Geometry improv'd: 1st by a large and accurate table of segments of circles

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GEOMETRY Improv'd:

1. By a LARGE and ACCURATE

TABLE

OF

SEGMENTS of CIRCLES,

Its Conſtruction and various Uſes in the Solution of ſeveral difficult *Problems.*

With Compendious TABLES for finding a true Proportional Part, and their Uſe in theſe or any other TABLES; exemplify'd in making out *Logarithms* or Natural Numbers from them, to ſixty Figures, there being a TABLE of them for all Primes to 1100, true to 61 Figures.

2. A Conciſe TREATISE of

POLYEDRA,

OR

SOLID BODIES of many BASES,

Both the Regular and others: To which are added Twelve New ones, with various Methods of forming them, and their exact Dimenſions in Surds or Species, and in Numbers; Illuſtrated with Variety of Copper Plates.

By *A. S.* Philomath.

LONDON:
Printed for *Richard Mount* on *Tower-Hill*, and *John Sprint* in *Little-Britain.* 1717.

ERRATA.

In the first Discourse.

Pag. 3, l. 24, r. ,005880 *&c.* p. 5, l. 22, r. 00343773006326255413 49; l. 23, r. ,49656226993673744586 5 r.
Pag. 10, *Tab.* V. col. 4, l. 7, r. 1,8682 *&c.* Pag. 12, l. 11, r. *supernumerary*; l. 45, for *is* r. *viz.*
Pag. 14, l. 7, r. 87,04325; l. 15, r. 87,0433. Pag. 19, l. 34, r. 9070030509; l. 35, r. 72,176634.
Pag. 22, l. 2, r. *or right lin'd Triangles.* Pag. 24, l. *ult.* r. $c - \frac{1}{2}d + \frac{1}{2}f$.
Pag. 26, l. *penult.* r. 230,427975406310515. Pag. 30, l. 4, r. 9309,5145164469327 45.
Pag. 31, l. 28, the end, r. *that.* Pag. 35, l. 10, r. *Difference.*

In the TABLE of SEGMENTS and their Differences.

against 0052 r. ,00063,55873,0025881. 0317 r. 00948,99504,1737610. 083$\frac{1}{8}$ r. 7,04640,69,52677.
086$\frac{1}{4}$ r. 7,15630,3764254. 105$\frac{3}{4}$ r. 7,82106,1686400 1250 r. 07214 *&c.* 1504 r. ,09442,41216,8520542.
176$\frac{9}{16}$ r. 9,69858,90088 23. 184$\frac{4}{7}$ r. 9,87653,7979210. 207$\frac{9}{16}$ r. 10,33465 *&c.* 218$\frac{1}{2}$ r. 10,8[illegible] *&c.* 5168
238$\frac{7}{8}$ r. *last Fig.* 9, 2695 r. 21727 *&c.* 2867 r. 23689,63563 *&c.* 3448 r. *last Fig.* 3.
3588 r. 32263,75964 *&c.* 3610 r. 32532 *&c.* 3737 r. 34091,67273,2396299,3909 r. 36219,98578 *&c.*
398$\frac{7}{8}$ r. 12,46860,9000426. 435$\frac{7}{8}$ r. 12,62683,7614182. 4764 r. 46996,27076,6670230.
4946 r. *the last Fig.* 8. 497$\frac{3}{4}$ r. 12,73221,6598380.

In the TABLE for the *Hyperbolic* Section.

050 r. 39584 *&c.* 055 r. 39541 *&c.* 14$\frac{7}{8}$ r. 10,12023,6598623. 166 r. *last Fig.* 1.

In the TABLE of Logarithms.

103 r. *the ninth Section* 23496. 277 r. *first Fig.* 2. r. 947.

In the latter Discourse.

Pag. 66, l. 36, r. 1414213 56 *&c.* Pag. 68, l. 43, *for* VX r. YX. Pag. 74, l. 18, r. $\frac{1}{3}b^2$.
Pag. 75, l. 39, *for* IZ r. LZ. Pag. 76, l. 15, *for* Gy r. Gq; l. 16, r. qkYCDq.
Pag. 79, l. 40, r. $+\frac{1}{3}b^2\sqrt{10}$. Pag. 81, l. 40, r. $1538\sqrt{5}$.
Pag. 88, l. 26, r. $\frac{5}{2}b\sqrt{\frac{5}{2}-\frac{1}{2}\sqrt{5}} = 4702282018339 78$ *&c.* Pag. 89, l. 12, r. $\frac{3}{11}b\sqrt{5} - \frac{1}{11}b$ *without a Line over.*
Pag. 90, l. 40, r. $\sqrt{2-2\sqrt{5}}$. Pag. 96, l. 10, r. 2072024452283040000; l. 11, r. $-75052691200 00\sqrt{5}$.

