85	289.11	289.59	290.50	291.83	293.78	295.42	295.63	296.26
	301.16	302.78	303.77	304.26	305.06	305.31	305.69	304.23	287.45		
3745.97	288.66	288.70	288.85	289.11	289.58	290.49	291.81	293.77	295.39	295.60	296.24
	301.14	302.72	303.71	304.21	305.02	305.26	305.64	304.19	287.46		
3748.55	288.66	288.70	288.85	289.10	289.57	290.48	291.80	293.76	295.37	295.57	296.21
	301.11	302.67	303.66	304.16	304.97	305.20	305.60	304.14	287.48		
3751.08	288.64	288.69	288.84	289.09	289.56	290.47	291.79	293.74	295.35	295.54	296.18
	301.07	302.62	303.62	304.09	304.91	305.14	305.55	304.11	287.50		
3753.66	288.64	288.68	288.83	289.08	289.55	290.46	291.78	293.73	295.32	295.51	296.15
	301.04	302.58	303.57	304.03	304.85	305.09	305.51	304.09	287.52		
3756.19	288.62	288.67	288.82	289.07	289.54	290.45	291.77	293.72	295.30	295.49	296.14
	301.02	302.53	303.53	303.97	304.79	305.64	305.47	304.05	287.54		
3758.77	288.61	288.66	288.81	289.06	289.54	290.44	291.76	293.70	295.27	295.48	296.12
	300.98	302.48	303.48	303.91	304.74	305.57	305.44	304.02	287.56		
3761.30	288.60	288.65	288.80	289.06	289.54	290.44	291.74	293.68	295.24	295.47	296.09
	300.95	302.43	303.43	303.85	304.69	305.51	305.39	303.98	287.57		
3763.88	288.60	288.64	288.79	289.05	289.54	290.43	291.73	293.66	295.20	295.44	296.06
	300.91	302.38	303.38	303.79	304.63	305.46	305.35	303.94	287.57		
3766.40	288.59	288.63	288.78	289.04	289.54	290.42	291.72	293.64	295.16	295.42	296.02
	300.87	302.34	303.34	303.73	304.59	305.41	305.31	303.90	287.57		
3768.98	288.58	288.62	288.77	289.04	289.53	290.41	291.70	293.62	295.13	295.39	295.99
	300.84	302.29	303.31	303.68	304.54	305.36	305.27	303.86	287.58		
3771.51	288.57	288.61	288.76	289.04	289.52	290.39	291.67	293.59	295.10	295.38	295.98
	300.80	302.25	303.26	303.64	304.49	305.32	305.23	303.81	287.59		
3774.09	288.56	288.60	288.76	289.04	289.52	290.37	291.64	293.56	295.07	295.36	295.95
	300.76	302.22	303.22	303.59	304.43	305.27	305.18	303.78	287.59		
3776.78	288.56	288.60	288.75	289.03	289.51	290.35	291.61	293.53	295.04	295.33	295.92
	300.72	302.17	303.17	303.55	304.38	305.23	305.14	303.74	287.60		
3779.37	288.55	288.59	288.75	289.02	289.50	290.34	291.58	293.50	295.01	295.30	295.89
	300.69	302.13	303.12	303.51	304.33	305.18	305.08	303.69	287.60		
3781.89	288.53	288.58	288.75	289.01	289.50	290.32	291.56	293.47	294.98	295.27	295.86
	300.65	302.09	303.07	303.45	304.29	305.13	305.03	303.64	287.60		
3784.47	288.52	288.57	288.75	289.00	289.49	290.30	291.52	293.46	294.95	295.24	295.83
	300.60	302.06	303.01	303.41	304.24	304.48	304.96	303.59	287.60		
3787.06	288.51	288.56	288.75	289.00	289.48	290.28	291.48	293.43	294.92	295.19	295.78
	300.57	302.03	302.96	303.36	304.18	304.43	304.90	303.54	287.60		
3789.58	288.50	288.55	288.75	288.99	289.47	290.26	291.46	293.40	294.89	295.15	295.75
	300.53	301.99	302.92	303.31	304.12	304.38	304.84	303.48	287.60		
3792.16	288.49	288.55	288.75	288.98	289.46	290.25	291.44	293.37	294.87	295.12	295.74
	300.51	301.96	302.88	303.27	304.08	304.33	304.77	303.43	287.60		

3794.69	288.48	288.55	288.75	288.98	289.46	290.24	291.43	293.34	294.85	295.10	295.73
	300.48	301.92	302.82	303.23	304.03	304.28	304.70	303.37	287.60		
3797.27	288.47	288.55	288.75	288.97	289.45	290.23	291.42	293.31	294.83	295.07	295.72
	300.45	301.88	302.77	303.18	303.98	304.23	304.62	303.30	287.59		
3799.80	288.46	288.55	288.74	288.96	289.45	290.22	291.41	293.28	294.81	295.06	295.71
	300.42	301.85	302.72	303.12	303.92	304.17	304.55	303.25	287.58		
3802.38	288.46	288.55	288.74	288.96	289.45	290.21	291.41	293.26	294.80	295.04	295.70
	300.38	301.81	302.68	303.06	303.87	304.12	304.48	303.18	287.57		
3804.91	288.45	288.55	288.74	288.95	289.45	290.20	291.40	293.24	294.78	295.02	295.68
	300.34	301.78	302.63	303.00	303.81	304.07	304.42	303.12	287.56		
3807.49	288.45	288.55	288.74	288.95	289.45	290.19	291.39	293.22	294.77	295.01	295.67
	300.30	301.76	302.59	302.95	303.75	304.01	304.36	303.06	287.54		
3810.01	288.45	288.55	288.73	288.95	289.45	290.18	291.38	293.20	294.76	294.99	295.65
	300.27	301.73	302.54	302.91	303.68	303.97	304.30	303.00	287.52		
3812.60	288.45	288.55	288.73	288.95	289.45	290.17	291.39	293.18	294.75	294.96	295.63
	300.24	301.68	302.50	302.87	303.62	303.93	304.24	302.94	287.50		
3815.12	288.45	288.55	288.72	288.95	289.44	290.16	291.38	293.17	294.73	294.96	295.62
	300.20	301.63	302.44	302.83	303.57	303.88	304.19	302.88	287.76		
3817.70	288.45	288.55	288.71	288.94	289.42	290.17	291.38	293.15	294.72	294.95	295.60
	300.16	301.58	302.39	302.79	303.52	303.82	304.13	302.83	287.75		
3820.23	288.45	288.55	288.70	288.93	289.40	290.16	291.37	293.13	294.71	294.94	295.57
	300.11	301.53	302.34	302.75	303.47	303.78	304.08	302.79	287.74		
3822.81	288.45	288.55	288.70	288.92	289.39	290.16	291.36	293.12	294.69	294.91	295.53
	300.06	301.49	302.30	302.72	303.42	303.73	304.04	302.74	287.72		
3825.34	288.45	288.55	288.70	288.91	289.37	290.15	291.35	293.11	294.67	294.89	295.49
	300.00	301.44	302.26	302.67	303.37	303.68	304.00	302.70	287.71		
3827.92	288.45	288.55	288.70	288.90	289.36	290.15	291.34	293.10	294.66	294.86	295.44
	299.95	301.38	302.22	302.64	303.32	303.64	303.97	302.65	287.70		
3830.45	288.45	288.55	288.70	288.90	289.34	290.15	291.33	293.09	294.61	294.83	295.39
	299.90	301.32	302.19	302.60	303.28	303.59	303.93	302.62	287.68		
3833.03	288.45	288.55	288.69	288.89	289.32	290.15	291.32	293.08	294.58	294.81	295.35
	299.85	301.25	302.15	302.56	303.24	303.55	303.89	302.59	287.66		
3835.61	288.45	288.55	288.68	288.88	289.30	290.15	291.31	293.06	294.54	294.78	295.31
	299.81	301.18	302.10	302.53	303.21	303.50	303.84	302.55	287.66		
3838.14	288.45	288.55	288.67	288.87	289.28	290.15	291.31	293.04	294.50	294.75	295.27
	299.78	301.12	302.06	302.49	303.19	303.45	303.80	302.51	287.67		
3840.72	288.45	288.55	288.67	288.86	289.27	290.15	291.31	293.01	294.47	294.72	295.24
	299.74	301.06	302.02	302.45	303.15	303.40	303.75	302.48	287.67		
3843.24	288.45	288.55	288.67	288.85	289.26	290.15	291.31	292.99	294.45	294.69	295.20
	299.69	301.02	301.98	302.41	303.12	303.36	303.71	302.46	287.65		
3845.83	288.45	288.54	288.67	288.85	289.26	290.14	291.31	292.98	294.42	294.65	295.17
	299.65	300.97	301.94	302.35	303.08	303.31	303.67	302.43	287.63		
3848.35	288.45	288.53	288.67	288.85	289.26	290.12	291.31	292.96	294.40	294.61	295.13
	299.60	300.93	301.89	302.31	303.04	303.27	303.62	302.39	287.62		
3850.93	288.45	288.52	288.66	288.85	289.25	290.10	291.31	292.94	294.37	294.57	295.09
	299.55	300.88	301.84	302.26	302.99	303.22	303.58	302.35	287.62		
3853.46	288.45	288.52	288.65	288.85	289.25	290.09	291.31	292.92	294.34	294.54	295.06
	299.50	300.84	301.80	302.22	302.93	303.18	303.53	302.32	287.62		
3856.04	288.44	288.51	288.65	288.85	289.25	290.07	291.31	292.90	294.31	294.50	295.02
	299.37	300.80	301.74	302.17	302.88	303.14	303.49	302.28	287.62		
3858.57	288.43	288.50	288.64	288.85	289.24	290.05	291.31	292.88	294.31	294.47	294.98
	299.28	300.78	301.69	302.12	302.83	303.09	303.45	302.24	287.63		
3861.15	288.42	288.49	288.63	288.85	289.23	290.03	291.31	292.86	294.29	294.43	294.95
	299.22	300.76	301.63	302.07	302.78	303.04	303.40	302.21	287.64		
3863.68	288.42	288.48	288.62	288.85	289.22	290.01	291.31	292.84	294.28	294.40	294.92
	299.15	300.73	301.58	302.00	302.72	302.99	303.36	302.17	287.63		
3866.26	288.41	288.47	288.61	288.85	289.21	290.00	291.04	292.82	294.26	294.37	294.89
	299.09	300.69	301.54	301.94	302.67	302.95	303.31	302.13	287.61		
3868.78	288.40	288.46	288.60	288.85	289.20	289.96	291.02	292.81	294.24	294.33	294.84
	299.03	300.65	301.49	301.88	302.62	302.92	303.26	302.09	287.60		
3871.37	288.39	288.45	288.60	288.85	289.20	289.93	290.99	292.80	294.22	294.30	294.80
	298.98	300.59	301.45	301.83	302.56	302.87	303.22	302.03	287.32		
3873.95	288.38	288.45	288.58	288.85	289.19	289.92	290.94	292.79	294.20	294.28	294.77
	298.94	300.54	301.41	301.79	302.52	302.83	303.17	301.98	287.32		

3876.47	288.37	288.45	288.57	288.85	289.18	289.91	290.89	292.77	294.17	294.24	294.73
	298.91	300.49	301.37	301.74	302.47	302.78	303.14	301.93	287.85		
3879.06	288.36	288.45	288.55	288.85	289.17	289.90	290.90	292.74	294.14	294.22	294.70
	298.88	300.43	301.34	301.69	302.43	302.73	303.09	301.88	287.85		
3881.58	288.35	288.46	288.54	288.85	289.16	289.90	290.90	292.72	294.12	294.19	294.68
	298.87	300.40	301.30	301.64	302.39	302.68	303.05	301.85	287.86		
3884.16	288.35	288.47	288.53	288.68	289.15	289.90	290.90	292.69	294.10	294.17	294.67
	298.92	300.36	301.26	301.60	302.35	302.64	303.01	301.81	287.87		
3886.69	288.35	288.48	288.53	288.68	289.15	289.90	290.91	292.66	294.09	294.15	294.67
	298.93	300.32	301.22	301.56	302.31	302.60	302.96	301.77	287.88		
3889.27	288.35	288.48	288.54	288.68	289.15	289.90	290.91	292.64	294.08	294.14	294.66
	298.93	300.27	301.18	301.53	302.27	302.58	302.92	301.73	287.89		
3891.80	288.35	288.49	288.52	288.68	289.15	289.89	290.91	292.62	294.07	294.13	294.66
	298.91	300.22	301.13	301.50	302.23	302.54	302.89	301.68	287.90		
3894.38	288.35	288.48	288.52	288.67	289.15	289.88	290.91	292.61	294.06	294.12	294.65
	298.88	300.18	301.08	301.48	302.19	302.49	302.85	301.64	287.92		
3896.96	288.35	288.48	288.52	288.67	289.15	289.88	290.91	292.59	294.05	294.11	294.65
	298.85	300.14	301.03	301.44	302.15	302.44	302.81	301.60	287.95		
3899.49	288.35	288.47	288.52	288.66	289.15	289.88	290.91	292.57	294.03	294.11	294.66
	298.82	300.12	300.98	301.40	302.11	302.39	302.77	301.57	287.98		
3902.07	288.35	288.46	288.52	288.65	289.15	289.88	290.93	292.55	294.00	294.11	294.66
	298.79	300.08	300.93	301.36	302.06	302.34	302.74	301.54	287.99		
3904.60	288.35	288.45	288.53	288.64	289.15	289.88	290.96	292.55	293.99	294.12	294.66
	298.75	300.05	300.87	301.31	302.01	302.29	302.70	301.51	287.48		
3907.18	288.35	288.44	288.54	288.63	289.14	289.88	290.96	292.54	293.98	294.12	294.67
	298.72	299.99	300.82	301.28	301.97	302.25	302.66	301.49	288.00		
3909.70	288.34	288.43	288.54	288.62	289.13	289.88	290.96	292.53	293.96	294.12	294.67
	298.68	299.94	300.76	301.24	301.92	302.20	302.62	301.47	288.01		
3912.29	288.34	288.41	288.54	288.75	289.12	289.87	290.96	292.52	293.94	294.12	294.67
	298.64	299.89	300.70	301.19	301.86	302.15	302.59	301.42	288.02		
3914.81	288.33	288.39	288.54	288.72	289.12	289.86	290.95	292.51	293.93	294.11	294.66
	298.60	299.84	300.64	301.14	301.81	302.10	302.54	301.38	288.03		
3917.39	288.32	288.37	288.54	288.71	289.12	289.85	290.95	292.50	293.91	294.10	294.66
	298.56	299.80	300.60	301.09	301.76	302.04	302.50	301.34	288.04		
3919.92	288.30	288.36	288.55	288.69	289.12	289.85	290.95	292.50	293.89	294.09	294.66
	298.52	299.76	300.55	301.04	301.70	301.99	302.45	301.31	288.05		
3922.50	288.28	288.35	288.55	288.68	289.11	289.85	290.95	292.49	293.87	294.08	294.65
	298.50	299.73	300.50	300.99	301.65	301.94	302.40	301.28	288.05		
3925.03	288.27	288.35	288.55	288.67	289.10	289.85	290.95	292.48	293.85	294.08	294.63
	298.46	299.70	300.46	300.94	301.59	301.88	302.35	301.24	288.05		
3927.61	288.25	288.35	288.55	288.66	289.09	289.85	290.95	292.47	293.84	294.07	294.61
	298.42	299.66	300.40	300.90	301.53	301.84	302.30	301.20	288.05		
3930.14	288.22	288.35	288.55	288.65	289.08	289.85	290.94	292.46	293.83	294.05	294.59
	298.39	299.62	300.35	300.85	301.48	301.79	302.24	301.17	288.05		
3932.72	288.21	288.35	288.55	288.64	289.08	289.85	290.93	292.45	293.83	294.03	294.57
	298.34	299.59	300.31	300.80	301.42	301.74	302.19	301.12	288.05		
3935.24	288.19	288.35	288.55	288.63	289.08	289.85	290.93	292.45	293.82	294.02	294.55
	298.30	299.58	300.28	300.76	301.37	301.69	302.12	301.06	287.55		
3937.83	288.18	288.35	288.55	288.62	289.08	289.85	290.92	292.45	293.81	294.00	294.52
	298.25	299.56	300.24	300.71	301.32	301.63	302.06	301.01	287.55		
3940.35	288.16	288.35	288.54	288.64	289.07	289.85	290.90	292.44	293.79	293.96	294.49
	298.21	299.54	300.20	300.67	301.28	301.58	301.99	300.96	287.55		
3942.93	288.15	288.35	289.20	288.65	289.06	289.85	290.89	292.41	293.76	293.94	294.46
	298.18	299.51	300.15	300.62	301.24	301.53	301.93	300.91	287.55		
3945.46	288.15	288.35	289.20	288.65	289.04	289.85	290.87	292.38	293.73	293.91	294.44
	298.15	299.48	300.10	300.58	301.20	301.49	301.86	300.86	287.55		
3948.04	288.15	288.35	289.20	288.65	289.02	289.85	290.85	292.35	293.70	293.89	294.40
	298.12	299.44	300.06	300.54	301.17	301.44	301.78	300.80	287.55		
3950.57	288.14	288.35	289.20	288.65	289.01	289.84	290.84	292.33	293.67	293.86	294.37
	298.08	299.39	300.04	300.50	301.13	301.39	301.73	300.73	287.55		
3953.15	288.15	288.36	289.21	288.66	288.92	289.84	290.84	292.32	293.66	293.84	294.36
	298.06	299.36	300.02	300.46	301.09	301.35	301.68	300.68	287.56		
3955.73	288.16	288.37	289.22	288.67	288.93	289.85	290.84	292.31	296.63	293.84	294.33
	298.04	299.33	300.01	300.43	301.06	301.32	301.64	300.62	287.57		

3958.26	288.18	288.38	289.22	288.68	288.94	289.85	290.84	292.29	296.62	293.84	294.31
	298.01	299.32	300.00	300.41	301.04	301.29	301.59	300.56	287.58		
3960.84	288.19	288.38	289.22	288.69	288.95	289.86	290.85	292.28	296.59	293.84	294.29
	297.99	299.29	299.98	300.38	301.01	301.26	301.55	300.52	287.58		
3963.37	288.20	288.39	289.22	288.70	288.96	289.86	290.85	292.26	296.57	293.84	294.27
	297.97	299.27	299.94	300.35	300.99	301.24	301.52	300.48	287.59		
3965.95	288.20	288.40	289.22	288.70	288.97	289.85	290.85	292.24	296.56	293.84	294.25
	297.96	299.24	299.91	300.32	300.96	301.22	301.48	300.44	287.60		
3968.64	288.21	288.41	289.23	288.71	288.99	289.84	290.85	292.24	296.55	293.84	294.24
	297.93	299.21	299.88	300.29	300.93	301.19	301.46	300.40	287.61		
3971.22	288.22	288.42	288.58	288.72	289.00	289.84	290.86	292.24	296.56	293.84	294.22
	297.90	299.18	299.89	300.27	300.91	301.16	301.42	300.37	287.62		
3973.75	288.22	288.42	288.58	288.73	289.02	289.83	290.87	292.25	296.56	293.84	294.20
	297.87	299.14	299.88	300.25	300.87	301.12	301.40	300.34	287.63		
3976.33	288.22	288.43	288.58	288.74	289.04	289.83	290.87	292.26	296.55	293.84	294.19
	297.85	299.12	299.85	300.22	300.84	301.10	301.38	300.31	287.64		
3978.85	288.23	288.43	288.58	288.75	289.06	289.83	290.87	292.27	296.54	293.84	294.19
	297.82	299.11	299.82	300.19	300.82	301.07	301.33	300.29	287.65		
3981.44	288.23	288.43	288.57	288.75	289.15	289.81	290.85	292.25	296.52	293.84	294.17
	297.78	299.08	299.77	300.16	300.78	301.04	301.29	306.75	294.11		
3983.96	288.22	288.42	288.56	288.75	289.14	289.80	290.83	292.23	293.51	293.66	294.16
	297.76	299.05	299.73	300.13	300.74	301.00	301.24	306.72	294.11		
3986.54	288.21	288.41	288.56	288.75	289.14	289.79	290.81	292.21	293.50	293.65	294.15
	297.76	299.03	299.71	300.12	300.72	301.00	301.21	306.69	294.12		
3989.07	288.21	288.41	288.56	288.75	289.14	289.79	290.81	292.20	293.49	293.64	294.14
	297.76	299.02	299.69	300.11	300.70	300.99	301.18	306.66	294.13		
3991.65	288.21	288.41	288.57	288.76	289.15	289.79	290.81	292.20	293.48	293.63	294.14
	297.76	299.01	299.67	300.09	300.67	300.97	301.16	306.63	294.14		
3994.18	288.22	288.41	288.58	288.77	289.16	289.80	290.81	292.19	293.47	293.62	294.14
	297.77	299.01	299.68	300.10	300.66	300.97	301.14	306.61	294.16		
3996.76	288.22	288.41	288.57	288.78	289.17	289.80	290.81	292.18	293.45	293.61	294.13
	297.79	299.01	299.70	300.10	300.65	300.97	301.12	306.58	294.18		
3999.34	288.22	288.42	288.57	288.79	289.18	289.80	290.81	292.17	293.43	293.60	294.12
	297.81	299.02	299.70	300.11	300.63	300.97	301.10	306.56	294.19		
4001.87	288.22	288.42	288.58	288.80	289.18	289.81	290.81	292.16	293.42	293.59	294.11
	297.82	299.02	299.70	300.10	300.62	300.96	301.08	306.54	294.21		
4004.51	288.23	288.43	288.59	288.80	289.19	289.82	290.82	292.15	293.40	293.57	294.10
	297.82	299.02	299.70	300.10	300.61	300.96	301.06	306.52	294.23		
4007.03	288.24	288.44	288.59	288.80	289.20	289.82	290.79	292.14	293.38	293.55	294.09
	297.83	299.03	299.71	300.10	300.61	300.96	301.06	306.50	294.23		
4009.61	288.24	288.44	288.59	288.81	289.20	289.83	290.77	292.13	292.89	293.52	294.06
	297.87	299.05	299.78	300.13	300.63	300.99	301.04	299.99	287.78		
4012.14	288.25	288.46	288.60	288.82	289.22	289.84	290.77	292.12	292.88	293.50	294.04
	297.90	299.07	299.83	300.16	300.65	301.01	301.04	299.98	287.79		
4014.72	288.26	288.47	288.59	288.82	289.22	289.84	290.77	292.12	292.86	293.49	294.02
	297.89	299.06	299.84	300.16	300.64	301.00	301.02	299.95	287.79		
4017.30	288.26	288.47	288.59	288.82	289.22	289.83	290.75	292.11	292.83	293.46	293.99
	297.86	299.04	299.84	300.16	300.64	300.97	300.99	299.92	287.78		
4019.88	288.26	288.47	288.59	288.81	289.20	289.82	290.73	292.09	292.80	293.43	293.96
	297.83	299.02	299.84	300.16	300.62	300.95	300.95	299.89	287.78		
4022.47	288.24	288.46	288.58	288.80	289.19	289.80	290.71	292.06	292.77	293.40	293.92
	297.81	299.00	299.85	300.16	300.62	300.94	300.92	299.85	287.76		
4024.99	288.23	288.44	288.57	288.80	289.17	289.79	290.68	292.04	292.73	293.37	293.90
	297.80	298.98	299.86	300.16	300.62	300.93	300.89	299.81	287.74		
4027.57	288.22	288.42	288.56	288.79	289.15	289.77	290.66	292.01	292.70	293.34	293.87
	297.78	298.96	299.86	300.16	300.61	300.92	300.86	299.78	287.72		
4030.10	288.22	288.41	288.55	288.78	289.14	289.75	290.64	291.98	292.66	293.30	293.84
	297.76	298.95	299.86	300.17	300.61	300.91	300.83	299.75	287.71		
4032.74	288.21	288.40	288.54	288.77	289.11	289.73	290.60	291.95	292.63	293.27	293.80
	297.75	298.93	299.86	300.16	300.61	300.92	300.80	299.71	287.70		
4035.26	288.20	288.39	288.54	288.77	289.10	289.72	290.63	291.93	292.60	293.23	293.78
	297.75	298.93	299.88	300.18	300.62	300.93	300.79	299.70	287.70		
4037.84	288.18	288.38	288.54	288.76	289.09	289.72	290.64	291.91	293.05	293.21	293.76
	297.72	298.91	299.85	300.17	300.61	300.92	300.78	299.67	287.69		

4040.37	288.18	288.36	288.54	288.75	289.07	289.71	290.63	291.90	293.02	293.18	293.74
	297.69	298.89	299.82	300.15	300.60	300.90	300.75	299.65	287.68		
4042.95	288.17	288.35	288.54	288.75	289.06	289.70	290.62	291.88	293.00	293.16	293.73
	297.67	298.88	299.79	300.13	300.59	300.88	300.74	299.63	287.69		
4045.59	288.16	288.34	288.54	288.75	289.05	289.70	290.62	291.85	292.97	293.14	293.72
	297.63	298.86	299.79	300.13	300.59	300.88	300.72	299.61	287.69		
4048.12	288.15	288.34	288.54	288.75	289.05	289.70	290.62	291.83	292.94	293.11	293.69
	297.59	298.85	299.80	300.14	300.60	300.89	300.71	299.59	287.69		
4050.70	288.15	288.34	288.54	288.74	289.05	289.68	290.60	291.82	292.91	293.07	293.68
	297.55	298.83	299.78	300.12	300.57	300.87	300.70	299.56	287.69		
4053.22	288.15	288.35	288.54	288.72	289.04	289.67	290.59	291.80	292.89	293.04	293.66
	297.52	298.81	299.76	300.10	300.57	300.85	300.68	299.55	287.69		
4055.81	288.15	288.35	288.55	288.72	289.02	289.67	290.59	291.77	292.87	293.01	293.64
	297.51	298.81	299.77	300.11	300.58	300.85	300.66	299.08	287.69		
4058.39	288.10	288.35	288.55	288.72	289.02	289.67	290.58	291.74	292.85	292.99	293.62
	297.50	298.81	299.77	300.11	300.58	300.85	300.64	299.06	287.68		
4060.97	288.10	288.35	288.55	288.72	289.02	289.68	290.58	291.71	292.83	292.97	293.62
	297.48	298.79	299.76	300.11	300.58	300.48	300.63	299.06	287.69		
4063.55	288.10	288.35	288.54	288.72	289.02	289.68	290.57	291.69	292.81	292.95	293.60
	297.45	298.76	299.74	300.07	300.57	300.46	300.61	299.03	287.71		
4066.13	288.10	288.35	288.53	288.72	289.02	289.68	290.56	291.66	292.79	292.93	293.58
	297.43	298.74	299.74	300.04	300.56	300.45	300.60	299.01	287.71		
4068.66	288.11	288.36	288.52	288.72	289.02	289.67	290.54	291.63	292.76	292.91	293.56
	297.44	298.74	299.77	300.06	300.59	300.48	300.58	298.99	287.71		
4071.24	288.11	288.36	288.52	288.72	289.02	289.67	290.52	291.61	292.74	292.89	293.54
	298.05	299.33	300.68	300.97	301.24	301.37	300.64	298.97	287.72		
4073.82	288.11	288.37	288.52	288.72	289.02	289.67	290.50	291.60	292.73	292.88	293.53
	299.11	300.19	301.87	302.25	302.18	302.58	300.80	298.97	287.73		
4076.40	288.11	288.37	288.52	288.72	289.02	289.66	290.48	291.59	292.73	292.89	293.54
	300.10	300.99	302.91	303.40	303.05	303.59	300.99	298.97	287.74		
4079.04	288.11	288.37	288.52	288.73	289.02	289.66	290.48	291.59	292.73	292.89	293.56
	300.99	301.74	303.88	304.48	303.88	304.49	301.20	298.99	287.75		
4081.57	288.11	288.36	288.52	288.74	289.02	289.66	290.48	291.59	292.73	292.90	293.58
	301.88	302.50	304.85	305.55	304.69	305.37	301.41	299.02	287.76		
4086.07	288.11	288.35	288.52	288.73	289.03	289.65	290.47	291.59	292.73	292.91	293.62
	302.79	303.30	305.86	306.64	305.53	306.25	301.63	299.51	287.78		
4088.71	288.16	288.34	288.52	288.73	289.03	289.64	290.46	291.60	292.73	292.92	293.67
	303.74	304.16	306.90	307.70	306.39	307.14	301.85	299.56	287.80		
4091.51	288.16	288.34	288.52	288.73	289.03	289.63	290.45	291.61	292.73	292.93	293.73
	304.75	305.08	308.00	308.84	307.28	308.42	302.08	299.60	287.80		
4094.42	288.15	288.34	288.53	288.73	289.02	289.62	290.45	291.61	292.73	292.94	293.80
	305.73	306.00	309.11	310.02	308.16	309.30	302.31	299.65	287.80		
4097.27	288.15	288.34	288.54	288.73	289.02	289.62	290.44	291.60	292.73	292.96	293.88
	306.71	306.90	310.29	311.17	308.98	310.13	302.54	299.70	287.82		
4100.13	288.15	288.33	288.55	288.73	289.00	289.61	290.45	291.60	292.74	292.97	293.98
	307.65	307.80	311.38	312.27	309.77	310.92	302.78	299.75	287.83		
4103.10	288.14	288.32	288.54	288.73	289.00	289.59	290.45	291.60	292.74	292.98	294.08
	308.02	308.15	311.61	312.49	309.94	310.84	302.94	299.81	287.83		
4105.90	288.14	288.30	288.53	288.72	288.99	289.57	290.45	291.59	292.75	292.99	294.19
	308.00	308.25	311.56	312.35	309.82	310.45	302.99	299.86	287.82		
4108.64	288.14	288.28	288.52	288.72	288.98	289.57	290.45	291.58	292.77	293.02	294.29
	308.04	308.42	311.65	312.35	309.77	310.25	303.02	299.91	287.82		
4111.45	288.13	288.27	288.51	288.70	288.97	289.57	290.45	291.58	292.80	293.05	294.38
	308.17	308.65	311.84	312.42	309.79	310.16	303.04	299.95	287.82		
4114.25	288.12	288.27	288.50	288.70	288.97	289.57	290.45	291.60	292.84	293.09	294.48
	308.29	308.88	312.01	312.50	309.80	310.10	303.07	299.98	287.81		
4117.05	288.12	288.26	288.50	288.71	288.96	289.57	290.46	291.63	292.90	293.15	294.58
	308.39	309.07	312.16	312.54	309.79	310.03	303.10	300.00	287.80		
4119.85	288.12	288.27	288.50	288.71	288.96	289.57	290.46	291.67	292.95	293.22	294.69
	308.48	309.24	312.28	312.63	309.77	309.96	303.13	300.02	287.80		
4122.65	288.12	288.27	288.50	288.71	288.96	289.57	290.48	291.71	293.01	293.32	294.81
	308.54	309.36	312.36	312.65	309.74	309.88	303.16	300.04	287.80		

4125.45	288.12	288.27	288.49	288.71	288.97	289.58	290.50	291.76	293.09	293.42	294.91
	308.60	309.48	312.44	312.64	309.72	309.82	303.20	300.07	287.79		
4128.20	288.12	288.27	288.48	288.71	288.97	289.59	290.52	291.84	293.19	293.52	295.02
	308.68	309.60	312.43	312.67	309.73	309.80	303.24	300.09	287.79		
4131.00	288.11	288.26	288.47	288.71	288.99	289.60	290.55	291.91	293.31	293.63	295.13
	308.77	309.73	312.48	312.70	309.77	309.82	303.29	300.13	287.79		
4133.74	288.11	288.27	288.47	288.71	289.00	289.62	290.59	292.00	293.42	293.74	295.23
	308.85	309.83	312.54	312.72	309.82	309.84	303.34	300.17	287.79		
4136.55	288.10	288.28	288.47	288.71	289.00	289.64	290.62	292.08	293.54	293.87	295.34
	308.91	309.93	312.60	312.74	309.86	309.87	303.41	300.21	287.80		
4139.29	288.09	288.29	288.47	288.70	289.01	289.66	290.65	292.18	293.64	293.99	295.44
	308.97	310.04	312.65	312.76	309.91	309.91	303.48	300.26	287.81		
4142.09	288.10	288.31	288.47	288.72	289.03	289.68	290.69	292.26	293.75	294.12	295.57
	309.05	310.14	312.69	312.78	309.96	309.95	303.56	300.31	287.82		
4144.84	288.10	288.32	288.48	288.73	289.04	289.71	290.76	292.35	293.87	294.25	295.69
	309.13	310.24	312.73	312.80	310.02	310.00	303.65	300.36	287.83		
4147.64	288.10	288.33	288.48	288.73	289.04	289.74	290.81	292.43	293.99	294.37	295.79
	309.20	310.31	312.76	312.83	310.07	310.05	303.72	300.42	287.83		
4150.39	288.09	288.34	288.48	288.73	289.05	289.78	290.87	292.50	294.10	294.48	295.91
	309.26	310.37	312.78	312.84	310.11	310.09	303.80	300.47	287.84		
4153.13	288.08	288.33	288.47	288.72	289.06	289.82	290.93	292.59	294.21	294.58	296.01
	309.33	310.44	312.45	312.86	310.16	310.13	303.87	300.53	287.84		
4155.93	288.07	288.33	288.48	288.72	289.08	289.86	291.00	292.67	294.29	294.67	296.11
	309.41	310.50	312.46	312.88	310.19	310.16	303.94	300.59	287.85		
4158.68	288.08	288.32	288.48	288.72	289.08	289.89	291.05	292.74	294.37	294.76	296.20
	309.50	310.58	312.49	312.89	310.22	310.20	304.01	300.66	287.85		
4161.43	288.08	288.31	288.47	288.73	289.09	289.92	291.11	292.81	294.44	294.85	296.29
	309.58	310.65	312.52	312.92	310.26	310.23	304.08	300.73	287.84		
4164.17	288.07	288.30	288.47	288.73	289.10	289.96	291.16	292.88	294.53	294.95	296.39
	309.65	310.72	312.55	312.94	310.31	310.26	304.16	300.79	287.84		
4167.08	288.08	288.30	288.48	288.74	289.12	290.00	291.23	292.96	294.63	295.05	296.49
	309.72	310.78	312.57	312.96	310.35	310.29	304.23	300.86	287.84		
4169.83	288.09	288.31	288.50	288.76	289.14	290.04	291.29	293.04	294.75	295.15	296.58
	309.80	310.84	312.61	312.99	310.41	310.33	304.30	300.94	287.86		
4172.58	288.10	288.32	288.52	288.78	289.17	290.08	291.36	293.14	294.85	295.24	296.67
	309.86	310.88	312.66	313.02	310.47	310.37	304.38	301.01	287.87		
4175.32	288.11	288.34	288.54	288.81	289.20	290.13	291.41	293.23	294.95	295.34	296.76
	309.91	310.91	312.69	313.04	310.52	310.40	304.47	301.10	287.89		
4178.07	288.12	288.36	288.56	288.84	289.24	290.18	291.46	293.31	295.03	295.43	296.85
	309.97	310.95	312.74	313.05	310.56	310.43	304.56	301.19	287.90		
4180.76	288.13	288.37	288.57	288.86	289.28	290.22	291.51	293.39	295.10	295.50	296.94
	310.03	310.99	312.79	313.09	310.62	310.48	304.66	301.28	287.91		
4183.51	288.14	288.38	288.60	288.90	289.30	290.26	291.53	293.46	295.18	295.56	297.02
	310.07	311.02	313.18	313.11	310.67	310.52	304.75	301.36	287.92		
4186.25	288.15	288.39	288.62	288.92	289.34	290.29	295.80	293.53	295.29	295.62	297.10
	310.10	311.05	313.22	313.14	310.73	310.57	304.85	301.44	287.93		
4188.94	288.16	288.40	288.65	288.95	289.38	290.32	295.84	293.62	295.40	295.68	297.18
	310.11	311.06	313.25	313.17	310.79	310.62	304.94	301.52	287.94		
4191.69	288.17	288.43	288.68	289.01	289.41	290.35	295.90	293.72	295.52	295.75	297.24
	310.09	311.07	313.26	313.19	310.85	310.68	305.04	301.60	287.95		
4194.44	288.17	288.45	288.71	289.05	289.45	290.38	295.96	293.82	295.63	295.81	297.28
	310.08	311.06	313.28	313.22	310.90	310.73	305.14	301.69	287.97		
4197.13	288.17	288.46	288.73	289.07	289.48	290.41	296.02	293.91	295.73	295.88	297.33
	310.05	311.05	313.27	313.24	310.96	310.78	305.23	301.77	287.98		
4199.88	288.17	288.46	288.74	289.09	289.50	290.45	296.08	293.99	295.81	295.94	297.38
	310.04	311.03	313.24	313.26	310.99	310.81	305.32	301.85	287.98		
4202.57	288.16	288.44	288.74	289.10	289.52	290.48	296.13	294.05	295.89	296.00	297.42
	310.05	311.03	313.22	313.28	311.02	310.84	305.40	301.92	287.98		
4205.26	288.15	288.43	288.74	289.11	289.54	290.52	296.19	294.12	295.96	296.06	297.47
	310.07	311.05	313.23	313.30	311.06	310.88	305.49	301.99	287.97		
4208.00	288.15	288.43	288.74	289.13	289.57	290.54	296.24	294.18	296.03	296.13	297.52
	310.08	311.08	313.23	313.33	311.11	310.92	305.56	302.06	287.96		
4210.70	288.16	288.44	288.76	289.14	289.60	290.58	296.29	294.24	296.13	296.20	297.58
	310.10	311.13	313.23	313.35	311.14	310.96	305.64	302.13	287.96		

4213.39	288.16	288.45	288.77	289.16	289.63	290.61	296.37	294.31	296.22	296.28	297.61
	310.12	311.18	313.24	313.36	311.18	310.99	305.72	302.22	287.97		
4216.13	288.16	288.46	288.78	289.17	289.65	290.65	292.19	294.37	296.28	296.36	297.65
	310.14	311.23	313.25	313.39	311.22	311.02	305.78	302.29	287.98		
4218.82	288.16	288.47	288.79	289.18	289.67	290.69	292.24	294.41	296.31	296.44	297.70
	310.20	311.29	313.26	313.41	311.25	311.04	305.85	302.37	287.98		
4221.52	288.16	288.47	288.80	289.15	289.69	290.73	292.27	294.34	296.32	296.50	297.75
	310.26	311.34	313.28	313.43	311.28	311.07	305.92	302.44	287.98		
4224.21	288.16	288.47	288.81	289.15	289.72	290.77	292.30	294.10	296.33	296.54	297.82
	310.33	311.39	313.30	313.44	311.31	311.09	305.99	302.51	287.97		
4226.90	288.17	288.48	288.82	289.17	289.75	290.81	292.32	294.11	296.35	296.60	297.87
	310.40	311.45	313.35	313.46	311.36	311.13	306.06	302.59	287.97		
4229.59	288.18	288.50	288.82	289.19	289.79	290.84	292.34	294.14	296.38	296.64	297.92
	310.43	311.49	313.40	313.49	311.40	311.17	306.14	302.67	287.98		
4232.28	288.20	288.52	288.84	289.20	289.82	290.86	292.34	294.17	296.41	296.68	297.98
	310.44	311.51	313.41	313.52	311.44	311.20	306.03	302.74	287.99		
4234.97	288.21	288.53	288.85	289.21	289.84	290.88	292.36	294.18	296.45	296.72	298.02
	310.44	311.51	313.42	313.54	311.48	311.23	306.10	302.80	288.00		
4237.72	288.23	288.54	288.87	289.20	289.86	290.90	292.38	294.21	296.46	296.76	298.06
	310.43	311.49	313.43	313.54	311.50	311.25	306.17	302.87	288.01		
4240.36	288.24	288.54	288.88	289.20	289.87	290.92	292.42	294.23	296.46	296.79	298.08
	310.40	311.47	313.44	313.56	311.54	311.28	306.24	302.94	288.02		
4243.05	288.26	288.55	288.88	289.20	289.88	290.93	292.46	294.26	296.47	296.82	302.65
	318.38	311.44	313.45	313.58	311.58	311.32	306.31	303.00	288.02		
4245.74	288.28	288.56	288.89	289.22	290.55	290.93	292.49	294.30	296.50	296.84	302.67
	318.37	311.46	313.47	313.60	311.62	311.37	306.39	303.07	288.02		
4248.43	288.29	288.57	290.27	289.24	290.57	290.95	292.53	294.35	296.56	296.87	302.68
	318.34	311.47	313.48	313.62	311.67	311.42	306.47	303.14	288.60		
4251.12	288.30	288.58	290.29	289.26	290.59	290.97	292.56	294.50	296.63	296.90	302.71
	318.33	311.48	313.50	313.64	311.71	311.46	306.54	303.22	288.61		
4253.81	288.30	288.60	290.31	289.28	290.61	290.99	292.60	294.81	296.70	296.95	302.73
	318.33	311.50	313.51	313.67	311.76	311.49	306.62	303.29	288.62		
4256.50	288.31	288.61	290.32	289.29	290.61	291.01	292.64	294.86	296.76	296.98	302.77
	318.33	311.50	313.52	313.68	311.79	311.52	306.68	303.36	288.62		
4259.14	288.31	288.60	290.32	289.29	290.62	291.03	292.68	294.91	296.82	297.02	302.81
	318.33	311.52	313.51	313.69	311.82	311.54	306.75	303.43	288.63		
4261.83	288.30	288.60	290.32	289.31	290.63	291.05	292.72	294.95	296.85	297.06	302.84
	318.32	311.52	313.51	313.70	311.84	311.57	306.99	303.50	288.63		
4264.52	288.29	288.60	290.31	289.33	290.64	291.07	292.76	295.00	296.88	297.10	302.05
	318.32	311.52	313.51	313.70	311.87	311.62	307.05	303.58	288.62		
4267.21	288.28	288.59	290.30	289.36	290.65	291.08	292.78	295.04	296.95	297.14	302.09
	318.34	311.52	313.51	313.72	311.90	311.66	307.11	303.65	288.62		
4269.91	288.26	288.59	290.29	289.38	290.67	291.10	292.80	295.07	297.01	297.18	302.14
	318.35	311.51	313.50	313.74	311.94	311.69	307.16	303.71	288.61		
4272.60	288.26	288.58	290.28	289.39	290.67	291.12	292.81	295.11	297.08	297.23	297.65
	310.36	311.51	313.47	313.76	311.97	311.73	307.20	303.76	288.60		
4275.23	288.25	288.57	290.28	289.40	290.02	291.13	292.83	295.14	297.13	297.27	297.68
	310.35	311.46	313.45	313.77	312.00	311.75	307.25	303.82	288.59		
4277.92	288.24	288.57	288.91	289.41	290.04	291.14	292.85	295.16	297.16	297.32	297.74
	310.33	311.40	313.42	313.78	312.02	311.78	307.29	303.93	288.01		
4280.62	288.25	288.57	288.91	289.42	290.06	291.16	292.88	295.18	297.19	297.38	297.80
	310.29	311.35	313.40	313.79	312.03	311.80	307.36	304.01	288.00		
4283.25	288.24	288.56	288.90	289.42	290.06	291.17	292.90	295.19	297.18	297.08	297.85
	310.24	311.32	313.39	313.80	312.05	311.83	307.41	304.08	287.99		
4285.94	288.24	288.55	288.90	289.43	290.05	291.18	292.92	295.21	297.18	297.11	297.88
	310.20	311.30	313.38	313.81	312.06	311.86	307.45	304.13	287.97		
4288.63	288.23	288.55	288.91	289.44	290.05	291.20	292.94	295.24	297.21	297.12	297.88
	310.16	311.29	313.39	313.82	312.09	311.88	307.49	304.18	287.94		
4291.27	288.23	288.55	288.91	289.43	290.06	291.21	292.96	295.27	297.24	297.15	297.88
	310.14	311.31	313.41	313.82	312.12	311.91	307.55	304.24	287.92		
4293.96	288.22	288.55	288.91	289.43	290.07	291.23	292.97	295.29	297.29	297.16	298.70
	310.12	311.32	313.44	313.84	312.16	311.94	307.60	304.29	287.91		
4296.60	288.22	288.55	288.91	289.44	290.08	291.25	292.99	295.32	297.32	297.18	298.68
	310.09	311.34	313.47	313.87	312.19	311.97	307.66	304.34	287.90		

4299.29	288.22	288.55	288.91	289.44	290.09	291.27	293.01	295.35	297.34	297.19	298.66
	310.05	311.36	313.51	313.88	312.21	311.99	307.71	304.39	287.89		
4301.93	288.22	288.55	288.91	289.44	290.10	291.29	293.02	295.36	297.36	297.20	298.65
	310.02	311.38	313.55	313.89	312.24	312.01	307.77	304.45	287.89		
4304.62	288.21	288.55	288.92	289.44	290.12	291.30	293.03	295.38	297.38	297.21	298.66
	310.01	311.42	313.58	313.90	312.26	312.03	307.84	304.51	287.89		
4307.31	288.21	288.55	288.93	289.45	290.12	291.32	293.04	295.40	297.39	297.21	298.67
	310.02	311.46	313.60	313.91	312.29	312.06	307.90	304.52	287.89		
4309.95	288.21	288.55	288.92	289.46	290.12	291.33	293.04	295.42	297.40	297.22	298.66
	310.05	311.50	313.63	313.92	312.33	312.07	307.94	304.54	287.89		
4312.58	288.22	288.57	288.93	289.47	290.14	291.35	293.06	295.44	297.45	297.57	298.67
	310.08	311.55	313.58	313.93	312.37	312.11	308.00	304.60	287.90		
4315.27	288.22	288.59	288.94	289.48	290.16	291.36	293.08	295.45	297.48	297.61	298.70
	310.13	311.59	313.59	313.95	312.41	312.15	308.08	304.66	287.92		
4317.91	288.22	288.60	288.95	289.51	290.18	291.37	293.09	295.45	297.49	297.66	298.75
	310.18	311.64	313.61	313.97	312.44	312.20	308.19	304.72	287.94		
4320.60	288.23	288.62	288.98	289.52	290.19	291.38	293.11	295.46	297.52	297.70	298.80
	310.23	311.64	313.63	313.99	312.48	312.24	308.28	304.79	287.96		
4323.24	288.25	288.64	289.01	289.52	290.19	291.40	293.13	295.47	297.53	297.74	298.84
	310.28	311.65	313.64	314.00	312.51	312.26	308.34	304.85	287.98		
4325.87	288.27	288.65	289.03	289.52	290.20	291.41	293.14	295.48	297.55	297.76	298.89
	310.33	311.67	313.64	314.02	312.54	312.47	308.39	304.92	287.99		
4328.57	288.28	288.67	289.06	289.53	290.21	291.42	293.17	295.49	297.53	297.77	298.94
	310.37	311.71	313.65	314.03	312.57	312.51	308.46	304.99	288.00		
4331.20	288.28	288.69	289.09	289.55	290.22	291.45	293.20	295.49	297.52	297.79	298.98
	310.41	311.75	313.65	314.05	312.59	312.55	308.52	305.06	288.00		
4333.84	288.29	288.70	289.10	289.56	290.23	291.47	293.23	295.50	297.53	297.81	299.02
	310.44	311.77	313.66	314.06	312.62	312.58	308.57	305.12	288.01		
4336.53	288.30	288.72	289.12	289.56	290.24	291.48	293.26	295.51	297.54	297.83	299.04
	310.45	311.79	313.67	314.07	312.65	312.62	308.63	305.18	288.02		
4339.17	288.31	288.74	289.14	289.56	290.26	291.50	293.30	295.51	297.56	297.86	299.07
	310.47	311.80	313.69	314.09	312.68	312.66	308.69	305.25	288.02		
4341.80	288.30	288.74	289.15	289.57	290.28	291.51	293.32	295.50	297.58	297.87	299.07
	310.48	311.80	313.79	314.10	312.71	312.67	308.73	305.30	288.02		
4344.49	288.31	288.74	289.16	289.57	290.28	291.51	293.34	295.52	297.60	297.88	299.09
	311.17	312.45	314.85	315.13	313.40	313.71	308.84	305.36	288.02		
4347.13	288.32	288.76	289.17	289.57	290.30	291.52	293.36	295.55	297.60	297.89	299.12
	312.14	313.28	315.98	316.26	314.27	314.80	309.00	305.42	288.02		
4349.77	288.32	288.76	289.17	289.57	290.31	291.53	293.38	295.57	297.61	297.91	299.17
	313.09	314.10	317.01	317.34	315.11	315.76	309.20	305.49	288.02		
4352.46	288.32	288.76	289.16	289.59	290.32	291.52	293.40	295.59	297.65	297.94	299.24
	314.07	314.94	318.03	318.40	315.94	316.68	309.44	305.67	288.02		
4355.09	288.31	288.76	289.16	289.61	290.33	291.54	293.41	295.62	297.68	298.00	299.33
	315.12	315.81	319.04	319.46	316.82	317.43	309.69	305.76	288.02		
4359.54	288.31	288.77	289.17	289.62	290.34	291.55	293.43	295.64	297.76	298.05	299.39
	315.77	316.65	320.11	320.55	317.68	318.30	309.95	305.86	288.03		
4362.56	288.32	288.78	289.16	289.62	290.36	291.55	293.44	295.68	297.82	298.13	299.48
	316.82	317.53	321.21	321.65	318.51	319.19	310.21	305.98	288.04		
4365.81	288.33	288.78	289.16	289.62	290.38	291.55	293.45	295.71	297.88	298.62	299.61
	317.91	318.45	322.33	322.77	319.34	320.07	310.47	306.10	288.04		
4368.94	288.33	288.78	289.16	289.63	290.40	291.57	293.45	295.76	297.96	298.74	299.78
	319.04	319.38	323.44	323.89	320.17	320.96	310.75	306.23	288.04		
4371.90	288.34	288.78	289.16	289.65	290.40	291.58	293.46	295.83	298.04	298.84	299.97
	320.17	320.34	324.54	325.00	321.01	321.86	311.02	306.36	288.04		
4374.98	288.34	288.78	289.16	289.64	290.40	291.58	293.47	295.91	298.12	298.94	300.18
	321.32	321.33	325.66	326.12	321.83	322.76	311.30	306.50	288.04		
4378.00	288.35	288.78	289.16	289.63	290.41	291.60	293.49	295.98	298.22	299.04	300.40
	321.81	321.68	325.76	326.23	322.01	322.63	311.53	306.63	288.04		
4381.02	288.35	288.78	289.16	289.63	290.41	291.61	293.52	296.04	298.34	299.15	300.60
	322.02	321.90	325.78	326.24	322.00	322.47	311.66	306.77	288.04		
4383.99	288.35	288.76	289.16	289.63	290.42	291.62	293.55	296.10	298.44	299.27	300.81
	322.29	322.16	325.92	326.24	322.03	322.43	312.18	307.86	288.04		
4387.01	288.35	288.76	289.17	289.64	290.43	291.64	293.58	296.18	298.54	299.41	301.03
	322.57	322.43	326.11	326.34	322.13	322.48	312.32	307.91	288.04		

4389.97	288.36	288.76	289.17	289.64	290.43	291.64	293.62	296.25	298.66	299.56	301.26
	329.06	322.64	326.29	326.46	322.16	322.53	312.46	308.03	288.04		
4392.94	288.36	288.76	289.17	289.65	290.44	291.67	293.65	296.34	298.80	299.71	301.51
	329.63	322.85	326.43	326.52	322.21	322.59	312.59	308.15	288.04		
4395.90	288.36	288.76	289.17	289.65	290.44	291.69	293.70	296.44	298.94	299.84	301.74
	329.81	323.02	326.50	326.55	322.27	322.62	312.72	308.26	288.04		
4399.03	288.36	288.76	289.17	289.66	290.44	291.72	293.76	296.54	299.07	299.59	301.94
	329.98	323.18	326.55	326.59	322.34	322.67	312.87	308.37	288.02		
4401.95	288.34	288.76	289.16	289.66	290.46	291.76	293.82	296.64	299.19	299.70	302.11
	330.12	323.35	326.62	326.63	322.42	322.74	313.01	308.48	288.01		
4404.80	288.30	288.70	289.10	289.59	290.37	291.64	293.65	296.38	298.87	299.37	301.75
	329.72	322.92	326.30	326.19	321.98	322.32	312.39	307.88	288.60		
4407.77	288.34	288.72	289.13	289.65	290.44	291.73	293.76	296.51	299.05	299.63	302.21
	333.18	326.02	330.28	330.06	325.14	325.44	313.40	308.22	288.60		
4410.68	288.37	288.75	289.17	289.72	290.50	291.82	293.88	296.67	299.24	299.93	302.72
	335.60	328.40	333.14	332.96	327.36	327.58	314.31	308.59	288.60		
4413.65	288.41	288.77	289.21	289.78	290.57	291.92	293.99	296.84	299.45	300.24	303.22
	337.61	330.42	335.27	335.15	328.96	329.09	315.11	308.98	288.60		
4416.56	288.43	288.80	289.24	289.82	290.63	292.01	294.10	297.03	299.69	300.59	303.77
	338.94	332.15	337.09	336.83	330.33	330.28	315.41	308.42	288.61		
4436.44	288.45	288.83	289.26	289.87	290.68	292.10	294.22	297.23	299.95	300.95	304.34
	340.06	333.58	338.54	338.20	331.42	331.12	316.01	308.80	288.61		
4438.97	288.47	288.85	289.29	289.91	290.73	292.18	294.34	297.46	300.25	301.33	304.83
	334.63	334.81	339.73	339.32	332.32	331.74	316.58	309.19	288.61		
4441.55	288.49	288.87	289.32	289.95	290.78	292.25	294.47	297.70	300.57	301.74	305.36
	335.29	335.85	340.67	340.23	333.10	332.22	317.11	309.58	288.61		
4444.07	288.51	288.88	289.34	289.99	290.84	292.34	294.61	297.97	300.91	302.18	305.89
	335.76	336.71	341.47	340.98	333.88	332.72	317.86	309.97	288.62		
4446.66	288.53	288.90	289.37	290.03	290.89	292.43	294.75	298.24	301.29	302.66	306.43
	336.06	337.40	342.12	341.59	334.44	332.95	318.33	310.36	288.65		
4449.18	288.55	288.92	289.40	290.06	290.94	292.51	294.91	298.53	301.69	303.15	306.97
	336.25	337.95	342.63	342.08	334.94	333.12	318.78	310.74	288.66		
4451.76	288.61	289.00	289.48	290.17	291.09	292.76	295.31	299.19	302.57	304.10	308.00
	336.90	338.98	343.43	342.97	335.91	333.72	319.98	311.82	288.06		
4454.29	288.59	288.99	289.47	290.17	291.10	292.81	295.43	299.49	302.97	304.50	308.22
	333.59	336.39	339.82	339.47	333.27	330.74	319.55	311.98	288.06		
4456.87	288.57	288.99	289.46	290.17	291.11	292.88	295.57	299.78	303.36	304.86	308.37
	331.25	334.44	337.26	336.88	331.53	328.72	319.21	312.10	288.06		
4459.40	288.55	288.99	289.46	290.17	291.14	292.95	295.73	300.06	303.73	305.20	308.52
	329.28	332.78	335.42	334.97	330.41	327.34	318.96	312.21	288.07		
4461.98	288.55	288.99	289.47	290.19	291.18	293.04	295.90	300.35	304.08	305.46	308.58
	327.94	331.38	333.88	333.66	329.53	326.31	318.81	312.32	288.08		
4464.51	288.55	288.99	289.48	290.20	291.23	293.14	296.07	300.62	304.40	305.69	308.60
	326.76	330.25	332.66	332.56	328.91	325.59	318.74	312.62	288.99		
4467.09	288.55	289.00	289.49	290.23	291.29	293.25	296.25	300.87	304.67	305.89	308.66
	325.83	329.35	331.71	331.69	328.47	325.11	318.71	312.73	289.00		
4469.67	288.56	289.01	289.51	290.26	291.34	293.37	296.44	301.09	304.91	306.05	308.68
	325.15	328.63	331.00	331.05	328.18	324.82	318.71	312.83	289.00		
4472.31	288.56	289.02	289.53	290.28	291.40	293.48	296.60	301.29	305.14	306.17	308.65
	324.65	328.07	330.47	330.59	327.89	324.54	318.50	312.93	288.99		
4474.89	288.56	289.03	289.54	290.31	291.46	293.59	296.75	301.49	305.33	306.24	308.61
	324.30	327.64	330.07	330.27	327.84	324.52	318.55	313.04	288.99		
4477.52	288.56	289.04	289.57	290.35	291.53	293.70	296.91	301.68	305.50	306.28	308.57
	324.02	327.30	329.78	330.05	327.82	324.55	318.62	313.15	288.99		
4480.16	288.57	289.04	289.60	290.39	291.62	293.81	297.06	301.84	305.63	306.30	308.53
	323.82	327.03	329.59	329.90	327.84	324.64	318.70	313.27	289.00		
4482.80	288.57	289.05	289.62	290.44	291.69	293.92	297.20	301.96	305.74	306.31	308.47
	323.68	326.83	329.48	329.81	327.89	324.76	318.79	313.37	289.00		
4485.54	288.57	289.05	289.65	290.48	291.76	294.00	297.32	302.07	305.83	306.31	308.40
	323.59	326.67	329.43	329.77	327.95	324.91	318.88	313.48	289.01		
4488.12	288.56	289.05	289.67	290.53	291.83	294.09	297.43	302.17	305.93	306.31	308.34
	323.55	326.54	329.37	329.74	328.00	325.06	318.98	313.58	289.01		
4490.76	288.56	289.05	289.69	290.56	291.89	294.16	297.52	302.27	306.01	306.34	308.29
	323.49	326.42	329.29	329.67	328.02	325.18	319.09	313.69	289.00		

4493.40	288.60	289.07	289.73	290.60	291.94	294.23	297.61	302.37	306.10	306.37	308.25
	323.44	326.31	329.20	329.61	328.03	325.28	319.18	313.58	288.10		
4496.03	288.61	289.09	289.76	290.64	292.00	294.30	297.69	302.45	306.19	306.38	308.22
	323.40	326.18	329.12	329.56	328.02	325.37	319.28	313.67	288.10		
4498.67	288.60	289.10	289.78	290.67	292.07	294.36	297.77	302.53	306.26	306.38	308.19
	323.34	326.08	329.03	329.49	328.01	325.46	319.38	313.78	288.11		
4501.31	288.61	289.12	289.81	290.72	292.12	294.43	297.84	302.59	306.29	306.37	308.18
	324.11	326.62	329.83	330.29	328.70	326.41	319.56	313.90	288.12		
4504.00	288.62	289.14	289.84	290.76	292.18	294.49	297.92	302.62	306.33	306.34	308.17
	325.16	327.39	330.92	331.39	329.62	327.58	319.83	314.01	288.12		
4506.63	288.63	289.16	289.87	290.79	292.22	294.54	297.98	302.65	306.35	306.33	308.15
	326.16	328.19	331.96	332.48	330.49	328.67	320.13	314.14	288.13		
4509.27	288.63	289.18	289.90	290.82	292.26	294.59	298.01	302.69	306.37	306.33	308.14
	327.09	328.94	332.89	333.49	331.31	329.62	320.44	314.28	288.13		
4511.91	288.64	289.20	289.93	290.86	292.30	294.63	298.06	302.73	306.39	306.34	308.15
	328.05	329.70	333.85	334.51	332.09	330.56	320.77	314.44	288.13		
4516.74	288.66	289.22	289.95	290.90	292.34	294.67	298.10	302.76	306.35	306.34	308.18
	329.05	330.48	334.84	335.56	332.87	331.50	321.11	314.61	288.13		
4519.71	288.68	289.24	289.98	290.92	292.36	294.70	298.14	302.78	306.33	306.36	308.24
	330.11	331.33	335.88	336.65	333.65	331.76	321.47	314.79	288.13		
4522.62	288.69	289.26	290.01	290.96	292.40	294.73	298.17	302.80	306.33	306.38	308.32
	331.18	332.18	336.95	337.74	334.44	332.72	322.29	314.97	288.14		
4525.75	288.68	289.28	290.02	291.00	292.44	294.76	298.20	302.81	306.32	306.38	308.39
	332.67	333.04	338.00	338.83	335.23	333.67	322.67	315.16	288.14		
4528.88	288.68	289.30	290.03	291.03	292.46	294.79	298.23	302.83	306.33	306.42	308.48
	333.74	333.86	339.05	339.92	336.04	334.62	323.07	315.37	288.14		
4531.95	288.69	289.31	290.05	291.06	292.48	294.81	298.24	302.85	306.34	306.50	308.59
	334.84	334.72	340.12	341.03	336.87	335.58	323.69	315.73	288.14		
4534.98	288.70	289.32	290.07	291.08	292.51	294.80	298.20	302.88	306.40	306.62	308.73
	335.14	334.97	340.33	341.25	336.99	335.66	324.03	315.95	288.14		
4538.00	288.71	289.34	290.09	291.11	292.53	294.80	298.18	302.92	306.46	306.76	308.85
	335.18	335.02	340.29	341.19	336.92	335.55	324.30	316.16	288.14		
4541.02	288.72	289.36	290.10	291.13	292.56	294.83	298.19	302.98	306.54	306.92	309.00
	335.32	335.09	340.34	341.20	336.92	335.54	324.54	316.38	288.14		
4544.09	288.73	289.37	290.11	291.16	292.56	294.85	298.22	303.04	306.64	307.06	309.16
	335.47	335.20	340.46	341.26	336.94	335.63	324.77	316.59	288.14		
4547.11	288.74	289.38	290.12	291.18	292.58	294.87	298.25	303.11	306.73	307.17	309.31
	335.58	335.30	340.56	341.32	337.00	335.73	325.00	316.79	288.14		
4550.13	288.74	289.39	290.15	291.19	292.60	294.89	298.28	303.18	306.88	307.30	309.43
	335.65	335.39	340.63	341.36	337.08	335.83	325.22	317.00	288.14		
4553.21	288.74	289.41	290.17	291.21	292.62	294.90	298.28	303.27	307.00	307.41	309.54
	335.66	335.44	340.68	341.39	337.17	336.61	325.44	317.21	288.14		
4556.12	288.75	289.42	290.18	291.20	292.65	294.93	298.32	303.35	307.12	307.51	309.64
	335.67	335.51	340.73	341.42	337.27	336.68	325.20	317.44	288.14		
4559.09	288.75	289.45	290.20	291.21	292.68	294.97	298.37	303.43	307.22	307.63	309.73
	335.24	335.58	340.79	341.46	337.38	336.78	325.41	317.65	288.14		
4562.05	288.76	289.48	290.20	291.23	292.70	295.00	298.42	303.51	307.33	307.75	309.83
	335.22	335.70	340.88	341.52	337.49	336.88	325.62	317.86	288.15		
4565.07	288.77	289.50	290.21	291.26	292.72	295.05	298.48	303.59	307.43	307.85	309.91
	335.18	335.77	340.94	341.55	337.58	336.96	325.60	317.91	288.17		
4567.99	288.78	289.52	290.23	291.28	292.76	295.13	298.60	303.67	307.51	307.93	309.98
	335.14	335.81	341.00	341.61	337.68	337.05	325.80	318.12	288.18		
4570.95	288.78	289.53	290.26	291.30	292.79	295.19	298.70	303.75	307.59	308.00	310.07
	335.08	335.85	341.03	341.66	336.35	337.12	326.00	318.33	288.21		
4573.92	288.79	289.54	290.28	291.32	292.81	295.24	298.78	303.82	307.66	308.07	310.15
	335.00	335.89	341.04	341.66	336.39	337.17	326.19	318.53	288.22		
4576.83	288.80	289.56	290.30	291.34	292.86	295.29	298.85	303.90	307.74	308.17	310.25
	334.96	335.98	341.07	341.69	336.46	337.24	326.39	318.74	288.23		
4579.79	288.82	289.58	290.33	291.38	292.92	295.35	298.92	303.98	307.82	308.26	310.35
	334.97	336.08	341.13	341.72	336.55	337.34	326.59	318.93	288.23		
4582.71	288.83	289.60	290.34	291.41	292.97	295.42	299.00	304.05	307.89	308.34	310.47
	334.96	336.16	341.19	341.77	336.64	337.44	326.79	319.12	288.23		
4585.62	288.85	289.62	290.37	291.45	293.02	295.51	299.10	304.12	307.97	308.42	310.60
	334.91	336.20	341.20	341.79	336.71	337.49	327.00	319.32	288.23		

4588.53	288.86	289.62	290.36	291.45	292.98	295.43	298.95	303.91	307.68	308.12	310.35
	334.16	335.68	340.39	340.98	336.07	336.82	326.61	319.00	288.22		
4591.44	288.91	289.64	290.42	291.52	293.05	295.51	299.03	304.02	307.78	307.83	310.09
	333.79	335.96	340.46	341.05	336.21	336.88	326.94	319.33	288.22		
4594.40	288.93	289.65	290.47	291.57	293.11	295.58	299.10	304.12	307.87	307.89	310.26
	333.71	336.11	340.45	341.03	336.24	336.85	327.23	319.64	288.21		
4597.26	288.95	289.67	290.51	291.61	293.16	295.63	299.17	304.21	307.97	307.98	310.42
	333.74	336.33	340.52	341.09	336.35	336.91	327.51	319.95	288.20		
4600.17	288.96	289.69	290.54	291.65	293.20	295.68	299.24	304.31	308.09	308.09	310.58
	333.82	336.55	340.55	341.19	336.50	337.01	327.80	320.26	288.18		
4618.52	288.98	289.71	290.55	291.68	293.26	295.73	299.30	304.42	308.20	308.20	310.71
	333.86	336.73	340.59	341.28	338.05	337.11	328.08	320.55	288.16		
4621.32	288.98	289.74	290.57	291.73	293.32	295.78	299.38	304.53	308.32	308.30	310.87
	333.87	336.86	340.63	341.34	338.20	337.20	328.34	320.84	288.15		
4624.28	288.99	289.75	290.60	291.77	293.34	295.82	299.44	304.63	308.42	308.40	311.02
	333.86	336.93	340.58	341.40	338.34	337.28	328.60	321.13	288.14		
4627.14	289.01	289.77	290.62	291.80	293.37	295.86	299.51	304.72	308.53	308.51	311.15
	333.82	336.97	340.56	341.45	338.49	337.37	328.86	321.42	288.14		
4629.89	289.02	289.79	290.64	291.81	293.39	295.90	299.57	304.82	308.66	308.64	311.27
	333.77	337.04	340.56	341.50	338.64	337.46	329.11	321.71	288.14		
4632.69	289.03	289.80	290.66	291.82	293.42	295.93	299.64	304.92	308.77	308.74	311.38
	333.73	337.11	340.59	341.57	338.81	337.58	329.34	321.98	288.14		
4635.43	289.04	289.83	290.70	291.89	293.52	296.09	299.93	305.30	309.27	309.24	311.87
	334.39	337.68	341.44	342.45	339.68	338.44	330.16	322.74	288.15		
4638.29	289.02	289.82	290.68	291.88	293.52	296.10	299.97	305.37	309.38	309.74	312.37
	334.69	337.47	341.41	342.46	339.77	338.58	330.26	322.87	288.16		
4641.09	289.02	289.82	290.68	291.88	293.52	296.12	300.04	305.45	309.48	309.88	312.43
	334.70	337.35	341.45	342.55	339.94	338.78	330.68	328.82	288.17		
4643.89	289.02	289.82	290.69	291.89	293.54	296.15	300.09	305.54	309.58	313.06	312.51
	334.57	337.20	341.40	342.56	340.04	338.91	330.82	328.96	288.18		
4646.69	289.02	289.83	290.70	291.90	293.56	296.17	300.15	305.62	309.67	313.16	312.60
	334.42	337.03	341.40	342.53	340.10	339.00	330.95	329.10	288.18		
4649.50	289.02	289.85	290.71	291.92	293.58	296.20	300.21	305.69	309.78	313.26	312.74
	334.31	336.88	341.37	342.51	340.17	339.10	331.09	329.25	288.20		
4652.24	289.03	289.85	290.72	291.93	293.60	296.23	300.25	305.78	309.87	313.36	312.81
	334.23	336.75	341.36	342.50	340.24	339.22	331.22	329.39	288.20		
4655.04	289.04	289.85	290.72	291.94	293.63	296.27	300.30	305.85	309.96	313.44	312.86
	334.18	336.69	341.43	342.51	340.32	339.34	331.36	329.54	288.21		
4657.90	289.04	289.85	290.72	291.94	293.65	296.30	300.36	305.93	310.05	313.50	312.88
	334.14	336.65	341.46	342.52	340.38	339.44	331.50	329.68	288.22		
4660.70	289.04	289.85	290.73	291.96	293.67	296.34	300.42	306.00	310.11	313.53	312.88
	334.10	336.59	341.44	342.51	340.43	339.53	331.65	329.81	288.23		
4663.50	289.04	289.86	290.75	291.98	293.69	296.37	300.47	306.05	310.16	313.54	312.86
	334.07	336.54	341.42	342.50	340.47	339.64	331.78	329.95	288.24		
4666.30	289.06	289.88	290.78	292.00	293.73	296.42	300.53	306.11	310.20	313.56	312.84
	333.30	336.54	341.41	342.49	340.53	339.74	331.93	330.11	288.27		
4669.10	289.08	289.90	290.80	292.02	293.76	296.47	300.59	306.16	310.25	313.58	312.81
	333.30	336.53	341.42	342.49	340.59	339.85	332.08	330.26	288.28		
4671.90	289.10	289.92	290.82	292.05	293.79	296.51	300.64	306.22	310.29	313.60	312.78
	333.31	336.53	341.44	342.52	340.67	339.96	331.93	324.60	288.30		
4674.71	289.12	289.95	290.84	292.07	293.82	296.54	300.69	306.28	310.34	310.52	312.77
	333.34	336.53	341.45	342.54	340.73	340.06	332.07	324.74	288.30		
4677.51	289.14	289.98	290.86	292.09	293.85	296.58	300.74	306.32	310.36	310.50	312.73
	333.35	336.55	341.44	342.55	340.76	340.13	332.20	324.88	288.31		
4680.31	289.15	290.00	290.88	292.12	293.88	296.62	300.78	306.36	310.37	310.48	312.68
	333.36	336.59	341.43	342.55	340.79	340.18	332.33	325.02	288.32		
4683.16	289.16	290.02	290.91	292.14	293.91	296.66	300.83	306.40	310.37	310.45	312.64
	333.37	336.63	341.44	342.56	340.81	340.24	332.45	325.16	288.33		
4685.91	289.17	290.04	290.94	292.17	293.94	296.69	300.87	306.44	310.37	310.44	312.62
	333.35	336.65	341.43	342.57	340.84	340.30	332.58	325.30	288.34		
4688.71	289.19	290.07	290.96	292.20	293.98	296.73	300.90	306.47	310.36	310.43	312.63
	333.33	336.66	341.42	342.60	340.87	340.36	332.96	325.43	288.35		
4691.51	289.21	290.10	290.98	292.23	294.00	296.77	300.93	306.51	310.36	310.44	312.66
	333.33	336.69	341.42	342.61	340.89	340.40	333.08	325.57	288.36		

4694.31	289.23	290.12	291.00	292.26	294.03	296.80	300.96	306.55	310.38	310.47	312.70
	333.34	336.73	341.41	342.60	340.90	340.44	333.20	325.70	288.36		
4697.12	289.23	290.13	291.01	292.28	294.05	296.81	300.98	306.57	310.40	310.48	312.72
	334.14	336.74	341.38	342.61	340.92	340.48	333.31	325.82	288.36		
4699.86	289.22	290.14	291.01	292.30	294.07	296.83	301.01	306.59	310.40	310.47	312.77
	334.16	336.74	341.36	342.62	340.93	340.52	333.41	325.93	288.36		
4702.61	289.22	290.14	291.02	292.32	294.10	296.85	301.03	306.59	310.38	310.44	312.81
	334.19	336.78	341.35	342.61	340.94	340.55	333.51	326.04	288.35		
4705.41	289.22	290.14	291.02	292.33	294.11	296.88	301.04	306.60	310.02	310.45	312.85
	334.25	336.81	341.32	342.60	340.96	340.59	333.61	326.14	288.35		
4708.27	289.22	290.14	291.04	292.36	294.13	296.89	301.05	306.62	310.03	310.50	312.89
	334.28	336.80	341.30	342.61	340.99	340.64	333.71	326.26	288.35		
4711.07	289.23	290.14	291.05	292.37	294.14	296.91	301.06	306.64	310.05	310.56	312.92
	334.27	336.76	341.28	342.62	341.02	340.70	333.82	326.38	288.35		
4713.87	289.25	290.15	291.06	292.37	294.14	296.92	301.07	306.66	310.09	310.60	312.96
	334.25	336.75	341.24	342.62	341.05	340.74	333.92	326.49	288.35		
4716.67	289.26	290.16	291.10	292.52	294.65	297.30	301.37	306.82	310.25	310.92	313.25
	335.00	337.13	341.57	342.34	341.36	341.22	334.12	326.61	288.35		
4719.47	289.28	290.20	291.23	293.04	295.96	298.45	302.29	307.39	310.86	311.74	313.95
	336.38	337.87	342.24	342.90	341.91	342.12	334.19	326.77	288.35		
4722.27	289.30	290.25	291.40	293.59	297.22	299.76	303.41	308.14	311.67	312.60	314.65
	337.44	338.30	342.35	343.07	342.13	342.44	334.47	326.94	288.35		
4725.07	289.31	290.33	291.66	294.23	298.37	301.13	304.59	308.98	312.51	313.42	315.30
	338.23	338.54	342.35	342.98	342.17	342.70	334.72	327.11	288.35		
4727.82	289.33	290.44	291.98	294.89	299.43	302.45	305.79	309.85	313.31	314.20	315.90
	338.92	338.73	342.38	342.95	342.19	342.97	334.97	327.29	288.35		
4738.31	289.34	290.57	292.34	295.56	300.42	303.69	306.97	310.70	314.08	314.93	316.44
	339.53	338.87	342.33	342.88	342.21	343.25	335.21	327.46	288.35		
4740.89	289.37	290.73	292.72	296.19	301.32	304.82	308.10	311.50	314.75	315.55	316.89
	340.76	339.54	343.29	343.76	343.04	344.46	335.53	327.64	288.35		
4743.58	289.39	290.91	293.12	296.83	302.33	306.16	309.36	312.40	315.79	316.20	317.38
	342.31	340.38	344.36	344.79	343.90	345.78	335.93	327.84	288.35		
4746.66	289.44	291.12	293.52	297.48	303.47	307.67	310.79	313.48	316.65	316.93	317.97
	343.93	341.22	345.34	345.79	344.70	347.05	336.37	328.06	288.35		
4749.51	289.48	291.34	293.94	298.20	304.66	309.22	312.28	314.70	317.60	317.71	318.60
	345.61	342.09	346.29	346.78	345.52	348.35	336.86	328.30	288.37		
4752.37	289.54	291.57	294.38	298.98	305.93	310.82	313.87	316.02	318.62	318.54	319.26
	347.34	342.96	347.29	347.80	346.36	349.68	337.37	328.55	288.37		
4758.03	289.60	291.80	294.83	299.64	306.76	312.08	315.22	317.28	319.57	319.14	319.72
	348.35	343.46	347.93	349.11	346.90	350.59	337.80	328.81	288.37		
4761.71	290.22	292.01	295.18	299.98	306.89	312.62	316.02	318.18	320.09	319.25	319.77
	348.73	343.62	348.24	349.57	347.21	351.10	338.13	329.05	288.37		
4765.50	290.29	292.19	295.50	300.39	307.19	313.07	316.73	318.92	320.45	319.38	319.86
	349.44	344.09	346.76	350.46	347.84	352.15	338.51	329.29	288.37		
4769.29	290.37	292.40	295.81	300.78	307.36	313.56	317.46	319.62	320.79	319.54	320.01
	350.36	344.75	347.71	351.55	348.67	353.25	338.94	329.54	288.37		
4773.02	290.46	292.62	296.12	301.22	308.03	314.16	318.28	320.34	321.17	319.75	320.22
	351.46	345.59	348.77	352.68	349.58	354.34	339.37	329.82	288.37		
4776.70	290.56	292.85	296.44	301.72	308.83	314.95	319.21	321.13	321.62	320.04	320.22
	352.62	346.46	349.83	353.82	354.46	355.37	339.81	330.11	288.36		
4780.27	290.66	293.06	296.79	302.31	309.76	315.90	320.25	322.00	322.20	320.47	320.85
	353.12	346.73	349.87	353.99	350.54	355.45	340.18	330.40	288.35		
4783.68	290.76	293.26	297.16	302.98	310.71	316.74	321.21	322.80	322.80	320.90	321.20
	352.20	346.90	349.85	354.04	350.54	355.40	340.47	330.70	288.34		
4787.63	290.85	293.49	297.56	303.62	311.62	317.45	322.05	323.47	323.28	321.26	321.51
	352.39	347.12	349.94	354.10	350.56	355.36	340.74	330.98	288.33		
4791.09	290.94	293.72	297.99	304.36	312.50	318.14	322.87	324.05	323.70	321.59	321.79
	352.54	347.34	350.07	354.18	350.58	355.32	340.96	331.26	288.32		
4794.61	291.03	293.96	298.42	305.03	313.25	318.83	323.61	324.48	323.98	321.82	321.98
	352.59	347.47	350.13	354.26	350.67	355.35	341.19	331.54	288.31		
4798.18	291.13	294.21	298.85	305.66	313.90	319.54	324.30	324.79	324.18	321.97	322.10
	352.55	347.53	350.14	354.34	350.84	355.41	341.43	331.82	288.31		
4801.69	290.65	294.48	299.29	306.32	314.62	320.27	324.92	325.11	324.40	325.28	322.26
	352.53	347.62	350.14	354.34	350.91	355.41	341.64	332.08	288.31		

4805.21	290.76	294.78	299.77	306.94	315.31	320.94	325.46	325.44	324.63	325.48	322.43
	352.55	347.77	352.57	354.35	350.99	355.49	341.88	332.36	288.32		
4808.72	290.86	295.05	300.19	307.51	316.28	321.57	325.98	325.75	324.85	325.32	322.58
	352.64	347.93	352.71	354.47	351.07	355.65	342.10	332.63	288.32		
4812.18	290.96	295.30	300.59	308.04	316.86	322.19	326.42	326.00	325.04	325.48	322.70
	352.61	347.96	352.73	354.49	351.09	355.78	342.34	332.88	288.32		
4815.53	291.06	295.52	300.95	308.54	317.47	322.76	326.77	326.19	325.18	325.60	322.80
	352.55	348.01	352.77	354.54	351.13	355.92	342.58	333.13	288.32		
4819.11	291.16	295.74	301.29	309.04	318.04	323.21	327.01	326.25	325.23	325.64	322.86
	352.47	348.08	352.85	354.63	351.22	356.04	342.80	333.38	288.33		
4822.68	291.27	295.98	301.62	309.56	318.47	323.58	327.17	326.32	325.26	325.67	322.91
	353.47	348.10	352.84	354.64	351.32	356.18	343.02	333.62	288.34		
4826.14	291.39	296.18	301.96	310.09	318.96	323.95	327.36	326.40	325.28	325.69	322.94
	353.33	348.10	352.81	354.67	351.46	356.39	343.24	333.86	288.35		
4829.54	291.50	296.37	302.25	310.45	319.39	324.32	327.51	326.41	325.25	325.67	322.93
	353.14	348.04	352.78	354.67	351.56	356.55	343.44	334.05	288.35		
4832.89	291.60	296.46	302.50	310.80	319.85	324.61	327.60	326.40	325.23	325.62	322.88
	352.94	347.98	352.13	354.55	351.45	356.51	343.47	334.10	288.35		
4836.19	291.69	296.64	302.76	311.25	320.40	324.90	327.71	326.44	325.23	325.62	322.87
	352.95	347.78	352.24	354.53	351.37	356.55	343.50	334.15	288.35		
4839.59	291.78	296.81	303.05	311.71	320.83	325.14	327.85	326.47	325.21	322.48	322.84
	352.94	347.84	352.29	354.57	351.35	356.61	343.52	334.20	288.35		
4843.11	291.88	297.00	303.37	312.20	321.28	325.45	328.03	326.54	325.24	322.50	322.86
	352.96	347.90	352.33	354.64	352.65	356.45	343.57	334.27	288.35		
4846.73	292.00	297.21	303.73	312.77	321.76	325.82	328.26	326.67	325.34	322.96	322.96
	353.06	348.04	352.46	354.81	352.82	356.57	343.77	334.48	288.35		
4850.74	292.11	297.43	304.09	313.34	322.22	326.12	328.46	326.83	325.48	323.11	323.12
	353.05	348.10	352.45	354.81	352.88	356.55	344.35	335.03	288.35		
4854.15	292.23	297.66	304.46	313.72	322.62	326.34	328.59	326.94	325.59	323.23	323.23
	353.07	348.21	352.48	354.83	352.94	356.56	344.52	335.24	288.35		
4857.61	292.35	297.91	304.87	314.30	323.08	326.58	328.74	327.09	325.69	323.33	323.32
	353.10	348.37	352.54	354.86	353.00	356.58	344.70	335.46	288.35		
4861.01	292.48	298.17	305.29	314.84	323.55	326.83	328.91	327.21	325.78	323.42	323.38
	353.12	348.48	352.63	354.92	353.06	356.59	344.87	335.66	288.35		
4863.92	292.60	298.42	305.69	315.40	323.90	327.66	329.01	327.27	325.81	323.46	323.41
	353.10	348.57	352.71	354.99	353.12	356.54	345.01	335.85	288.35		
4867.27	292.73	298.68	306.13	316.02	324.36	327.91	329.13	327.39	325.91	323.57	323.50
	353.16	348.72	352.80	355.05	353.18	356.51	345.17	336.07	288.35		
4870.63	292.86	299.06	306.60	316.66	324.87	328.21	329.34	327.61	326.11	323.77	323.70
	353.31	348.94	353.51	355.22	353.36	356.58	345.47	336.43	288.35		
4873.81	293.01	299.34	307.05	317.24	325.35	328.51	329.56	327.83	326.33	323.99	323.92
	353.33	349.42	353.45	355.26	353.45	356.52	345.73	336.77	288.35		
4877.05	293.15	299.62	307.11	317.72	325.78	328.80	329.82	328.06	326.54	324.21	324.13
	353.39	349.56	353.50	355.30	353.57	356.50	346.00	337.10	288.35		
4880.29	293.28	299.89	307.48	318.09	326.09	329.03	330.02	328.22	326.69	324.35	324.25
	353.38	349.63	353.54	355.32	352.37	356.70	345.91	337.40	288.35		
4883.59	293.40	300.12	307.77	318.34	326.32	329.16	330.09	328.27	326.72	324.36	324.28
	353.26	349.60	353.45	355.21	352.29	356.58	345.99	336.86	288.35		
4886.88	293.52	300.32	308.02	318.58	326.55	329.26	330.13	328.27	326.71	324.37	324.28
	353.23	349.63	353.52	355.28	352.34	356.61	345.69	336.66	288.35		
4890.18	293.65	300.50	308.25	319.03	326.78	329.37	330.20	328.34	326.74	324.41	324.28
	353.23	349.63	353.53	355.29	352.38	356.63	345.77	336.80	288.35		
4893.47	293.76	300.67	308.44	319.20	326.94	329.56	330.38	328.50	326.88	324.54	324.28
	353.26	349.56	353.47	355.26	352.43	356.68	345.86	336.93	288.35		
4896.77	293.88	300.83	308.60	319.33	327.15	329.78	330.61	328.70	327.06	324.68	324.28
	353.34	349.57	353.44	355.22	352.46	356.78	345.96	337.06	288.36		
4900.01	294.00	300.98	308.74	319.41	327.37	329.39	330.86	328.88	327.25	324.82	324.28
	353.46	349.61	353.44	355.22	352.49	356.91	346.07	337.19	288.36		
4903.20	294.12	301.11	308.83	319.43	327.50	329.55	331.05	329.02	327.35	324.89	324.28
	353.54	349.66	353.45	355.24	352.54	357.04	346.18	337.32	288.36		
4906.49	294.15	301.22	308.91	319.52	327.64	329.69	331.19	329.10	327.42	324.94	324.28
	353.58	349.68	353.46	355.26	352.58	357.15	346.30	337.44	288.36		