GEOMETRY Improv'd, &c.

The Construction and Use of the TABLE *of* SEGMENTS *of* CIRCLES.

THE Solution of many useful and difficult Cases and Problems especially in Solid Geometry, necessarily depending upon the previous Knowledge of the Area's of the Segments of a Circle; it has been not a little surprizing, that no better or more accurate Tables of those Segments were extant, than such as consist only of five, or at most, of six Decimal Figures, which, though they may serve tolerably for common Mechanical Uses, yet are by no means to be accounted sufficient for the satisfaction of the Mathematically ingenious; so that by reason of the Deficiency of the Tables, I have many times found my self under a necessity of calculating *de novo* such Area's of Segments as my occasions requir'd, ere I could sufficiently illustrate, or satisfactorily determine the Truth of the Solution of those Problems I had undertaken; finding such an Examination very necessary for the preventing or correcting the Mistakes such tedious Algebraic Operations are exceedingly obnoxious to: It has seem'd very strange, that none of those ingenious Persons, whose Leisure and capacities have sufficiently qualified them for Calculations of this nature, (as has been evident in their successful Performances in matters not very much different) should not have thought of, or at least, not judg'd, such a Work as this, worth the Undertaking and Prosecution; though it must be acknowledg'd, these Tables not being of such universal Usefulness as those of the Sines, *&c.* and the Operation in composing them so extremely laborious and tedious, may in some measure account for this almost general Neglect. Nevertheless, the Failure of others, and the Difficulty of the Work, were so far from discouraging, that, together with other Considerations, they animated me to so operose an Undertaking, presuming I might have some Methods and Conveniences for the Prosecution and Compleating of such a Work, wherewith few others (perhaps) might be so well accommodated.

It's obvious upon the first Inspection, this Table of Area's of Segments is not calculated by the common Methods, *viz.* from the Tables of Natural Sines, the largest and exactest whereof that are extant, fall short of these, two or three Figures; besides, the Operation thereby is far more tedious and less certain, not being capable of such a Proof, as the Method here propos'd, and by which it was prosecuted affords: Which was by two different *Series*, the *One* accommodated to the composing the Segments in the Beginning or End of the Table, the *Other* to those in the Middle.

In the former, supposing C the Versed Sine, which is always given suited to a Circle whose Diameter is an Unite, or 1,000000 &c. Then the Series adapted to Use will run thus, $2C\sqrt{C} \times \frac{2}{3} - \frac{1}{5}C - \frac{1}{28}C^2 - \frac{1}{72}C^3 - \frac{5}{704}C^4 - \frac{7}{1664}C^5 - \frac{7}{2560}C^6 - \frac{33}{17408}C^7 - \frac{429}{311296}C^8 - \frac{715}{688128}C^9 - \frac{2431}{3014656}C^{10} - \frac{4199}{6553600}C^{11} - \frac{29393}{50823104}C^{12} - \frac{52003}{121634816}C^{13} - \frac{185725}{503316480}C^{14}$ —&c. = to the Area of the Segment of which C is the Versed Sine.

To render the Operation more eaſy and expeditious, reduce theſe Fractions or Coefficients of every Term of the Series into Decimals, and make a Table of each multiplied to 100; theſe, as far as neceſſary, are ſpecified in the Example below.

Suppoſe the Verſed Sine given be ,23, to which the Area of the Segment is requir'd, $C = ,23$; $C^2 = ,0529$; $C^3 = ,012167$; $C^4 = ,00279841$; $C^5 = ,0006436343$; $C^6 = ,000148035889$; $C^7 = 00003404825447$; $C^8 = ,000007831098528\text{1}$; $C^9 = ,000001801152661463$; $C^{10} = ,000000414265112136\text{49}$; $C^{11} = ,00000009528\text{-}097579139$; $C^{12} = ,000000021914624432\text{02}$; $C^{13} = ,000000005040363619\text{36}$; $C^{14} = ,000000001159283632\text{45}$; $C^{15} = ,000000000266335235464$; $C^{16} = ,000000000\text{-}06232610416$; $C^{17} = ,000000000014105003\text{96}$; $C^{18} = 00000000003244150\text{9}$; $C^{19} = ,000000000007461547$; $C^{20} = ,000000000001716155\text{8}$; $C^{21} = ,000000000\text{-}00039471\text{58}$; $C^{22} = ,000000000000900784\text{6}$; $C^{23} = ,000000000000020880\text{5}$; $C^{24} = ,000000000000004802\text{5}$.