4909.79	293.91	300.99	308.68	319.32	327.43	329.44	330.92	328.79	327.10	324.63	324.28
	353.34	349.39	353.34	355.08	353.70	357.01	346.13	337.25	288.00		
4913.08	293.68	300.77	308.83	319.26	327.23	329.20	330.64	328.48	326.80	324.36	324.28
	353.28	349.30	353.26	355.08	353.68	357.01	345.96	337.06	287.65		
4916.38	293.79	300.90	309.02	319.58	327.42	329.30	330.70	328.54	326.87	324.46	324.28
	353.53	353.02	356.75	355.32	353.90	357.25	346.42	337.20	287.66		
4919.62	293.36	301.04	309.23	319.90	327.60	329.42	330.79	328.61	326.96	324.61	324.28
	353.66	353.08	356.80	355.42	353.99	357.14	346.53	338.49	287.67		
4922.80	293.48	301.19	309.44	320.17	327.72	329.49	330.85	328.66	327.02	324.65	324.36
	353.63	353.11	356.74	355.39	354.01	357.02	346.63	338.63	287.67		
4926.87	293.60	301.36	309.68	320.39	327.82	329.56	330.89	327.23	327.07	324.68	324.41
	353.61	353.18	356.77	355.42	354.03	356.98	346.72	338.76	287.67		
4930.16	293.70	301.52	309.91	320.66	327.93	329.60	330.90	327.23	327.10	324.72	324.46
	353.62	353.28	356.85	355.46	354.01	356.94	346.80	338.87	287.66		
4932.91	293.80	301.67	310.12	320.90	327.95	329.58	330.85	327.17	327.05	324.70	324.47
	353.59	353.36	356.92	355.53	354.05	356.91	346.89	338.99	287.66		
4935.93	293.90	301.82	310.33	321.18	327.97	329.56	330.84	327.18	327.07	324.75	324.52
	353.56	353.39	356.94	355.55	354.08	356.84	346.96	339.11	287.66		
4939.17	294.01	301.97	310.55	321.46	328.07	329.62	330.91	327.26	327.17	324.86	324.62
	353.57	353.42	356.93	355.52	354.11	356.80	347.03	339.23	287.69		
4942.36	294.18	302.10	310.73	321.58	328.02	329.69	331.03	327.38	327.28	324.98	324.76
	353.60	353.46	356.89	355.51	354.15	356.84	347.11	339.35	287.70		
4945.54	294.62	302.57	311.18	321.94	328.47	330.14	331.51	327.85	327.73	325.41	325.20
	353.94	353.78	357.11	355.74	353.11	357.17	347.51	339.78	288.05		
4948.67	295.06	303.02	311.58	322.20	328.90	330.58	331.94	328.29	328.13	325.77	325.57
	354.04	353.91	357.23	359.17	353.20	357.32	347.88	340.19	288.41		
4951.91	295.15	303.10	311.58	322.14	328.96	330.65	331.99	328.34	328.14	325.72	325.55
	353.78	350.23	353.75	358.94	353.01	357.16	347.93	340.29	288.41		
4955.21	295.79	303.18	311.61	322.16	329.06	330.69	332.03	328.37	328.14	325.66	325.52
	353.66	350.23	353.75	358.87	352.96	357.36	347.99	339.92	288.42		
4958.45	295.88	323.25	311.65	322.25	329.26	330.79	332.11	328.45	328.20	324.38	325.55
	353.73	350.27	353.84	358.91	352.99	357.52	348.08	340.01	288.44		
4961.64	295.98	303.32	311.70	322.34	329.43	330.92	332.22	330.00	328.29	324.45	325.60
	353.79	350.29	353.86	358.92	352.98	357.60	348.17	340.10	288.45		
4964.82	296.07	303.40	311.77	322.40	329.53	330.97	332.27	330.04	328.30	324.46	325.61
	353.82	350.31	353.88	358.92	353.01	357.66	348.25	340.18	288.45		
4968.06	296.16	303.50	311.84	322.47	329.66	331.07	332.37	330.14	328.41	324.54	325.68
	353.84	350.29	353.85	358.91	353.01	357.67	348.33	340.26	288.45		
4971.25	296.26	303.59	311.91	322.50	329.81	331.18	332.45	330.21	328.47	324.59	325.71
	353.85	350.29	353.85	358.90	353.00	357.72	348.41	340.35	288.44		
4974.43	296.35	303.69	311.97	322.54	329.90	331.24	332.46	330.22	328.48	324.59	325.70
	353.85	350.30	353.88	358.95	353.00	357.79	348.49	340.44	288.42		
4977.57	296.45	303.79	312.06	322.69	330.13	331.30	332.46	330.22	328.48	324.58	325.67
	353.86	350.32	353.96	358.98	352.99	357.78	348.75	340.52	288.42		
4980.70	296.55	303.88	312.18	322.86	330.18	331.33	332.46	330.21	328.49	324.61	325.67
	353.30	350.29	353.98	358.97	352.98	357.74	348.83	340.60	288.42		
4983.94	296.64	303.96	312.28	322.98	330.19	331.32	332.44	330.18	328.48	324.62	325.68
	353.28	350.30	354.00	355.57	352.98	357.73	348.88	340.68	288.43		
4987.12	296.74	304.09	312.53	323.36	330.23	331.40	332.60	330.37	328.70	324.86	325.90
	353.66	350.53	354.22	355.88	353.29	357.80	348.99	340.78	288.43		
4990.31	296.84	304.20	312.77	323.67	330.21	331.50	332.75	330.53	328.87	325.04	326.07
	353.62	350.44	354.07	355.74	353.20	357.66	349.05	340.88	288.43		
4993.49	296.91	304.33	312.99	323.87	330.15	331.57	332.84	330.60	328.94	326.41	326.14
	353.61	350.45	354.05	355.72	353.23	357.60	349.08	340.97	288.42		
4996.68	296.98	304.46	313.23	324.14	330.16	331.60	332.89	330.67	328.99	326.46	326.20
	353.50	350.35	353.88	355.59	353.19	357.43	349.10	341.05	288.43		
4999.86	297.07	304.60	313.45	324.31	330.14	331.69	332.99	330.75	329.09	326.53	326.26
	353.14	350.03	353.45	355.23	352.98	356.96	349.08	341.14	288.44		
5010.63	297.15	304.74	313.61	324.35	330.02	331.78	333.04	330.77	329.08	326.53	326.24
	352.55	349.60	352.86	354.71	352.66	356.15	349.05	341.22	288.44		
5014.15	297.24	304.88	313.74	324.46	329.90	331.79	333.02	330.75	329.05	326.51	326.21
	351.82	349.10	352.17	354.04	352.23	355.38	348.98	341.30	288.44		
5016.73	297.32	304.99	313.87	324.48	329.67	331.63	332.86	330.63	328.95	326.44	326.14
	350.94	348.55	351.37	353.24	351.72	354.54	348.87	341.36	288.44		

5019.25	297.41	304.83	313.97	324.36	329.28	331.31	332.58	330.46	328.81	326.32	326.02
	349.96	347.95	350.52	352.38	351.16	353.68	348.56	341.41	288.44		
5021.84	297.51	304.95	314.03	324.20	328.87	330.94	332.28	330.29	328.66	326.21	325.92
	349.45	347.32	349.65	351.45	350.56	352.75	348.39	341.44	288.44		
5024.36	297.62	305.07	314.06	323.98	328.44	330.54	331.94	330.08	328.49	326.09	325.81
	348.38	346.66	348.74	350.48	349.92	351.77	348.22	341.47	288.43		
5026.94	297.71	305.12	313.91	323.44	327.98	330.04	331.40	329.62	328.09	325.75	325.51
	346.92	345.79	347.61	349.18	348.97	350.71	348.00	341.46	288.42		
5029.47	297.78	305.15	313.69	322.82	327.45	329.46	330.81	329.14	327.68	325.42	325.22
	345.80	345.15	346.77	348.23	348.34	349.79	347.78	341.43	288.40		
5032.05	297.86	305.12	313.43	322.18	326.77	328.77	330.17	328.65	327.33	325.15	324.98
	344.62	344.39	345.77	347.13	347.56	348.78	347.57	341.39	288.38		
5034.58	297.94	305.05	313.06	321.32	325.88	327.96	329.43	328.10	326.92	324.83	324.70
	343.50	343.73	344.91	346.12	346.86	347.90	347.35	341.34	288.36		
5037.16	298.00	304.93	312.62	320.49	325.04	327.07	328.62	327.52	326.49	324.52	324.44
	342.61	343.26	344.30	345.32	346.28	347.30	347.15	341.28	288.34		
5039.69	298.05	304.77	312.18	319.78	324.34	326.27	327.96	327.08	326.15	324.27	324.25
	341.91	342.87	343.83	344.66	345.79	347.02	346.96	341.21	288.34		
5042.27	298.10	304.59	311.74	318.97	323.53	325.48	327.33	326.65	325.80	323.98	324.00
	341.31	342.53	343.46	344.14	345.40	346.67	346.77	341.13	288.32		
5044.79	298.13	304.39	311.26	318.15	322.70	324.74	326.73	326.22	325.45	323.69	323.75
	340.80	342.21	343.14	343.71	345.08	346.32	346.60	341.03	288.31		
5047.38	298.12	304.46	310.77	317.37	321.88	324.02	326.12	325.74	325.08	323.36	323.48
	340.33	341.91	342.85	343.34	344.80	345.99	346.43	340.94	288.30		
5049.90	298.12	304.23	310.27	316.58	321.09	323.27	325.44	325.21	324.67	323.03	323.21
	339.89	341.62	342.58	343.02	344.54	345.70	346.26	340.84	288.29		
5052.48	298.12	303.99	309.80	315.90	320.53	322.74	324.97	324.89	324.40	322.80	323.01
	339.50	341.32	342.29	342.70	344.29	345.42	346.09	340.72	288.28		
5055.01	298.15	303.75	309.33	315.24	319.89	322.20	324.55	324.62	324.16	322.58	322.79
	339.09	341.00	341.99	342.40	344.06	345.16	345.91	340.60	288.27		
5057.59	298.13	303.52	308.88	314.60	319.23	321.64	324.11	324.35	323.94	322.36	322.56
	338.71	340.70	341.71	342.13	343.85	344.93	345.74	340.48	288.26		
5060.12	298.12	303.29	308.45	314.01	318.61	321.10	323.69	324.11	323.73	322.14	322.34
	338.34	340.41	341.46	342.55	343.64	344.72	345.57	340.36	288.50		
5062.70	298.12	304.28	309.00	314.42	319.00	321.54	324.23	324.80	324.45	322.86	323.05
	338.89	341.01	342.09	343.53	344.33	345.39	346.28	341.11	289.71		
5065.23	298.12	305.27	309.80	315.06	319.52	322.16	324.94	325.65	325.38	323.76	323.94
	339.64	341.82	342.95	344.39	345.23	346.28	347.21	342.08	290.92		
5067.81	298.12	305.27	310.60	315.66	320.32	322.69	325.49	326.38	326.21	324.63	324.82
	340.44	342.68	343.83	345.26	346.12	347.18	348.14	343.04	292.14		
5070.33	298.12	305.27	311.36	316.29	321.16	323.38	326.18	327.20	327.09	325.55	325.73
	341.18	343.41	344.56	346.01	346.89	347.96	348.95	343.89	293.33		
5072.92	298.12	305.27	312.16	317.03	322.00	324.20	327.08	328.19	328.05	326.53	326.69
	341.94	344.09	345.25	346.74	347.64	348.74	349.75	344.74	294.52		
5075.50	298.12	305.27	312.53	317.37	322.40	324.62	327.62	328.80	328.60	327.07	327.20
	342.25	344.33	345.48	347.02	347.97	349.09	350.13	345.15	295.24		
5078.19	298.12	305.27	312.23	317.01	321.97	324.33	327.45	328.68	328.45	326.88	326.99
	341.89	343.90	345.06	346.66	347.66	348.78	349.85	344.91	295.23		
5080.72	298.12	305.27	311.93	316.55	321.27	323.77	326.76	328.30	328.18	326.59	326.70
	341.51	343.50	344.69	346.33	347.37	348.50	349.58	344.67	295.22		
5083.30	298.12	305.27	311.63	316.08	320.60	323.13	325.96	327.85	327.85	326.28	326.41
	341.17	343.15	344.37	346.05	347.10	348.24	349.33	344.45	295.21		
5085.82	298.12	305.27	311.35	315.61	319.98	322.52	325.30	327.42	327.53	325.99	326.17
	340.89	342.90	344.16	345.86	346.94	348.06	349.17	344.32	295.20		
5088.40	298.12	305.27	311.06	315.15	319.39	321.92	324.71	327.03	327.22	325.74	325.94
	340.60	342.65	343.95	345.00	346.78	347.88	349.01	344.17	294.96		
5090.93	298.12	305.27	309.82	313.76	317.86	320.50	323.23	325.74	326.02	324.58	324.83
	339.45	341.52	342.86	343.60	345.73	346.82	347.96	343.15	293.75		
5093.51	298.12	305.09	308.34	312.16	316.18	318.77	321.58	324.27	324.64	323.23	323.52
	338.10	340.20	341.56	342.31	344.46	345.54	346.70	341.91	292.53		
5096.04	298.12	303.74	306.88	310.54	314.09	316.96	319.89	322.76	323.27	321.85	322.15
	336.74	338.87	340.25	341.03	343.19	344.28	345.43	340.66	291.31		
5098.62	298.12	302.43	305.45	308.88	311.98	314.96	317.98	321.12	321.86	320.43	320.80
	335.45	337.72	339.11	339.88	342.08	343.14	344.30	339.53	290.13		

5101.15	298.12	301.12	304.00	307.16	309.92	312.89	315.92	319.38	320.39	318.99	319.43
	334.20	336.61	338.03	338.77	340.98	342.01	343.17	338.39	288.94		
5103.73	297.32	300.27	302.99	305.89	308.39	311.27	314.29	318.08	319.37	318.03	318.54
	333.40	335.96	337.40	338.11	340.31	341.33	342.47	337.69	288.24		
5106.26	297.31	300.12	302.67	305.33	307.61	310.39	313.40	317.52	319.07	317.78	318.36
	333.29	336.14	337.44	338.10	340.29	341.30	342.42	337.64	288.27		
5108.84	297.30	299.96	302.33	304.77	306.88	309.58	312.88	317.07	318.82	317.54	318.18
	333.18	336.14	337.48	338.10	340.27	341.26	342.37	337.60	288.30		
5111.36	297.44	299.79	301.98	304.21	306.14	308.75	312.39	316.66	318.60	317.34	318.03
	333.05	336.11	337.49	338.09	340.23	341.21	342.30	337.53	288.33		
5113.95	297.40	299.60	301.62	303.67	305.46	308.01	311.81	316.26	318.39	317.14	317.87
	332.90	336.02	337.41	337.99	340.12	341.08	342.15	337.40	288.36		
5116.47	297.37	299.41	301.27	303.16	304.83	307.35	311.24	315.89	318.21	316.96	317.75
	332.77	335.92	337.32	337.89	340.00	340.95	342.01	337.26	288.38		
5119.05	297.33	299.22	300.92	302.65	304.26	306.66	310.70	315.54	318.01	316.78	317.61
	332.63	335.80	337.22	337.80	339.88	340.82	341.87	337.13	288.40		
5121.58	297.28	299.03	300.59	302.18	303.73	306.15	310.22	315.22	317.83	316.63	317.48
	332.48	335.68	337.13	337.71	339.77	340.69	341.73	337.00	288.41		
5124.16	297.22	298.84	300.28	301.74	303.23	305.66	309.78	314.93	317.65	316.48	317.36
	332.32	335.56	337.04	337.61	339.66	340.55	341.59	336.87	288.42		
5126.69	297.16	298.65	299.98	301.34	302.77	305.20	309.37	314.66	317.47	316.33	317.24
	332.15	335.44	336.94	337.52	339.54	340.42	341.45	336.74	288.42		
5129.27	297.09	298.46	299.68	300.96	302.33	304.77	308.99	314.40	317.30	316.19	317.11
	331.99	335.32	336.84	337.43	339.41	340.28	341.31	336.60	288.42		
5131.80	297.03	298.28	299.40	300.60	301.94	304.38	308.66	314.15	317.12	316.05	317.00
	331.57	335.19	336.74	337.34	339.29	340.14	341.16	336.47	288.41		
5134.38	296.97	298.10	299.13	300.26	301.57	304.03	308.34	313.90	316.95	315.92	317.25
	331.40	334.90	336.64	337.24	339.17	340.00	341.02	336.34	288.39		
5136.90	296.90	297.93	298.87	299.95	301.23	303.68	308.03	313.67	316.79	315.81	317.16
	331.25	334.78	336.54	337.12	339.04	339.86	340.87	336.20	288.37		
5139.49	296.83	297.77	298.63	299.65	300.92	303.41	307.75	313.42	316.58	315.67	317.04
	331.09	334.64	336.44	336.99	338.91	339.72	340.73	336.06	288.35		
5142.01	296.76	297.63	298.41	299.37	300.62	303.14	307.48	313.19	316.39	315.52	316.89
	330.91	334.49	336.32	336.86	338.78	339.57	340.58	335.92	288.32		
5144.59	296.68	297.48	298.20	299.11	300.35	302.88	307.24	312.97	316.20	315.37	316.74
	330.73	334.54	338.99	339.16	338.63	339.44	340.44	335.78	288.30		
5147.12	296.61	297.35	298.00	298.88	300.11	302.64	306.99	312.76	316.01	315.23	316.60
	330.54	334.40	338.85	339.04	338.50	339.30	340.31	335.64	288.29		
5149.70	296.55	297.22	297.81	298.65	299.87	302.41	306.75	312.55	315.84	315.07	316.46
	330.36	334.24	338.71	338.93	338.37	339.17	340.17	335.51	288.27		
5152.23	296.51	297.11	297.64	298.45	299.65	302.19	306.53	312.35	315.66	314.93	316.34
	330.20	334.08	338.59	338.81	338.24	339.05	340.04	335.38	288.25		
5154.81	296.47	297.01	297.48	298.26	299.45	302.00	306.32	312.17	315.48	314.78	316.20
	330.05	333.91	338.47	338.69	338.11	338.92	339.91	335.25	288.23		
5157.39	296.43	296.92	297.33	298.08	299.26	301.81	306.13	311.99	315.31	314.64	316.07
	329.89	333.75	338.34	338.56	337.99	338.79	339.78	335.13	288.21		
5159.92	296.39	296.82	297.19	297.91	299.08	301.63	305.93	311.82	315.15	314.49	315.93
	329.98	333.58	338.20	338.42	337.88	338.67	339.65	335.01	288.20		
5162.50	296.24	296.73	297.06	297.74	298.91	301.45	305.74	311.66	315.00	314.34	315.44
	329.80	333.42	338.04	338.28	337.76	338.55	339.53	334.89	288.19		
5165.03	295.94	296.64	296.93	297.58	298.74	301.29	305.56	311.48	314.83	314.19	315.31
	329.63	333.26	337.88	338.16	337.63	338.43	339.41	334.78	288.17		
5167.61	295.67	296.54	296.81	297.44	298.59	301.13	305.39	311.33	314.69	314.05	315.20
	329.47	333.12	337.72	338.02	337.51	338.75	339.28	334.67	288.99		
5170.13	295.63	296.44	296.69	297.30	298.45	300.97	305.22	311.18	314.55	313.92	315.08
	329.32	332.99	337.57	337.88	337.38	338.61	339.16	334.56	288.97		
5172.72	295.58	296.35	296.56	297.16	298.30	300.82	305.06	311.03	314.42	313.81	314.97
	329.17	332.66	334.63	335.32	337.08	338.46	339.04	334.45	288.96		
5175.30	295.53	296.26	296.44	297.02	298.15	300.67	304.91	310.89	314.29	313.68	314.84
	329.02	332.52	334.50	335.18	336.96	338.32	338.92	334.34	288.94		
5177.82	295.47	296.18	296.34	296.89	298.02	300.54	304.77	310.76	314.17	313.56	314.69
	328.86	332.37	334.36	335.03	336.83	338.18	338.80	334.22	289.18		
5180.41	295.41	296.10	296.34	296.76	297.91	300.42	304.65	310.64	314.05	313.43	314.55
	328.70	332.20	334.20	334.90	336.71	338.04	338.65	334.11	289.18		

5182.93	295.35	296.02	296.31	296.66	297.80	300.30	304.53	310.51	313.94	313.32	314.44
	328.54	332.03	334.03	334.77	336.59	337.90	338.52	333.99	289.18		
5185.51	295.29	295.93	296.22	296.56	297.70	300.19	304.42	310.40	313.84	313.22	314.34
	328.39	331.86	333.86	334.63	336.47	337.78	338.40	333.88	289.18		
5188.04	295.23	295.86	296.14	296.47	297.61	300.09	304.32	310.29	313.72	313.14	314.25
	328.25	331.69	333.69	334.51	336.34	337.65	338.28	333.76	289.18		
5190.62	295.26	295.79	296.06	296.38	297.52	300.00	304.23	310.18	313.62	313.09	314.19
	328.10	331.54	333.54	334.39	336.22	337.52	338.15	333.65	289.19		
5193.15	295.46	295.73	295.99	296.32	297.45	299.92	304.13	310.08	313.51	313.02	314.12
	327.96	331.39	333.37	334.24	336.09	337.40	338.03	333.53	289.20		
5195.73	295.63	295.69	295.94	296.25	297.38	299.84	304.05	309.98	313.41	312.95	314.04
	327.84	331.24	333.20	334.09	335.96	336.83	337.91	333.42	288.38		
5198.26	295.59	295.64	295.88	296.18	297.31	299.77	303.96	309.89	313.32	312.87	313.99
	327.71	331.06	333.02	333.93	335.83	336.72	337.78	333.31	288.40		
5200.84	295.54	295.59	295.82	296.12	297.24	299.70	303.88	309.80	313.23	312.80	313.94
	327.58	330.89	332.85	333.76	335.87	336.61	337.66	333.20	288.41		
5203.36	295.50	295.54	295.78	296.07	297.18	299.64	303.80	309.72	313.15	312.74	313.89
	327.47	330.72	332.65	333.60	335.74	336.49	337.54	333.10	288.43		
5205.95	295.45	295.50	295.73	296.02	297.13	299.57	303.73	309.62	313.07	312.67	313.87
	327.38	330.55	332.45	333.43	335.57	336.35	337.41	332.99	288.20		
5208.53	295.41	295.46	295.51	295.97	297.07	299.50	303.66	309.54	312.98	312.61	313.84
	327.28	330.40	332.25	333.24	335.39	336.21	337.30	332.88	288.20		
5211.05	295.38	295.42	295.47	295.92	297.01	299.44	303.57	309.46	312.90	312.54	313.80
	327.17	330.24	332.08	333.05	335.22	336.06	337.18	332.78	288.22		
5213.63	295.34	295.38	295.42	295.87	296.95	299.37	303.49	309.37	312.82	312.46	313.73
	327.06	330.10	331.93	332.86	335.05	335.90	337.05	332.68	288.24		
5216.16	295.31	295.34	295.37	295.82	296.89	299.31	303.42	309.29	312.73	312.38	313.66
	326.95	329.98	331.77	332.66	334.88	335.74	336.91	332.58	288.26		
5218.74	295.28	295.30	295.33	295.77	296.84	299.24	303.34	309.20	312.64	312.29	313.56
	326.85	329.83	331.62	332.47	334.71	335.58	336.76	332.47	288.28		
5221.27	295.25	295.26	295.28	295.72	296.78	299.18	303.27	309.11	312.56	312.19	313.45
	326.74	329.68	331.48	332.30	334.54	335.41	336.61	332.36	288.29		
5223.85	295.20	295.21	295.22	295.66	296.72	299.12	303.19	309.02	312.47	312.09	313.33
	326.63	329.55	331.36	332.16	334.36	335.24	336.45	332.25	288.29		
5226.38	295.16	295.16	295.17	295.60	296.66	299.05	303.12	308.93	312.37	311.98	313.22
	326.53	329.43	331.22	332.02	334.19	335.07	336.30	332.12	288.29		
5228.96	295.12	295.11	295.12	295.55	296.61	298.99	303.05	308.83	312.26	311.87	313.10
	326.44	329.31	331.09	331.87	334.02	334.90	336.13	331.99	288.28		
5231.49	295.09	295.06	295.07	295.48	296.25	298.92	302.97	308.73	312.15	311.75	312.98
	326.32	329.21	330.99	331.71	333.84	334.73	335.97	331.86	288.27		
5234.07	295.04	295.00	295.01	295.43	296.19	298.86	302.90	308.64	312.04	311.63	312.85
	326.20	329.12	330.89	331.56	333.69	334.58	335.81	331.73	288.26		
5236.59	295.00	294.94	294.95	295.38	296.13	298.80	302.82	308.56	311.95	311.52	312.72
	326.05	329.03	330.80	331.42	333.55	334.44	335.64	331.59	288.25		
5239.18	294.95	294.89	294.89	295.33	296.07	298.74	302.75	308.49	311.87	311.44	312.60
	325.91	328.94	330.69	331.31	333.41	334.29	335.47	331.45	288.24		
5241.70	294.91	294.84	294.85	295.27	296.02	298.68	302.69	308.42	311.80	311.36	312.50
	325.76	328.83	330.56	331.20	333.27	334.13	335.31	331.31	288.23		
5244.28	294.86	294.80	294.79	295.21	295.96	298.61	302.61	308.35	311.74	311.27	312.43
	325.62	328.69	330.44	331.09	333.13	333.98	335.15	331.17	288.22		
5246.81	294.83	294.75	294.73	295.16	295.91	298.56	302.55	308.30	311.69	311.19	312.36
	325.48	328.55	330.30	330.98	332.98	333.83	335.00	331.02	288.22		
5249.39	294.80	294.71	294.86	295.10	295.86	298.52	302.50	308.24	311.63	311.11	312.28
	325.34	328.42	330.16	330.86	332.86	333.69	334.86	330.88	288.23		
5251.92	294.76	294.68	294.82	295.06	295.81	298.48	302.45	308.18	311.57	311.03	312.20
	325.19	328.27	330.03	330.74	332.73	333.56	334.72	330.74	288.24		
5254.50	294.72	294.64	294.78	295.02	295.78	298.44	302.40	308.12	311.52	310.97	312.13
	325.01	328.10	329.89	330.62	332.61	333.43	334.58	330.61	288.25		
5257.03	294.69	294.60	294.75	294.98	295.74	298.40	302.36	308.06	311.47	310.93	312.07
	324.83	327.93	329.74	331.80	332.50	333.31	334.44	330.48	288.27		
5259.61	294.66	294.57	294.72	294.96	296.02	298.37	302.32	308.00	311.42	310.90	312.00
	324.68	327.77	329.60	331.68	332.40	333.20	334.32	330.36	288.32		
5262.13	294.64	294.55	294.69	294.92	295.99	298.34	302.27	307.94	311.37	310.87	311.94
	324.53	327.61	329.45	331.57	332.29	333.08	334.20	330.24	288.36		

5264.72	294.61	294.52	294.66	294.88	295.96	298.30	302.24	307.87	311.30	310.82	311.87
	324.40	327.45	329.30	331.45	332.18	332.98	334.08	330.12	288.38		
5267.41	294.58	294.49	294.62	294.85	295.92	298.24	302.19	307.79	311.21	310.75	311.81
	324.26	327.30	329.16	331.32	332.05	332.88	333.97	330.00	288.39		
5269.99	294.56	294.46	294.59	294.83	295.89	298.20	302.15	307.71	311.12	310.68	311.73
	324.13	327.17	329.03	331.19	331.93	332.78	333.86	329.88	288.40		
5272.52	294.54	294.42	294.56	294.80	295.87	298.17	302.10	307.62	311.01	310.60	311.63
	324.00	327.04	328.91	331.07	331.81	332.67	333.75	329.77	288.40		
5275.10	294.51	294.39	294.54	294.78	295.27	298.14	302.06	307.54	310.90	310.50	311.51
	323.88	326.91	328.78	330.96	331.69	332.56	333.62	329.66	288.40		
5277.62	294.49	294.37	294.34	294.76	295.25	298.10	302.01	307.45	310.80	310.40	311.41
	323.76	326.78	328.66	330.85	331.57	332.45	333.50	329.55	288.40		
5280.20	294.48	294.34	294.32	294.74	295.24	298.07	301.96	307.36	310.69	310.30	311.31
	323.63	326.66	328.54	330.74	331.45	332.34	333.38	329.44	288.41		
5282.73	294.47	294.32	294.30	294.72	295.21	298.04	301.90	307.26	310.57	310.19	311.21
	323.51	326.56	328.43	330.63	331.32	332.21	333.26	329.33	288.42		
5285.31	294.46	294.30	294.28	294.70	295.16	298.00	301.83	307.17	310.47	310.06	311.10
	322.73	326.48	328.32	329.22	331.19	332.08	333.14	329.22	288.43		
5287.84	294.44	294.28	294.26	294.67	295.13	297.96	301.77	307.09	310.37	309.94	311.00
	322.59	326.37	328.21	329.11	331.06	331.95	333.02	329.11	288.40		
5290.42	294.42	294.24	294.23	294.65	295.10	297.93	301.72	307.00	310.27	309.83	310.90
	322.44	326.26	328.10	329.00	330.94	331.82	332.89	329.00	288.39		
5292.95	294.40	294.22	294.21	294.62	295.08	297.90	301.60	306.93	310.19	309.74	310.83
	322.29	326.15	328.01	328.89	330.82	331.68	332.76	328.89	288.39		
5295.53	294.38	294.19	294.19	294.59	295.07	297.89	301.51	306.87	310.11	309.65	310.72
	322.16	326.04	327.91	328.78	330.70	331.53	332.64	328.78	288.39		
5298.06	294.36	294.17	294.18	294.56	295.05	297.87	301.44	306.80	310.03	309.54	310.60
	322.03	325.94	327.81	328.66	330.58	331.38	332.50	328.67	288.39		
5300.64	294.36	294.15	294.16	294.54	295.02	297.84	301.39	306.73	309.96	309.44	310.48
	321.90	325.85	327.70	328.54	330.45	331.24	332.37	329.12	289.11		
5303.16	294.36	294.15	294.16	294.54	294.23	296.48	300.02	305.37	308.60	308.06	309.10
	320.50	324.52	326.34	327.18	329.09	329.86	331.01	327.76	289.82		
5305.75	294.36	294.15	294.16	294.54	292.87	295.11	298.66	304.01	307.25	306.70	307.73
	319.09	323.18	324.99	325.81	327.72	328.48	329.63	326.40	290.54		
5308.27	294.36	294.15	294.16	294.54	292.04	294.28	297.83	303.17	306.42	305.86	306.89
	318.22	322.34	324.14	324.95	326.84	327.59	328.74	325.52	289.73		
5310.85	294.36	294.15	294.16	294.54	292.02	294.24	297.78	303.11	306.37	305.81	306.83
	318.12	322.25	324.03	324.83	326.71	327.44	328.59	325.40	289.72		
5313.43	294.36	294.15	294.16	294.54	292.00	294.20	297.72	303.05	306.31	305.77	306.77
	318.69	322.14	323.92	324.71	326.56	327.29	328.44	325.28	289.71		
5315.96	294.36	294.15	294.16	294.54	291.97	294.16	297.68	302.99	306.25	305.71	306.70
	318.58	322.03	323.80	324.61	326.41	327.14	328.29	325.15	289.70		
5318.54	294.36	294.15	294.16	294.54	291.94	294.12	297.62	302.92	306.19	305.65	306.64
	318.48	321.90	323.68	324.51	326.27	326.99	328.13	325.02	289.70		
5321.07	294.36	294.15	294.16	294.54	291.90	294.07	297.62	302.84	306.11	305.59	305.85
	318.39	321.77	323.56	324.40	326.12	326.84	327.97	324.88	289.70		
5323.65	294.36	294.15	294.16	294.54	291.86	294.02	297.60	302.76	306.03	305.52	305.80
	318.30	321.63	323.44	324.29	325.98	326.70	327.80	324.74	289.70		
5326.18	294.36	294.15	294.16	294.54	291.80	293.97	297.54	302.67	305.94	305.46	305.75
	318.20	321.49	323.32	324.16	325.86	326.56	327.65	324.60	289.70		
5328.76	294.36	294.15	294.16	294.54	291.76	293.92	297.47	302.58	305.85	305.40	305.69
	318.10	321.34	323.21	324.03	325.72	326.42	327.50	323.90	288.99		
5331.29	294.36	294.35	294.16	294.54	293.05	295.20	298.72	303.80	307.05	306.63	306.93
	319.28	322.45	324.33	325.12	326.82	327.51	328.58	325.00	288.29		
5333.87	294.36	294.35	294.16	294.54	294.34	296.48	299.96	305.03	308.24	307.86	308.15
	320.44	323.57	325.43	326.21	327.92	328.61	329.67	324.17	287.59		
5336.39	294.36	293.70	294.16	294.13	295.10	297.22	300.67	305.73	308.93	308.57	308.87
	321.10	324.19	326.03	326.80	328.54	329.22	330.27	324.78	288.41		
5338.97	294.36	293.67	294.16	294.10	295.05	297.17	300.61	305.66	308.85	308.50	308.80
	320.99	324.05	325.89	326.65	328.41	329.10	330.13	324.63	288.44		
5341.50	294.36	293.64	294.16	294.05	295.02	297.12	300.56	305.60	308.77	308.43	308.73
	320.88	323.92	325.76	326.50	328.26	328.96	329.98	324.48	288.48		
5344.08	294.36	293.61	294.16	294.02	294.98	297.08	300.50	305.53	308.69	308.38	308.67
	320.78	323.81	325.65	326.34	328.13	328.84	329.85	324.35	288.52		

5346.61	294.36	293.58	294.16	293.99	294.94	297.04	300.45	305.48	308.63	308.32	308.60
	320.67	323.70	325.54	326.20	328.02	328.72	329.72	324.21	288.56		
5349.19	294.36	293.55	294.16	293.96	294.90	297.01	300.41	305.41	308.56	308.25	309.24
	320.56	323.59	325.42	326.05	327.91	328.60	329.60	324.08	288.61		
5351.72	294.36	293.52	293.53	293.94	294.88	296.98	300.36	305.36	308.50	308.20	309.14
	320.45	323.48	325.29	325.91	327.79	328.49	329.48	323.96	288.64		
5354.30	294.36	293.50	293.51	293.92	294.86	296.95	300.32	305.30	308.44	308.14	309.07
	320.35	323.38	325.14	325.77	327.67	328.38	329.36	323.83	288.68		
5356.83	294.36	293.49	293.49	293.90	294.84	296.93	300.28	305.23	308.38	308.10	309.02
	320.24	323.26	325.00	325.64	327.55	328.27	329.23	323.71	288.71		
5359.46	294.36	293.48	293.48	293.87	294.82	296.90	300.24	305.16	308.31	308.04	308.96
	320.13	323.12	324.87	325.51	327.45	328.15	329.10	323.60	288.73		
5361.99	293.34	293.47	293.47	293.84	294.80	296.87	300.20	305.09	308.25	307.99	308.92
	320.02	322.98	324.75	325.39	327.33	328.03	328.97	325.42	288.75		
5364.57	293.49	293.44	293.44	293.82	294.77	296.85	300.16	305.03	308.19	307.93	308.86
	319.90	322.84	324.64	325.28	327.21	327.91	328.84	325.31	288.78		
5367.10	293.46	293.41	293.42	293.81	294.74	296.82	300.12	304.95	308.12	307.88	308.79
	319.78	322.71	324.52	325.17	327.09	327.79	328.72	325.20	288.80		
5369.68	293.43	293.39	293.39	293.80	294.72	296.79	300.07	304.88	308.05	307.80	308.72
	319.66	322.57	324.40	325.05	327.00	327.68	328.59	325.09	288.81		
5372.20	293.40	293.37	293.38	293.79	294.71	296.76	300.03	304.82	307.96	307.71	308.64
	319.54	322.44	324.26	324.94	326.89	327.56	328.46	324.98	288.82		
5374.79	293.38	293.35	293.36	293.78	294.70	296.74	299.99	304.75	307.88	307.62	308.57
	319.44	322.32	324.13	324.83	326.76	327.43	328.34	324.87	288.83		
5377.31	293.37	293.33	293.34	293.77	294.69	296.71	299.94	304.68	307.80	307.53	308.50
	319.35	322.22	324.00	324.71	326.64	327.30	328.21	324.75	288.85		
5379.89	293.35	293.31	293.32	293.76	294.61	296.68	299.90	304.60	307.72	307.44	308.42
	319.23	322.12	323.87	324.60	326.51	327.17	328.08	324.62	288.87		
5382.42	293.33	293.28	293.30	293.74	294.57	296.65	299.87	304.54	307.64	307.37	308.36
	319.10	322.01	323.76	324.49	326.38	327.04	327.96	324.50	288.90		
5385.00	293.31	293.26	293.28	293.73	294.54	296.63	299.83	304.49	307.58	307.30	308.30
	318.98	321.91	323.65	324.39	326.24	326.91	327.83	324.39	288.93		
5387.53	293.29	293.23	293.27	293.72	294.52	296.61	299.80	304.44	307.52	307.24	308.24
	318.85	321.82	323.55	324.29	326.09	326.79	327.71	324.27	288.95		
5390.11	293.27	293.21	293.25	293.72	294.49	296.60	299.77	304.38	307.48	307.19	308.17
	318.72	321.72	323.43	324.18	325.97	326.66	327.59	324.16	288.98		
5392.64	293.24	293.20	293.25	293.71	294.48	296.58	299.74	304.33	307.42	307.13	308.11
	318.61	321.62	323.30	324.05	325.84	326.54	327.48	324.05	288.99		
5395.22	293.23	293.19	293.24	293.70	294.46	296.56	299.71	304.29	307.36	307.08	308.05
	318.49	321.51	323.17	323.92	325.72	326.42	327.36	323.94	289.00		
5397.75	293.23	293.18	293.24	293.68	294.44	296.53	299.67	304.24	307.31	307.04	308.01
	318.38	321.40	323.05	323.80	325.60	326.31	327.25	323.84	289.02		
5400.33	293.14	293.18	293.23	293.66	294.42	296.50	299.64	304.18	307.26	307.00	307.96
	318.27	321.29	322.93	323.69	325.48	326.19	327.13	323.74	289.03		
5402.85	293.10	293.17	293.22	293.64	294.40	296.48	299.61	304.14	307.20	306.95	307.90
	318.17	321.18	322.81	323.56	325.36	326.07	327.01	323.64	289.05		
5405.43	293.07	293.15	293.21	293.62	294.39	296.47	299.60	304.09	307.15	306.91	307.85
	318.08	321.07	322.69	323.44	325.24	325.95	326.89	323.54	289.05		
5407.96	293.05	293.14	293.21	293.62	294.44	296.47	299.57	304.06	307.11	306.87	307.82
	318.00	320.96	322.58	323.33	325.12	325.83	326.78	323.46	289.06		
5410.54	293.03	293.13	293.21	293.61	294.47	296.46	299.54	304.02	307.07	306.83	307.78
	317.91	320.86	322.48	323.22	325.00	325.72	326.66	323.36	289.07		
5413.07	293.00	293.12	293.21	293.61	294.48	296.45	299.53	303.98	307.04	306.78	307.73
	317.84	320.76	322.36	323.10	324.90	325.60	326.54	323.26	289.09		
5415.65	292.98	293.11	293.21	293.61	294.49	296.44	299.51	303.95	306.99	306.74	307.67
	317.77	320.66	322.23	322.98	324.79	325.50	326.42	323.15	289.10		
5418.18	292.96	293.10	293.21	293.61	294.49	296.43	299.49	303.90	306.93	306.68	307.60
	317.70	320.56	322.13	322.88	324.68	325.39	326.29	323.05	289.12		
5420.76	292.94	293.09	293.21	293.61	294.49	296.42	299.47	303.86	306.86	306.61	307.55
	317.62	320.45	322.05	322.80	324.58	325.27	326.16	322.94	289.14		
5423.29	292.92	293.08	293.20	293.62	294.50	296.42	299.46	303.82	306.81	306.55	307.49
	317.54	320.35	321.98	322.72	324.48	325.16	326.04	322.83	289.16		
5425.87	292.89	293.07	293.19	293.62	294.50	296.42	299.46	303.79	306.75	306.48	307.44
	317.48	320.27	321.91	322.63	324.37	325.04	325.91	322.72	289.16		