The SERIES.

$\frac{1}{5}C =$ ——————————,046	$2C\sqrt{C} = .46\sqrt{,23}$
$\frac{1}{7\frac{1}{2}}C^2 =$ —————————— 1889285714285714\text{3}	$\sqrt{,23} : = ,4795831523312719541\text{6}$
$\frac{1}{7\frac{1}{2}}C^3 =$ —————————— 168986111111111\text{1}	
$C^4 \times ,00710227272727272\text{7} =$ —— 19875071022727\text{3}	
$C^5 \times ,00420673076923076\text{92} =$ —— 2707596213942\text{3}	
$C^6 \times ,002734375 =$ —————— 404785633984\text{4}	
$C^7 \times ,00189568014705882\text{35} =$ —— 64544600040\text{8}	
$C^8 \times ,00137810958059210\text{5} =$ —— 10792111908\text{1}	
$C^9 \times ,00103905087425595 =$ —— 1871489247\text{6}	
$C^{10} \times ,00080639383067\text{255} =$ —— 334060830\text{7}	
$C^{11} \times ,0006407165527\text{3} =$ —— 61048098\text{4}	
$C^{12} \times ,000519099058\text{9} =$ —— 11375860\text{9}	
$C^{13} \times ,000427533840\text{3} =$ —— 2154926\text{0}	
$C^{14} \times ,00035709911\text{8} =$ —— 413979\text{2}	
$C^{15} \times ,00030191107\text{2} =$ —— 80500\text{1}	
$C^{16} \times ,0002579722\text{3} =$ —— 15820\text{4}	
$C^{17} \times ,0002224959\text{2} =$ —— 3138\text{3}	
$C^{18} \times ,000193495\text{4} =$ —— 627\text{7}	
$C^{19} \times ,00016952\text{5} =$ —— 126\text{5}	
$C^{20} \times ,000149517\text{8} =$ —— 25\text{7}	
$C^{21} \times ,000133199\text{9} = 52^6 + C^{22} \times ,00011836\text{1} = 10^7 =$ 6\text{3}	
$C^{23} \times ,00010612\text{6} = 2^{21} + C^{24} \times ,0000955\text{93} = 05 =$ \text{3}	
The Sum of the Series —— 0480813368956226164	
deducted out of $\frac{2}{3}$ —— 6666666666666666667	

leaves the Remainder —— 6185853297710440503, which multiplied by $\sqrt{,23}$: produces ,2966631024374767149\text{8}, and this drawn into $2C = ,46$, becomes = ,1364650\text{-}2712123928889, the Area of the Segment of ſuch a Circle whoſe Diameter is 2, and whoſe Area is = ,7853981633974483096, by which it being divided, or rather, for expedition, multiplied by its reciprocal 1,27323954473516268615, is rendred ,1737526\text{-}690041183408 being the Area of the Segment of a Circle whereof the whole Area is 1, and Verſed Sine ,23.

Though the compoſing this Series be laborious and tedious enough in this part of the Table, and the nearer it approaches to the Middle, the Operation by this Method will ſtill require the more Labour and Time; yet it admits of a very valuable Convenience, which that by the Sines is not capable of. For this Series being thus compleated, ſerves

ſerves without any more Labour in that part, except the Tranſcribing and Addition, for the obtaining two more Segments (at leaſt) nearer the Beginning of the Table, where the Calculation is unavoidably neceſſary, which may be diſpatch'd with ſo much Facility and Expedition, as doth abundantly compenſate the trouble in the firſtraiſing the Series. This encourag'd the proceeding in this Method as far as to 3000, ſince hereby all the Segments neceſſary to be calculated from the Beginning down to ,0300 were obtain'd at a much eaſier expence of Labour and Time, and to greater Exactneſs, than could have been expected by other Methods.