5428.39	292.93	293.06	293.19	293.62	294.50	296.42	299.45	303.75	306.70	306.42	307.38
	317.42	320.19	321.83	322.54	324.25	324.92	325.78	322.62	289.17		
5430.98	292.94	293.04	293.19	293.62	294.50	296.42	299.43	303.70	306.65	306.37	307.34
	317.35	320.11	321.74	322.46	324.14	324.80	325.65	322.15	289.18		
5433.50	292.94	293.03	293.18	293.61	294.50	296.40	299.40	303.67	306.61	306.32	307.29
	317.28	320.03	321.66	322.37	324.04	324.69	325.52	321.67	289.19		
5436.08	292.92	293.01	293.16	293.60	294.49	296.38	299.38	303.63	306.53	306.27	307.24
	317.20	319.94	321.56	322.26	323.92	324.58	325.39	321.55	289.19		
5438.66	292.90	293.00	293.14	293.60	294.47	296.35	299.35	303.59	306.43	306.21	307.17
	317.12	319.84	321.47	322.12	323.79	324.46	325.27	321.43	289.19		
5441.19	292.89	292.98	293.13	293.59	294.46	296.32	299.32	303.52	306.35	306.14	307.10
	317.02	319.74	321.37	322.00	323.64	324.33	325.14	321.31	289.19		
5443.77	292.87	292.97	293.11	293.57	294.44	296.30	299.28	303.47	306.28	306.08	307.06
	316.91	319.64	321.31	321.89	323.51	324.20	325.02	321.20	289.19		
5446.30	292.85	292.97	293.11	293.56	294.44	296.28	299.24	303.44	306.24	306.05	307.04
	316.85	319.57	321.24	321.79	323.40	324.08	324.91	321.10	289.20		
5448.88	292.84	292.97	293.12	293.56	294.43	296.25	299.18	303.40	306.20	306.02	307.01
	316.79	319.50	321.16	321.69	323.29	323.97	324.80	321.00	289.22		
5451.41	292.84	292.97	293.12	293.55	294.43	296.23	299.14	303.35	306.16	305.98	306.98
	316.74	319.44	321.06	321.58	322.47	323.85	324.70	320.90	289.24		
5454.10	292.84	292.96	293.13	293.56	294.43	296.22	299.10	303.31	306.12	305.95	306.95
	316.66	319.36	320.95	321.48	322.37	323.75	324.59	320.81	289.27		
5456.68	292.84	292.95	293.13	293.56	294.43	296.20	299.07	303.28	306.08	305.92	306.93
	316.57	319.26	320.84	321.37	322.26	323.64	324.49	320.71	289.29		
5459.26	292.82	292.94	293.10	293.55	294.42	296.17	299.04	303.24	306.04	305.87	306.90
	316.46	319.13	320.71	321.25	322.14	323.53	324.38	320.95	289.30		
5461.79	292.82	292.92	293.10	293.54	294.41	296.15	299.01	303.21	305.99	305.83	306.86
	316.36	319.02	320.60	321.14	322.02	323.42	324.27	321.21	289.32		
5464.37	292.76	292.92	293.10	293.54	294.40	296.14	298.98	303.17	305.98	305.79	306.82
	316.26	318.91	320.49	321.05	321.90	323.30	324.16	321.11	289.35		
5466.90	292.72	292.92	293.10	293.54	294.39	296.13	298.96	303.14	305.98	305.75	306.78
	316.18	318.81	320.38	320.96	321.82	323.20	324.06	321.01	289.38		
5469.48	292.70	292.91	293.09	293.54	294.39	296.12	298.94	303.13	305.97	305.72	306.75
	316.12	318.72	320.27	320.87	321.72	323.10	323.95	320.91	289.40		
5472.00	292.68	292.89	293.07	293.53	294.39	296.11	298.93	303.11	305.95	305.68	306.69
	316.05	318.62	320.14	320.76	321.62	323.01	323.85	320.83	289.43		
5474.59	292.65	292.86	293.03	293.52	294.38	296.10	298.92	303.06	305.91	305.62	306.59
	315.96	318.50	320.01	320.64	321.49	322.91	323.73	320.75	289.45		
5477.11	292.62	292.84	293.00	293.51	294.37	296.10	298.92	303.03	305.86	305.55	306.50
	315.85	318.39	319.90	320.54	321.37	322.81	323.62	320.65	289.47		
5479.69	292.60	292.81	292.96	293.50	294.36	296.09	298.91	303.00	305.82	305.50	306.41
	315.73	318.28	319.79	320.44	321.97	322.71	323.51	320.54	289.49		
5482.22	292.57	292.79	292.94	293.48	294.36	296.08	298.90	302.97	305.77	305.44	306.33
	315.63	318.15	319.69	320.34	321.87	322.61	323.40	320.43	289.50		
5484.80	292.54	292.77	292.92	293.48	294.34	296.07	298.89	302.94	305.74	305.40	306.24
	315.53	318.04	319.59	320.25	321.78	322.52	323.30	320.32	289.51		
5487.33	292.54	292.78	292.93	293.49	294.34	296.08	298.90	302.93	305.74	305.39	306.19
	315.45	317.96	319.51	320.16	321.71	322.44	323.22	320.25	289.56		
5489.91	292.54	292.78	292.94	293.49	294.35	296.08	298.90	302.91	305.73	305.39	306.14
	315.36	317.87	319.42	320.07	321.63	322.37	323.14	320.16	289.59		
5492.44	292.60	292.78	292.94	293.49	294.35	296.08	298.90	302.89	305.71	305.38	306.09
	315.27	317.76	319.33	319.97	321.55	322.28	323.04	320.08	289.61		
5495.02	292.62	292.78	292.93	293.48	294.34	296.08	298.89	302.87	305.68	305.36	306.05
	315.19	317.65	319.24	319.87	321.45	322.20	322.96	319.99	289.62		
5497.54	292.63	292.78	292.93	293.48	294.32	296.08	298.88	302.84	305.64	305.32	305.99
	315.09	317.54	319.15	319.78	321.36	322.10	322.86	319.91	289.63		
5500.13	292.64	292.78	292.94	293.48	294.32	296.08	298.88	302.81	305.60	305.29	305.94
	314.98	317.43	319.07	319.69	321.27	322.00	322.77	319.81	289.64		
5502.65	292.65	292.78	292.95	293.48	294.31	296.08	298.88	302.80	305.57	305.26	305.90
	314.88	317.33	318.98	319.60	321.18	321.90	322.68	319.69	290.17		
5505.23	292.67	292.79	292.97	293.49	294.31	296.09	298.89	302.79	305.55	305.23	305.86
	314.79	317.24	318.89	319.50	321.10	321.80	322.58	319.61	290.19		
5507.76	292.69	292.80	292.98	293.50	294.31	296.10	298.88	302.78	305.53	305.21	305.84
	314.70	317.16	318.81	319.40	321.02	321.71	322.50	319.53	290.22		

5510.34	292.71	292.81	293.00	293.51	294.31	296.11	298.88	302.76	305.50	305.17	305.80
	314.63	317.10	318.74	319.30	320.94	321.62	322.42	319.46	290.25		
5512.87	292.71	292.80	293.01	293.51	294.31	296.11	298.86	302.74	305.46	305.13	305.75
	314.55	317.03	318.67	319.21	320.84	321.51	322.32	319.38	290.28		
5515.45	292.67	292.78	292.98	293.48	294.28	296.08	298.78	302.61	305.36	305.03	305.67
	314.45	316.95	318.58	319.11	320.71	321.37	322.19	319.26	290.26		
5517.98	292.64	292.75	292.96	293.44	294.25	296.04	298.71	302.51	305.27	304.94	305.59
	314.34	316.87	318.48	319.01	320.58	321.24	322.06	319.15	290.25		
5520.56	292.60	292.72	292.93	293.41	294.22	296.00	298.64	302.42	305.19	304.85	305.52
	314.24	316.78	318.38	318.92	320.45	321.11	321.94	319.04	290.24		
5523.09	292.55	292.70	292.91	293.38	294.18	295.94	298.55	302.35	305.11	304.77	305.44
	314.15	316.43	318.27	318.84	320.32	320.98	321.81	318.93	290.23		
5525.67	292.50	292.66	292.89	293.34	294.16	295.89	298.48	302.28	305.04	304.69	305.37
	314.07	316.17	318.17	318.75	320.20	320.86	321.69	318.82	290.22		
5528.19	292.46	292.62	292.85	293.30	294.14	295.85	298.42	302.22	304.97	304.61	305.32
	313.99	315.97	318.08	318.66	320.08	320.76	321.58	318.71	290.21		
5530.77	292.42	292.59	292.81	293.26	294.10	295.80	298.35	302.15	304.89	304.54	305.26
	313.91	315.81	317.97	318.56	319.97	320.64	321.46	318.60	289.68		
5533.30	292.37	292.55	292.77	293.22	294.06	295.72	298.25	302.08	304.82	304.47	305.21
	313.82	315.67	317.76	318.45	319.84	320.53	321.33	318.48	289.65		
5535.88	292.32	292.50	292.72	293.17	294.01	295.64	298.18	302.01	304.74	304.40	305.14
	313.73	315.54	317.40	318.34	319.71	320.41	321.20	318.36	289.61		
5538.41	292.28	292.46	292.68	293.13	293.97	295.57	298.11	301.95	304.67	304.32	305.06
	313.62	315.40	317.17	318.21	319.58	320.29	321.07	318.23	289.58		
5540.99	292.25	292.44	292.65	293.10	293.94	295.53	298.08	301.90	304.62	304.26	305.01
	313.62	315.40	317.17	318.21	319.58	320.29	321.07	318.23	289.58		
5543.57	292.25	292.46	292.66	293.13	293.95	295.54	298.11	301.94	304.61	304.24	305.01
	313.62	315.40	317.17	318.21	319.58	320.29	321.07	318.23	289.58		
5546.10	292.25	292.46	292.66	293.13	293.95	295.54	298.11	301.94	304.61	304.24	305.01
	313.62	315.40	317.17	318.21	319.58	320.29	321.07	318.23	289.58		
5548.68	292.25	292.46	292.66	293.13	293.95	295.54	298.11	301.94	304.61	304.24	305.01
	313.62	315.40	317.17	318.21	319.58	320.29	321.07	318.23	289.58		
5551.26	292.25	292.46	292.66	293.13	293.95	295.54	298.11	301.94	304.61	304.24	305.01
	313.62	315.40	317.17	318.21	319.58	320.29	321.07	318.23	289.58		
5553.79	292.25	292.46	292.66	293.13	293.95	295.54	298.11	301.94	304.61	304.24	305.01
	313.62	315.40	317.17	318.21	319.58	320.29	321.07	318.23	289.58		
5556.37	292.25	292.46	292.66	293.13	293.95	295.54	298.11	301.94	304.61	304.24	305.01
	313.62	315.40	317.17	318.21	319.58	320.29	321.07	318.23	289.58		
5558.90	292.25	292.46	292.66	293.13	293.95	295.54	298.11	301.94	304.61	304.24	305.01
	313.62	315.40	317.17	318.21	319.58	320.29	321.07	318.23	289.58		
5561.48	292.25	292.46	292.66	293.13	293.95	295.54	298.11	301.94	304.61	304.24	305.01
	313.62	315.40	317.17	318.21	319.58	320.29	321.07	318.23	289.58		
5564.00	292.25	292.46	292.66	293.13	293.95	295.54	298.11	301.94	304.61	304.24	305.01
	313.62	315.40	317.17	318.21	319.58	320.29	321.07	318.23	289.58		
5566.59	292.25	292.46	292.66	293.13	293.95	295.54	298.11	301.94	304.61	304.24	305.01
	313.62	315.40	317.17	318.21	319.58	320.29	321.07	318.23	289.58		
5569.11	292.25	292.46	292.66	293.13	293.95	295.54	298.11	301.94	304.61	304.24	305.01
	313.62	315.40	317.17	318.21	319.58	320.29	321.07	318.23	289.58		
5571.69	292.25	292.46	292.66	293.13	293.95	295.54	298.11	301.94	304.61	304.24	305.01
	313.62	315.40	317.17	318.21	319.58	320.29	321.07	318.23	289.58		
5574.22	292.25	292.46	292.66	293.13	293.95	295.54	298.11	301.94	304.61	304.24	305.01
	313.62	315.40	317.17	318.21	319.58	320.29	321.07	318.23	289.58		
5576.80	292.25	292.46	292.66	293.13	293.95	295.54	298.11	301.94	304.61	304.24	305.01
	313.62	315.40	317.17	318.21	319.58	320.29	321.07	318.23	289.58		
5579.33	292.25	292.41	292.66	293.20	293.95	295.54	298.11	301.57	304.61	304.24	304.45
	312.47	314.82	316.10	316.64	318.01	318.65	319.59	316.89	289.91		
5581.91	292.25	292.36	292.64	293.15	293.97	295.55	298.11	301.50	304.03	303.71	304.37
	312.37	314.70	315.98	316.51	317.88	318.51	319.44	316.76	289.87		
5584.44	292.25	292.34	292.61	293.13	293.94	295.52	297.99	301.44	303.99	303.65	304.97
	312.29	314.61	315.89	316.40	317.76	318.38	319.31	316.64	289.85		
5587.02	292.25	292.33	292.59	293.10	293.92	295.51	297.96	301.39	303.95	303.60	304.94
	312.22	314.53	315.81	316.30	317.66	318.38	319.18	316.55	289.84		

5589.55	292.25	292.33	292.57	293.08	293.89	295.50	297.93	301.34	303.89	303.54	304.90
	312.15	314.43	315.73	316.20	317.56	318.17	319.06	316.44	289.85		
5592.13	292.25	292.33	292.56	293.05	293.86	295.50	297.90	301.28	303.79	303.49	304.86
	312.10	314.33	315.65	316.11	317.47	318.09	318.96	316.35	289.85		
5594.65	292.25	292.33	292.55	293.04	293.83	295.48	297.87	301.23	303.71	303.43	304.82
	312.05	314.21	315.57	316.02	317.37	318.00	318.85	316.25	289.85		
5597.23	292.25	292.33	292.54	293.02	293.81	295.46	297.83	301.17	303.64	303.37	304.76
	311.98	314.09	315.49	315.94	317.28	317.91	318.74	316.15	289.85		
5599.82	292.25	292.32	292.54	293.01	293.79	295.44	297.78	301.16	303.57	303.32	304.70
	311.90	313.98	315.41	315.86	317.20	317.82	318.64	316.06	289.84		
5602.34	292.25	292.30	292.54	293.00	293.78	295.42	297.74	301.12	303.51	303.27	304.64
	311.80	313.89	315.33	315.78	317.12	317.74	318.54	315.97	289.83		
5604.92	292.25	292.28	294.53	292.99	293.78	295.39	297.70	301.08	303.45	303.22	304.58
	311.70	313.81	315.24	315.71	317.04	317.65	318.45	315.88	289.83		
5607.45	292.25	292.26	294.51	292.98	293.76	295.36	297.66	301.03	303.40	303.16	304.51
	311.60	313.73	315.15	315.64	316.96	317.56	318.36	315.79	289.82		
5610.03	292.25	292.25	294.50	292.96	293.74	295.33	297.63	300.99	303.34	303.11	304.46
	311.50	313.66	315.06	315.59	316.88	317.48	318.27	315.70	289.83		
5612.56	291.98	292.24	294.48	292.95	293.73	295.32	297.60	300.95	303.30	303.07	303.76
	311.42	313.59	314.96	315.52	316.81	317.40	318.19	315.62	289.85		
5615.14	291.97	292.22	294.46	292.94	293.72	295.29	297.57	300.91	303.25	303.02	303.70
	311.36	313.51	314.87	315.45	316.74	317.31	318.10	315.52	289.85		
5617.67	291.95	292.20	294.45	292.93	293.52	295.26	297.53	300.87	303.21	302.98	303.64
	311.02	313.45	314.78	315.38	316.66	317.23	318.01	315.43	289.85		
5620.25	291.92	292.17	294.43	292.91	293.31	295.23	297.50	300.84	303.21	302.93	303.58
	310.96	313.38	314.69	315.31	316.58	317.13	317.90	315.34	289.84		
5622.77	291.92	292.15	294.43	292.92	293.23	295.21	297.47	300.81	303.19	302.89	303.53
	310.89	313.33	314.60	315.25	316.52	317.04	317.80	315.24	289.85		
5625.36	291.92	292.16	294.44	292.94	293.22	295.21	297.48	300.80	303.18	302.88	303.50
	310.84	313.31	314.54	315.18	316.48	316.98	317.72	315.17	289.86		
5627.88	291.93	292.18	294.46	292.97	293.23	295.20	297.50	300.82	303.18	302.86	303.47
	310.80	313.31	314.48	315.13	316.43	316.91	317.64	315.10	289.88		
5630.46	291.95	292.21	294.48	293.00	293.24	295.20	297.51	300.84	303.19	302.84	303.45
	310.77	313.25	314.40	315.08	316.38	316.85	317.56	315.03	289.91		
5632.99	291.96	292.24	292.51	293.02	293.24	295.21	297.53	300.86	303.21	302.85	303.45
	310.74	313.20	314.35	315.04	316.34	316.78	317.47	314.96	289.93		
5635.57	291.99	292.26	292.55	293.05	293.26	295.23	297.56	300.87	303.23	302.86	303.44
	310.57	313.16	314.30	314.99	316.28	316.71	317.38	314.88	289.95		
5638.10	292.01	292.28	292.57	293.07	293.27	295.24	297.57	300.88	303.24	302.86	303.42
	310.55	313.10	314.25	314.93	316.22	316.64	317.30	314.80	289.96		
5640.68	292.02	292.29	292.59	293.09	293.28	295.23	297.58	300.87	303.22	302.85	303.40
	310.50	313.04	314.19	314.86	316.15	316.56	317.20	314.71	289.96		
5643.37	292.03	292.30	292.61	293.10	293.29	295.23	297.58	300.85	303.19	302.84	303.02
	310.13	312.97	314.13	314.80	316.07	316.48	317.12	314.63	289.97		
5645.95	292.04	292.32	292.63	293.11	293.48	295.23	297.59	300.83	303.16	302.81	302.82
	310.03	312.91	314.07	314.73	315.99	316.40	317.04	314.55	289.97		
5648.48	292.05	292.33	292.64	293.12	293.70	295.23	297.60	300.81	303.12	302.79	302.80
	309.98	312.84	314.00	314.65	315.91	316.33	316.96	314.48	289.99		
5651.06	292.05	292.34	292.64	293.12	293.78	295.23	297.60	300.78	303.08	302.76	302.77
	309.91	312.77	313.94	314.56	315.82	316.25	316.89	314.41	290.00		
5653.59	292.03	292.33	292.62	293.10	293.79	295.21	297.56	300.72	303.02	302.70	302.72
	309.84	312.66	313.85	314.47	315.70	316.16	316.80	314.31	290.03		
5656.17	292.02	292.31	292.60	293.07	293.78	295.21	297.52	300.66	302.94	302.64	302.67
	309.76	312.55	313.76	314.36	315.59	316.07	316.70	314.22	290.04		
5658.70	292.01	292.29	292.58	293.04	293.77	295.19	297.48	300.60	302.87	302.58	302.62
	309.68	312.47	313.68	314.26	315.49	315.98	316.62	314.14	290.05		
5661.28	292.00	292.26	292.56	293.01	293.76	295.18	297.45	300.53	302.80	302.50	302.55
	309.60	312.37	313.59	314.14	315.40	315.90	316.54	314.06	290.06		
5663.86	291.99	292.23	292.54	292.98	293.75	295.16	297.41	300.47	302.72	302.42	302.50
	309.67	312.27	313.50	314.04	315.30	315.81	316.46	313.98	290.07		
5666.39	291.98	292.22	292.53	292.97	294.36	295.15	297.38	300.42	302.66	302.35	302.44
	309.60	312.20	313.40	313.93	315.21	315.73	316.39	313.91	290.08		
5668.97	291.97	292.21	292.52	292.96	294.34	295.14	297.35	300.37	302.62	302.29	302.39
	309.53	312.11	313.31	313.84	315.13	315.65	316.31	313.85	290.10		

5671.49	291.96	292.20	292.51	292.96	294.32	295.12	297.32	300.33	302.58	302.23	302.69
	309.76	312.02	313.23	313.75	315.05	315.58	316.24	313.79	290.10		
5674.08	291.95	292.19	292.50	292.95	294.32	295.10	297.29	300.30	302.55	302.18	302.81
	310.00	311.92	313.14	313.67	314.97	315.49	316.17	313.72	290.12		
5676.60	291.94	292.18	292.47	292.92	294.37	295.08	297.25	300.25	302.51	302.12	302.74
	309.91	311.83	313.06	313.58	314.89	315.41	316.10	313.65	290.14		
5679.18	291.93	292.17	292.44	292.90	294.37	295.07	297.21	300.22	302.47	302.06	302.67
	309.82	311.74	312.98	313.50	314.81	315.33	316.02	313.57	290.14		
5681.71	291.92	292.15	292.44	292.88	294.35	295.05	297.18	300.19	302.44	302.02	302.61
	309.72	310.94	312.91	313.42	314.74	315.26	315.94	313.51	290.15		
5684.29	291.89	292.13	292.42	292.87	294.33	295.03	297.15	300.17	302.42	301.99	302.55
	309.62	310.87	312.84	313.35	314.67	315.19	315.87	313.48	290.56		
5686.82	291.87	292.13	292.40	292.86	294.30	295.01	297.14	300.14	302.39	301.96	302.51
	309.54	310.81	312.78	313.28	314.60	315.12	315.79	313.44	290.55		
5689.40	291.85	292.13	292.38	292.85	294.29	294.99	297.12	300.11	302.36	301.94	302.48
	309.46	310.77	312.74	313.21	314.54	315.06	315.71	313.38	290.54		
5691.93	291.84	292.13	292.37	292.83	294.27	294.97	297.10	300.09	302.32	301.92	302.46
	309.39	310.72	312.66	313.13	314.46	314.98	315.63	313.31	290.54		
5694.51	291.83	292.13	292.35	292.81	293.64	294.95	297.07	300.06	302.27	301.90	302.46
	314.92	310.65	312.59	313.06	314.39	314.91	315.56	313.24	290.54		
5697.03	291.83	292.13	292.34	292.77	293.63	294.94	297.05	300.02	302.23	301.87	302.46
	314.86	310.58	312.52	312.97	314.31	314.84	315.48	313.17	290.54		
5699.62	291.83	292.13	292.33	292.73	293.62	294.92	297.02	299.99	302.18	301.85	302.46
	314.81	310.54	312.45	312.89	314.22	314.77	315.40	313.10	290.54		
5702.14	291.83	292.13	292.33	292.72	293.58	294.89	297.00	299.95	302.12	301.80	302.46
	314.77	310.49	312.40	312.81	314.14	314.68	315.31	313.03	290.54		
5704.72	291.83	292.13	292.34	292.72	293.50	294.87	296.99	299.92	302.07	301.76	302.46
	314.74	310.45	312.35	312.75	314.07	314.61	315.22	312.96	290.54		
5707.25	291.83	292.13	292.35	292.72	293.46	294.85	296.98	299.88	302.02	301.74	302.46
	314.71	310.40	312.31	312.69	314.00	314.53	315.14	312.90	290.54		
5709.83	291.83	292.14	292.35	292.72	293.45	294.84	296.97	299.83	301.96	301.69	302.46
	314.67	311.06	312.25	312.64	313.92	314.43	315.05	312.82	290.52		
5712.36	291.85	292.15	292.35	292.71	293.44	294.82	296.94	299.75	301.86	301.64	302.46
	314.63	310.99	312.19	312.57	313.84	314.34	314.95	312.71	290.09		
5714.94	291.85	292.15	292.35	292.71	293.44	294.80	296.90	299.69	301.79	301.57	302.46
	314.60	310.92	312.13	312.51	313.75	314.24	314.86	312.60	290.06		
5717.47	291.85	292.15	292.35	292.70	293.43	294.78	296.85	299.64	301.75	301.52	302.46
	314.56	310.85	312.07	312.45	313.66	314.14	314.76	312.51	290.04		
5720.05	291.85	292.15	292.35	292.70	293.42	294.76	296.81	299.61	301.72	301.47	302.46
	314.52	310.78	312.03	312.40	313.57	314.05	314.65	312.42	290.02		
5722.57	291.85	292.14	292.35	292.70	293.41	294.73	296.78	299.57	301.68	301.43	302.03
	308.86	310.73	311.99	312.36	313.49	313.95	314.56	312.34	290.00		
5725.16	291.85	292.12	292.35	292.72	293.40	294.71	296.76	299.54	301.66	301.40	301.97
	308.81	310.68	311.94	312.32	313.43	313.86	314.46	312.26	289.99		
5727.68	291.85	292.11	292.35	292.74	293.38	294.70	296.74	299.52	301.62	301.35	301.91
	308.75	310.61	311.89	312.27	313.36	313.78	314.38	312.17	289.98		
5730.26	291.85	292.10	292.35	292.75	293.38	294.70	296.72	299.48	301.59	301.32	301.88
	308.69	310.55	311.82	312.22	313.29	313.71	314.29	312.09	289.97		
5732.79	291.85	292.08	292.35	292.74	293.38	294.70	296.69	299.45	301.56	301.30	301.85
	308.64	310.49	311.74	312.17	313.21	313.63	314.21	312.02	289.96		
5735.37	291.85	292.06	292.35	292.73	293.37	294.69	296.66	299.42	301.53	301.28	301.82
	308.59	310.43	311.65	312.10	313.13	313.56	314.13	311.94	289.96		
5737.95	291.84	292.04	292.34	292.71	293.36	294.67	296.63	299.40	301.51	301.26	301.79
	308.53	310.37	311.56	312.03	313.05	313.49	314.05	311.86	289.96		
5740.48	291.84	292.03	292.34	292.71	293.34	294.66	296.62	299.42	301.52	301.25	301.77
	308.47	310.31	311.48	311.96	312.97	313.42	313.98	311.79	289.96		
5743.06	291.84	292.02	292.34	292.71	293.34	294.65	296.62	299.41	301.52	301.24	301.75
	308.40	310.26	311.40	311.90	312.89	313.35	313.92	311.73	289.99		
5745.59	291.83	292.02	292.34	292.71	293.33	294.65	296.62	299.39	301.49	301.22	301.73
	308.34	310.21	311.32	311.83	312.82	313.29	313.85	311.66	290.00		
5748.17	291.82	292.01	292.34	292.71	293.32	294.64	296.61	299.36	301.44	301.19	301.70
	308.28	310.16	311.25	311.74	312.74	313.22	313.78	311.60	290.00		
5750.75	291.81	292.01	292.34	292.71	293.31	294.64	296.59	299.31	301.38	301.16	301.68
	308.23	310.11	311.18	311.67	312.66	313.16	313.71	311.53	290.01		

5753.28	291.80	292.01	292.33	292.71	293.31	294.64	296.57	299.24	301.31	301.13	301.66
	308.17	313.68	311.12	311.61	312.59	313.09	313.63	311.47	290.03		
5755.86	291.80	292.02	292.32	292.71	293.32	294.63	296.56	299.20	301.27	301.10	301.63
	308.12	313.88	311.08	311.55	312.51	313.02	313.56	311.40	290.03		
5758.39	291.79	292.02	292.31	292.70	293.32	294.62	296.53	299.16	301.23	301.07	302.07
	308.07	313.82	311.04	311.50	312.44	312.94	313.48	311.33	290.03		
5760.97	291.78	292.03	292.30	292.70	293.31	294.60	296.51	299.13	301.19	301.04	302.04
	308.01	313.77	311.00	311.44	312.38	312.87	313.42	311.26	290.02		
5763.49	291.77	292.03	292.29	292.69	293.31	294.58	296.50	299.09	301.15	301.00	302.01
	307.97	313.72	310.97	311.39	312.32	312.80	313.34	311.19	290.01		
5766.08	291.77	292.03	292.28	292.69	293.31	294.57	296.48	299.06	301.12	300.97	301.99
	307.94	313.67	310.94	311.33	312.26	312.74	313.27	311.12	290.01		
5768.60	291.76	292.01	292.27	292.67	293.30	294.55	296.45	299.03	301.06	300.93	301.95
	307.90	313.61	310.90	311.27	312.20	312.67	313.18	311.05	290.00		
5771.18	291.76	291.99	292.25	292.66	293.30	294.53	296.41	298.98	301.00	300.89	301.90
	307.87	313.54	310.84	311.20	312.13	312.59	313.10	310.98	289.98		
5773.71	291.75	291.97	292.23	292.64	293.29	294.51	296.37	298.93	300.95	300.84	301.86
	307.82	313.46	310.78	311.14	312.07	312.51	313.03	310.90	289.98		
5776.29	291.75	291.96	292.20	292.62	293.28	294.48	296.34	298.89	300.91	300.80	301.82
	307.77	313.38	310.71	311.07	312.00	312.44	312.95	310.83	289.98		
5778.82	291.75	291.94	292.18	292.60	293.27	294.45	296.31	298.87	300.89	300.76	301.79
	307.72	313.30	310.64	311.00	311.94	312.37	312.87	310.76	289.97		
5781.40	291.75	291.94	292.16	292.58	293.25	294.42	296.28	298.86	300.87	300.72	301.74
	307.68	309.62	310.58	310.93	311.87	312.30	312.80	310.69	289.97		
5783.93	291.75	291.93	292.14	292.56	293.22	294.40	296.25	298.84	300.83	300.68	301.71
	307.63	309.30	310.50	310.85	311.80	312.22	312.73	310.63	289.96		
5786.51	291.75	291.92	292.12	293.16	293.20	294.39	296.23	298.81	300.78	300.64	301.21
	307.57	309.23	310.42	310.77	311.73	312.15	312.66	310.58	289.96		
5789.03	291.75	291.91	292.11	293.16	293.19	294.38	296.20	298.78	300.74	300.60	301.19
	307.51	309.16	310.34	310.68	311.65	312.09	312.58	310.52	289.95		
5791.62	291.74	291.91	292.09	293.15	293.17	294.37	296.18	298.74	300.70	300.55	301.16
	307.44	309.09	310.24	310.60	311.59	312.02	312.51	310.47	289.94		
5794.14	291.73	291.91	292.09	293.15	293.16	294.36	296.15	298.71	300.66	300.51	301.13
	307.37	309.02	310.16	310.54	311.52	311.95	312.44	310.43	289.93		
5796.72	291.72	291.92	292.09	293.15	293.15	294.36	296.13	298.67	300.64	300.48	301.08
	307.31	308.97	310.09	310.47	311.47	311.89	312.39	310.38	289.92		
5799.25	291.71	291.93	292.08	293.15	293.14	294.35	296.12	298.65	300.63	300.45	301.05
	307.25	308.92	310.02	310.40	311.41	311.82	312.32	310.33	289.92		
5801.83	291.69	291.94	292.07	293.15	293.13	294.35	296.11	298.63	300.61	300.42	301.02
	307.20	308.88	309.96	310.34	311.35	311.76	312.26	310.27	289.92		
5804.36	291.66	291.95	292.08	293.15	293.11	294.35	296.10	298.61	300.59	300.40	300.98
	307.14	308.84	309.90	310.28	311.29	311.70	312.19	310.22	289.92		
5806.94	291.63	291.94	292.08	293.14	293.10	294.34	296.08	298.58	300.56	300.37	300.95
	307.08	308.78	309.83	310.21	311.23	311.63	312.13	310.16	289.92		
5809.47	291.61	291.93	292.08	293.13	293.09	294.32	296.06	298.55	300.52	300.33	300.92
	307.02	308.72	309.76	310.14	311.17	311.57	312.07	310.10	289.91		
5812.05	291.59	291.92	292.08	293.11	293.09	294.30	296.03	298.52	300.49	300.29	300.89
	306.95	308.66	309.69	310.07	311.12	311.52	312.00	310.04	289.91		
5814.57	291.57	291.91	292.08	292.49	293.08	294.28	296.01	298.49	300.46	300.26	300.84
	306.89	308.61	309.62	310.01	311.06	311.46	311.94	309.98	289.92		
5817.16	291.56	291.89	292.08	292.47	293.07	294.26	295.99	298.47	300.43	300.22	300.80
	306.82	308.55	309.55	309.95	311.00	311.40	311.88	309.91	289.93		
5819.68	291.55	291.87	292.08	292.45	293.05	294.24	295.97	298.44	300.40	300.19	300.75
	306.75	308.50	309.49	309.89	310.93	311.33	311.82	309.83	289.95		
5822.26	291.54	291.85	292.06	292.43	293.02	294.21	295.95	298.41	300.37	300.16	300.71
	306.67	308.44	309.43	309.81	310.87	311.26	311.75	309.76	289.96		
5824.79	291.53	291.83	292.04	292.41	293.00	294.18	295.91	298.38	300.32	300.12	300.66
	306.50	308.37	309.37	309.74	310.79	311.20	311.68	309.69	289.96		
5827.37	291.52	291.82	292.03	292.39	292.97	294.16	295.88	298.35	300.26	300.09	300.62
	306.43	308.28	309.31	309.68	310.71	311.14	311.24	309.63	289.96		
5830.12	291.52	291.80	292.02	292.37	292.94	294.13	295.85	298.31	300.21	300.05	300.58
	306.37	308.19	309.25	309.62	310.65	311.08	311.18	309.57	289.96		
5832.65	291.54	291.78	292.00	292.35	292.92	294.10	295.82	298.27	300.17	300.02	300.54
	306.31	308.11	309.20	309.56	310.58	311.01	311.12	309.50	289.96		

5835.23	291.54	291.77	291.99	292.34	292.90	294.08	295.80	298.24	300.13	299.99	300.52
	306.26	308.03	309.14	309.52	310.52	310.95	311.06	309.44	289.98		
5837.75	291.55	291.76	291.98	292.32	292.89	294.08	295.79	298.21	300.09	299.98	300.48
	306.22	307.96	309.09	309.47	310.47	310.89	310.99	309.41	289.98		
5840.33	291.55	291.75	291.98	292.31	292.87	294.07	295.78	298.18	300.05	299.96	300.45
	306.18	307.90	309.03	309.42	310.40	310.82	310.93	309.37	289.98		
5842.86	291.55	291.75	291.96	292.31	292.85	294.06	295.76	298.15	300.02	299.93	300.43
	306.16	307.85	308.99	309.37	310.34	310.76	310.87	309.31	289.97		
5845.44	291.55	291.75	291.95	292.30	292.85	294.05	295.74	298.11	299.97	299.91	300.41
	306.13	307.80	308.94	309.31	310.28	310.70	310.81	309.27	289.97		
5847.97	291.55	291.74	291.93	292.28	292.85	294.04	295.71	298.07	299.92	299.88	300.39
	306.11	307.74	308.90	309.26	310.21	310.64	310.76	309.22	289.97		
5850.55	291.55	291.73	291.92	292.26	292.85	294.03	295.69	298.03	299.87	299.84	300.37
	306.08	307.68	308.84	309.21	310.14	310.58	310.71	309.17	289.97		
5853.08	291.54	291.72	291.91	292.25	292.84	294.01	295.67	298.00	299.83	299.81	300.35
	306.14	307.64	308.79	309.15	310.08	310.50	310.64	309.12	289.97		
5855.66	291.53	291.71	291.90	292.23	292.83	293.99	295.65	297.96	299.78	299.78	300.32
	306.11	307.61	308.72	309.10	310.01	310.43	310.95	309.07	289.97		
5858.19	291.52	291.70	291.89	292.22	292.82	293.98	295.62	297.92	299.74	299.74	300.28
	306.06	307.58	308.65	309.05	309.95	310.37	310.88	309.00	289.96		
5860.77	291.50	291.69	291.88	292.20	292.82	293.95	295.59	297.88	299.69	299.51	300.25
	306.02	307.55	308.58	308.98	309.89	310.30	310.82	308.95	289.96		
5863.29	291.49	291.67	291.87	292.19	292.81	293.92	295.55	297.85	299.65	299.46	300.20
	305.96	307.51	308.51	308.91	309.81	310.23	310.74	308.89	289.94		
5865.88	291.47	291.65	291.85	292.17	292.80	293.90	295.52	297.80	299.61	299.40	300.16
	305.90	307.47	308.45	308.85	309.74	310.16	310.68	308.80	289.95		
5868.46	291.45	291.63	291.82	292.15	292.79	293.87	295.48	297.76	299.57	299.36	300.11
	305.82	307.42	308.38	308.78	309.68	310.08	310.62	308.73	289.95		
5870.98	291.43	291.61	291.79	292.13	292.78	293.83	295.45	297.72	299.53	299.31	300.06
	305.74	307.35	308.32	308.72	309.62	310.02	310.54	308.69	289.95		
5873.56	291.41	291.60	291.78	292.11	292.76	293.80	295.42	297.68	299.49	299.26	300.00
	305.67	307.29	308.24	308.65	309.56	309.95	310.46	308.64	290.62		
5876.09	291.40	291.59	291.77	292.10	292.74	293.77	295.39	297.66	299.46	299.21	299.94
	305.60	307.23	308.18	308.59	309.50	309.89	310.39	308.58	290.62		
5878.67	291.40	291.58	291.76	292.10	292.71	293.75	295.36	297.63	299.44	299.17	299.89
	305.53	307.18	308.13	308.55	309.45	309.84	310.32	308.52	290.62		
5881.20	291.40	291.58	291.76	292.10	292.69	293.74	295.34	297.60	299.42	299.13	299.85
	305.45	307.13	308.09	308.50	309.40	309.78	310.27	308.46	290.63		
5883.78	291.40	291.58	291.76	292.10	292.68	293.73	295.31	297.58	299.40	299.10	299.82
	305.38	307.06	308.05	308.45	309.36	309.73	310.21	308.41	290.64		
5886.31	291.40	291.58	291.76	292.10	292.68	293.72	295.29	297.56	299.37	299.06	299.80
	305.32	307.00	308.01	308.40	309.31	309.67	310.15	308.36	290.65		
5888.89	291.40	291.59	291.76	292.10	292.67	293.72	295.28	297.54	299.34	299.22	299.76
	305.26	306.95	307.98	308.36	309.26	309.63	310.10	308.32	290.67		
5891.42	291.41	291.60	291.75	292.09	292.65	293.72	295.27	297.52	299.31	299.19	299.73
	305.19	306.90	307.94	308.32	309.21	309.59	310.06	308.28	290.67		
5894.00	291.42	291.61	291.76	292.09	292.64	293.72	295.26	297.51	299.29	299.15	299.71
	305.14	306.85	307.89	308.27	309.15	309.55	310.01	308.23	290.66		
5896.52	291.43	291.62	291.77	292.09	292.62	293.72	295.25	297.49	299.25	299.12	299.68
	305.08	306.80	307.85	308.23	309.10	309.49	309.96	308.18	290.67		
5899.11	291.44	291.63	291.78	292.09	292.60	293.73	295.24	297.46	299.22	299.10	299.66
	305.05	306.76	307.81	308.19	309.06	309.44	309.92	308.12	290.68		
5901.63	291.45	291.64	291.79	292.09	292.60	293.72	295.23	297.44	299.18	299.08	299.65
	305.02	306.73	307.77	308.14	309.01	309.39	309.88	308.05	290.03		
5904.21	291.45	291.65	291.79	292.09	292.59	293.72	295.22	297.41	299.14	299.06	299.64
	304.99	306.69	307.73	308.09	308.96	309.34	309.83	308.00	290.04		
5906.74	291.45	291.65	291.78	292.08	292.59	293.70	295.21	297.38	299.10	299.04	299.62
	304.97	306.94	307.67	308.03	308.92	309.29	309.78	307.95	290.05		
5909.32	291.45	291.65	291.77	292.07	292.59	293.68	295.20	297.34	299.05	299.02	299.59
	304.95	306.89	307.61	307.98	308.88	309.24	309.72	307.91	290.04		
5911.85	291.45	291.65	291.76	292.06	292.58	293.66	295.18	297.31	299.01	299.00	299.56
	304.92	306.84	307.55	307.92	308.82	309.19	309.67	307.85	290.03		
5914.43	291.44	291.64	291.75	292.05	292.56	293.65	295.16	297.28	298.96	298.98	299.53
	304.89	306.80	307.49	307.87	308.77	309.13	309.62	307.79	290.03		

5916.96	291.43	291.63	291.74	292.05	292.55	293.63	295.13	297.23	298.92	298.94	299.50
	304.85	306.75	307.42	307.81	308.71	309.08	309.56	307.73	290.02		
5919.54	291.42	291.61	291.74	292.05	292.55	293.61	295.10	297.19	298.87	298.91	299.47
	304.81	306.70	307.36	307.75	308.66	309.02	309.50	307.67	290.02		
5922.12	291.41	291.59	291.73	292.04	292.55	293.59	295.07	297.14	298.83	298.88	299.43
	304.78	306.65	307.29	307.70	308.61	308.97	309.44	307.61	290.02		
5924.70	291.40	291.58	291.72	292.02	292.55	293.57	295.05	297.11	298.79	298.85	299.40
	304.74	306.59	307.22	307.64	308.56	308.92	309.39	307.55	290.00		
5927.23	291.38	291.56	291.70	292.01	292.54	293.55	295.03	297.08	298.74	298.81	299.35
	304.69	306.53	307.16	307.58	308.50	308.87	309.34	307.50	289.99		
5929.81	291.36	291.54	291.68	291.99	292.52	293.53	295.00	297.05	298.70	298.78	299.30
	304.62	306.47	307.10	307.53	308.44	308.80	309.28	307.44	289.97		
5932.34	291.34	291.52	291.67	291.97	292.50	293.50	294.96	297.02	298.66	298.74	299.26
	304.55	306.41	307.03	307.47	308.38	308.75	309.24	307.38	289.95		
5934.92	291.33	291.50	291.65	291.95	292.49	293.49	294.93	297.00	298.63	298.70	299.21
	304.48	306.06	306.98	307.42	308.31	308.69	309.19	307.34	289.94		
5937.44	291.31	291.48	291.63	291.93	292.47	293.47	294.89	296.99	298.61	298.66	299.16
	304.42	306.01	306.91	307.36	308.25	308.63	309.14	307.29	289.94		
5940.02	291.30	291.47	291.62	291.91	292.45	293.45	294.87	296.97	298.58	298.62	299.11
	304.35	305.95	306.86	307.30	308.20	308.59	309.08	307.24	289.94		
5942.55	291.29	291.46	291.60	291.89	292.43	293.43	294.85	296.95	298.56	298.57	299.06
	304.30	305.90	306.81	307.25	308.15	308.54	309.04	307.20	289.94		
5945.13	291.28	291.45	291.58	291.87	292.41	293.41	294.83	296.95	298.55	298.55	299.03
	304.24	305.83	306.77	307.19	308.10	308.49	308.98	307.15	289.95		
5947.66	291.27	291.45	291.58	291.85	292.39	293.40	294.81	296.95	298.54	298.53	299.00
	304.18	305.78	306.72	307.14	308.07	308.44	308.94	307.12	289.95		
5950.24	291.26	291.45	291.57	291.84	292.37	293.38	294.79	296.94	298.52	298.51	298.97
	304.12	305.74	306.66	307.08	308.03	308.39	308.89	307.08	289.95		
5952.77	291.25	291.45	291.56	291.84	292.35	293.36	294.78	296.94	298.52	298.48	298.94
	304.06	305.70	306.62	307.02	307.98	308.34	308.84	307.04	289.95		
5955.35	291.25	291.45	291.55	291.84	292.34	293.35	294.76	296.93	298.52	298.47	298.92
	304.00	305.66	306.57	306.97	307.92	308.28	308.79	307.01	289.96		
5957.88	291.25	291.45	291.55	291.84	292.34	293.35	294.75	296.91	298.51	298.45	298.89
	303.95	305.62	306.52	306.91	307.87	308.24	308.73	306.97	289.96		
5960.46	291.25	291.45	291.55	291.84	292.34	293.35	294.75	296.89	298.49	298.43	298.86
	303.53	305.57	306.47	306.86	307.82	308.18	308.68	306.92	289.96		
5962.98	291.25	291.45	291.55	291.84	292.34	293.35	294.75	296.87	298.47	298.41	298.83
	303.46	305.51	306.43	306.81	307.74	308.11	308.62	306.88	289.96		
5965.56	291.25	291.45	291.55	291.84	292.34	293.35	294.75	296.85	298.44	298.40	298.81
	303.40	305.45	306.38	306.76	307.65	308.05	308.56	306.83	289.96		
5968.09	291.25	291.45	291.55	291.84	292.34	293.35	294.75	296.82	298.41	298.39	298.79
	303.35	305.40	306.32	306.72	307.58	307.98	308.50	306.78	289.96		
5970.67	291.25	291.45	291.55	291.85	292.35	293.35	294.74	296.79	298.38	298.38	298.77
	303.30	305.35	306.26	306.67	307.52	307.91	308.44	306.73	289.96		
5973.25	291.25	291.45	291.55	291.85	292.35	293.34	294.73	296.76	298.36	298.36	298.74
	303.25	305.29	306.20	306.61	307.45	307.85	308.37	306.66	289.95		
5975.78	291.25	291.45	291.55	291.85	292.35	293.34	294.72	296.74	298.33	298.34	298.72
	303.20	305.24	306.14	306.56	307.37	307.78	308.66	306.60	289.95		
5978.36	291.25	291.45	291.55	291.85	292.35	293.33	294.71	296.72	298.31	298.32	298.69
	303.17	305.18	306.08	306.52	307.31	307.70	308.60	306.54	289.96		
5980.89	291.25	291.45	291.55	291.85	292.35	293.32	294.70	296.70	298.29	298.32	298.67
	303.14	305.12	306.03	306.47	307.25	307.64	308.54	306.48	289.97		
5983.47	291.25	291.45	291.55	291.85	292.35	293.31	294.70	296.68	298.27	298.30	298.67
	307.23	305.05	305.97	306.42	307.20	307.57	308.47	306.41	289.97		
5986.00	291.25	291.45	291.55	291.85	292.34	293.30	294.69	296.67	298.25	298.29	298.67
	307.21	304.97	305.92	306.37	307.14	307.51	308.40	306.35	289.96		
5988.58	291.25	291.45	291.55	291.85	292.33	293.29	294.68	296.65	298.23	298.27	298.67
	307.57	304.91	305.86	306.32	307.08	307.46	308.34	306.29	289.94		
5991.11	291.25	291.44	291.55	291.84	292.31	293.28	294.67	296.63	298.19	298.24	298.67
	307.57	304.85	305.79	306.27	307.05	307.40	308.27	306.22	289.94		
5993.69	291.24	291.43	291.54	291.83	292.29	293.27	294.66	296.61	298.15	298.21	298.67
	307.57	304.79	305.73	306.21	307.02	307.34	308.55	306.16	289.94		
5996.21	291.23	291.42	291.53	291.82	292.28	293.26	294.64	296.59	298.10	298.17	298.67
	307.56	304.75	305.67	306.14	306.97	307.28	308.49	306.10	289.94		

5998.79	291.22	291.41	291.52	291.81	292.26	293.25	294.62	296.56	298.06	298.13	298.67
	307.54	304.70	305.62	305.83	306.91	307.22	308.43	306.04	289.94		
6001.32	291.22	291.40	291.51	291.80	292.25	293.25	294.60	296.53	298.01	298.10	298.67
	307.52	304.66	305.56	305.60	306.86	307.16	308.36	306.00	289.94		
6003.90	291.20	291.38	291.50	291.79	292.23	293.24	294.58	296.50	297.96	298.08	298.67
	307.49	304.63	305.52	305.47	306.79	307.11	307.95	305.94	289.93		
6006.43	291.20	291.37	291.50	291.78	292.21	293.22	294.56	296.48	297.92	298.05	298.67
	307.46	304.57	305.46	305.39	306.71	307.05	307.89	305.88	289.92		
6009.01	291.20	291.37	291.50	291.78	292.20	293.20	294.55	296.46	297.89	298.02	298.67
	307.44	304.52	305.42	305.33	306.65	307.00	307.83	305.83	289.92		
6011.54	291.21	291.37	291.50	291.78	292.19	293.20	294.54	296.40	297.86	298.00	298.52
	303.29	304.49	305.38	305.28	306.61	306.95	307.78	305.79	289.94		
6014.12	291.21	291.36	291.50	291.78	292.19	293.19	294.53	296.36	297.84	297.98	298.50
	303.25	304.48	305.34	305.24	306.55	306.91	307.74	305.75	289.95		
6016.65	291.21	291.36	291.50	291.78	292.19	293.18	294.51	296.34	297.82	297.96	298.46
	303.19	304.45	305.30	305.20	306.51	306.86	307.69	305.71	289.96		
6019.39	291.18	291.36	291.50	291.79	292.20	293.17	294.49	296.32	297.82	297.95	298.44
	303.13	304.42	305.26	305.16	306.47	306.82	307.64	305.67	289.98		
6021.97	291.18	291.36	291.51	291.80	292.21	293.16	294.47	296.30	297.83	297.95	298.41
	303.07	304.40	305.22	305.12	306.42	306.78	307.25	305.62	289.98		
6024.50	291.18	291.36	291.52	291.81	292.22	293.15	294.46	296.28	297.84	297.95	298.40
	303.02	304.37	305.18	305.07	306.38	306.73	307.20	305.58	289.98		
6027.08	291.18	291.36	291.52	291.82	292.22	293.14	294.45	296.28	297.85	297.95	298.38
	302.97	304.33	305.15	305.28	306.33	306.69	307.15	305.53	289.98		
6029.61	291.18	291.36	291.53	291.83	292.22	293.13	294.44	296.28	297.87	297.94	298.36
	302.93	304.29	305.12	305.42	306.30	306.65	307.10	305.49	289.98		
6032.19	291.18	291.36	291.54	291.84	292.22	293.13	294.43	296.28	297.89	297.93	298.33
	302.89	304.26	305.09	305.44	306.26	306.61	307.05	305.44	289.98		
6034.72	291.18	291.37	291.55	291.85	292.22	293.14	294.43	296.28	297.91	297.92	298.31
	302.85	304.24	305.06	305.42	306.23	306.57	307.00	305.40	289.98		
6037.30	291.17	291.36	291.55	291.85	292.21	293.15	294.41	296.28	297.91	297.91	298.28
	302.81	304.20	305.01	305.37	306.19	306.52	306.95	305.35	289.98		
6039.82	291.15	291.36	291.55	291.85	292.20	293.15	294.40	296.30	297.91	297.90	298.25
	302.75	304.15	304.95	305.32	306.14	306.46	306.89	305.30	289.98		
6042.41	291.14	291.35	291.55	291.84	292.20	293.15	294.38	296.31	297.90	297.89	298.23
	302.71	304.11	304.90	305.27	306.10	306.39	306.83	305.24	289.97		
6044.93	291.13	291.35	291.55	291.83	292.19	293.15	294.38	296.30	297.89	297.87	298.22
	302.68	304.07	304.84	305.22	306.05	306.33	306.76	305.19	289.97		
6047.51	291.15	291.35	291.55	291.82	292.18	293.15	294.37	296.30	297.88	297.86	298.21
	302.66	304.03	304.79	305.16	305.99	306.26	306.71	305.14	289.96		
6050.04	291.15	291.35	291.55	291.81	292.17	293.15	294.36	296.30	297.87	297.84	298.20
	302.63	303.99	304.73	305.11	305.94	306.20	306.65	305.09	289.96		
6052.62	291.15	291.35	291.55	291.79	292.16	293.14	294.36	296.30	297.86	297.49	298.18
	302.60	303.94	304.69	305.06	305.87	306.15	306.60	305.03	289.96		
6055.15	291.15	291.35	291.55	291.78	292.15	293.14	294.36	296.30	297.84	297.46	298.16
	302.58	303.89	304.64	305.01	305.81	306.10	306.54	304.98	289.97		
6057.73	291.15	291.35	291.55	291.77	292.15	293.13	294.36	296.28	297.81	297.43	298.13
	302.55	303.85	304.60	304.96	305.75	306.04	306.49	304.92	289.98		
6060.26	291.15	291.35	291.55	291.75	292.15	293.12	294.36	296.26	297.78	297.40	298.11
	302.52	303.80	304.56	304.92	305.69	305.99	306.43	304.88	290.00		
6062.84	291.15	291.35	291.55	291.73	292.15	293.11	294.35	296.23	297.74	297.37	298.09
	302.49	303.77	304.53	304.88	305.64	305.93	306.37	304.83	290.02		
6065.36	291.15	291.35	291.55	291.71	292.15	293.10	294.34	296.20	297.70	297.34	298.08
	302.46	303.74	304.49	304.85	305.58	305.87	306.30	304.78	290.03		
6067.95	291.15	291.35	291.54	291.70	292.15	293.09	294.34	296.17	297.66	297.31	298.06
	302.43	303.71	304.45	304.80	305.53	305.83	306.24	704.73	290.04		
6070.47	291.15	291.35	291.53	291.68	292.15	293.08	294.32	296.16	297.62	297.27	298.04
	302.40	303.68	304.41	304.76	305.47	305.79	306.19	304.68	290.05		
6073.05	291.15	291.34	291.52	291.67	292.15	293.07	294.31	296.13	297.59	297.25	298.02
	302.36	303.64	304.38	304.71	305.42	305.76	306.14	304.62	290.06		
6075.64	291.15	291.34	291.51	291.67	292.15	293.06	294.30	296.10	297.55	297.22	298.00
	302.33	303.59	304.36	304.66	305.36	305.72	306.08	304.56	290.07		
6078.16	291.15	291.33	291.50	291.66	292.15	293.05	294.29	296.07	297.52	297.66	297.98
	302.23	303.55	304.34	304.61	305.31	305.66	306.03	304.51	290.07		

6080.74	291.15	291.32	291.48	291.66	292.15	293.04	294.25	296.00	297.47	297.97	297.96
	302.18	303.51	304.30	304.56	305.27	305.61	305.97	304.46	290.06		
6083.27	291.14	291.31	291.46	291.66	292.14	293.02	294.23	295.95	297.42	297.96	297.95
	302.13	303.47	304.26	304.51	305.23	305.56	305.91	304.42	290.06		
6085.85	291.13	291.30	291.45	291.65	292.13	293.00	294.20	295.92	297.38	297.95	297.94
	302.08	303.43	304.21	304.46	305.18	305.51	305.86	304.37	290.05		
6088.38	291.12	291.29	291.43	291.65	292.12	292.98	294.17	295.86	297.32	297.94	297.93
	302.04	303.38	304.16	304.40	305.14	305.46	305.82	304.32	290.03		
6090.96	291.11	291.28	291.41	291.65	292.11	292.97	294.14	295.82	297.28	297.93	297.91
	302.00	303.32	304.11	304.36	305.10	305.42	305.78	304.28	290.02		
6093.49	291.10	291.28	291.39	294.23	292.10	292.95	294.13	295.78	297.24	297.92	297.89
	301.97	303.27	304.06	304.31	305.05	305.38	305.74	304.23	290.01		
6096.07	291.09	291.27	291.38	294.22	292.10	292.93	294.11	295.75	297.20	297.90	297.88
	301.94	303.22	304.02	304.25	304.64	305.32	305.70	304.19	289.99		
6098.59	291.08	291.26	291.38	294.22	292.09	292.91	294.08	295.71	297.17	297.89	297.85
	301.91	303.17	303.96	304.20	304.59	305.28	305.65	304.14	289.98		
6101.18	291.08	291.26	291.37	294.21	292.08	292.89	294.06	295.68	297.14	297.86	297.81
	301.87	303.12	303.91	304.16	304.54	305.22	305.60	304.10	289.98		
6103.70	291.07	291.25	291.36	294.20	292.07	292.88	294.03	295.65	297.10	297.83	298.29
	301.83	303.09	303.86	304.10	304.50	305.17	305.56	304.06	289.97		
6106.28	291.06	291.25	291.35	294.19	292.06	292.85	294.00	295.63	297.07	297.32	298.26
	301.85	303.06	303.81	304.06	304.46	305.13	305.51	304.03	289.97		
6108.81	291.05	291.25	291.35	294.18	292.05	292.83	294.01	295.64	297.04	297.30	298.22
	301.84	303.03	303.76	304.02	304.41	305.08	305.47	303.99	289.97		
6111.39	291.05	291.25	291.35	294.17	292.05	292.81	294.00	295.63	297.02	297.26	298.18
	301.80	303.00	303.72	303.97	304.35	305.03	305.43	303.96	289.98		
6113.97	291.05	291.25	291.35	294.16	292.05	292.80	293.99	295.61	296.99	297.22	298.14
	301.77	302.97	303.68	303.93	304.31	304.99	305.40	303.92	289.99		
6116.50	291.27	291.25	291.35	294.15	292.05	292.80	293.98	295.62	296.98	297.19	298.10
	301.73	302.94	303.64	303.88	304.26	304.94	305.35	303.87	290.00		
6119.08	291.48	291.25	291.35	294.14	292.05	292.79	293.97	295.60	296.97	297.14	298.07
	301.70	302.92	303.60	303.84	304.23	304.90	305.31	303.83	289.99		
6121.61	291.48	291.25	291.35	291.56	292.05	292.78	293.96	295.58	296.95	297.10	298.02
	301.65	302.89	303.55	303.79	304.20	304.86	305.27	303.80	289.99		
6124.19	291.48	291.25	291.35	291.55	292.05	292.76	293.95	295.57	296.92	297.06	297.98
	301.60	302.85	303.51	303.76	304.52	304.83	305.22	303.76	290.00		
6126.72	291.48	291.25	291.35	291.55	292.05	292.74	293.94	295.55	296.89	297.02	297.96
	301.56	302.80	303.49	303.74	304.48	304.80	305.19	303.73	290.01		
6129.30	291.48	291.25	291.35	291.55	292.04	292.73	293.93	295.53	296.86	297.00	297.94
	301.52	302.76	303.45	303.70	304.45	304.76	305.15	303.70	290.02		
6131.82	291.48	291.25	291.35	291.55	292.03	292.71	293.91	295.50	296.83	296.97	297.40
	301.49	302.73	303.41	303.67	304.41	304.72	305.12	303.67	290.02		
6134.41	291.48	291.25	291.35	291.55	292.02	292.70	293.90	295.48	296.79	296.95	297.38
	301.47	302.69	303.37	303.65	304.38	304.68	305.09	303.64	290.03		
6136.93	291.48	291.25	291.35	291.55	292.00	292.69	293.88	295.45	296.76	296.92	297.36
	301.43	302.64	303.33	303.61	304.35	304.64	305.05	303.60	290.03		
6139.51	291.48	291.25	291.35	291.55	291.98	292.69	293.86	295.43	296.72	296.89	297.34
	301.40	302.60	303.28	303.59	304.32	304.62	305.00	303.56	290.02		
6142.04	291.48	291.24	291.35	291.55	291.96	292.68	293.84	295.40	296.69	296.86	297.31
	301.36	302.57	303.24	303.56	304.29	304.59	304.96	303.53	290.01		
6144.62	291.25	291.23	291.34	291.55	291.94	292.67	293.82	295.37	296.65	296.82	297.28
	301.32	302.53	303.21	303.54	304.26	304.55	304.92	303.50	290.00		
6147.15	291.03	291.22	291.33	291.55	291.93	292.66	293.79	295.34	296.62	296.78	297.25
	301.28	302.49	303.17	303.51	304.21	304.50	304.88	303.47	290.00		
6149.73	291.02	291.21	291.32	291.55	291.91	292.64	293.76	295.31	296.58	296.75	297.22
	301.24	302.44	303.13	303.48	304.17	304.46	304.84	303.44	290.00		
6152.26	291.01	291.19	291.31	291.55	291.89	292.63	293.74	295.28	296.54	296.72	297.20
	301.21	302.41	303.10	303.44	304.13	304.42	304.80	303.40	290.00		
6154.84	291.00	291.17	291.30	291.55	291.87	292.62	293.71	295.25	296.51	296.69	297.17
	301.18	302.40	303.06	303.40	304.09	304.38	304.76	303.37	290.00		
6157.36	290.99	291.16	291.29	291.54	291.86	292.61	293.69	295.21	296.47	296.67	297.14
	301.13	302.37	303.03	303.38	304.05	304.34	304.71	303.33	289.99		
6159.95	290.98	291.14	291.28	291.53	291.86	292.60	293.68	295.18	296.44	296.64	297.11
	301.09	302.33	302.99	303.34	304.02	305.17	304.67	303.28	289.98		

6162.47	290.97	291.12	291.28	291.52	291.85	292.59	293.66	295.16	296.41	296.61	297.08
	301.04	302.30	302.96	303.29	303.98	305.14	304.61	303.24	289.98		
6165.05	290.96	291.10	291.27	291.50	291.85	292.58	293.64	295.12	296.37	296.57	297.05
	301.01	302.26	302.94	303.25	303.95	305.10	304.56	303.20	289.97		
6167.64	290.95	291.08	291.26	291.48	291.84	292.57	293.61	295.09	296.34	296.54	297.02
	300.96	302.23	302.91	303.22	303.92	305.05	304.51	303.16	289.97		
6170.16	290.94	291.07	291.25	291.46	291.84	292.56	293.58	295.06	296.30	296.50	297.00
	300.92	302.18	302.88	303.19	303.87	305.00	304.47	303.13	289.97		
6172.74	290.94	291.06	291.25	291.44	291.83	292.56	293.56	295.03	296.27	296.48	296.98
	300.89	302.14	302.85	303.16	303.83	304.97	304.42	303.09	289.97		
6175.27	290.94	291.06	291.25	291.42	291.82	292.55	293.54	295.00	296.24	296.46	296.96
	300.86	302.10	302.81	303.14	303.80	304.94	304.03	303.06	289.98		
6177.85	290.94	291.05	291.25	291.41	291.81	292.54	293.53	294.97	296.21	296.44	296.94
	300.82	302.07	302.77	303.10	303.78	304.90	303.86	303.01	289.98		
6180.38	290.93	291.05	291.25	291.39	291.80	292.53	293.51	294.94	296.18	296.41	296.91
	300.77	302.03	302.74	303.08	303.74	304.87	303.78	302.97	289.97		
6182.96	290.92	291.05	291.25	291.37	291.78	292.51	293.49	294.92	296.15	296.38	296.88
	300.74	302.00	302.69	303.04	303.71	304.84	303.72	302.93	289.96		
6185.49	290.91	291.05	291.25	291.36	291.76	292.49	293.48	294.91	296.13	296.34	296.84
	300.70	301.95	302.64	303.01	303.69	304.81	303.69	302.90	289.97		
6188.07	290.90	291.05	291.25	291.35	291.74	292.46	293.47	294.89	296.10	296.30	296.82
	300.65	301.91	302.61	302.98	303.65	303.90	303.65	302.87	289.97		
6190.59	290.89	291.05	291.25	291.35	291.72	292.43	293.45	294.86	296.08	296.27	296.79
	300.55	301.86	302.58	302.95	303.62	303.86	303.62	302.83	289.97		
6193.18	290.88	291.05	291.25	291.35	291.70	292.40	293.44	294.84	296.07	296.25	296.76
	300.50	301.82	302.54	302.92	303.57	303.82	303.59	302.78	289.97		
6195.70	290.88	291.05	291.24	291.35	291.69	292.38	293.43	294.83	296.05	296.23	296.72
	300.45	301.78	302.49	302.90	303.54	303.80	303.56	302.75	289.97		
6198.28	290.87	291.05	291.23	291.35	291.68	292.35	293.42	294.82	296.03	296.22	296.70
	300.40	301.74	302.44	302.87	303.51	303.76	303.53	302.71	289.98		
6200.81	290.86	291.05	291.21	291.35	291.67	292.32	293.41	294.81	296.01	296.20	296.66
	301.07	301.71	302.40	302.82	303.47	303.72	303.50	302.69	289.98		
6203.39	290.86	291.05	291.20	291.35	291.66	292.29	293.38	294.80	296.00	296.18	296.64
	301.03	301.68	302.36	302.78	303.44	303.69	303.82	302.66	289.97		
6205.92	290.85	291.05	291.19	291.35	291.65	292.28	293.36	294.79	295.99	296.16	296.61
	301.00	301.65	302.33	302.74	303.40	303.66	303.92	302.64	289.97		
6208.50	290.85	291.05	291.17	291.35	291.65	292.26	293.34	294.78	295.97	296.14	296.59
	300.96	301.62	302.29	302.70	303.36	303.62	303.92	302.61	289.97		
6211.19	290.85	291.05	291.16	291.35	291.65	292.25	293.32	294.77	295.95	296.13	296.57
	300.93	301.58	302.26	302.67	303.32	303.58	303.89	302.58	289.97		
6213.77	290.85	291.05	291.14	291.35	291.65	292.24	293.30	294.75	295.92	296.12	296.55
	300.90	301.54	302.23	302.63	303.28	303.54	303.86	302.55	289.95		
6216.30	290.85	291.05	291.12	291.35	291.65	292.25	293.28	294.74	295.90	296.11	296.53
	300.89	301.52	302.19	302.59	303.24	303.51	303.82	302.53	289.94		
6218.88	290.85	291.05	291.11	291.35	291.65	292.25	293.27	294.72	295.88	296.09	296.52
	300.91	301.49	302.15	302.57	303.20	303.47	303.79	302.49	289.94		
6221.41	290.85	291.05	291.10	291.39	291.65	292.25	293.26	294.71	295.86	296.07	296.50
	300.89	301.46	302.11	302.53	303.17	303.44	303.76	302.47	289.94		
6223.99	290.85	291.05	291.10	291.44	291.65	292.25	293.25	294.70	295.84	296.05	296.47
	300.86	301.43	302.09	302.49	303.14	303.40	303.72	302.44	289.94		
6226.52	290.85	291.05	291.10	291.44	291.65	292.25	293.24	294.70	295.83	296.03	296.45
	300.83	301.41	302.06	302.44	303.10	303.36	303.68	302.40	289.93		
6229.10	290.85	291.05	291.10	291.44	291.65	292.25	293.23	294.69	295.82	296.02	296.42
	300.09	301.39	302.04	302.41	303.07	303.32	303.64	302.36	289.93		
6231.62	290.85	291.05	291.10	291.43	291.65	292.25	293.25	294.68	295.81	296.00	296.40
	300.06	301.37	302.02	302.39	303.04	303.27	303.59	302.31	289.93		
6234.21	290.85	291.05	291.10	291.42	291.64	292.24	293.25	294.67	295.79	295.98	296.37
	300.04	301.34	302.00	302.36	303.01	303.23	303.54	302.28	289.94		
6236.73	290.85	291.05	291.10	291.41	291.63	292.24	293.25	294.65	295.78	295.97	296.34
	300.01	301.32	301.98	302.32	302.97	303.20	303.51	302.24	289.94		
6239.31	290.85	291.05	291.09	291.40	291.62	292.23	293.25	294.64	295.78	295.96	296.32
	299.99	301.29	301.95	302.30	302.94	303.16	303.47	302.20	289.96		

6241.84	290.85	291.04	291.09	291.40	291.62	292.22	293.25	294.63	295.78	295.95	296.30
	299.96	301.26	301.93	302.27	302.91	303.12	303.44	302.16	289.98		
6244.42	290.85	291.03	291.09	291.40	291.61	292.21	293.25	294.62	295.77	295.93	296.28
	299.93	301.23	301.90	302.24	302.86	303.09	303.40	302.12	289.98		
6246.95	290.85	291.02	291.08	291.39	291.60	292.20	293.24	294.61	295.76	295.92	296.25
	299.90	301.19	301.87	302.20	302.82	303.06	303.36	302.08	289.98		
6249.53	290.85	291.01	291.07	291.34	291.59	292.19	293.23	294.60	295.75	295.90	296.23
	299.87	301.14	301.85	302.16	302.78	303.02	303.32	302.05	289.98		
6252.06	290.85	291.00	291.06	291.28	291.58	292.18	293.22	294.59	295.74	295.88	296.22
	299.84	301.11	301.82	302.13	302.74	302.98	303.28	302.01	289.98		
6254.64	290.85	291.00	291.06	291.28	291.57	292.18	293.21	294.57	295.73	295.86	296.21
	299.82	301.06	301.78	302.09	302.70	302.94	303.24	301.98	289.98		
6257.16	290.85	291.00	291.06	291.27	291.56	292.17	293.20	294.55	295.71	295.84	296.20
	299.79	301.00	301.74	302.06	302.66	302.91	303.21	301.96	289.98		
6259.75	290.85	291.00	291.05	291.27	292.86	292.16	293.19	294.53	295.69	295.82	296.19
	299.76	300.95	301.70	302.01	302.61	302.87	303.18	301.92	289.98		
6262.27	290.85	291.00	291.05	291.27	292.86	292.15	293.18	294.51	295.69	295.80	296.18
	299.74	300.90	301.65	301.97	302.58	302.82	303.14	301.88	289.98		
6264.85	290.85	291.00	291.05	291.26	292.86	292.15	293.17	294.50	295.68	295.79	296.17
	299.70	300.85	301.61	301.92	302.54	302.78	303.11	301.84	289.97		
6267.38	290.85	291.00	291.05	291.26	292.86	292.15	293.16	294.49	295.67	295.77	296.16
	299.67	300.80	301.56	301.88	302.49	302.56	303.08	301.81	289.96		
6269.96	290.85	291.00	291.05	291.26	292.86	292.15	293.16	297.03	295.66	295.76	296.15
	299.64	300.75	301.52	301.83	302.44	302.52	303.04	301.79	289.95		
6272.54	290.85	291.00	291.05	291.25	292.86	292.15	293.15	297.01	295.65	295.75	296.14
	299.62	300.71	301.48	301.78	302.41	302.48	302.99	301.75	289.95		
6275.07	290.27	291.00	290.47	290.67	292.28	291.57	292.57	296.42	295.05	295.16	295.56
	299.03	300.11	300.88	301.17	302.09	302.15	302.66	300.87	290.08		
6277.65	289.39	291.00	289.60	289.80	291.40	290.70	291.68	295.53	294.16	294.28	294.69
	298.15	299.22	299.98	300.27	301.19	301.25	301.77	299.98	289.22		
6280.18	289.39	291.00	289.60	289.80	291.40	290.70	291.68	295.52	294.15	294.27	294.68
	298.12	299.18	299.94	300.22	301.13	301.20	301.72	299.93	289.22		
6282.76	289.39	291.00	289.60	289.80	291.40	290.70	291.67	295.51	294.13	294.26	294.67
	298.10	299.16	299.89	300.17	301.08	301.16	301.68	299.89	289.22		
6285.29	289.39	291.00	289.60	289.80	291.40	290.70	291.66	295.50	294.11	294.25	294.65
	298.07	299.13	299.84	300.12	301.03	301.10	301.63	299.84	289.22		
6289.74	289.39	291.00	289.60	289.71	290.10	290.70	291.65	295.49	294.09	294.23	294.63
	298.03	299.27	299.81	300.09	300.98	301.06	301.58	299.81	289.22		
6296.16	289.39	291.00	289.60	289.71	290.10	290.70	291.64	295.48	294.06	294.20	294.61
	297.99	299.24	299.77	300.05	300.93	301.02	301.54	299.76	289.22		
6298.69	289.38	291.00	289.60	289.71	290.10	290.70	291.63	295.46	294.03	294.18	294.58
	297.95	299.21	299.73	300.02	300.89	300.98	301.49	299.73	289.22		
6301.27	289.37	291.00	289.60	289.71	290.10	290.70	291.62	295.45	294.00	294.15	294.56
	297.91	299.18	299.68	299.98	300.85	301.11	301.44	299.69	289.22		
6303.80	289.36	291.00	289.60	289.71	290.10	290.69	291.61	292.88	293.97	294.13	294.53
	297.88	299.15	299.64	299.94	300.80	301.05	301.39	299.64	289.22		
6306.38	289.36	291.00	289.60	289.71	290.09	290.68	291.60	292.86	293.93	294.10	294.50
	297.84	299.12	299.59	299.90	300.76	301.00	301.34	299.61	289.22		
6308.90	289.93	291.00	290.18	290.29	290.66	291.25	292.17	293.42	294.48	294.66	295.04
	298.38	299.65	300.13	300.43	301.00	301.23	301.57	300.44	289.09		
6311.49	290.80	291.00	291.04	291.17	291.53	292.10	293.03	294.26	295.32	295.51	295.88
	299.22	300.48	300.95	301.24	301.82	302.04	302.37	301.27	289.95		
6314.07	290.79	290.85	291.04	291.16	291.52	292.10	293.01	294.23	295.30	295.48	295.85
	299.20	300.44	300.91	301.22	301.78	302.01	302.32	301.24	289.95		
6316.59	290.78	290.85	291.03	291.16	291.50	292.09	292.99	294.21	295.27	295.46	295.83
	299.17	300.40	300.89	301.19	301.74	301.96	302.28	301.20	289.95		
6319.18	290.77	290.85	291.01	291.14	291.49	292.08	292.97	294.18	295.24	295.44	295.81
	299.14	300.36	300.86	301.16	301.71	301.92	302.23	301.15	289.95		
6321.70	290.76	290.85	290.99	291.20	291.47	292.07	292.95	294.15	295.19	295.42	295.79
	299.12	300.14	300.83	301.12	301.67	301.87	302.18	301.11	289.95		
6324.28	290.75	290.85	290.97	291.18	291.45	292.06	292.94	294.12	295.11	295.41	295.77
	299.10	300.10	300.79	301.08	301.65	301.83	302.50	301.07	289.95		
6326.81	290.75	290.85	290.95	291.17	291.43	292.05	292.92	294.11	295.06	295.40	295.75
	299.07	300.07	300.76	301.04	301.62	301.79	302.45	301.02	289.95		

6329.39	290.75	290.85	290.94	291.15	291.41	292.05	292.90	294.09	295.03	295.38	295.74
	299.04	300.03	300.73	301.00	301.58	301.76	302.41	300.98	289.95		
6331.92	290.75	290.84	290.92	291.13	291.40	292.04	292.88	294.07	295.01	295.37	296.24
	299.02	299.99	300.71	300.97	301.55	301.74	302.38	300.94	289.94		
6334.50	290.75	290.83	290.90	291.11	291.38	292.03	292.86	294.06	295.00	295.35	296.24
	298.98	299.97	300.68	300.94	301.51	301.71	302.34	300.90	289.94		
6337.03	290.74	290.82	290.87	291.08	291.37	292.01	292.83	294.04	294.99	295.33	296.22
	298.93	299.93	300.64	300.92	301.47	301.67	302.30	300.83	289.93		
6339.61	290.73	290.80	290.85	291.05	291.36	291.98	292.81	294.02	294.96	295.30	296.19
	298.88	299.88	300.59	300.88	301.44	301.62	302.27	300.78	289.93		
6342.13	290.71	290.78	290.83	291.02	291.34	291.95	292.80	293.99	294.93	295.27	296.16
	298.82	299.84	300.54	300.85	301.41	301.58	302.23	300.74	289.93		
6344.72	290.69	290.76	290.82	290.99	291.32	291.93	292.78	293.96	294.90	295.24	296.14
	298.78	299.80	300.49	300.80	301.37	301.54	302.19	300.71	289.94		
6347.24	290.67	290.74	290.81	290.97	291.31	291.91	292.76	293.94	294.86	295.21	296.10
	298.72	299.77	300.45	300.76	301.32	303.50	302.15	300.67	289.95		
6349.82	290.65	290.73	290.80	290.95	291.30	291.88	292.74	293.91	294.86	295.17	296.06
	298.68	299.73	300.40	300.73	301.28	301.47	302.11	300.63	289.96		
6352.35	290.64	290.71	290.79	290.94	291.30	291.85	292.72	293.88	294.87	295.14	296.04
	298.62	299.70	300.37	300.69	301.23	301.43	301.71	300.60	289.97		
6354.93	290.62	290.69	290.78	290.92	291.29	291.82	292.70	293.85	294.87	295.10	296.01
	298.57	299.67	300.32	300.65	301.17	301.38	301.65	300.57	289.97		
6357.46	290.60	290.68	290.77	290.90	291.28	291.79	292.68	293.83	294.84	295.06	295.97
	298.52	299.64	300.27	300.62	301.12	301.33	301.60	300.55	289.97		
6360.04	290.59	290.67	290.76	290.89	291.27	291.77	292.66	293.80	294.82	295.04	295.43
	298.47	299.60	300.23	300.58	301.08	301.28	301.56	300.52	289.98		
6362.57	290.58	290.67	290.75	290.88	291.27	291.77	292.65	293.78	294.79	295.02	295.41
	298.43	299.57	300.20	300.56	301.05	301.24	301.51	300.50	290.00		
6365.15	290.58	290.67	290.75	290.88	291.27	291.77	292.65	293.76	294.77	295.01	295.40
	298.40	299.54	300.17	300.52	301.02	301.22	301.48	300.48	290.02		
6367.67	290.58	290.68	290.75	290.88	291.28	291.78	292.66	293.75	294.76	295.00	295.40
	298.39	299.52	300.15	300.49	300.98	301.20	301.45	300.46	290.03		
6370.26	290.59	290.69	290.75	290.88	291.29	291.78	292.66	293.74	294.75	295.00	295.40
	298.37	299.50	300.14	300.46	300.95	301.17	301.42	300.44	290.04		
6372.78	290.60	290.70	290.75	290.89	291.30	291.78	292.67	293.72	294.75	295.00	295.40
	298.35	299.49	300.12	300.43	300.92	301.14	301.40	300.43	290.05		
6375.36	290.61	290.71	290.75	290.90	291.31	291.78	292.68	293.71	294.75	295.01	295.41
	298.34	299.47	300.10	300.40	300.89	301.12	301.38	300.41	290.07		
6377.95	290.62	290.72	290.76	290.91	291.32	291.79	292.69	293.71	294.76	295.03	295.42
	298.33	299.44	300.08	300.38	300.85	301.09	301.36	300.39	290.09		
6380.47	290.63	290.73	290.76	290.92	291.33	291.80	292.69	293.71	294.76	295.05	295.43
	298.33	299.41	300.05	300.35	300.82	301.05	301.34	300.37	290.10		
6383.05	290.64	290.74	290.76	290.93	291.34	291.82	292.68	293.71	294.76	295.07	295.44
	298.34	299.38	300.02	300.31	300.80	301.03	301.32	300.35	290.13		
6385.58	290.65	290.74	290.76	290.94	291.35	291.82	292.68	293.71	294.76	295.09	295.45
	298.34	299.35	300.00	300.27	300.78	301.01	301.31	300.33	290.15		
6388.16	290.65	290.74	290.76	290.94	291.35	291.82	292.67	293.71	294.76	295.09	295.45
	298.33	299.32	299.97	300.23	300.74	300.98	301.28	300.29	290.16		
6390.69	290.65	290.74	290.76	290.94	291.35	291.81	292.66	293.71	294.76	295.09	295.45
	298.32	299.30	299.93	300.19	300.71	300.94	301.25	300.25	290.17		
6393.27	290.65	290.73	290.76	290.94	291.35	291.80	292.65	293.71	294.76	295.08	295.45
	298.31	299.27	299.89	300.16	300.67	300.90	301.21	300.22	290.18		
6395.80	290.65	290.72	290.76	290.95	291.34	291.81	292.64	293.71	294.76	295.08	295.80
	298.31	299.25	299.88	300.14	300.65	300.87	301.17	300.19	290.20		
6398.38	290.65	290.72	290.78	290.96	291.34	291.82	292.65	293.72	294.77	295.07	295.80
	298.32	299.24	299.88	300.14	300.64	300.87	301.14	300.17	290.21		
6401.07	290.65	290.72	290.79	290.96	291.34	291.82	292.64	293.75	294.77	295.07	295.80
	298.32	299.24	299.88	300.15	300.64	300.87	301.11	300.14	290.22		
6403.60	290.65	290.72	290.79	290.96	291.34	291.82	292.63	293.75	294.77	295.06	295.79
	298.32	299.22	299.87	300.15	300.62	300.86	301.07	300.12	290.22		
6406.23	290.64	290.71	290.79	290.96	291.34	291.81	292.62	293.75	294.76	295.04	295.77
	298.30	299.22	299.85	300.13	300.60	300.84	301.03	300.09	290.22		
6408.76	290.63	290.70	290.79	290.96	291.34	291.80	292.61	293.75	294.75	295.02	295.75
	298.27	299.21	299.83	300.12	300.57	300.82	301.00	300.06	290.22		