Verſed Sine ,023 = C *The Series.*

$\frac{1}{3}C + \frac{1}{7\frac{1}{2}}C^3 =$ —— 0046 1689861111111
$\frac{1}{28}C^2 =$ —— 1889285714285714
$C^4 \times$,00710227272727 = —— 198750710227
$C^5 \times$,00420673076 9 = —— 2707596214
$C^6 \times$,002734375 = —— 40478563
$C^7 \times$,00189568 = —— 645446
$C^8 \times$,00137811 = —— 10792
$C^9 \times$,001039 = —— 187
$C^{10} \times$,000806 = —— 3

The Sum of the Series —— 0046190638582483825 7
deducted out of $\frac{2}{3}$ —— 6666666666666666667
there remains —— 6620476028084182841 0

which being multiplied by $2C\sqrt{C}$ = ,046$\sqrt{}$,0230 = ,00697624540852742651 will produce ,0046186065493188174, which is the Segment when the whole Area is ,785398, &c. and being multiplied by 1,2732395447351626 86 becomes ,0058805925001655317 9, the Segment when the whole Area is 1, and the Verſed Sine ,023.

Verſed Sine = ,0023 = C. *The Series.*

$\frac{1}{3}C + \frac{1}{28}C^2 =$ ——,00046 1889285714285 7
$\frac{1}{7\frac{1}{2}}C^3 =$ —— 168961111111
$C^4 \times$,00721022727 = —— 19875071
$C^5 \times$,00420673 = —— 27076
$C^6 \times$,002734 = —— 41

The Sum of the Series —— 0004601890977565 6156
Subtracted from $\frac{2}{3}$ —— 6666666666666666667
leaves —— 6662064775689101051 1

which multiplied by $2C\sqrt{C}$ = ,0046$\sqrt{}$,0023 = ,000220608250072385098 9 produces the Segment ,0001469706452036493 4, when the whole Area is ,785398, &c. and being drawn into 1,273239, &c. is reduced to 0001871288373881654 9, which is the Segment when the whole Area is 1.

Since the former Series cannot (as has been intimated) without inſupportable Labour be applied to the raiſing Segments further than 3000, make uſe of another peculiarly adapted to the compoſing all from thence, orſomewhat nearer the Beginning, to the Middle, or ,5000, which is capable of all the Conveniences of the former, and in ſome reſpects much more commodious and expeditious.

The Method is this:

Double the Verſed Sine given, the Square of the Complement of that to 1, call x, then will the Segment be = half the Area of the Circle $- \frac{1}{3}\sqrt{x} \times 1 - \frac{1}{2}x - \frac{1}{10}x^2 - \frac{1}{112}x^3 - \frac{1}{1152}x^4 - \frac{7}{2816}x^5 - \frac{31}{14272}x^6 - \frac{33}{20750}x^7 - \frac{429}{557057}x^8 - \frac{715}{2451584}x^9 - \frac{2431}{5505024}x^{10} - \frac{4199}{12058624}x^{11} - \frac{29393}{104857600}x^{12} - \frac{52063}{226492416}x^{13}$ — &c. Here, as in the former, I reduc'd all the Coefficients except the three firſt into Decimals, and compos'd

pos'd Tables thereof to 100 for the readier multiplication: Since for the greater certainty all betwixt 2000 and 3000 were wrought by both Series. To illuſtrate the Operation the better, and render the Proof clear and evident, I ſhall inſtance in the ſame Segment, whoſe Verſed Sine is ,23, which doubled is ,46, the Complement of that to 1, is ,54 = $\sqrt{x}$, it's Square ,2916 = x; x^2 = ,08503056; x^3 = ,02479491 1296; x^4 = = ,00723019613 39136; x^5 = ,00210832519 26492; x^6 = ,00061478762 6176508; x^7 = ,00017927207 179307; x^8 = ,00005227573 613486; x^9 = ,00001524360 46569; x^{10} = ,00000444503 5118; x^{11} = 00000129617224; x^{12} = 00000037796 3825; x^{13} = ,00000011021425; x^{14} = ,00000003213 8476; x^{15} = 00000000937 15795; x^{16} = ,00000000273275; x^{17} = ,00000000079687; x^{18} = ,00000000023237; x^{19} = = ,00000000006 7758; x^{20} = ,00000000001 9758; x^{21} = ,00000000000 57615; x^{22} = 00000000000 16801; x^{23} = 00000000000 048991; x^{24} = 00000000000 014286; x^{25} = 00000000000 041657.