6411.34	290.61	290.70	290.79	290.96	291.34	291.79	292.60	293.75	294.74	294.98	295.73
	298.26	299.20	299.84	300.13	300.56	300.82	300.97	300.03	290.22		
6413.87	290.60	290.69	290.79	290.96	291.34	291.79	292.60	293.75	294.73	294.95	295.71
	298.26	299.20	299.86	300.14	300.56	300.82	300.94	299.99	290.24		
6416.45	290.58	290.68	290.79	290.96	291.34	291.79	292.60	293.75	294.72	294.93	295.80
	302.89	303.40	305.13	305.52	305.00	305.24	301.86	300.03	290.24		
6418.97	290.56	290.68	292.11	290.96	291.34	291.79	292.60	293.73	294.69	294.92	295.94
	306.65	306.90	309.37	309.77	308.19	308.54	302.68	300.12	290.24		
6421.56	290.54	290.68	292.11	290.96	291.34	291.79	292.60	293.71	294.67	294.94	296.17
	309.96	310.10	313.09	313.54	310.93	311.40	303.77	300.19	290.22		
6424.14	290.53	290.68	292.12	291.62	291.34	291.78	292.59	293.70	294.68	295.04	296.20
	313.43	313.43	316.96	317.40	313.77	314.32	304.47	300.33	290.18		
6426.66	290.51	290.67	292.11	291.60	291.33	291.77	292.57	293.72	294.75	295.21	296.64
	316.92	316.81	320.83	321.28	316.64	317.22	305.18	300.48	290.18		
6441.00	290.49	290.66	292.11	291.60	291.32	291.76	292.58	293.78	294.89	295.43	297.10
	320.41	320.20	324.70	325.13	319.54	320.11	305.91	300.64	290.18		
6444.08	290.48	290.65	292.10	291.60	291.30	291.75	292.60	293.89	295.09	295.72	297.64
	323.93	323.66	328.61	329.03	322.71	323.07	306.70	300.82	290.16		
6448.74	290.47	290.65	292.10	291.60	291.30	291.76	292.65	294.03	295.34	296.08	298.26
	327.49	327.16	332.56	332.97	325.75	326.06	307.52	301.03	290.15		
6452.92	290.46	290.65	292.10	291.60	291.29	291.79	292.72	294.20	295.64	296.48	298.94
	331.10	330.68	336.52	336.90	328.80	329.06	308.39	301.25	290.14		
6456.93	290.46	290.63	292.10	291.60	291.29	291.83	292.82	294.41	296.00	296.97	299.68
	334.75	334.18	340.52	340.85	331.89	332.09	309.32	301.51	290.12		
6461.10	290.46	290.63	292.11	291.60	291.29	291.88	292.94	294.68	296.43	297.52	300.50
	338.34	337.70	344.51	344.82	335.01	335.14	310.29	301.80	290.09		
6465.06	290.46	290.63	292.11	291.62	291.31	291.95	293.07	294.96	296.94	298.13	301.26
	337.23	337.03	343.25	343.42	333.70	333.80	310.37	302.07	290.09		
6468.96	290.47	290.63	290.80	291.64	291.34	292.04	293.23	295.31	297.51	298.79	301.98
	336.98	337.50	343.02	343.16	333.67	333.58	310.61	302.32	290.12		
6472.86	290.48	290.63	290.81	291.66	291.38	292.14	293.44	295.74	298.16	299.47	302.68
	337.27	337.88	343.32	343.40	334.14	333.86	310.62	302.63	290.15		
6476.70	290.48	290.63	290.82	291.03	291.44	292.27	293.68	296.19	298.77	300.09	303.27
	337.42	338.48	343.48	343.54	334.66	334.07	311.06	302.89	290.21		
6480.38	290.48	290.63	290.82	291.07	291.50	292.41	293.94	296.63	299.35	300.66	303.80
	337.55	338.70	343.62	343.66	335.02	334.30	311.53	303.18	290.22		
6484.12	290.49	290.63	290.82	291.10	291.58	292.57	294.20	297.08	299.90	301.22	304.38
	337.67	338.90	343.80	343.82	335.39	334.56	312.00	303.50	290.22		
6487.80	290.50	290.63	290.85	291.14	291.66	292.74	294.48	297.52	300.46	301.76	304.95
	337.78	339.09	343.94	343.95	335.51	334.78	312.46	303.83	290.24		
6491.42	290.51	290.65	290.89	291.20	291.76	292.92	294.77	297.95	300.99	302.29	305.47
	337.84	339.22	344.06	344.06	335.81	335.00	312.94	304.19	290.25		
6494.99	290.52	290.67	290.92	291.26	291.84	293.10	295.06	298.37	301.49	302.80	305.93
	337.89	339.36	344.18	344.19	336.12	335.23	313.41	304.56	290.28		
6498.56	290.54	290.70	290.96	291.33	291.93	293.27	295.33	298.76	301.96	303.28	306.36
	337.90	339.51	344.26	344.29	336.39	335.45	313.86	304.93	290.29		
6502.02	290.54	290.72	291.00	291.40	292.03	293.44	295.59	299.13	302.38	303.70	306.72
	337.94	339.65	344.34	344.38	336.64	335.65	314.30	305.31	290.32		
6505.54	290.55	290.73	291.05	291.45	292.14	293.60	295.87	299.51	302.77	304.11	307.08
	338.06	339.78	344.43	344.48	336.89	335.85	314.72	305.70	290.32		
6509.00	290.54	290.75	291.08	291.51	292.24	293.76	296.12	299.86	303.12	304.48	307.43
	338.22	339.48	344.53	344.59	337.14	336.06	315.14	306.08	290.31		
6512.46	290.54	291.37	291.12	291.58	292.33	293.92	296.36	300.17	303.44	304.80	307.75
	338.30	339.61	344.62	344.67	337.38	336.24	315.57	306.46	290.29		
6515.86	290.55	291.39	291.15	291.64	292.43	294.07	296.58	300.44	303.77	305.11	308.06
	338.40	339.44	344.71	344.75	337.46	336.43	315.98	306.85	290.28		
6519.21	290.55	291.42	291.20	291.70	292.52	294.21	296.79	300.71	304.08	305.41	308.35
	338.51	339.60	344.80	344.83	337.69	336.61	316.41	307.24	290.27		
6522.62	290.55	291.44	291.24	291.76	292.62	294.35	296.99	300.98	304.39	305.69	308.61
	338.60	339.77	344.89	344.91	337.92	336.81	316.82	307.62	290.26		
6525.97	290.54	291.46	291.27	291.83	292.72	294.49	297.19	301.22	304.66	305.95	308.83
	338.72	339.94	345.03	345.03	338.17	337.02	317.24	308.01	290.26		
6529.27	290.54	291.48	291.30	291.88	292.80	294.62	297.37	301.47	304.92	306.20	309.05
	338.81	340.10	345.11	345.11	338.37	336.88	317.66	308.40	290.26		

6532.56	290.53	291.48	291.33	291.93	292.90	294.74	297.55	301.70	305.17	306.43	309.30
	338.88	340.24	345.18	345.16	338.55	336.94	318.07	308.78	290.25		
6535.91	290.53	291.50	291.35	291.98	293.01	294.87	297.72	301.92	305.42	306.64	309.54
	338.95	340.39	345.28	345.24	338.75	337.07	318.48	309.15	290.24		
6539.26	290.52	291.52	291.38	292.04	293.10	294.99	297.89	302.14	305.64	306.85	309.76
	339.03	340.56	345.37	345.31	338.95	337.21	318.90	309.53	290.24		
6542.39	290.52	291.54	291.42	292.11	293.17	295.11	298.05	302.35	305.87	307.06	309.99
	339.13	340.71	345.45	345.38	339.14	337.35	319.31	309.90	290.24		
6545.58	290.54	291.56	291.45	292.16	293.24	295.21	298.21	302.57	306.10	307.26	310.22
	339.17	340.84	345.53	345.45	339.32	337.50	319.71	310.27	290.25		
6548.87	290.54	290.99	291.49	292.22	293.32	295.32	298.36	302.78	306.34	307.49	310.41
	339.17	340.91	345.60	345.52	339.49	337.64	320.11	310.64	290.27		
6552.06	290.55	291.00	291.52	292.27	293.39	295.43	298.52	303.01	306.56	307.74	310.61
	339.14	340.94	345.66	345.59	339.67	337.77	320.49	311.01	290.28		
6555.25	290.56	291.02	291.56	292.33	293.47	295.54	298.67	303.21	306.79	307.99	310.80
	339.11	340.97	345.71	345.65	339.84	337.90	320.86	311.37	290.30		
6558.38	290.57	291.04	291.60	292.39	293.54	295.65	298.81	303.40	307.00	308.19	310.99
	339.05	340.98	345.71	345.69	339.98	338.00	321.23	311.73	290.31		
6561.51	290.59	291.07	291.64	292.46	293.62	295.74	298.95	303.59	307.21	308.38	311.18
	338.98	340.96	345.69	345.70	340.10	338.10	321.58	312.08	290.32		
6564.64	290.60	291.09	291.68	292.51	293.70	295.84	299.08	303.77	307.42	308.55	311.37
	338.93	340.91	345.70	345.76	340.25	338.56	321.91	312.43	290.33		
6567.77	290.61	291.11	291.71	292.57	293.77	295.92	299.19	303.97	307.64	308.74	311.54
	338.89	340.88	345.72	345.82	340.41	338.79	322.25	312.77	290.35		
6570.90	290.61	291.13	291.75	292.62	293.83	296.01	299.32	304.18	307.86	308.93	311.70
	338.87	340.84	345.72	345.87	340.54	338.95	322.57	313.12	290.36		
6573.97	290.63	291.15	291.77	292.67	293.88	296.09	299.44	304.38	308.08	309.11	311.16
	338.82	340.79	345.72	345.91	340.68	339.09	322.89	313.46	290.36		
6577.11	290.64	291.18	291.80	292.71	293.95	296.18	299.58	304.59	308.31	309.29	311.31
	338.74	340.74	345.70	345.95	340.81	339.23	323.21	313.80	290.36		
6580.18	290.64	291.19	291.83	292.75	294.02	296.28	299.71	304.78	308.53	309.48	311.45
	338.68	340.69	345.68	346.00	340.94	339.37	323.50	314.13	290.35		
6583.26	290.64	291.22	291.87	292.79	294.08	296.37	299.84	304.98	308.75	309.67	311.61
	338.63	340.65	345.67	346.04	341.06	339.50	323.80	314.45	290.34		
6586.33	290.64	291.24	291.90	292.84	294.13	296.46	299.98	305.18	308.98	309.86	311.76
	338.57	340.62	345.65	346.07	341.17	339.64	324.10	314.79	290.34		
6589.35	290.66	291.26	291.92	292.87	294.20	296.55	300.11	305.41	309.22	310.05	311.92
	338.54	340.60	345.65	346.10	341.28	339.78	324.39	315.11	290.35		
6592.43	290.66	291.29	291.94	292.91	294.27	296.64	300.26	305.62	309.44	310.24	312.06
	338.57	340.60	345.66	346.14	341.38	339.92	324.69	315.42	290.35		
6595.45	290.67	291.31	291.97	292.96	294.32	296.74	300.40	305.81	309.63	310.40	312.15
	338.59	340.60	345.65	346.18	341.49	340.05	324.99	315.73	290.34		
6598.47	290.67	291.34	292.00	292.98	294.36	296.82	300.53	305.99	309.82	310.56	312.25
	338.62	340.65	345.64	346.20	341.64	340.20	325.29	316.02	290.32		
6601.55	290.67	291.37	292.04	293.02	294.41	296.92	300.68	306.15	309.99	310.71	312.35
	338.65	340.70	345.65	346.23	341.78	340.35	325.58	316.34	290.31		
6604.57	290.68	291.39	292.09	293.07	294.48	297.02	300.81	306.10	310.09	310.86	312.47
	338.64	340.76	345.67	346.27	341.90	340.49	325.88	316.65	290.31		
6607.59	290.69	291.41	292.13	293.12	294.55	297.12	300.94	306.24	310.22	311.01	313.31
	338.65	340.82	345.69	346.30	342.00	340.61	326.16	316.95	290.31		
6610.56	290.70	291.44	292.16	293.18	294.62	297.21	301.05	306.37	310.34	311.16	313.44
	338.69	340.89	345.73	346.34	342.10	340.73	326.44	317.25	290.31		
6613.58	290.72	291.47	292.20	293.24	294.69	297.29	301.16	306.50	310.46	311.29	313.56
	338.77	340.95	345.77	346.36	342.18	340.84	326.72	317.55	290.30		
6616.60	290.74	291.49	292.24	293.29	294.77	297.37	301.25	306.62	310.55	311.39	313.68
	338.85	341.02	345.80	346.40	342.27	340.96	327.00	317.85	290.30		
6619.62	290.75	291.50	292.27	293.33	294.84	297.44	301.33	306.62	310.58	311.49	313.79
	338.92	341.08	345.80	346.42	342.35	341.06	327.26	318.14	290.28		
6622.58	290.77	291.51	292.30	293.38	294.89	297.50	301.41	306.70	310.63	311.59	313.89
	338.95	341.11	345.81	346.45	342.44	341.16	327.53	318.45	290.26		
6625.55	290.78	291.52	292.33	293.41	294.94	297.55	301.48	306.79	310.73	311.69	314.01
	338.96	341.15	345.80	346.47	342.53	341.26	327.79	318.74	290.25		
6628.52	290.80	291.53	292.36	293.46	294.98	297.61	301.54	306.89	310.84	311.82	314.14
	339.00	341.20	345.81	346.49	342.62	341.36	328.04	319.00	290.25		

6631.48	290.82	291.54	292.40	293.52	295.06	297.67	301.61	306.99	310.92	311.93	314.24
	339.03	341.26	345.83	346.53	342.67	341.45	328.29	319.32	290.25		
6634.45	290.85	291.55	292.42	293.55	295.10	297.72	301.66	307.08	311.00	312.02	314.33
	339.03	341.25	345.85	346.57	342.73	341.53	328.53	319.59	290.25		
6637.41	290.86	291.58	292.44	293.59	295.14	297.77	301.72	307.38	311.16	312.11	314.41
	339.03	341.22	345.84	346.60	342.79	341.61	328.76	319.86	290.25		
6640.38	290.88	291.59	292.46	293.62	295.17	297.82	301.79	307.48	311.29	312.19	314.50
	339.04	341.20	345.82	346.62	342.85	341.70	328.99	320.13	290.25		
6643.35	290.90	291.60	292.48	293.64	295.20	297.87	301.85	307.57	311.38	312.25	314.56
	339.06	341.18	345.79	346.64	342.92	341.79	329.21	320.39	290.25		
6646.31	290.90	291.60	292.49	293.66	295.22	297.91	301.91	307.64	311.44	312.29	314.61
	339.05	341.19	345.76	346.66	343.00	341.88	329.44	320.65	290.25		
6649.22	290.91	291.62	292.50	293.69	299.85	302.14	301.94	307.71	311.51	312.33	314.62
	339.05	341.23	345.75	346.69	343.09	341.98	329.67	320.90	290.25		
6652.19	290.92	291.64	292.52	293.72	299.89	302.20	301.96	307.86	311.62	312.36	314.64
	339.06	341.24	345.75	346.72	343.18	342.07	329.89	321.15	290.25		
6655.15	290.93	291.65	292.54	293.73	299.91	302.24	302.00	307.80	311.32	312.39	314.68
	339.05	341.22	345.76	348.00	343.25	342.16	330.12	321.38	290.25		
6658.07	290.93	291.67	292.56	293.75	299.94	302.29	302.04	307.85	311.37	312.45	314.75
	339.04	341.19	345.76	348.02	343.31	342.23	330.33	321.62	290.25		
6660.98	290.94	291.69	292.58	293.76	299.97	302.32	302.10	307.90	311.42	312.49	314.81
	338.98	341.14	345.76	348.04	343.36	342.30	330.54	321.88	290.25		
6663.94	290.94	291.70	292.58	293.77	299.99	302.35	302.14	307.95	311.47	312.53	314.87
	338.93	341.10	345.76	348.05	343.43	342.33	330.75	322.11	290.25		
6666.80	290.93	291.71	292.60	293.79	300.01	302.37	302.17	307.99	311.53	312.58	314.91
	338.94	341.11	345.76	348.08	343.51	342.39	330.96	322.34	290.25		
6669.65	290.93	291.72	292.62	293.80	300.03	302.39	302.21	308.04	311.57	312.61	314.94
	338.94	341.14	345.77	348.11	343.59	342.46	331.17	322.56	290.25		
6672.62	290.93	291.74	292.64	293.80	300.06	302.42	302.24	308.09	311.60	312.63	314.97
	338.92	341.16	345.77	348.13	343.66	342.54	331.38	322.78	290.25		
6675.53	290.94	291.57	292.66	293.81	300.08	302.45	302.28	308.11	311.67	312.65	314.98
	338.88	341.19	345.76	348.15	343.74	342.61	331.59	323.01	290.25		
6678.44	290.95	291.59	292.68	293.82	300.11	302.48	302.32	308.15	311.73	312.68	315.00
	338.84	341.19	345.77	348.18	343.81	342.69	331.79	323.23	290.25		
6681.30	290.96	291.60	292.69	293.84	295.51	298.32	302.40	308.21	311.79	312.68	315.02
	338.80	341.16	345.78	348.21	343.88	342.76	331.99	363.44	290.24		
6684.21	290.98	291.60	292.71	293.83	295.51	298.32	302.48	308.27	311.84	312.67	315.06
	338.75	341.14	345.80	348.23	343.94	342.84	332.18	323.65	290.24		
6687.07	291.00	291.62	292.72	293.84	295.53	298.36	306.53	308.45	312.27	312.67	315.09
	338.71	341.15	345.80	346.99	344.00	342.90	332.36	323.86	290.24		
6689.98	291.01	291.63	292.73	293.84	295.55	298.38	302.58	308.41	312.30	312.65	315.08
	337.82	341.09	345.82	347.03	344.08	342.98	332.56	324.06	290.24		
6692.83	291.02	291.64	292.75	293.87	295.57	298.42	302.63	308.48	312.34	312.64	315.08
	337.81	341.09	345.82	347.07	344.15	343.07	332.74	324.25	290.23		
6695.69	291.03	291.65	292.77	293.88	295.60	298.46	302.66	308.52	312.38	312.65	315.11
	337.78	341.10	345.80	347.09	344.20	343.17	332.93	324.45	290.22		
6698.55	291.05	291.66	292.78	293.90	295.63	298.49	302.70	308.55	312.43	312.68	315.14
	337.73	341.11	345.79	347.10	344.24	343.27	333.10	324.65	290.21		
6701.46	291.08	291.66	292.79	293.88	295.65	298.52	302.75	308.58	312.48	312.71	315.16
	337.72	341.08	345.79	347.10	344.29	343.35	333.27	324.84	290.21		
6704.31	291.09	291.66	292.80	293.89	295.66	298.56	302.79	308.62	312.52	312.74	315.18
	337.71	341.04	345.80	347.12	344.34	343.42	333.44	325.03	290.20		
6707.17	291.10	291.85	292.80	293.91	295.68	298.57	302.82	308.68	312.54	312.78	315.22
	337.69	341.02	345.81	347.15	344.39	343.50	333.60	325.21	290.19		
6710.03	291.11	291.85	292.81	293.93	295.69	298.59	302.84	308.73	312.57	312.85	315.28
	337.64	340.98	345.74	347.15	344.43	343.57	333.77	325.40	290.18		
6712.88	291.12	291.86	292.82	293.95	295.71	298.62	302.86	308.77	312.60	312.92	315.35
	337.60	340.95	345.66	347.15	344.47	343.64	333.92	325.58	290.18		
6715.74	291.12	291.87	292.83	293.99	295.74	298.64	302.87	308.80	312.65	313.01	315.42
	337.60	340.93	345.64	347.15	344.52	343.71	334.08	325.76	290.18		
6718.59	291.13	291.88	292.83	294.01	295.75	298.65	302.89	308.84	312.70	313.10	315.44
	337.60	340.93	345.64	347.16	344.58	343.79	334.24	325.94	290.18		
6721.45	291.14	291.89	292.84	294.03	295.77	298.67	302.92	308.97	312.77	313.19	315.46
	338.46	341.03	345.65	347.17	344.62	343.87	334.40	326.13	290.19		

6724.31	291.14	291.89	292.84	294.04	295.78	298.68	302.94	309.00	312.83	313.25	315.47
	338.47	341.06	345.67	347.18	344.66	343.94	334.56	326.31	290.19		
6727.22	291.15	291.89	292.84	294.04	295.78	298.68	302.97	309.07	312.88	313.29	315.46
	338.47	341.09	345.69	347.18	344.70	344.01	334.71	326.48	290.19		
6730.07	291.15	291.89	292.85	294.05	295.79	298.70	303.00	309.15	312.92	313.31	315.47
	338.45	341.09	345.70	347.19	344.75	344.09	334.86	326.65	290.20		
6732.87	291.15	291.89	292.85	294.10	295.81	298.72	303.03	309.19	312.93	313.32	315.49
	338.42	341.10	345.71	347.20	344.80	344.15	335.02	326.83	290.21		
6735.73	291.15	291.89	292.85	294.12	295.82	298.74	303.05	309.23	312.97	313.38	315.49
	338.38	341.13	345.72	347.20	344.86	344.23	335.18	327.00	290.22		
6738.59	291.14	291.89	292.86	294.13	295.84	298.75	302.89	309.26	313.01	313.44	315.50
	338.36	341.14	345.73	347.20	344.90	344.29	335.32	327.17	290.23		
6741.44	291.13	291.89	292.87	294.14	295.86	298.78	302.89	309.30	313.04	313.45	315.51
	338.37	341.16	345.80	347.18	344.94	344.35	335.46	327.34	290.24		
6744.30	291.13	291.89	292.89	294.15	295.87	298.80	302.90	309.34	313.08	313.45	315.51
	338.28	341.12	345.74	347.05	344.86	344.28	335.59	327.50	290.24		
6747.15	291.14	291.89	292.90	294.16	295.88	298.82	302.93	309.38	313.11	313.45	315.51
	338.03	340.97	345.49	346.75	344.66	344.07	335.68	327.66	290.24		
6750.01	291.15	291.89	292.92	294.17	295.91	298.85	302.97	309.42	313.15	313.46	315.53
	337.69	340.74	345.11	346.35	344.38	343.78	335.81	326.83	290.24		
6752.87	291.16	291.89	292.94	294.18	295.93	298.87	302.99	309.46	313.17	313.50	315.58
	337.26	340.37	344.62	345.84	344.02	343.38	335.90	326.97	290.24		
6755.56	291.18	291.89	292.96	294.20	295.95	298.89	303.01	309.47	313.18	313.55	315.64
	336.74	339.90	344.04	345.23	343.59	342.92	335.94	327.11	290.24		
6758.14	291.19	291.89	292.98	294.22	295.96	298.92	303.03	309.48	313.19	313.63	315.71
	336.16	339.37	343.39	344.54	343.10	342.40	335.94	327.24	290.23		
6760.67	291.21	291.89	292.99	294.24	295.98	298.93	303.04	309.49	313.22	313.69	315.77
	335.56	338.82	342.69	343.80	342.57	341.84	335.93	327.37	290.22		
6763.25	291.23	292.08	293.02	294.24	296.00	298.95	303.06	309.50	313.27	313.74	315.80
	334.92	338.26	341.94	342.99	342.00	341.24	335.90	327.48	290.21		
6765.77	291.25	292.09	293.04	294.24	296.02	298.96	303.08	309.51	313.29	313.73	315.83
	334.26	337.66	341.15	342.14	341.39	340.62	335.85	327.58	290.20		
6768.36	291.27	292.10	293.07	294.24	296.03	298.97	303.28	309.52	313.30	313.73	315.83
	333.57	337.05	340.31	341.26	340.76	339.97	335.80	327.67	290.20		
6770.88	291.30	292.11	293.09	294.24	299.71	298.94	303.33	309.53	313.32	313.78	315.82
	332.85	336.40	339.47	340.36	340.11	339.31	335.73	327.75	290.19		
6773.46	291.32	292.12	293.10	294.24	299.72	298.93	303.34	309.52	313.34	313.83	315.79
	332.20	335.78	338.69	339.55	339.54	338.76	335.66	327.82	290.18		
6775.99	291.33	292.13	293.11	294.24	299.74	298.93	303.35	309.51	313.34	313.86	315.76
	331.65	335.24	338.04	338.87	339.08	338.32	335.59	327.90	290.17		
6778.57	291.34	292.14	293.12	294.24	299.75	298.93	303.35	309.49	313.31	313.86	315.72
	331.15	334.76	337.46	338.27	338.67	337.95	335.48	328.94	290.16		
6781.10	291.34	292.14	293.12	294.24	299.76	298.93	303.35	309.47	313.29	313.83	315.68
	330.75	334.35	336.96	337.74	338.31	337.65	335.39	329.00	290.15		
6783.68	291.35	292.15	293.13	294.24	299.76	298.93	303.35	309.46	313.28	313.81	315.64
	330.42	334.01	336.51	337.30	338.01	337.40	335.33	329.05	290.15		
6786.21	291.35	292.15	293.14	294.24	299.76	298.92	303.34	309.44	313.27	313.76	315.57
	330.14	333.71	336.10	336.92	337.74	337.18	335.28	329.09	290.15		
6788.79	291.35	292.15	293.14	294.24	299.76	298.90	303.33	309.44	313.25	313.71	315.48
	329.87	333.43	335.75	336.56	337.47	336.98	335.22	329.13	290.14		
6791.37	291.35	292.15	293.14	294.24	299.76	298.88	303.33	309.44	313.25	313.68	315.38
	329.63	333.16	335.42	336.24	337.23	336.80	335.18	329.16	290.14		
6793.90	291.35	292.15	293.14	294.24	299.76	298.88	303.33	309.44	313.25	313.63	315.27
	329.40	332.90	335.10	335.94	337.00	336.62	335.12	329.19	290.14		
6796.48	291.35	292.15	293.14	294.24	299.76	298.88	303.33	309.43	313.23	313.58	315.18
	329.17	332.63	334.80	335.65	336.78	336.45	335.07	329.22	290.15		
6799.00	291.35	292.15	293.14	294.24	296.09	298.92	303.32	309.42	313.21	313.50	315.11
	328.95	332.36	334.47	335.37	336.56	336.28	335.02	329.25	290.16		
6801.59	291.35	292.15	293.14	294.38	296.08	298.94	303.32	309.42	313.19	313.42	315.04
	328.75	332.08	334.20	335.09	336.36	336.11	334.97	329.28	290.16		
6804.11	291.35	292.15	293.14	294.37	296.08	298.95	303.31	309.40	313.17	313.35	314.98
	328.58	331.83	333.94	334.82	336.16	335.95	334.92	329.29	290.17		
6806.69	291.35	292.15	293.14	294.36	296.07	298.96	303.31	309.40	313.14	313.30	314.90
	328.43	331.60	333.68	334.55	335.95	335.79	334.86	329.30	290.18		

6809.22	291.36	292.15	293.14	294.36	296.06	298.96	303.30	309.38	313.08	313.23	314.80
	328.27	331.41	333.44	334.29	335.75	335.62	334.81	329.31	290.19		
6811.80	291.36	292.15	293.14	294.35	296.05	298.96	303.29	309.37	313.03	313.16	314.69
	328.11	331.23	333.22	334.04	335.54	335.47	334.75	329.32	290.20		
6814.33	291.37	292.15	293.14	294.35	296.05	298.96	303.29	309.34	312.99	313.09	314.59
	327.95	331.05	333.02	333.81	335.33	335.31	334.69	329.33	290.21		
6816.91	291.38	292.15	293.15	294.35	296.05	298.98	303.28	309.30	312.93	313.00	314.51
	327.80	330.87	332.82	333.61	335.14	335.15	334.63	329.33	290.23		
6819.44	291.39	292.15	293.15	294.35	296.05	298.98	303.26	309.23	312.85	312.94	314.44
	327.63	330.70	332.64	333.40	334.94	334.99	334.56	329.33	290.24		
6822.02	291.40	292.15	293.14	294.35	296.05	298.98	303.23	309.18	312.77	312.90	314.37
	327.46	330.52	332.47	333.21	334.75	334.83	334.48	329.32	290.24		
6824.54	291.41	292.16	293.13	294.35	296.05	298.98	303.21	309.13	312.72	312.86	314.29
	327.30	330.37	332.32	333.02	334.56	334.68	334.42	329.32	290.24		
6827.13	291.42	292.16	293.12	294.35	296.05	298.97	303.18	309.08	312.65	312.82	314.21
	327.16	330.26	332.18	332.84	334.37	334.53	334.34	329.31	290.24		
6829.65	291.43	292.16	293.12	294.35	296.05	298.97	303.15	309.01	312.57	312.78	314.12
	327.00	330.15	332.04	332.68	334.18	334.38	334.27	329.30	290.26		
6832.23	291.44	292.18	293.12	294.35	296.05	298.95	303.12	308.94	312.49	312.71	314.03
	326.84	330.01	331.88	332.51	333.99	334.23	334.20	329.28	290.26		
6834.76	291.44	292.20	293.12	294.35	296.05	298.93	303.08	308.86	312.42	312.63	313.94
	326.67	329.86	331.74	332.34	333.80	334.08	334.11	329.26	290.26		
6837.34	291.45	292.21	293.12	294.35	296.05	298.91	303.03	308.79	312.37	312.56	313.86
	326.51	329.71	331.58	332.18	333.63	333.94	334.03	329.24	290.26		
6839.87	291.45	292.22	293.12	294.35	296.04	298.90	302.98	308.72	312.30	312.48	313.76
	326.36	329.54	331.41	332.01	333.47	333.80	333.94	329.21	290.26		
6842.45	291.45	292.23	293.12	294.35	296.03	298.88	302.94	308.65	312.22	312.40	313.67
	326.22	329.37	331.21	331.85	333.32	333.66	333.86	329.18	290.26		
6844.98	291.45	292.24	293.12	294.35	296.03	298.86	302.90	308.60	312.16	312.32	313.57
	326.08	329.20	331.03	331.68	333.18	333.53	333.77	329.15	290.25		
6847.56	291.45	292.24	293.13	294.35	296.02	298.84	302.85	308.55	312.10	312.21	313.46
	325.94	329.04	329.42	331.50	333.03	333.40	333.69	329.12	290.24		
6850.14	291.45	292.25	293.14	294.35	296.01	298.82	302.81	308.50	312.03	312.08	313.36
	325.80	328.88	328.52	331.33	332.85	333.29	333.61	329.09	290.23		
6852.72	291.45	292.25	293.16	294.35	296.00	298.78	302.76	308.43	311.95	311.95	313.24
	325.67	328.71	328.33	331.15	332.69	333.15	333.52	329.05	290.22		
6855.25	291.45	292.27	293.18	294.35	295.99	298.74	302.71	308.37	311.88	311.83	313.13
	325.53	328.55	328.14	330.98	332.53	333.01	333.42	329.00	290.21		
6857.83	291.45	292.27	293.18	294.35	295.98	298.71	302.67	308.31	311.81	311.72	313.02
	325.40	328.40	327.96	330.81	332.38	332.87	333.32	328.95	290.20		
6860.36	291.45	292.26	293.18	294.35	295.97	298.68	302.63	308.24	311.72	311.62	312.90
	325.26	328.25	327.79	330.64	332.23	332.73	333.21	328.89	290.18		
6862.94	291.45	292.25	293.18	294.34	295.96	298.65	302.59	308.18	311.65	311.53	312.78
	325.12	328.10	327.62	330.47	332.07	332.59	333.10	328.84	290.16		
6865.46	291.45	292.25	293.18	294.34	295.94	298.62	302.54	308.13	311.58	311.44	312.66
	324.98	327.96	327.47	330.30	331.91	332.45	332.99	328.79	290.15		
6868.05	291.45	292.25	293.18	294.33	295.93	298.59	302.50	308.08	311.51	311.35	312.55
	324.83	327.82	327.32	330.14	331.74	332.32	332.89	328.72	290.14		
6870.57	291.45	292.25	293.18	294.32	295.91	298.57	302.45	308.02	311.44	311.27	312.44
	324.69	327.69	327.20	329.99	331.58	332.18	332.79	328.65	290.13		
6873.15	291.45	292.25	293.18	294.31	295.89	298.54	302.41	307.95	311.36	311.20	312.33
	324.55	327.56	327.07	329.84	331.42	332.06	332.68	328.58	290.13		
6875.68	291.45	292.25	293.18	294.30	295.87	298.51	302.38	307.89	311.30	311.14	312.24
	324.42	327.41	328.36	329.70	331.27	331.92	332.58	328.51	290.13		
6878.26	291.45	292.25	293.18	294.29	295.86	298.49	302.34	307.83	311.24	311.09	312.15
	324.30	327.26	328.96	329.56	331.14	331.78	332.48	328.43	290.13		
6880.79	291.45	292.26	293.17	294.28	295.85	298.47	302.31	307.77	311.19	311.03	312.06
	324.18	327.13	328.84	329.42	331.02	331.67	332.38	328.36	290.14		
6883.37	291.45	292.27	293.16	294.27	295.83	298.44	302.27	307.73	311.13	310.99	311.92
	324.05	326.98	328.73	329.29	330.90	331.56	332.28	328.29	290.15		
6885.90	291.46	292.28	293.15	294.26	295.82	298.42	302.24	307.67	311.08	310.93	311.82
	323.91	326.84	328.61	329.17	330.78	331.45	332.18	328.21	290.16		
6888.48	291.47	292.29	293.15	294.25	295.80	298.40	302.21	307.63	311.04	310.86	311.75
	323.78	326.71	328.48	329.07	330.66	331.35	332.09	328.13	290.17		

6891.00	291.48	292.29	293.15	294.25	295.78	298.37	302.56	307.48	310.94	310.78	311.66
	323.66	326.58	328.34	328.97	330.56	331.25	332.00	328.05	290.19		
6893.59	291.49	292.29	293.14	294.24	295.76	298.36	302.53	307.42	310.85	310.69	311.56
	323.52	326.45	328.21	328.85	330.45	331.14	331.90	327.97	290.19		
6896.11	291.50	292.29	293.13	294.23	295.74	298.33	302.50	307.36	310.78	310.60	311.46
	323.38	326.32	328.08	328.73	330.35	331.04	331.80	327.88	290.19		
6898.69	291.51	292.28	293.12	294.23	295.72	298.30	302.45	307.31	310.71	310.50	311.36
	323.24	326.18	327.96	328.60	330.24	330.94	331.69	327.79	290.19		
6901.22	291.52	292.27	293.11	294.21	295.71	298.26	302.41	307.25	310.63	310.38	311.25
	323.10	326.04	327.84	328.47	330.12	330.83	331.59	327.70	290.19		
6903.80	291.53	292.26	293.10	294.20	295.69	298.23	302.36	307.18	310.54	310.27	311.14
	322.95	325.91	327.71	328.36	330.00	330.72	331.48	327.60	290.19		
6906.33	291.54	292.25	293.09	294.19	295.67	298.20	302.31	307.10	310.44	310.18	311.05
	322.80	325.77	327.58	328.24	329.88	330.61	331.36	327.50	290.19		
6908.91	291.54	292.23	293.08	294.17	295.64	298.17	302.26	307.02	310.35	310.09	310.97
	322.67	325.63	327.44	328.10	329.78	330.49	331.24	327.41	290.18		
6911.44	291.54	292.23	293.22	294.17	294.47	297.00	301.07	305.82	309.15	308.90	309.86
	321.45	324.42	326.23	326.88	328.59	329.31	330.06	326.23	289.02		
6914.02	291.54	292.23	291.77	294.17	293.01	295.54	299.60	305.07	307.67	307.45	308.43
	319.97	322.93	324.75	325.39	327.13	327.85	328.62	324.79	287.85		
6916.54	291.54	292.23	290.32	294.17	291.56	294.08	298.14	303.61	306.20	306.00	306.99
	318.50	321.44	323.27	323.89	325.68	326.39	327.17	323.34	286.68		
6919.13	291.54	292.23	290.30	294.17	291.54	294.04	297.70	303.65	306.19	305.94	306.92
	318.38	321.29	323.13	323.74	325.54	326.27	327.06	323.24	286.67		
6921.71	291.54	292.23	290.29	294.17	291.52	294.01	297.60	303.33	306.14	305.88	306.86
	318.26	321.14	322.99	323.60	325.42	326.14	326.95	323.14	286.67		
6924.23	291.54	292.23	290.28	294.17	291.49	293.98	297.53	303.08	306.09	305.83	306.80
	318.14	320.98	322.84	323.46	325.29	326.02	326.85	323.05	286.67		
6926.82	291.54	292.23	290.27	294.17	291.47	293.94	297.48	302.95	306.02	305.78	306.74
	318.02	320.84	322.68	323.31	325.16	325.90	326.75	322.96	286.67		
6929.34	291.54	292.23	290.26	294.17	291.45	293.92	297.42	302.87	305.95	305.74	306.68
	317.90	320.72	322.52	323.14	325.05	325.78	326.64	322.88	286.67		
6931.92	291.54	292.23	290.25	294.17	291.43	293.88	297.37	302.79	305.86	305.70	306.64
	317.80	320.60	322.36	322.97	324.90	325.65	326.53	322.79	286.67		
6934.45	291.54	292.23	290.23	294.17	291.41	293.85	297.32	302.72	305.77	305.65	306.58
	317.67	320.48	322.20	322.81	324.76	325.52	326.42	322.70	286.65		
6937.03	291.54	292.23	290.22	294.17	291.38	293.81	297.27	302.66	305.69	305.58	306.50
	317.55	320.35	322.05	322.67	324.61	325.41	326.32	322.60	286.64		
6939.56	291.54	292.23	290.05	294.17	292.50	294.92	298.36	303.71	306.73	306.60	307.51
	318.52	321.30	322.98	323.63	325.54	326.36	327.28	323.59	287.79		
6942.14	291.54	292.23	291.48	294.17	293.91	296.32	299.74	304.32	308.04	307.89	308.78
	319.76	322.53	324.20	324.86	326.74	327.57	328.50	324.84	288.94		
6944.83	291.54	292.15	292.92	294.17	295.32	297.71	301.11	305.62	309.32	309.17	310.07
	321.02	323.78	325.24	326.08	327.94	328.79	329.72	326.09	290.09		
6947.41	291.55	292.15	292.91	294.17	295.30	297.68	301.07	305.49	309.20	309.08	309.99
	320.91	323.68	325.12	325.96	327.83	328.68	329.60	326.00	290.08		
6949.94	291.56	292.15	292.90	294.17	295.29	297.64	301.05	305.66	309.11	309.01	309.93
	320.82	323.59	325.00	325.84	327.71	328.57	329.49	325.91	290.07		
6952.52	291.56	292.15	292.90	294.17	295.28	297.58	301.00	305.81	309.04	308.94	309.86
	320.72	323.50	324.89	325.73	327.60	328.46	329.37	325.82	290.06		
6955.05	291.57	292.15	292.90	294.17	295.26	297.55	300.96	305.81	308.97	308.88	309.80
	320.62	323.39	324.79	325.63	327.49	328.34	329.25	325.72	290.04		
6957.63	291.57	292.15	292.89	293.91	295.24	297.52	300.92	305.77	308.91	308.82	309.75
	320.52	323.25	324.70	325.54	327.38	328.23	329.13	325.62	290.03		
6960.16	291.56	292.15	292.88	293.90	295.23	297.50	300.88	305.72	308.86	308.74	309.67
	320.40	323.11	324.60	325.46	327.30	328.12	329.01	325.53	290.01		
6962.74	291.55	292.15	292.88	293.88	295.21	297.47	300.85	305.68	308.82	308.68	309.58
	320.30	323.00	324.50	325.37	327.21	328.02	328.89	325.48	290.01		
6965.26	291.54	292.15	292.88	293.86	295.20	297.44	300.82	305.62	308.76	308.61	309.48
	320.18	322.90	324.40	325.27	327.12	327.91	328.78	325.40	290.01		
6967.85	291.53	292.15	292.87	293.84	295.19	297.41	300.79	305.57	308.70	308.55	309.40
	320.05	322.80	324.29	325.15	327.02	327.79	328.65	325.30	290.02		