The SERIES.

$\frac{1}{2}x$ = ——— ——— ,0486	x^{17} × ,0001176050 =	93716
$\frac{1}{4\cdot 0}x^2$ = ——— ——— 2125764	x^{18} × ,0001019773 =	23696
112) x^3 = ——— 2213831365 71429	x^{19} × ,0000891097 =	6038
x^4 × ,0043402777777778 = -- 31381059609	x^{20} × ,0000784057 =	1549
x^5 × ,0024857954545454545 = -- 5240865180594	x^{21} × ,0000694 19 =	400
x^6 × ,0015775240384615 = —— 969842258842	x^{22} × ,0000618 11 =	104
x^7 × ,0010742187 5 = ——— 192577420871	x^{23} × ,0000553 21 =	27
x^8 × ,0007701200 5974 = ——— 40258593035	x^{24} × ,0000497 47 =	7
x^9 × ,0005742123 2525 = ——— 8753065675	x^{25} × ,0000449 28 =	3
x^{10} × ,0004415966 2156 = ——— 1962912491		125540
x^{11} × ,0003482155 178 = ——— 451347288		
x^{12} × ,0002803134 918 = ——— 105948360		
x^{13} × ,0002296015 068 = ——— 25305358		
x^{14} × ,0001908633 216 = ——— 6134056		
x^{15} × ,0001606946 03 = ——— 1505962		
x^{16} × ,0001368034 5 = ——— 373850		
x^{17} to x^{25} = ——— 125540		
Sum of the Series ——0509849830 46352351		

The Sum of the Series ———	,05098498304 6352351
Subſtracted out of ———	1,
There remains ———	,94901501695 3647649
Which multiply'd by $\frac{1}{2}\sqrt{x}$ = ,27 is ———	,25623405457 74848655
This taken from $\frac{1}{2}$ the Area of the Circle whoſe Diameter is 2 ———	= ,39269908169 87241548

There will remain ,13646502712 12392893, which is the Area of the Segment of that Circle, agreeing with that deduc'd from the former Series in the 18th Figure, and being multiply'd by 1,2732395 &c. is reduc'd to ,17375266900 41183413 being the Area of the Segment of that Circle whoſe whole Area is 1, and Verſed Sine ,23, the ſame with the former to 18 Fig. or more readily, the Product of $\frac{1}{2}\sqrt{x}$ = ,256234 &c. drawn into 1,273239 &c. is reduc'd to ,32624733099 5881 6587, which deducted out of $\frac{1}{2}$ the Area the Circle = ,5, leaves the Remainder ,17375266900 41183413 as before.

By this Series alſo other Segments nearer the Middle may be obtain'd, *viz.* 473 and 4973, after this manner, ,473 × 2 = 946, whoſe Complement to 1 is = ,054 = $\sqrt{x}$.

The

The SERIES.

$\frac{1}{6}x$ = ——— ,000486
$\frac{1}{4\cdot5}x^2$ = ——— 2125764
$\frac{1}{1\cdot1\cdot2}x^3$ = ——— 22138313657
x^4 x ,0043402777, &c. = ——— 31381060
x^5 x ,00248579545 = ——— 52409
x^6 x ,001577 = ——— 97
Sum of the Series ——— ,0004862127980974722 3
deducted from 1,
there remains ——— ,9995137872019025277 7
which multiplied by $\frac{1}{3}\sqrt{x}$ = ,027 is ——— ,0269868722544513682 5
And this by 1,2732, &c. is reduc'd to ,0343607529430836535 78
which subtracted from ,5 leaves ——— ,4656392470569163464 22
The Segment answering the Verse Sine, 473, the whole Area being 1.

4973 × 2 = 9946, whose Compliment to 1 is, ,0054 = $\dot{\sqrt{x}}$.

The SERIES.

$\frac{1}{6}x + \frac{1}{4\cdot5}x^2$ ——— ,000004860021257 64
$\frac{1}{1\cdot1\cdot2}x^3$ = ——— 2214
Sum of the Series ——— ,000004860021257 8614
subtracted out of 1,
there remains, ——— ,999995139978742 1386
This multiplied by $\frac{1}{3}\sqrt{x}$ = ,0027 is ,002699986877942 6037742
And this by 1,2732, &c. is made ,003437730632626255413 49
which deducted from ,5 leaves ——— ,496562269367373744586 51
The Segment answering the Versed Sine ,4973, when the whole Area of the Circle is 1.

By these Methods were calculated all the Segments to ,0100, from thence every fifth to 0400, from that every twenty-fifth to 1600; from thence every fortieth to 5000, *viz.* all from 0001 to 3000 by the former Series, and all from 2000 to 5000 by the latter: The intermediate were interpol'd by the Method of Quinquesection propos'd and exemplified in *Brigg's Arithmetica Logarithmica*; only observing, that in correcting the Differences, the proper parts of the third and fifth correct Differences must be added to the first mean Difference, but the subordinate correct Differences must be subtracted from all the rest. Here I found my self under a necessity of contriving and using a new Method of *Bisection* or *Halving*, not meeting with any thing relating thereto in any Author I had perus'd; though this might have been managed in the same manner as the Quinquesection, *viz.* by dividing and correcting all the Differences successively; yet judging that too tedious a Method, I attempted to make the first Differences directly and immediately out of the succeeding, without any previous Correction, concluding that to be more expeditious. Herein I used none but the even Differences, *viz.* 2d, 4th, 6th, 8th, &c. taking the

half Sum of the two next on either side, which I call the Mean. Then to compose the less first Difference, which in this Part of the Table is always the former, the Rule is: To half the first given Difference add the Products of the fourth mean Difference multiplied by $\frac{3}{128}$ or ,0234375, and of the eight mean $\times \frac{35}{32768}$, or ,00106811523437 5; and of the 12th Mean $\times \frac{231}{4194304} =$,000055074617724609375: From that Sum subtract $\frac{1}{16}$ of the second Mean Difference, and the Products of the sixth mean $\times \frac{5}{1024}$, or ,0048828125, and of the tenth mean $\times \frac{63}{262144} =$,000240325927734375. For the greater first Difference, which here is the latter; to half the first given Difference add $\frac{1}{16}$ of the second mean Difference, and the Products of the sixth mean $\times \frac{5}{1024} =$,0048828125, and of the tenth mean $\times \frac{63}{262144} =$,000240325927734375; from this Sum subtract the Products of the fourth mean $\times \frac{3}{128} =$,0234375, and of the eight mean $\times \frac{35}{32768} =$,00106811523437 5, and of the twelfth mean $\times \frac{231}{4194304}$ &c. For Example; If it be required to bisect the Space betwixt ,0020 and ,0021, or from the Differences to make the Segment answering the Versed Sine ,00205; The first Difference given is ,000011517563774 41; the 2 next second Differences on either side are $\left\{\begin{matrix}28389475157\\27700711704\end{matrix}\right\}$ $\frac{1}{2}$ their Sum $= 28045093430^{5}$ is the second mean Difference, $\frac{1}{16}$ hereof is 3505636678^{812}. The two fourth Differences on either side are $\left\{\begin{matrix}53631054\\47458796\end{matrix}\right\}$ the half Sum 50544925 is the fourth mean Difference, $\frac{3}{128}$ of it is $= 1184646^{6797}$; The two sixth Differences on either side are $\left\{\begin{matrix}1186562\\951290\end{matrix}\right\}$ their half Sum 1068926 is the sixth mean, $\frac{5}{1024}$ of it is 5219^{3652}; The two eighth Differences $\left\{\begin{matrix}75311\\54658\end{matrix}\right\}$ half their Sum 64984^{5} is the eighth mean, $\frac{35}{32768}$ hereof is 69^{4109}; The two tenth Differences $\left\{\begin{matrix}9592\\6182\end{matrix}\right\}$ the $\frac{1}{2}$ Sum 7887 is the tenth mean, $\frac{63}{262144}$ of it is 1^{89545}; The two twelfth Differences $\left\{\begin{matrix}2045\\1617\end{matrix}\right\}$ half the Sum 1831 the twelfth mean $\times \frac{231}{4194304}$ is 0^{10084}.