6970.37	291.52	292.15	292.87	293.82	295.18	297.38	300.74	305.51	308.65	308.49	309.32
	319.90	322.69	324.16	325.04	326.91	327.68	328.54	325.21	290.03		
6972.95	291.52	292.15	292.87	293.79	295.18	297.35	300.70	305.48	308.61	308.43	309.24
	319.75	322.55	324.23	324.94	326.81	327.57	328.41	325.15	290.04		
6975.48	291.51	292.15	292.86	293.77	295.16	297.33	300.66	305.30	308.59	308.37	309.16
	319.61	322.42	324.13	324.85	326.70	327.47	328.30	325.07	290.04		
6978.06	291.52	292.15	292.86	293.76	295.15	297.31	300.63	305.25	308.53	308.30	309.08
	319.48	322.30	324.04	324.77	326.59	327.36	328.18	324.97	290.05		
6980.59	291.50	292.15	292.85	293.75	295.13	297.30	300.63	305.16	308.47	308.22	309.00
	319.34	322.18	323.95	324.68	326.47	327.25	328.06	324.87	290.06		
6983.17	291.49	292.15	292.85	293.74	295.11	297.29	300.60	305.09	308.40	308.13	308.92
	319.23	322.07	323.86	324.58	326.34	327.15	327.96	324.77	290.07		
6985.70	291.48	292.15	292.85	293.73	295.09	297.26	300.55	305.02	308.32	308.06	308.86
	319.12	321.99	323.77	324.47	326.21	327.04	327.85	324.66	290.08		
6988.28	291.47	292.15	292.85	293.71	295.06	297.23	300.51	304.95	308.26	307.99	308.80
	319.00	321.89	323.68	324.35	326.08	326.93	327.75	324.56	290.09		
6990.86	291.47	292.15	292.84	293.69	295.04	297.19	300.46	304.88	308.18	307.92	308.75
	318.89	321.78	323.60	324.23	325.95	326.48	327.65	324.46	290.10		
6993.39	291.47	292.14	292.83	293.67	295.01	297.16	300.40	304.81	308.11	307.86	308.72
	318.80	321.65	323.52	324.13	325.83	326.35	327.54	324.37	290.10		
6995.97	291.47	292.13	292.82	293.66	294.98	297.13	300.34	304.74	308.03	307.82	308.69
	318.74	321.54	323.43	324.03	325.70	326.24	327.44	324.28	290.08		
6998.49	291.47	292.12	292.81	293.64	294.95	297.10	300.30	304.63	307.96	307.77	308.65
	318.70	321.44	323.34	323.93	325.58	326.12	327.34	324.18	290.07		
7001.08	291.47	292.12	292.80	293.63	294.93	297.06	300.25	304.50	307.89	307.71	308.61
	318.65	321.36	323.25	323.82	325.46	326.00	327.24	324.05	291.88		
7003.60	291.47	292.11	292.80	293.62	294.90	297.03	300.21	304.59	307.82	307.66	308.55
	318.59	321.28	323.16	323.71	325.34	325.88	327.12	323.94	291.87		
7006.18	291.47	292.10	292.79	293.60	294.88	296.99	300.16	304.53	307.76	307.62	308.51
	318.51	321.20	323.07	323.60	325.21	325.74	327.01	323.13	291.86		
7008.71	291.48	292.09	292.77	293.58	294.87	296.96	300.12	304.46	307.70	307.58	308.46
	318.43	321.13	322.98	323.48	325.09	325.60	326.90	323.04	291.84		
7011.29	291.49	292.08	292.76	293.56	294.86	296.94	300.08	304.39	307.64	307.54	308.43
	318.35	321.04	322.87	323.37	324.97	325.46	326.77	322.94	291.83		
7013.82	291.49	292.07	292.74	293.55	294.84	296.91	300.06	304.34	307.58	307.48	308.38
	318.27	320.94	322.75	323.27	324.84	325.32	326.64	322.85	291.82		
7016.40	291.49	292.06	292.72	293.55	294.83	296.89	300.02	304.29	307.52	307.43	308.32
	318.22	320.84	322.62	323.16	324.72	325.18	326.51	322.75	291.82		
7018.93	291.49	292.05	292.71	293.55	294.81	296.87	299.98	304.24	307.46	307.36	308.27
	318.17	320.76	322.49	323.06	324.61	325.38	326.38	322.61	291.81		
7021.51	291.49	292.05	292.70	293.55	294.79	296.85	299.94	304.21	307.41	307.30	308.21
	318.10	320.70	322.35	322.95	324.50	325.27	326.26	322.48	291.80		
7024.03	291.49	292.05	292.69	293.54	294.77	296.82	299.91	304.17	307.36	307.24	308.13
	318.01	320.63	322.22	322.84	324.40	325.15	326.13	322.37	291.80		
7026.62	291.49	292.05	292.68	293.53	294.75	296.79	299.89	304.17	307.30	307.19	308.06
	317.90	320.56	322.10	322.73	324.32	325.04	326.01	322.25	291.80		
7029.14	291.50	292.05	292.67	293.52	294.74	296.77	299.86	304.19	307.25	307.12	307.98
	317.78	320.46	321.98	322.63	324.23	324.92	325.88	322.13	289.97		
7031.72	291.51	292.05	292.66	293.52	294.72	296.76	299.83	304.18	307.20	307.05	307.91
	317.68	320.36	321.85	322.53	324.14	324.82	325.76	322.02	289.95		
7034.25	291.51	292.05	292.66	293.51	294.70	296.74	299.81	304.14	307.14	306.98	307.82
	317.59	320.25	321.72	322.45	324.05	324.72	325.64	322.62	289.95		
7036.83	291.51	292.05	292.65	293.50	294.68	296.72	299.79	304.11	307.09	306.91	307.73
	317.52	320.15	321.61	322.37	323.97	324.62	325.52	322.49	289.95		
7039.41	291.51	292.05	292.65	293.50	294.66	296.70	299.76	304.08	307.06	306.85	307.65
	317.46	320.05	321.51	322.29	323.89	324.53	325.40	322.38	289.95		
7041.99	291.52	292.05	292.65	293.49	294.65	296.68	299.74	304.06	307.02	306.80	307.57
	317.37	319.97	321.41	322.21	323.81	324.43	325.29	322.26	289.95		
7044.52	291.53	292.05	292.65	293.48	294.65	296.66	299.73	304.02	306.99	306.74	307.51
	317.27	319.88	321.31	322.14	323.73	324.34	325.18	322.15	289.95		
7047.10	291.53	292.05	292.65	293.47	294.65	296.66	299.72	303.99	306.96	306.70	307.47
	317.16	319.79	321.22	322.06	323.65	324.24	325.07	322.04	289.95		
7049.63	291.54	292.05	292.65	293.46	294.65	296.65	299.71	303.94	306.92	306.65	307.42
	317.06	319.70	321.14	321.97	323.55	324.15	324.95	321.93	289.97		

7052.21	291.56	292.05	292.65	293.46	294.65	296.65	299.69	303.90	306.89	306.58	307.36
	316.96	319.59	321.06	321.88	323.45	324.05	324.84	321.82	289.99		
7054.74	291.57	292.05	292.65	293.46	294.65	296.64	299.67	303.86	306.85	306.53	307.31
	316.86	319.48	320.99	321.79	323.34	323.94	324.73	321.72	290.00		
7057.32	291.57	292.05	292.65	293.46	294.65	296.63	299.64	303.82	306.81	306.48	307.26
	316.77	319.38	320.91	321.70	323.22	323.84	324.63	321.62	290.01		
7059.85	291.56	292.05	292.65	293.45	294.64	296.62	299.61	303.78	306.75	306.43	307.22
	316.68	319.28	320.82	321.60	323.11	323.74	324.52	321.52	290.02		
7062.43	291.55	292.05	292.65	293.45	294.63	296.61	299.58	303.73	306.70	306.38	307.18
	316.58	319.19	320.74	321.48	323.00	323.65	324.42	321.42	290.02		
7064.95	291.56	292.05	292.64	293.45	294.62	296.60	299.55	303.68	306.64	306.34	307.16
	316.48	319.10	320.65	321.37	322.90	323.55	324.32	321.34	290.03		
7067.54	291.56	292.05	292.64	293.45	294.61	296.60	299.52	303.63	306.57	306.30	307.13
	316.38	319.03	320.55	321.26	322.80	323.45	324.22	321.25	290.04		
7070.06	291.56	292.05	292.63	293.45	294.60	296.58	299.48	303.57	306.50	306.25	307.08
	316.29	318.96	320.46	321.15	322.71	323.35	324.12	321.16	290.06		
7072.64	291.53	292.05	292.62	293.29	294.59	296.55	299.45	303.51	306.44	306.19	307.03
	316.21	318.88	320.37	321.04	322.61	323.26	324.03	321.07	290.08		
7075.17	291.53	292.05	292.61	293.29	294.58	296.52	299.41	303.46	306.37	306.13	306.96
	316.12	318.80	320.29	320.96	322.51	323.18	323.94	320.97	290.08		
7077.75	291.53	292.05	292.60	293.29	294.54	296.50	299.36	303.41	306.30	306.08	306.90
	316.02	318.70	320.20	320.88	322.41	323.09	323.84	320.88	290.08		
7080.33	291.52	292.05	292.59	293.29	294.51	296.47	299.33	303.00	306.23	306.02	306.85
	315.94	318.61	320.10	320.80	322.31	323.01	323.74	320.79	290.07		
7082.86	291.52	292.05	292.58	293.29	294.49	296.45	299.30	302.95	306.16	305.95	306.79
	315.88	318.51	319.99	320.70	322.22	322.93	323.65	320.70	290.07		
7085.44	291.52	292.05	292.57	293.29	294.47	296.43	299.16	302.89	306.10	305.89	306.73
	315.80	318.42	319.90	320.59	322.13	322.84	323.56	320.61	290.08		
7087.97	291.52	292.05	292.56	293.28	294.46	296.40	298.88	302.85	306.04	305.83	306.66
	315.73	318.33	319.82	320.49	322.04	322.76	323.48	320.52	290.08		
7090.55	291.53	292.05	292.55	293.28	294.45	296.37	298.77	302.81	305.98	305.78	306.61
	315.67	318.24	319.73	320.38	321.95	322.66	323.39	320.43	290.08		
7093.08	291.52	292.05	292.55	293.26	294.43	296.33	298.70	302.76	305.93	305.72	306.55
	315.60	318.13	319.64	320.26	321.84	322.57	323.30	320.33	290.08		
7095.66	291.51	292.04	292.55	293.24	294.41	296.30	298.66	302.71	305.87	305.68	306.48
	315.52	318.01	319.54	320.14	321.73	322.47	323.21	320.24	290.08		
7098.18	291.52	292.04	292.55	293.22	294.39	296.27	298.61	302.67	305.82	305.64	306.42
	315.43	317.87	319.44	320.03	321.61	322.37	323.12	320.15	290.07		
7100.77	291.53	292.03	292.54	293.36	294.37	296.24	298.57	302.63	305.78	305.61	306.37
	315.34	317.75	319.34	319.91	321.50	322.26	323.02	320.06	290.06		
7103.29	291.53	292.03	292.53	293.34	294.35	296.24	298.54	302.59	305.75	305.57	306.32
	315.26	317.64	319.24	319.75	321.39	322.15	322.92	319.96	290.06		
7105.87	291.52	292.03	292.52	293.33	294.34	296.19	298.51	302.56	305.72	305.52	306.27
	315.18	317.54	319.14	319.61	321.29	322.03	322.83	319.88	290.06		
7108.40	291.52	292.03	292.51	293.31	294.33	296.16	298.48	302.88	305.68	305.49	306.23
	315.10	317.43	319.04	319.50	321.18	321.92	322.73	319.79	290.06		
7110.98	291.51	292.03	292.50	293.29	294.30	296.13	298.45	302.84	305.64	305.44	306.18
	315.00	317.32	318.94	319.40	321.07	321.80	322.64	319.70	290.06		
7113.51	291.50	292.03	292.50	293.26	294.28	296.10	298.52	302.80	305.59	305.39	306.12
	314.91	317.22	318.85	319.30	320.97	321.68	322.53	319.60	290.05		
7116.09	291.49	292.03	292.49	293.24	294.26	296.09	298.72	302.75	305.54	305.34	306.06
	314.50	317.13	318.73	319.21	320.87	321.56	322.42	319.51	290.05		
7118.62	291.48	292.03	292.48	293.22	294.23	296.08	298.77	302.71	305.50	305.29	306.00
	314.40	317.03	318.61	319.12	320.76	321.45	322.31	319.41	290.05		
7121.20	291.47	292.03	292.46	293.21	294.22	296.06	298.77	302.68	305.46	305.22	305.94
	314.31	316.94	318.49	319.03	320.64	321.33	322.20	319.31	290.05		
7123.78	291.45	292.02	292.42	293.20	294.20	296.04	298.74	302.63	305.40	305.16	305.87
	314.22	316.87	318.38	318.94	320.52	321.22	322.09	319.22	290.05		
7126.31	291.43	292.02	292.40	293.20	294.18	296.01	298.72	302.58	305.34	305.09	305.81
	314.13	316.81	318.28	318.85	320.42	321.11	321.98	319.11	290.05		
7128.89	291.43	292.02	292.39	293.19	294.16	295.99	298.69	302.53	305.27	305.02	305.73
	314.06	316.76	318.20	318.78	320.30	321.00	321.87	319.01	290.05		
7131.41	291.43	292.01	292.38	293.18	294.16	295.97	298.66	302.48	305.20	304.94	305.66
	313.99	316.70	318.12	318.72	320.19	320.89	321.76	318.91	290.05		

7133.99	291.43	291.99	292.38	293.17	294.15	295.95	298.62	302.44	305.13	304.87	305.58
	313.91	316.64	318.03	318.65	320.07	320.79	321.65	318.81	290.06		
7136.69	291.43	291.98	292.37	293.16	294.14	295.93	298.58	302.33	304.95	304.76	305.51
	313.84	316.59	317.95	318.56	319.95	320.68	321.54	318.70	290.07		
7139.27	291.43	291.97	292.36	293.15	294.13	295.90	298.54	302.26	304.89	304.68	305.44
	313.78	316.54	317.87	318.48	319.84	320.57	321.42	318.59	290.07		
7141.79	291.43	291.96	292.35	293.15	294.12	295.88	298.51	302.21	304.83	304.61	305.38
	313.71	316.46	317.79	318.40	319.73	320.46	321.31	318.50	290.07		
7144.38	291.43	291.95	292.34	293.14	294.12	295.82	298.48	302.15	304.77	304.54	305.31
	313.94	316.39	317.72	318.33	319.63	320.36	321.20	318.40	290.07		
7146.90	291.43	291.94	292.33	293.13	294.11	295.78	298.44	302.09	304.70	304.47	305.24
	313.86	316.30	317.67	318.27	319.54	320.27	321.08	318.30	290.07		
7149.48	291.41	291.92	292.33	293.12	294.10	295.76	298.41	302.03	304.64	304.40	305.17
	313.78	316.20	317.60	318.21	319.45	320.17	320.98	318.20	290.07		
7152.01	291.42	291.92	292.42	293.12	294.09	295.75	298.38	301.98	304.58	304.34	305.11
	313.71	316.11	317.53	318.15	319.38	320.07	320.87	318.10	290.07		
7154.59	291.43	291.91	292.44	293.10	294.08	295.72	298.34	301.93	304.54	304.30	305.08
	313.65	316.02	317.46	318.08	319.30	319.96	320.76	318.01	290.06		
7157.12	291.43	291.90	292.45	293.08	294.06	295.69	298.30	301.89	304.49	304.24	305.04
	313.59	315.93	317.38	318.00	319.23	319.85	320.65	317.92	290.06		
7159.70	291.43	291.89	292.45	293.06	294.04	295.67	298.27	301.84	304.44	304.20	304.99
	313.53	315.84	317.29	317.92	319.15	319.75	325.15	317.82	290.05		
7162.23	291.43	291.88	292.45	293.04	294.01	295.64	298.24	301.79	304.38	304.17	304.95
	313.46	315.76	317.22	317.84	319.09	319.64	325.04	317.73	290.03		
7164.81	291.43	291.88	292.40	293.02	293.99	295.61	298.21	301.79	304.45	304.18	304.91
	313.40	315.65	317.14	317.76	319.03	319.54	324.93	317.64	290.01		
7167.33	291.43	291.87	292.38	293.01	293.98	295.60	298.18	301.78	304.40	304.17	304.88
	313.32	315.55	317.05	317.66	318.96	319.45	324.83	317.54	290.00		
7169.92	291.43	291.86	292.36	292.99	293.96	295.57	298.15	301.74	304.35	304.15	304.85
	313.25	315.47	316.97	317.56	318.88	319.45	324.73	317.44	289.99		
7572.44	291.43	291.86	292.35	292.97	293.94	295.57	298.11	301.71	304.30	304.12	304.82
	313.18	315.39	316.88	317.46	318.79	319.25	324.63	317.33	289.98		
7175.02	291.43	291.85	292.34	292.95	293.92	295.56	298.09	301.68	304.27	304.09	304.79
	313.12	315.33	316.78	317.35	318.70	319.15	324.54	317.24	289.97		
7177.55	291.45	291.85	292.34	292.93	293.90	295.53	298.06	301.65	304.25	304.06	304.77
	313.06	315.27	316.70	317.25	318.61	319.04	324.43	317.13	289.97		
7180.13	291.45	291.85	292.25	292.91	293.88	295.52	298.04	301.62	304.22	304.04	304.73
	312.99	315.21	316.62	317.16	318.52	318.94	324.33	317.04	289.96		
7182.66	291.45	291.85	292.22	292.90	293.87	295.50	298.02	301.59	304.18	304.00	304.69
	312.92	315.14	316.54	317.07	318.44	318.85	324.23	316.94	289.96		
7185.24	291.45	291.85	292.21	292.89	293.85	295.50	298.00	301.56	304.13	303.96	304.65
	312.84	315.07	316.46	316.99	318.35	318.77	324.13	316.84	289.96		
7187.77	291.45	291.85	292.20	292.88	293.85	295.49	297.98	301.51	304.09	303.92	304.62
	312.77	315.00	316.38	316.91	318.27	318.69	319.42	316.74	289.96		
7190.35	291.45	291.85	292.19	292.88	293.85	295.48	297.95	301.47	304.03	303.86	304.58
	312.69	314.91	316.30	316.83	318.18	318.60	319.32	316.65	289.96		
7192.88	291.45	291.85	292.23	292.88	293.85	295.47	297.92	301.43	303.98	303.81	304.53
	312.61	314.84	316.23	316.76	318.08	318.50	319.23	316.56	289.96		
7195.46	291.45	291.85	292.24	292.88	293.85	295.46	297.89	301.38	303.93	303.74	304.49
	312.53	314.78	316.17	316.68	317.99	318.42	319.14	316.48	289.96		
7197.98	291.45	291.85	292.25	292.88	293.85	295.46	297.88	301.33	303.87	303.68	304.44
	312.45	314.72	316.11	316.63	317.90	318.33	319.05	316.40	289.96		
7200.56	291.45	291.85	292.25	292.89	293.85	295.46	297.86	301.28	303.80	303.63	304.40
	312.38	314.66	316.05	316.57	317.80	318.24	318.96	316.32	289.96		
7203.09	291.45	291.85	292.25	292.89	293.85	295.44	297.82	301.23	303.73	303.59	304.36
	312.32	314.60	315.98	316.51	317.72	318.16	318.86	316.25	289.97		
7205.67	291.45	291.85	292.26	292.89	293.84	295.42	297.79	301.17	303.66	303.51	304.31
	312.25	314.55	315.91	316.43	317.63	318.09	318.79	316.18	289.98		
7208.20	291.45	291.85	292.26	292.89	293.83	295.40	297.75	301.12	303.57	303.44	304.27
	312.19	314.49	315.84	316.35	317.54	318.01	318.71	316.11	289.99		
7210.78	291.45	291.85	292.25	292.89	293.82	295.39	298.07	301.06	303.50	303.38	304.23
	312.13	314.42	315.76	316.27	317.44	317.93	318.64	316.03	290.00		
7213.31	291.45	291.85	292.24	292.89	293.82	295.37	298.02	301.01	303.44	303.33	304.19
	312.08	314.34	315.69	316.17	317.35	317.85	318.56	315.96	290.02		

7215.89	291.45	291.85	292.24	292.89	293.81	295.35	297.99	300.96	303.38	303.28	303.97
	312.02	314.25	315.61	316.08	317.25	317.77	318.48	315.90	290.03		
7218.47	291.45	291.85	292.23	292.89	293.80	295.33	297.96	300.92	303.32	303.23	303.92
	311.96	314.18	315.52	315.99	317.15	317.69	318.41	315.83	290.04		
7221.00	291.44	291.85	292.22	292.88	293.79	295.31	297.93	300.88	303.27	303.17	303.87
	311.90	314.11	315.43	315.89	317.05	317.61	318.33	315.75	290.05		
7223.58	291.43	291.84	292.22	292.87	293.78	295.29	297.90	300.85	303.22	303.12	303.81
	311.85	314.03	315.33	315.80	316.97	317.53	318.24	315.68	290.07		
7226.11	291.42	291.83	292.21	292.86	293.77	295.26	297.87	300.82	303.19	303.07	303.76
	311.79	313.95	315.23	315.70	316.88	317.44	318.16	315.61	290.09		
7228.69	291.42	291.82	292.20	292.85	293.76	295.24	297.84	300.80	303.16	303.03	303.71
	311.73	313.86	315.13	315.59	316.78	317.37	318.06	315.53	290.10		
7231.27	291.42	291.81	292.19	292.85	293.74	295.22	297.83	300.78	303.14	302.97	303.66
	311.67	313.77	315.02	315.48	316.69	317.28	317.98	315.45	290.11		
7233.79	291.42	291.80	292.17	292.85	293.73	295.21	297.82	300.77	303.11	302.96	303.62
	311.59	313.68	314.92	315.38	316.61	317.20	317.89	315.37	290.12		
7236.38	291.41	291.79	292.16	292.85	293.71	295.20	297.81	300.74	303.10	302.94	303.59
	311.51	313.59	314.82	315.28	316.53	317.12	317.80	315.29	290.12		
7238.90	291.41	291.78	292.16	292.85	293.70	295.19	297.44	300.72	303.09	302.92	303.56
	311.42	313.51	314.72	315.18	316.45	317.03	317.70	315.21	290.13		
7241.48	291.41	291.78	292.16	292.85	293.68	295.18	297.42	300.70	303.08	302.91	303.53
	311.34	313.44	314.62	315.09	316.36	316.95	317.62	315.14	290.14		
7244.01	291.41	291.77	292.16	292.85	293.66	295.17	297.41	300.68	303.06	302.90	303.67
	311.26	313.39	314.53	315.01	316.28	316.86	317.53	315.05	290.16		
7246.59	291.41	291.76	292.16	292.85	293.64	295.16	297.39	300.66	303.03	302.88	303.63
	311.19	313.33	314.44	314.93	316.20	316.78	317.43	314.98	290.17		
7249.12	291.42	291.75	292.15	292.85	293.62	295.16	297.37	300.63	303.01	302.86	303.60
	311.12	313.27	314.35	314.86	316.11	316.70	317.35	314.90	290.17		
7251.70	291.43	291.75	292.15	292.85	293.60	295.15	297.36	300.59	302.98	302.85	303.58
	311.06	313.21	314.26	314.78	316.02	316.61	317.27	314.83	290.18		
7254.23	291.44	291.75	292.15	292.85	293.59	295.14	297.34	300.55	302.94	302.84	303.56
	310.99	313.14	314.18	314.70	315.92	316.53	317.19	314.75	290.18		
7256.81	291.44	291.75	292.15	292.85	293.57	295.14	297.33	300.52	302.90	302.82	303.53
	310.91	313.05	314.10	314.62	315.82	316.44	317.11	314.67	290.20		
7259.33	291.44	291.75	292.15	292.85	293.56	295.12	297.31	300.48	302.86	302.79	303.49
	310.84	312.95	314.03	314.54	315.73	316.36	317.03	314.60	290.21		
7261.92	291.44	291.75	292.15	292.85	293.55	295.12	297.29	300.44	302.83	302.75	303.45
	310.78	312.85	313.96	314.47	315.64	316.27	316.95	314.53	290.22		
7264.44	291.45	291.75	292.15	292.85	293.55	295.10	297.26	300.42	302.80	302.71	303.40
	310.73	312.76	313.88	314.39	315.56	316.19	316.88	314.46	290.24		
7267.02	291.45	291.75	292.15	292.85	293.55	295.09	297.24	300.40	302.78	302.67	303.34
	309.95	312.67	313.81	314.32	315.48	316.10	316.80	314.39	290.25		
7269.55	291.45	291.75	292.15	292.85	293.55	295.07	297.23	300.38	302.74	302.62	303.29
	309.90	312.57	313.75	314.24	315.40	316.02	316.72	314.31	290.25		
7272.13	291.45	291.75	292.15	292.85	293.55	295.05	297.21	300.36	302.71	302.56	303.24
	309.84	312.46	313.68	314.15	315.32	315.92	316.63	314.24	290.25		
7274.71	291.45	291.75	292.15	292.84	293.55	295.03	297.20	300.33	302.69	302.52	303.18
	309.78	312.36	313.61	314.06	315.23	315.84	316.56	314.16	290.26		
7277.24	291.45	291.74	292.15	292.82	293.55	295.01	297.20	300.32	302.67	302.50	303.14
	309.71	312.26	313.53	313.98	315.15	315.74	316.48	314.08	290.26		
7279.82	291.44	291.74	292.15	292.81	293.55	295.00	297.18	300.30	302.64	302.47	303.12
	309.64	312.17	313.46	313.88	315.07	315.66	316.39	314.00	290.26		
7282.35	291.43	291.73	292.15	292.79	293.54	294.98	297.16	300.27	302.60	302.43	303.10
	309.58	312.10	313.37	313.80	315.00	315.58	316.30	313.92	290.25		
7284.93	291.42	291.72	292.15	292.77	293.54	294.96	297.13	300.24	302.56	302.41	303.08
	309.53	312.02	313.28	313.72	314.94	315.50	316.22	313.84	290.25		
7287.46	291.41	291.71	292.15	292.75	293.53	294.95	297.10	300.20	302.52	302.39	303.06
	309.49	311.96	313.20	313.64	314.88	315.43	316.13	313.76	290.25		
7290.04	291.40	291.70	292.15	292.73	293.53	294.92	297.07	300.16	302.48	302.36	303.03
	309.44	311.90	313.12	313.56	314.79	315.34	316.04	313.69	290.25		
7292.56	291.39	291.69	292.15	292.72	293.52	294.91	297.06	300.13	302.42	302.33	302.99
	310.25	311.83	313.04	313.48	314.70	315.26	315.95	313.62	290.24		
7295.15	291.38	291.68	292.15	292.70	293.51	294.90	297.04	300.09	302.35	302.28	302.95
	310.88	311.76	312.96	313.42	314.62	315.17	315.87	313.54	290.23		

7297.67	291.38	291.67	292.15	292.68	293.50	294.89	297.04	300.05	302.30	302.24	302.90
	310.79	311.69	312.87	313.35	314.55	315.09	315.78	313.46	290.23		
7300.25	291.37	291.66	292.15	292.66	293.49	294.88	297.04	300.00	302.24	302.21	302.86
	310.69	311.62	312.78	313.28	314.48	315.01	315.70	313.39	290.23		
7302.78	291.36	291.66	292.15	292.65	293.48	294.88	297.04	299.96	302.16	302.17	302.83
	310.60	311.52	312.68	313.21	314.42	314.94	315.62	313.31	290.23		
7305.36	291.35	291.65	292.15	292.65	293.48	294.87	297.04	299.92	302.10	302.12	302.78
	310.52	311.43	312.59	313.13	314.37	314.88	315.54	313.23	290.24		
7307.89	291.35	291.65	292.15	292.65	293.47	294.85	297.04	299.88	302.06	302.06	302.72
	310.43	311.35	312.52	313.07	314.30	314.80	315.47	313.16	290.25		
7310.47	291.35	291.65	292.15	292.64	293.46	294.82	297.04	299.85	302.02	302.01	302.66
	310.35	311.26	312.45	312.99	314.23	314.72	315.39	313.09	290.25		
7313.00	291.35	291.65	292.15	292.63	293.46	294.81	297.04	299.82	301.99	301.96	302.60
	310.27	311.19	312.38	312.92	314.15	314.64	315.32	313.03	290.25		
7315.58	291.35	291.65	292.15	292.62	293.46	294.80	297.04	299.79	301.94	301.90	302.56
	310.18	311.12	312.30	312.86	314.07	314.57	315.25	312.96	290.25		
7318.11	291.35	291.65	292.15	292.61	293.45	294.78	297.04	299.76	301.91	301.86	302.52
	310.09	311.05	312.23	312.79	314.00	314.50	315.18	312.89	290.25		
7320.69	291.35	291.65	292.15	292.60	293.45	294.77	297.04	299.74	301.88	301.82	302.48
	309.13	310.98	312.17	312.73	313.93	314.42	315.10	312.82	290.25		
7323.27	291.35	291.65	292.15	292.60	293.45	294.75	297.04	299.71	301.85	301.78	302.43
	309.07	310.91	312.11	312.66	313.86	314.35	315.03	312.04	290.25		
7325.96	291.35	291.65	292.15	292.59	293.45	294.73	297.04	299.69	301.82	301.74	302.38
	309.02	310.14	312.06	312.61	313.78	314.28	314.96	311.97	290.65		
7328.54	291.35	291.65	292.15	292.58	293.45	294.71	296.76	299.67	301.80	301.70	302.34
	308.97	310.09	312.01	312.56	313.70	314.21	314.89	311.91	291.07		
7331.07	291.35	291.65	292.15	292.57	293.44	294.70	296.74	299.64	301.79	301.66	302.29
	308.92	310.06	311.96	312.50	313.62	314.12	314.82	311.85	291.09		
7333.65	291.35	291.65	292.15	292.56	293.43	294.68	296.72	299.61	301.76	301.61	302.25
	308.87	310.03	311.92	312.46	313.54	314.04	314.75	311.79	291.10		
7336.18	291.35	291.65	292.15	292.55	293.42	294.67	296.70	299.57	301.72	301.57	302.20
	308.82	309.99	311.87	312.41	313.44	313.97	314.68	311.73	291.11		
7338.76	291.35	291.65	292.15	292.55	293.42	294.67	296.69	299.54	301.54	301.53	302.14
	308.77	309.95	311.82	312.38	313.35	313.90	314.61	311.67	291.13		
7341.28	291.35	291.65	292.15	292.55	293.41	294.66	296.67	299.51	301.45	301.49	302.07
	308.70	309.90	311.78	312.34	313.27	313.83	314.54	311.61	291.14		
7343.87	291.35	291.64	292.15	292.55	293.39	294.65	296.64	299.49	301.04	301.45	302.01
	308.62	309.85	311.73	312.30	313.21	313.75	314.46	311.58	291.16		
7346.39	291.35	291.63	292.15	292.55	293.37	294.65	296.63	299.46	301.00	301.40	301.95
	308.54	309.78	311.68	312.26	313.15	313.68	314.38	311.52	291.16		
7348.97	291.35	291.62	292.60	292.55	293.36	294.65	296.61	299.43	300.97	301.36	301.90
	308.45	309.73	311.62	312.21	313.09	313.62	314.30	311.45	291.17		
7351.50	291.35	291.61	292.60	292.55	293.35	294.65	296.60	299.40	300.94	301.32	301.86
	308.36	309.67	311.57	312.15	313.04	313.56	314.23	312.11	291.17		
7354.08	291.35	291.60	292.60	292.55	293.33	294.65	296.60	299.38	300.91	301.28	301.83
	308.27	310.32	311.51	312.07	312.98	313.50	314.15	312.04	290.77		
7356.61	291.35	291.59	292.01	292.55	293.31	294.64	296.59	299.36	300.88	301.25	301.79
	308.19	310.24	311.44	311.98	312.91	313.43	314.07	311.97	290.35		
7359.19	291.35	291.58	292.00	292.54	293.30	294.63	296.57	299.34	300.85	301.23	301.76
	308.12	310.17	311.38	311.89	312.84	313.36	313.99	311.90	290.33		
7361.77	291.35	291.58	292.00	292.53	293.29	294.62	296.55	299.32	300.81	301.20	301.71
	307.84	310.10	311.30	311.79	312.77	313.28	313.91	312.14	290.32		
7364.30	291.35	291.58	292.00	292.52	293.28	294.61	296.52	299.30	300.78	301.18	301.69
	307.80	310.02	311.22	311.69	312.71	313.20	313.82	312.06	290.31		
7366.88	291.35	291.58	292.00	295.66	293.27	294.60	296.50	299.28	300.89	301.16	301.68
	307.76	309.94	311.13	311.58	312.67	313.13	313.74	311.99	290.29		
7369.41	291.35	291.58	292.00	295.65	293.26	294.59	296.48	299.26	300.91	301.14	301.66
	307.71	309.88	311.04	311.48	312.60	313.05	313.65	311.92	290.28		
7371.99	291.34	291.58	292.00	295.64	293.26	294.57	296.46	299.23	301.27	301.13	301.64
	307.67	309.81	310.96	311.38	312.51	312.96	313.58	311.81	290.27		
7374.55	291.33	291.58	291.99	295.63	293.25	294.55	296.43	299.19	301.23	301.11	301.61
	307.62	309.75	310.87	311.28	312.42	312.88	313.50	311.73	290.27		
7377.10	291.33	291.58	291.98	295.61	293.23	294.53	296.41	299.16	301.19	301.09	301.61
	307.60	309.68	310.78	311.18	312.34	312.79	313.42	311.65	290.27		

7379.62	292.48	291.58	291.96	295.59	293.22	294.50	296.38	299.11	301.15	301.07	301.60
	307.57	309.63	310.69	311.08	312.25	312.69	313.34	311.58	290.28		
7382.20	292.46	291.58	291.95	295.57	293.21	294.47	296.35	299.06	301.11	301.04	301.59
	307.54	309.57	310.59	311.00	312.16	312.60	313.25	311.51	290.29		
7384.73	292.44	291.58	291.94	295.56	293.20	294.45	296.32	299.02	301.06	301.01	301.58
	307.51	309.52	310.51	310.93	312.08	312.51	313.17	311.43	290.30		
7387.31	292.43	291.58	291.93	295.55	293.19	294.45	296.30	298.99	301.03	300.98	301.56
	307.48	309.46	310.43	310.86	312.01	312.44	313.09	311.36	290.30		
7389.84	292.42	291.57	291.91	295.54	293.18	294.43	296.28	298.96	300.99	300.94	301.53
	307.66	309.40	310.35	310.81	311.94	312.36	313.01	310.99	290.30		
7392.42	292.41	291.55	291.90	295.53	293.17	294.41	296.26	298.94	300.96	300.90	301.48
	307.59	309.34	310.28	310.76	311.87	312.28	312.92	310.92	290.29		
7394.95	292.40	291.53	291.88	292.38	293.16	294.40	296.24	298.90	300.93	300.85	301.43
	307.52	309.28	310.22	310.69	311.79	312.21	312.83	310.86	290.28		
7397.53	292.39	291.52	291.86	292.37	293.15	294.38	296.22	298.87	300.89	300.82	301.39
	307.45	309.21	310.15	310.63	311.72	312.14	312.74	310.80	290.28		
7400.05	292.39	291.51	291.85	292.35	293.14	294.36	296.20	298.84	300.86	300.77	301.35
	307.39	309.16	310.10	310.56	311.66	312.08	312.66	310.73	290.27		
7402.64	292.40	291.50	291.85	292.35	293.14	294.35	296.19	298.81	300.83	300.73	301.30
	307.33	309.10	310.05	310.50	311.57	312.00	312.58	310.66	290.27		
7405.16	292.40	291.49	291.85	292.35	293.13	294.34	296.18	298.78	300.79	300.67	301.24
	307.27	309.05	309.99	310.43	311.49	311.93	312.50	310.60	290.28		
7407.74	291.23	291.48	291.85	292.35	293.12	294.33	296.16	298.76	300.74	300.61	301.16
	307.20	308.98	309.94	310.37	311.42	311.87	312.43	310.53	290.29		
7410.33	291.24	291.47	291.85	292.35	293.12	294.32	296.14	298.75	300.70	300.56	301.09
	307.12	308.90	309.89	310.32	311.34	311.81	312.36	310.46	290.30		
7412.85	291.25	291.46	291.85	292.34	293.10	294.30	296.12	298.73	300.67	300.51	301.02
	307.04	308.84	309.84	310.26	311.27	311.75	312.29	310.39	290.29		
7415.43	291.25	291.45	291.85	292.34	293.08	294.28	296.10	298.71	300.63	300.46	300.96
	306.95	308.77	309.79	310.22	311.20	311.68	312.22	310.32	290.28		
7418.01	291.25	291.45	291.85	292.34	293.06	294.26	296.08	298.68	300.60	300.40	300.90
	306.87	308.70	309.74	310.17	311.14	311.62	312.15	310.26	290.28		
7420.54	291.25	291.45	291.85	292.34	293.04	294.24	296.06	298.65	300.55	300.35	300.85
	306.79	308.63	309.68	310.12	311.09	311.56	312.08	310.19	290.29		
7423.12	291.25	291.45	291.85	292.34	293.02	294.22	296.05	298.62	300.51	300.29	300.79
	306.72	308.57	309.63	310.08	311.04	311.50	312.03	310.10	290.30		
7425.65	291.24	291.45	291.84	292.33	293.01	294.20	296.02	298.59	300.48	300.24	300.74
	306.66	308.50	309.56	310.02	311.00	311.44	311.97	310.03	290.31		
7428.23	291.23	291.45	291.84	292.32	292.99	294.19	296.00	298.56	300.44	300.19	300.69
	306.60	308.44	309.49	309.98	310.96	311.37	311.90	309.96	290.31		
7430.76	291.22	291.45	291.84	292.31	292.98	294.18	295.97	298.53	300.40	300.16	300.65
	306.53	308.36	309.42	309.94	310.92	311.32	311.84	309.91	290.32		
7433.34	291.22	291.45	291.84	292.30	292.97	294.17	295.96	298.51	300.37	300.13	300.62
	306.47	308.30	309.37	309.90	310.88	311.26	311.78	309.84	290.32		
7435.87	291.21	291.45	291.84	292.30	292.96	294.16	295.94	298.48	300.34	300.11	300.59
	306.40	308.25	309.30	309.86	310.83	311.20	311.71	309.77	290.32		
7438.45	291.20	291.45	291.84	292.30	292.95	294.15	295.92	298.45	300.30	300.09	300.57
	306.33	308.19	309.23	309.80	310.79	311.14	311.64	309.72	290.31		
7440.97	291.19	291.45	291.83	292.29	292.95	294.15	295.91	298.41	300.26	300.06	300.54
	306.27	308.12	309.14	309.74	310.74	311.08	311.58	309.66	290.31		
7443.56	291.18	291.45	291.82	292.27	292.95	294.15	295.89	298.36	300.23	300.03	300.52
	306.21	308.05	309.07	309.66	310.68	311.22	311.52	309.60	290.32		
7446.08	291.17	291.45	291.82	292.26	292.94	294.15	295.87	298.33	300.20	300.02	300.50
	306.15	307.98	308.99	309.58	310.61	310.96	311.45	309.54	290.33		
7448.66	291.16	291.45	291.81	292.24	292.93	294.15	295.85	298.30	300.17	300.01	300.48
	306.10	308.49	308.92	309.51	310.53	310.90	311.39	309.48	290.34		
7451.19	291.15	291.45	291.80	292.22	292.92	294.15	295.83	298.28	300.14	300.00	300.47
	306.06	308.42	308.84	309.43	310.45	310.83	311.32	309.43	290.36		
7453.77	291.15	291.45	291.80	292.22	292.91	294.14	295.82	298.26	300.12	299.99	300.46
	306.02	308.36	308.78	309.36	310.38	310.77	311.26	309.40	290.38		
7456.30	291.15	291.45	291.79	292.20	292.90	294.13	295.80	298.23	300.08	299.98	300.43
	305.99	308.32	308.70	309.28	310.30	310.71	311.20	309.35	290.38		
7458.88	291.15	291.45	291.78	292.20	292.89	294.12	295.78	298.20	300.05	299.95	300.40
	305.96	308.27	308.63	309.20	310.21	310.65	311.14	309.29	290.37		

7461.46	291.15	291.45	291.77	292.19	292.88	294.11	295.76	298.18	300.02	299.92	300.38
	305.94	308.22	308.22	309.13	310.14	310.58	311.09	309.25	290.35		
7463.99	291.15	291.45	291.76	292.17	292.87	294.09	295.75	298.15	299.98	299.88	300.34
	305.93	308.16	308.03	309.06	310.07	310.52	311.04	309.19	290.33		
7466.57	291.15	291.45	291.75	292.16	292.86	294.07	295.73	298.12	299.95	299.85	300.31
	305.92	308.11	307.94	309.00	310.00	310.46	310.97	309.14	290.33		
7469.10	291.15	291.45	291.75	292.15	292.86	294.05	295.71	298.11	299.92	299.82	300.28
	305.89	308.07	307.87	308.92	309.93	310.39	310.91	309.08	290.34		
7471.68	291.15	291.45	291.75	292.15	292.85	294.03	295.69	298.10	299.89	299.78	300.24
	305.85	308.03	307.83	308.86	309.87	310.34	310.85	309.03	290.33		
7474.20	291.15	291.46	291.76	292.16	292.86	294.02	295.69	298.08	299.86	299.75	300.21
	305.83	308.00	307.79	308.81	309.82	310.29	310.80	308.98	290.33		
7476.78	291.15	291.47	291.77	292.18	292.88	294.01	295.68	298.06	299.84	299.73	300.18
	305.80	307.39	307.76	308.76	309.77	310.24	310.76	308.93	290.34		
7479.31	291.15	291.48	291.78	292.20	292.90	293.98	295.68	298.03	299.80	299.70	300.15
	305.78	307.36	307.73	308.71	309.72	310.20	310.71	308.88	290.34		
7481.89	291.15	291.48	291.78	292.22	292.92	293.98	295.67	298.00	299.76	299.66	300.13
	305.74	307.30	307.70	308.67	309.66	310.15	310.66	308.80	290.34		
7484.42	291.15	291.49	291.79	292.24	292.94	293.98	295.66	297.99	299.73	299.62	300.10
	305.69	307.24	307.67	308.63	309.61	310.11	310.61	308.74	290.35		
7487.00	291.15	291.50	291.80	292.26	292.96	293.98	295.66	297.98	299.71	299.60	300.07
	305.64	307.17	307.64	308.58	309.57	310.06	310.56	308.69	290.38		
7489.53	291.15	291.51	291.81	292.27	292.97	293.98	295.66	297.96	299.70	299.57	300.04
	305.58	307.11	307.94	308.54	309.52	310.01	310.51	308.64	290.40		
7492.11	291.15	291.52	291.82	292.28	292.98	293.98	295.65	297.93	299.69	299.55	300.03
	305.52	307.04	308.02	308.48	309.48	309.96	310.45	308.60	290.43		
7494.64	291.15	291.53	291.83	292.29	292.98	293.98	295.64	297.91	299.67	299.54	300.01
	305.48	306.97	308.01	308.43	309.43	309.91	310.41	308.54	290.45		
7497.22	291.15	291.54	291.84	292.30	292.98	293.98	295.61	297.88	299.65	299.53	300.00
	305.43	306.91	307.97	308.39	309.38	309.86	310.35	308.50	290.47		
7499.74	291.15	291.55	291.84	292.31	292.98	293.98	295.58	297.86	299.62	299.53	299.99
	305.39	306.86	307.92	308.36	309.33	309.81	310.30	308.45	290.50		
7502.33	291.26	291.55	291.85	292.30	292.96	293.97	295.55	297.83	299.60	299.51	299.98
	305.33	306.81	307.87	308.32	309.27	309.75	310.23	308.40	290.52		
7504.91	291.26	291.55	291.85	292.29	292.95	293.97	295.53	297.81	299.57	299.49	299.96
	305.28	306.76	307.82	308.28	309.22	309.68	310.16	308.34	290.52		
7507.43	291.26	291.55	291.85	292.27	292.93	293.97	295.51	297.77	299.55	299.48	299.93
	305.21	306.72	307.76	308.24	309.16	309.61	310.09	308.29	290.53		
7510.01	291.23	291.55	291.85	292.25	292.91	293.96	295.49	297.75	299.52	299.46	299.90
	305.15	306.68	307.71	308.20	309.10	310.22	310.02	308.26	290.53		
7512.54	291.22	291.55	291.85	292.24	292.89	293.95	295.47	297.72	299.50	299.45	299.87
	305.10	306.64	307.67	308.16	309.04	310.85	309.94	308.21	290.53		
7515.23	291.21	291.55	291.85	292.22	292.87	293.94	295.45	297.67	299.46	299.43	299.84
	305.05	306.59	307.63	308.11	308.99	310.78	309.86	308.16	290.52		
7517.81	291.20	291.55	291.85	292.20	292.86	293.93	295.43	297.63	299.42	299.41	299.82
	305.01	306.55	307.58	308.07	308.94	310.71	309.78	308.10	290.51		
7520.34	291.19	291.55	291.85	292.19	292.85	293.92	295.41	297.61	299.38	299.38	299.79
	304.98	306.52	307.54	308.02	308.88	310.64	309.72	308.04	290.50		
7522.92	291.19	291.55	291.85	292.18	292.85	293.91	295.39	297.58	299.34	299.35	299.76
	304.93	306.49	307.50	307.98	308.82	310.58	309.65	307.98	290.50		
7525.50	291.18	291.54	291.84	292.17	292.84	293.89	295.38	297.54	299.30	299.31	299.72
	304.89	306.46	307.46	307.92	308.76	310.52	309.57	307.91	290.48		
7528.03	291.17	291.53	291.82	292.15	292.83	293.87	295.38	297.51	299.25	299.27	299.67
	304.84	306.42	307.42	307.86	308.68	310.46	309.50	307.85	290.45		
7530.61	291.16	291.52	291.80	292.14	292.82	293.84	295.36	297.47	299.21	299.23	299.62
	304.79	306.38	307.38	307.79	308.62	310.39	309.44	307.78	290.42		
7533.14	291.15	291.52	291.78	292.12	292.82	293.82	295.34	297.43	299.16	299.18	299.58
	304.73	306.32	307.34	307.73	308.56	310.33	309.38	307.70	290.40		
7535.72	291.14	291.51	291.76	292.11	292.81	293.79	295.32	297.40	299.12	299.14	299.54
	304.68	306.26	307.29	307.68	308.50	310.28	309.32	307.63	290.40		
7538.25	291.16	291.50	291.74	292.10	292.80	293.76	295.30	297.38	299.08	299.10	299.52
	304.62	306.20	307.23	307.62	308.46	309.53	309.26	307.55	290.40		
7540.83	291.16	291.49	291.73	292.09	292.79	293.73	295.27	297.34	299.03	299.05	299.49
	304.57	306.15	306.81	307.56	308.40	308.79	309.21	307.47	290.40		

7543.35	291.16	291.48	291.71	292.08	292.78	293.72	295.24	297.32	298.99	299.00	299.45
	304.50	306.10	306.75	307.50	308.34	308.74	309.15	307.40	290.40		
7545.94	291.16	291.47	291.69	292.07	292.76	293.68	295.22	297.29	298.96	298.95	299.42
	304.44	306.05	306.70	307.45	308.29	308.69	309.10	307.35	290.39		
7548.46	291.16	291.46	291.67	292.06	292.74	293.63	295.20	297.26	298.93	298.90	299.37
	304.38	305.99	306.65	307.40	308.24	308.64	309.03	307.30	290.38		
7551.04	291.15	291.45	291.65	292.05	292.71	293.61	295.17	297.23	298.90	298.86	299.32
	304.31	305.92	306.59	307.35	308.19	308.58	308.97	307.24	290.36		
7553.57	291.15	291.45	291.64	292.05	292.69	293.59	295.15	297.21	298.87	298.82	299.28
	304.26	305.85	306.54	307.31	308.14	308.53	308.92	307.19	290.36		
7556.15	291.15	291.45	291.63	292.05	292.67	293.58	295.13	297.18	298.85	298.78	299.23
	304.21	305.79	306.49	307.27	308.11	308.49	308.87	307.15	290.36		
7558.68	291.15	291.45	291.62	292.05	292.64	293.57	295.11	297.16	298.82	298.75	299.19
	304.16	305.73	306.44	307.23	308.07	308.44	308.82	307.10	290.36		
7561.26	291.15	291.45	291.61	292.05	292.61	293.54	295.09	297.14	298.79	298.72	299.16
	304.11	305.69	306.39	307.19	308.02	308.39	308.76	307.06	290.35		
7563.79	291.15	291.45	291.61	292.05	292.59	293.52	295.08	297.12	298.73	298.69	299.12
	304.07	305.64	306.35	307.13	307.97	308.34	308.72	307.02	290.33		
7566.37	291.15	291.45	291.61	292.05	292.56	293.50	295.06	297.10	298.70	298.65	299.08
	304.02	305.59	306.30	307.08	307.90	308.30	308.68	306.97	290.31		
7568.95	291.15	291.45	291.60	292.04	292.53	293.48	295.04	297.09	298.68	298.63	299.04
	303.98	305.54	306.61	307.03	307.85	308.25	308.63	306.92	290.30		
7571.48	291.15	291.45	291.60	292.04	292.51	293.46	295.03	297.08	298.65	298.61	299.01
	303.94	305.48	306.56	306.98	307.80	308.21	308.58	306.88	290.28		
7574.06	291.15	291.45	291.60	292.03	292.49	293.47	295.02	297.06	298.62	298.60	298.99
	303.90	305.43	306.50	306.92	307.75	308.16	308.54	306.83	290.27		
7576.58	291.15	291.45	291.59	292.02	292.47	293.47	295.01	297.04	298.60	298.59	298.97
	303.87	305.39	306.45	306.87	307.70	308.11	308.49	306.78	290.26		
7579.17	291.15	291.45	291.58	292.02	292.46	293.46	294.99	297.02	298.58	298.57	298.94
	303.84	305.35	306.39	306.87	307.65	308.06	308.45	306.74	290.26		
7581.69	291.15	291.45	291.58	294.60	292.45	293.46	294.97	297.01	298.55	298.55	298.93
	303.81	305.31	306.34	306.76	307.59	308.01	308.41	306.70	290.24		
7584.27	291.15	291.45	291.58	294.59	292.45	293.45	294.95	296.99	298.52	298.53	298.91
	303.78	305.26	306.28	306.70	307.54	307.95	308.36	306.66	290.24		
7586.80	291.15	291.45	291.58	294.58	292.45	293.44	294.93	296.98	298.50	298.50	298.89
	303.74	305.21	306.21	306.64	307.48	307.90	308.32	306.62	290.23		
7589.38	291.15	291.45	291.58	294.56	292.45	293.45	294.90	296.95	298.48	298.48	298.87
	303.71	305.15	306.15	306.58	307.43	307.84	308.26	306.57	290.22		
7591.91	291.15	291.45	291.58	294.54	292.45	293.44	294.87	296.92	298.48	298.45	298.84
	303.67	305.09	306.08	306.52	307.39	307.78	308.21	306.52	290.21		
7594.49	291.15	291.45	291.57	294.52	292.45	293.44	294.86	296.89	298.45	298.41	298.81
	303.64	305.05	306.00	306.46	307.34	307.72	308.16	306.48	290.21		
7597.02	291.15	291.45	291.56	294.51	292.45	293.43	294.84	296.87	298.42	298.38	298.78
	303.61	305.01	305.94	306.40	307.30	307.66	308.10	306.44	290.20		
7599.60	291.15	291.45	291.55	294.50	292.45	293.42	294.82	296.84	298.40	298.34	298.76
	303.57	304.98	305.88	306.35	307.24	307.59	308.05	306.39	290.19		
7602.12	291.15	291.45	291.55	294.49	292.45	293.41	294.80	296.82	298.37	298.32	298.73
	303.52	304.95	305.83	306.29	307.19	307.53	307.99	306.34	290.19		
7604.71	291.15	291.45	291.55	294.49	292.45	293.40	294.78	296.79	298.34	298.28	298.70
	303.46	304.89	305.78	306.24	307.14	307.47	307.94	306.29	290.18		
7607.29	291.15	291.45	291.55	294.47	292.45	293.39	294.77	296.76	298.31	298.24	298.67
	303.40	304.84	305.74	306.19	307.09	307.42	307.88	306.24	290.18		
7609.81	291.15	291.45	291.55	291.87	292.45	293.38	294.76	296.73	298.28	298.22	298.64
	303.34	304.78	305.69	306.14	307.04	307.37	307.83	306.19	290.19		
7612.40	291.15	291.45	291.55	291.86	292.44	293.37	294.75	296.71	298.24	298.20	298.62
	303.27	304.72	305.65	306.10	306.99	307.33	307.78	306.13	290.19		
7614.92	291.15	291.45	291.55	291.86	292.43	293.36	294.74	296.68	298.21	298.18	298.60
	303.21	304.67	305.61	306.05	306.94	307.25	307.73	306.08	290.20		
7617.50	291.15	291.44	291.55	291.86	292.42	293.36	294.73	296.66	298.18	298.15	298.58
	303.15	304.62	305.54	306.00	306.89	307.19	307.68	306.04	290.21		
7620.09	291.15	291.42	291.54	291.86	292.41	293.35	294.53	296.63	298.15	298.14	298.56
	303.03	304.57	305.50	305.95	306.85	307.15	307.63	306.00	290.21		

7622.61	291.15	291.42	291.53	291.86	292.40	293.35	294.32	296.60	298.12	298.12	298.53
	302.95	304.52	305.46	305.90	306.80	307.10	307.58	305.96	290.22		
7625.19	291.15	291.40	291.52	291.85	292.39	293.34	294.23	296.56	298.08	298.10	298.49
	302.89	304.45	305.43	305.85	306.76	307.06	307.54	305.92	290.23		
7627.72	291.15	291.38	291.52	291.85	292.38	293.33	294.19	296.53	298.04	298.09	298.46
	302.84	304.39	305.38	305.80	306.72	307.02	307.49	305.88	290.25		
7630.30	291.15	291.36	291.51	291.85	292.38	293.32	294.16	296.50	298.01	298.07	298.42
	302.79	304.32	305.34	305.76	306.68	306.98	307.44	305.84	290.26		
7632.83	291.15	291.35	291.50	291.85	292.37	293.31	294.13	296.47	297.98	298.06	298.39
	302.74	304.28	305.29	305.71	306.62	306.94	307.39	305.79	290.27		
7635.41	291.15	291.33	291.49	291.85	292.36	293.30	294.11	296.44	297.96	298.06	298.36
	302.70	304.23	305.24	305.65	306.57	306.88	307.35	305.75	290.28		
7637.94	291.15	291.32	291.48	291.85	292.35	293.29	294.08	296.42	297.93	298.04	298.34
	302.66	304.19	305.19	305.59	306.52	306.84	307.30	305.72	290.28		
7640.52	291.15	291.30	291.47	291.85	292.35	293.28	294.05	296.39	297.91	298.02	298.32
	302.62	304.15	305.14	305.53	306.47	306.79	307.25	306.48	290.28		
7643.04	291.15	291.29	291.46	291.85	292.35	293.27	294.03	296.37	297.89	297.99	298.30
	302.58	304.11	305.08	305.48	306.43	306.78	307.20	306.85	290.28		
7645.63	291.15	291.28	291.45	291.85	292.35	293.26	294.02	296.36	297.86	297.97	298.29
	302.19	304.06	305.06	305.43	306.38	306.75	307.16	306.81	290.28		
7648.15	291.15	291.27	291.45	291.84	292.34	293.26	294.19	296.35	297.83	297.96	298.28
	302.21	304.01	305.01	305.38	306.32	306.70	307.10	306.76	290.28		
7650.73	291.15	291.26	291.45	291.82	292.32	293.25	294.37	296.32	297.81	297.94	298.26
	302.20	303.97	304.97	305.32	306.27	306.64	307.05	306.72	290.27		
7653.26	291.15	291.26	291.45	291.81	292.30	293.25	294.43	296.31	297.79	297.92	298.25
	302.18	303.93	304.92	305.27	306.21	306.59	307.00	306.67	290.27		
7655.84	291.15	291.26	291.45	291.81	292.29	293.24	294.45	296.29	297.73	297.88	298.23
	302.16	303.88	304.88	305.22	306.15	306.52	306.95	306.63	290.26		
7658.37	291.15	291.26	291.45	291.80	292.27	293.23	294.42	296.27	297.69	297.84	298.21
	302.14	303.85	304.83	305.16	306.08	306.46	306.90	306.59	290.24		
7660.95	291.15	291.26	291.45	291.79	292.25	293.21	294.40	296.27	297.66	297.80	298.19
	302.12	303.80	304.77	305.10	306.02	306.39	306.84	306.55	290.23		
7663.48	291.15	291.26	291.45	291.78	292.23	293.20	294.38	296.26	297.64	297.76	298.17
	302.09	303.74	304.72	305.05	305.97	306.33	306.78	306.50	290.21		
7666.06	291.15	291.25	291.45	291.78	292.19	293.18	294.37	296.24	297.62	297.73	298.14
	302.07	303.68	304.67	305.02	305.90	306.26	306.72	306.44	290.20		
7668.58	291.15	291.25	291.45	291.77	292.15	293.16	294.36	296.22	297.60	297.70	298.10
	302.05	303.64	304.62	304.97	305.84	306.19	306.66	305.58	290.18		
7671.17	291.15	291.25	291.45	291.76	292.13	293.14	294.35	296.21	297.58	297.67	298.06
	302.03	303.60	304.57	304.92	305.78	306.12	306.60	305.13	290.16		
7673.69	291.15	291.25	291.45	291.75	292.11	293.12	294.33	296.18	297.56	297.64	298.03
	302.36	303.56	304.52	304.88	305.72	306.05	306.53	305.07	290.14		
7676.27	291.15	291.25	291.45	291.75	292.10	293.10	294.31	296.16	297.28	297.60	298.00
	302.33	303.54	304.47	304.83	305.66	305.99	306.48	305.01	290.13		
7678.80	291.15	291.25	291.45	291.76	292.10	293.09	294.29	296.15	297.16	297.58	297.98
	302.29	303.51	304.41	304.78	305.61	305.94	306.43	304.96	290.38		
7681.38	291.15	291.25	291.45	291.76	292.10	293.07	294.27	296.13	297.10	297.55	297.96
	302.26	303.48	304.36	304.74	305.56	305.89	306.37	304.91	290.37		
7683.91	291.15	291.25	291.45	291.66	292.10	293.06	294.26	296.11	297.11	297.53	297.94
	302.22	303.45	304.31	304.71	305.51	305.85	306.31	304.85	290.37		
7686.49	291.15	291.25	291.45	291.66	292.10	293.05	294.27	296.09	297.09	297.51	297.91
	302.18	303.41	304.27	304.68	305.47	305.80	306.26	304.79	290.37		
7689.02	291.14	291.24	291.45	291.66	292.10	293.05	294.26	296.05	297.06	297.47	297.88
	302.13	303.39	304.24	304.64	305.43	305.75	306.20	304.74	290.37		
7691.60	291.13	291.23	291.45	291.65	292.09	293.04	294.25	296.01	297.03	297.43	297.86
	302.09	303.37	304.21	304.61	305.38	305.71	306.15	304.70	290.37		
7694.13	291.11	291.22	291.45	291.64	292.11	293.02	294.24	295.98	296.98	297.39	297.83
	302.04	303.33	304.17	304.56	305.34	305.66	306.10	304.65	290.38		
7696.71	291.09	291.21	291.44	291.62	292.12	293.00	294.22	295.95	296.93	297.35	297.80
	301.99	303.29	304.14	304.52	305.30	305.62	306.05	304.60	290.39		
7699.29	291.07	291.20	291.44	291.61	292.11	292.98	294.20	295.92	296.89	297.31	297.77
	301.96	303.25	304.10	304.48	305.25	305.57	306.01	304.55	290.40		
7701.98	291.05	291.19	291.43	291.59	292.10	292.96	294.18	295.88	296.84	297.26	297.73
	301.92	303.19	304.07	304.44	305.20	305.52	305.96	304.51	290.41		

7704.51	291.04	291.18	291.42	291.57	292.10	292.95	294.16	295.84	297.06	297.23	297.69
	301.89	303.14	304.04	304.40	305.14	305.48	305.91	304.47	290.41		
7707.09	291.02	291.18	291.41	291.56	292.09	292.93	294.13	295.81	297.12	297.20	297.67
	301.86	303.08	304.01	304.37	305.09	305.43	305.85	304.42	290.13		
7709.61	291.00	291.17	291.40	291.54	292.08	292.91	294.10	295.78	297.11	297.17	297.63
	301.82	303.03	303.98	304.33	305.05	305.38	305.80	304.37	290.11		
7712.20	290.98	291.16	291.39	291.61	292.07	292.89	294.07	295.72	297.05	297.14	297.60
	301.78	302.99	303.94	304.28	305.01	305.34	305.76	304.33	290.09		
7714.72	290.96	291.15	291.38	291.60	292.06	292.87	294.05	295.67	297.02	297.13	297.59
	301.74	302.95	303.90	304.23	304.97	305.30	305.72	304.30	290.07		
7717.30	290.95	291.15	291.37	291.58	292.05	292.83	294.03	295.64	296.98	297.12	297.56
	301.70	302.91	303.86	304.18	304.93	305.26	305.68	304.26	290.05		
7719.83	290.95	291.15	291.36	291.56	292.05	292.81	294.00	295.60	296.94	297.12	297.54
	301.67	302.87	303.82	304.13	304.88	305.21	305.64	304.22	290.04		
7722.41	290.95	291.15	291.34	291.56	292.05	292.80	293.98	295.56	296.92	297.12	297.53
	301.65	302.83	303.78	304.08	304.84	305.17	305.60	304.18	290.02		
7724.99	290.95	291.15	291.33	291.55	292.05	292.79	293.95	295.53	296.90	297.11	297.51
	301.62	302.80	303.74	304.04	304.80	305.13	305.55	304.14	290.00		
7727.52	290.95	291.15	291.32	291.55	292.05	292.78	293.93	295.50	296.87	297.10	297.50
	301.60	302.77	303.70	304.00	304.77	305.09	305.50	304.10	289.99		
7730.10	290.95	291.15	291.31	291.55	292.05	292.77	293.91	295.46	296.84	297.10	297.48
	301.50	302.75	303.67	303.97	304.74	305.05	305.46	304.06	289.98		
7732.63	290.95	291.15	291.31	291.55	292.05	292.76	293.90	295.44	296.83	297.10	297.45
	301.44	302.74	303.63	303.94	304.71	305.01	305.42	304.02	289.98		
7735.21	290.96	291.15	291.31	291.55	292.05	292.75	293.89	295.43	296.82	297.09	297.42
	301.39	302.71	303.60	303.92	304.59	304.98	305.38	303.99	289.99		
7737.74	290.97	291.15	291.31	291.55	292.05	292.74	293.88	295.41	296.81	297.07	297.40
	301.30	302.67	303.56	303.89	304.33	304.94	305.35	303.95	290.00		
7740.32	290.98	291.15	291.31	291.55	292.05	292.73	293.87	295.43	296.82	297.05	297.37
	301.22	302.62	303.54	303.87	304.22	304.91	305.13	303.91	290.02		
7742.84	290.99	291.15	291.31	291.55	292.05	292.73	293.86	295.43	296.81	297.04	297.34
	301.17	302.59	303.50	303.84	304.16	304.86	304.88	303.87	290.04		
7745.43	291.00	291.15	291.31	291.55	292.05	292.74	293.85	295.43	296.80	297.02	297.32
	301.13	302.56	303.46	303.81	304.12	304.83	304.77	303.82	290.07		
7747.95	291.00	291.15	291.32	291.55	292.05	292.75	293.85	295.43	296.78	296.99	297.30
	301.08	302.53	303.43	303.78	304.08	304.80	304.70	303.78	290.10		
7750.53	291.01	291.15	291.32	291.55	292.05	292.75	293.85	295.42	296.76	296.97	297.29
	301.04	302.50	303.40	303.76	304.04	304.76	304.65	303.74	290.12		
7753.06	291.02	291.15	291.33	291.55	292.05	292.75	293.85	295.42	296.74	296.95	297.27
	301.00	302.47	303.37	303.73	304.01	304.73	304.61	303.70	290.16		
7755.64	291.03	291.15	291.34	291.55	292.05	292.75	293.85	295.41	296.73	296.93	297.25
	300.94	302.43	303.33	303.70	303.97	304.70	304.58	303.66	290.18		
7758.17	291.03	291.15	291.35	291.55	292.05	292.75	293.85	295.42	296.72	296.91	297.25
	300.90	302.40	303.31	303.67	303.93	304.68	304.54	303.62	290.21		
7760.75	291.03	291.15	291.35	291.55	292.05	292.75	293.85	295.41	296.70	296.89	297.25
	300.87	302.35	303.28	303.63	303.89	304.64	304.50	303.59	290.22		
7763.28	291.02	291.15	291.35	291.55	292.05	292.75	293.85	295.40	296.69	296.88	297.24
	300.84	302.30	303.24	303.60	303.95	304.59	304.46	303.56	290.24		
7765.86	291.02	291.15	291.34	291.55	292.05	292.75	293.85	295.39	296.67	296.86	297.23
	300.86	302.27	303.19	303.55	304.13	304.54	304.42	303.52	290.25		
7768.38	291.01	291.15	291.34	291.55	292.05	292.75	293.85	295.38	296.66	296.84	297.22
	300.87	302.24	303.14	303.50	304.15	304.49	304.56	303.47	290.27		
7770.97	291.00	291.15	291.34	291.55	292.05	292.75	293.85	295.38	296.64	296.54	297.21
	300.88	302.21	303.09	303.46	304.12	304.45	304.72	303.44	290.28		
7773.49	291.00	291.15	291.34	291.55	292.05	292.75	293.85	295.36	296.63	296.51	297.20
	300.88	302.17	303.05	303.43	304.09	304.40	304.74	303.41	290.29		
7776.07	291.00	291.15	291.34	291.55	292.05	292.75	293.85	295.34	296.62	296.49	297.20
	300.88	302.15	303.02	303.39	304.04	304.36	304.73	303.38	290.29		
7778.60	290.99	291.15	291.34	291.55	292.05	292.75	293.84	295.32	296.61	296.47	297.18
	300.87	302.12	302.98	303.35	304.00	304.31	304.70	303.35	290.29		
7781.18	290.98	291.15	291.33	291.55	292.05	292.75	293.84	295.31	296.59	296.45	297.17
	300.86	302.10	302.94	303.32	303.94	304.26	304.66	303.32	290.28		
7783.76	290.98	291.15	291.33	291.55	292.04	292.75	293.82	295.30	296.56	296.43	297.15
	300.86	302.08	302.90	303.27	303.88	304.21	304.62	303.29	290.28		

7786.29	290.98	291.15	291.33	291.55	292.02	292.75	293.81	295.29	296.54	296.42	297.13
	300.91	302.06	302.85	303.22	303.83	304.16	304.57	303.25	290.27		
7788.87	290.98	291.15	291.32	291.55	292.00	292.75	293.79	295.27	296.51	296.40	297.11
	300.91	302.05	302.80	303.18	303.78	304.10	304.52	303.21	290.26		
7791.40	290.98	291.15	291.31	291.55	291.98	292.74	293.76	295.25	296.48	296.38	297.09
	300.90	302.04	302.75	303.13	303.72	304.06	304.46	303.17	290.26		
7793.98	290.98	291.15	291.32	291.55	291.97	292.73	293.73	295.22	296.45	296.36	297.07
	300.90	302.03	302.71	303.10	303.68	304.02	304.42	303.13	290.26		
7796.56	290.99	291.15	291.32	291.55	291.95	292.72	293.71	295.17	296.43	296.34	297.05
	300.88	302.02	302.67	303.06	303.64	303.99	304.37	303.10	290.25		
7799.14	291.00	291.15	291.32	291.55	291.93	292.70	293.68	295.13	296.41	296.61	297.03
	300.86	302.00	302.63	303.02	303.61	303.95	304.33	303.07	290.24		
7801.67	291.00	291.15	291.31	291.55	291.92	292.68	293.65	295.11	296.39	296.59	297.02
	300.82	301.98	302.60	302.99	303.57	303.91	304.29	303.03	290.24		
7804.25	291.00	291.15	291.30	291.55	291.90	292.66	293.62	295.09	296.37	296.58	297.00
	300.79	301.96	302.56	302.96	303.54	303.88	304.24	302.99	290.24		
7806.78	291.01	291.15	291.30	291.55	291.88	292.65	293.60	295.07	296.36	296.57	296.98
	300.76	301.93	302.53	302.93	303.51	303.84	304.20	302.96	290.25		
7809.36	291.02	291.15	291.30	291.55	291.86	292.63	293.58	295.06	296.35	296.55	296.97
	300.73	301.91	302.50	302.90	303.48	303.80	304.15	302.93	290.26		
7811.89	291.01	291.15	291.29	291.55	291.85	292.61	293.57	295.04	296.33	296.53	296.96
	300.71	301.88	302.47	302.89	303.45	303.76	304.11	302.89	290.27		
7814.47	291.01	291.15	291.29	291.55	291.85	292.59	293.56	295.02	296.32	296.52	296.94
	300.69	301.85	302.45	302.87	303.42	303.72	304.06	302.85	290.28		
7816.99	291.01	291.15	291.29	291.55	291.85	292.57	293.55	295.00	296.30	296.50	296.92
	300.66	301.81	302.42	302.84	303.40	303.69	304.03	302.82	290.31		
7819.57	291.01	291.15	291.28	291.54	291.85	292.56	294.66	294.99	296.28	296.49	296.91
	300.63	301.77	302.40	302.81	303.36	303.65	303.99	302.78	290.34		
7822.10	291.00	291.14	291.26	291.53	291.85	292.55	294.65	294.97	296.25	296.47	296.88
	300.60	301.73	302.36	302.77	303.31	303.61	303.94	302.73	290.35		
7824.68	290.98	291.13	291.25	291.52	291.85	292.53	294.64	294.98	296.22	296.44	296.85
	300.56	301.69	302.33	302.74	303.28	303.56	303.90	302.69	290.36		
7827.21	290.96	291.12	291.23	291.51	291.85	292.52	294.63	294.97	296.19	296.42	296.82
	300.52	301.64	302.29	302.70	303.24	303.53	303.85	302.66	290.36		
7829.79	290.95	291.11	291.22	291.49	291.85	292.51	294.62	294.95	296.16	296.39	296.80
	300.48	301.60	302.26	302.66	303.19	303.48	303.79	302.62	290.35		
7832.32	290.93	291.10	291.21	291.47	291.84	292.50	294.61	294.92	296.11	296.37	296.76
	300.45	301.55	302.21	302.61	303.14	303.42	303.74	302.57	290.33		
7834.90	290.91	291.09	291.19	291.45	291.83	292.47	294.59	294.89	296.07	296.34	296.72
	300.41	301.51	302.17	302.56	303.09	303.38	303.68	302.51	290.30		
7837.43	290.89	291.08	291.18	291.43	291.81	292.46	294.57	294.86	296.02	296.31	296.69
	300.38	301.46	302.12	302.50	303.03	303.34	303.64	302.46	290.29		
7840.01	290.88	291.07	291.17	291.42	291.79	292.44	294.54	294.82	295.99	296.27	296.66
	300.33	301.40	302.08	302.44	302.99	303.30	303.60	302.40	290.27		
7842.53	290.87	291.06	291.16	291.40	291.77	292.42	294.52	294.78	295.97	295.88	296.63
	300.28	301.35	302.04	302.38	302.94	303.25	303.56	302.34	290.25		
7845.12	290.86	291.06	291.16	291.38	291.75	292.40	294.49	294.76	295.93	295.73	296.60
	300.24	301.30	301.99	302.33	302.90	303.21	303.51	302.29	290.23		
7847.64	290.86	291.05	291.15	291.37	291.74	292.39	293.36	294.73	295.90	295.65	296.57
	300.21	301.27	301.94	302.28	302.86	303.18	303.48	302.25	290.22		
7850.22	290.85	291.05	291.15	291.36	291.72	292.38	293.34	294.72	295.87	295.60	296.54
	300.17	301.24	301.92	302.23	302.83	303.14	303.44	302.21	290.21		
7852.75	290.85	291.05	291.14	291.36	291.70	292.37	293.32	294.69	295.85	295.56	296.51
	300.14	301.20	301.89	302.20	302.78	303.09	303.39	302.16	290.20		
7855.33	290.85	291.05	291.13	291.35	291.68	292.34	293.29	294.66	295.82	295.53	296.48
	300.09	301.17	301.86	302.16	302.74	303.04	303.35	302.11	290.19		
7857.91	290.85	291.04	291.12	291.35	291.66	292.32	293.27	294.64	295.79	295.48	296.46
	300.05	301.15	301.82	302.12	302.70	303.01	303.32	302.07	290.18		
7860.44	290.85	291.03	291.11	291.35	291.65	292.32	293.25	294.61	295.77	295.43	296.44
	300.00	301.12	301.79	302.09	302.67	302.98	303.29	302.04	290.18		
7863.02	290.85	291.02	291.10	291.35	291.65	292.29	293.23	294.58	295.75	295.40	296.42
	299.96	301.09	301.75	302.06	302.64	302.95	303.26	302.00	290.18		
7865.55	290.85	291.01	291.10	291.35	291.65	292.28	293.22	294.56	295.72	295.37	296.40
	299.90	301.06	301.71	302.03	302.61	302.91	303.22	301.96	290.18		

7868.13	290.85	290.99	291.09	291.35	291.65	292.26	293.21	294.54	295.70	295.35	296.38
	299.86	301.04	301.66	302.00	302.58	302.88	303.19	301.94	290.18		
7870.66	290.85	290.98	291.08	291.35	291.65	292.25	293.20	294.52	295.67	295.68	296.36
	299.82	301.01	301.63	301.97	302.55	302.85	303.16	301.91	290.18		
7873.24	290.85	290.98	291.07	291.35	291.65	292.23	293.19	294.50	295.65	295.78	296.35
	299.78	300.98	301.60	301.94	302.52	302.80	303.13	301.88	290.17		
7875.76	290.85	290.97	291.06	291.35	291.65	292.21	293.19	294.48	295.63	295.81	296.34
	299.75	300.96	301.57	301.91	302.48	302.76	303.10	301.86	290.16		
7878.35	290.85	290.96	291.05	291.35	291.65	292.19	293.18	294.46	295.61	295.82	296.33
	299.72	300.93	301.54	301.89	302.44	302.73	303.08	301.84	290.15		
7880.87	290.85	290.95	291.05	291.35	291.65	292.18	293.17	294.44	295.59	295.82	296.32
	299.70	300.90	301.49	301.85	302.41	302.70	303.05	301.81	290.14		
7883.45	290.85	290.93	291.05	291.35	291.65	293.53	293.18	294.42	295.57	295.81	296.31
	299.67	300.88	301.46	301.82	302.39	302.66	303.02	301.78	290.13		
7885.98	290.85	290.92	291.05	291.85	291.65	293.52	293.17	294.02	295.56	295.82	296.30
	299.65	300.84	301.43	301.79	302.36	302.62	302.99	301.75	290.13		
7888.56	290.85	290.91	291.05	291.83	291.64	293.52	293.16	294.02	295.53	295.82	296.29
	299.62	300.80	301.38	301.76	302.33	302.59	302.96	301.72	290.13		
7891.25	290.85	290.90	291.05	291.81	291.63	293.52	293.16	294.01	295.52	295.82	296.27
	299.60	300.76	301.34	301.72	302.29	302.56	302.93	301.69	290.14		
7893.78	290.85	290.90	291.05	291.79	291.62	293.52	293.16	294.00	295.51	295.81	296.24
	299.57	300.73	301.32	301.68	302.26	302.53	302.90	301.66	290.13		
7896.36	290.85	290.88	291.05	291.77	291.60	293.52	293.15	294.00	295.50	295.79	296.22
	299.54	300.69	301.28	301.64	302.22	302.48	302.87	301.64	290.12		
7898.89	290.84	290.86	291.05	291.76	291.58	293.51	293.14	293.99	295.49	295.76	296.19
	299.51	300.65	301.24	301.61	302.18	302.44	302.82	301.61	290.11		
7901.47	290.82	290.84	291.05	291.74	291.57	293.51	293.13	293.96	295.47	295.74	296.15
	299.47	300.60	301.21	301.58	302.14	302.41	302.78	301.58	290.10		
7904.05	290.81	290.82	291.05	291.72	291.55	293.51	293.10	293.94	295.44	295.71	296.11
	299.43	300.55	301.16	301.55	302.11	302.38	302.73	301.54	290.10		
7906.58	290.79	290.80	293.57	293.12	291.53	293.51	293.09	293.92	295.41	295.68	297.11
	300.44	300.50	301.11	301.51	302.09	302.34	302.70	301.51	290.10		
7909.16	290.78	290.78	293.57	293.10	291.51	293.51	293.07	293.90	295.38	295.66	297.08
	300.39	300.45	301.08	301.48	302.06	302.30	302.66	301.48	290.09		
7911.69	290.76	290.78	293.57	293.08	291.49	292.15	293.05	293.88	295.36	295.63	297.04
	300.35	300.40	301.04	301.44	302.02	302.26	302.13	301.45	290.08		
7914.27	290.74	290.77	293.57	292.56	291.48	292.14	293.03	294.25	295.34	295.60	297.00
	300.32	300.36	301.00	301.39	301.98	302.22	302.10	301.43	290.07		
7916.79	290.73	290.76	293.57	292.56	291.46	292.13	293.01	294.23	295.32	295.58	296.96
	300.29	300.33	300.61	301.35	301.94	302.19	302.07	301.39	290.05		
7919.37	290.72	290.75	293.57	292.56	291.45	292.12	293.00	294.21	295.31	295.55	296.93
	300.26	300.29	300.58	301.31	301.92	302.15	302.03	301.36	290.03		
7921.90	290.70	290.74	293.57	292.56	291.45	292.11	292.98	294.19	295.29	295.52	296.91
	300.24	300.25	300.55	301.28	301.89	302.11	301.99	301.33	290.02		
7924.48	290.69	290.75	293.56	292.56	291.45	292.10	292.97	294.17	295.27	295.50	296.88
	300.22	300.21	300.53	301.24	301.85	302.08	301.95	301.30	290.01		
7927.01	290.68	290.75	293.55	292.56	291.45	292.09	292.96	294.16	295.24	295.50	296.85
	300.18	300.19	300.51	301.20	301.81	302.06	301.92	301.27	290.00		
7929.59	290.68	290.75	293.54	292.56	291.45	292.08	292.95	294.15	295.22	295.49	296.83
	300.17	300.16	300.50	301.16	301.79	302.02	301.89	301.25	289.99		
7932.12	290.69	290.75	293.53	292.56	291.45	292.08	292.95	294.15	295.21	295.47	296.82
	300.16	300.14	300.48	301.12	301.76	301.98	301.85	301.22	289.98		
7934.70	290.70	290.75	291.00	291.15	291.45	292.07	292.95	294.15	295.20	295.46	295.78
	299.08	300.12	300.47	301.09	301.72	301.95	301.80	301.19	289.97		
7937.23	290.70	290.75	291.00	291.15	291.45	292.06	292.95	294.15	295.19	295.45	295.77
	299.07	300.10	300.46	301.06	301.68	301.92	301.76	301.16	289.97		
7939.81	290.71	290.75	291.00	291.15	291.45	292.05	292.94	294.14	295.18	295.44	295.76
	299.05	300.09	300.45	301.03	301.64	301.89	302.92	301.13	289.98		
7942.33	290.71	290.75	290.99	291.15	291.45	292.05	292.93	294.13	295.17	295.44	295.76
	299.03	300.06	300.44	301.00	301.62	301.85	302.88	301.08	290.00		
7944.91	290.70	290.75	290.98	291.15	291.45	292.05	292.92	294.12	295.16	295.44	295.77
	299.01	300.04	300.77	300.97	301.58	301.82	302.83	301.05	290.02		
7947.44	290.69	290.75	290.97	291.15	291.45	292.05	292.91	294.11	295.15	295.44	295.78
	298.99	300.02	300.75	300.93	301.55	301.78	302.79	301.01	290.03		

7950.02	290.69	290.75	290.95	291.14	291.45	292.05	292.90	294.10	295.14	295.43	295.78
	298.97	300.01	300.52	300.72	301.51	301.73	302.74	300.98	290.05		
7952.55	290.69	290.75	290.93	291.14	291.44	292.05	292.90	294.09	295.13	295.42	295.78
	298.95	299.98	300.48	300.69	301.49	301.69	302.70	300.94	290.07		
7955.13	290.69	290.75	290.91	291.14	291.44	292.05	292.89	294.08	295.12	295.41	295.78
	298.94	299.95	300.43	300.65	301.46	301.64	302.65	300.90	290.09		
7957.71	290.68	290.75	290.90	291.14	291.43	292.05	292.88	294.07	295.12	295.39	295.78
	298.92	299.93	300.39	300.62	301.42	301.61	302.61	300.85	290.11		
7960.24	290.67	290.75	290.89	291.13	291.42	292.05	292.87	294.06	295.10	295.37	295.77
	298.89	299.90	300.35	300.59	301.38	301.58	302.57	300.81	290.12		
7963.21	290.66	290.75	290.88	291.12	291.41	292.05	292.86	294.03	295.08	295.36	295.76
	298.86	299.86	300.31	300.54	301.34	301.54	302.53	300.76	290.14		
7965.79	290.66	290.75	290.87	291.11	291.40	292.05	292.85	294.02	295.06	295.34	295.74
	298.84	299.82	300.26	300.50	301.30	301.51	302.50	300.72	290.15		
7968.31	290.65	290.75	290.85	291.10	291.39	292.05	292.85	294.00	295.04	295.32	295.72
	298.81	299.79	300.22	300.47	301.27	301.48	301.76	300.68	290.17		
7970.89	290.65	290.75	290.84	291.09	291.38	292.05	292.85	293.98	295.03	295.30	295.69
	298.78	299.76	300.18	300.44	301.23	301.45	301.73	300.65	290.18		
7973.42	290.65	290.75	290.83	291.08	291.38	292.05	292.85	293.96	295.01	295.28	295.67
	298.74	299.73	300.14	300.41	301.20	301.42	301.71	300.62	290.19		
7976.00	290.65	290.75	290.82	291.07	291.37	292.05	292.85	293.94	294.99	295.26	295.64
	298.71	299.70	300.10	300.37	301.17	301.38	301.68	300.59	290.20		
7978.58	290.65	290.75	290.83	291.07	291.36	292.05	292.85	293.92	294.98	295.24	295.62
	298.68	299.67	300.25	300.52	301.14	301.35	301.65	300.55	290.21		
7981.11	290.65	290.75	290.84	291.07	291.36	292.05	292.85	293.91	294.96	295.22	295.60
	298.65	299.65	300.22	300.49	301.11	301.32	301.63	300.51	290.22		
7983.69	290.65	290.75	290.85	291.07	291.35	292.05	292.85	293.89	294.94	295.21	295.58
	298.62	299.62	300.20	300.46	301.07	301.30	301.60	300.48	290.23		
7986.27	290.65	290.75	290.85	291.07	291.35	292.03	292.85	293.87	294.93	295.20	295.55
	298.60	299.59	300.17	300.44	301.04	301.27	301.57	300.46	290.24		
7988.80	290.65	290.75	290.85	291.07	291.35	292.02	292.84	293.86	294.92	295.18	295.52
	298.58	299.57	300.13	300.41	301.01	301.24	301.55	300.44	290.25		
7991.38	290.65	290.75	290.85	291.07	291.35	292.01	292.83	293.86	294.91	295.73	295.51
	298.55	299.55	300.10	300.38	300.98	301.21	301.53	300.41	290.25		
7993.91	290.65	290.75	290.85	291.07	291.35	292.00	292.82	293.85	294.90	295.71	295.50
	298.52	299.53	300.07	300.36	300.95	301.18	301.50	300.38	290.25		
7996.49	290.65	290.75	290.85	291.07	291.35	291.98	292.81	293.85	294.90	295.70	295.49
	298.49	299.50	300.04	300.33	300.92	301.15	301.47	300.36	290.25		
7999.02	290.65	290.75	290.85	291.07	291.35	291.97	292.79	293.85	294.88	295.67	295.84
	298.47	299.47	300.01	300.30	300.90	301.13	301.44	300.33	290.25		
8001.60	290.65	290.75	290.86	291.08	291.35	291.95	292.78	293.85	294.86	295.64	295.84
	298.45	299.45	299.99	300.29	300.87	301.10	301.42	300.31	290.25		
8004.12	291.50	291.59	291.69	291.89	292.14	292.68	293.43	294.41	295.32	296.08	296.24
	298.58	299.48	299.99	300.25	300.77	300.99	301.28	300.27	291.14		