$\frac{1}{2}$ the first Diff. ,000005758781887205	$\frac{1}{16}$ of the second mean $= 3505636678^{81}$
4^{th} mean $\times$,0234375 $= 1184646^{68}$	6^{th} mean $\times$,0048828125 $= 521937$
8^{th} mean $\times$,001068115 $= 69^{41}$	10^{th} mean $\times$,0002403259 $= 1^{89}$
12^{th} mean $\times$,000055075 $= 0^{10}$	,000000035056419007
5758793734366^{9}	
Subtr. $2^{d} + 6 + 10 = 35056419007$	
the first less Diff. $= 5723737315366^{2}$	
Segm. ,0020 ,0001517515377 6039	
,00205 $=$,0001574752750757 5,^{6}	

$\frac{1}{2}$ the first Diff. given $=$,000005758781887205
add the Sum of the $2^{d} + 6^{th} + 10^{th} =$,000000035056419007
5793838306205 7
Subtract the Sum of the $4^{th} + 8^{th} + 12^{th} =$ 1184716 19
The greater first Difference $=$,000005793826459043 8
Subtract this greater first Diff. out of the Segment ,0021 $=$,000163269101534 80
There will remain the Segment for ,00205 $=$,000157475275075 75^{6}
which is undoubtedly true in the 17th Place.

In

In the very ſame Order muſt the Reſults of the Differences be applied to the Logarithms, Tangents, Secants, Powers, *&c.* only the greater Difference in the Logarithms is the former, the leſs the latter. But in the Sines, Verſed Sines, *&c.* whoſe Differences increaſe and decreaſe alternately, the Products of all the Differences muſt be added to half the firſt in compoſing the greater; but all muſt be ſubtracted from it to make the leſs firſt Difference ſought.

If it be requir'd that this Method for Biſection ſhould be farther continued, by the following Rule it may be extended *in infinitum.* Let A repreſent the Fraction by which the ſecond mean Difference is to be multiplied; B that for the fourth mean Diff. C that for the ſixth; D that for the eighth; E that for the tenth, *&c.* then $\frac{1}{4} \times \frac{1}{3} = A$, $\frac{1}{4} A \times \frac{3}{4} = B$, $\frac{1}{4} B \times \frac{5}{6} = C$, $\frac{1}{4} C \times \frac{7}{8} = D$, $\frac{1}{4} D \times \frac{9}{10} = E$, $\frac{1}{4} E \times \frac{11}{12} = F$, $\frac{1}{4} F \times \frac{13}{14} = G$, $\frac{1}{4} G \times \frac{15}{16} = H$, $\frac{1}{4} H \times \frac{17}{18} = I$, $\frac{1}{4} I \times \frac{19}{20} = K$, *&c.* Hence may be eaſily collected $A = \frac{1}{8}$, $B = \frac{3}{128}$, $C = \frac{5}{1024}$, $D = \frac{35}{32768}$, $E = \frac{63}{262144}$, $F = \frac{231}{4194304}$, $G = \frac{429}{33554432}$, $H = \frac{6435}{2147483648}$, $I = \frac{12155}{274877906944}$, $K = \frac{46189}{70368744177664}$, *&c.* This laſt being the Coefficient for the Twentieth mean Difference. The Operation, I preſume, will rarely, if ever proceed ſo far, having obſerv'd that ordinarily if the twelfth Difference exceed 5 Figures, the remoter Differences will encreaſe; conſequently the Subdiviſion cannot be perform'd truly by any other Method ſave by Calculation.

The Table by theſe Methods being ſubdivided into Parts ſo numerous as rendred it, in my Opinion, ſufficiently bulky, I extended it only to one Semicircle of ,5000; the latter Part being no other than the Complements of theſe to 1,0000, *&c.* and ſo eaſily, even almoſt by Inſpection, obtain'd from theſe, that I thought it needleſs and ſuperfluous to tranſcribe them.

The various Uſes of the Table come next in order to be inſiſted on, which being the principal Thing in View in the whole Work, to expatiate more largely thereupon may juſtly be accounted reaſonable. That which firſt offers, and is a neceſſary Introduction to the reſt, is the making out by a true Proportion the Segment or Tabular Number exactly ſuited and anſwering to any Verſed Sine or Marginal Number propoſed; and *è contra* the Verſed Sine to any Segment propos'd, the Performance whereof to ſuch a Degree of Nicety and Exactneſs as the Tables are capable of, I doubt not to undertake: Though it may ſeem out of the common Road, and attended with no ſmall Difficulty, ſince the Tabular Numbers extend to ſo many Figures as make ſeveral Ranks of Differences beyond the firſt in every Part of it; ſo that it will no where fall under common Rules, nor indeed near the Beginning can it be brought to ſubmit to any Rule (without the Amputation of ſeveral Figures) which in that Part is unavoidable otherwiſe than by a new Calculation, which there indeed is moſt eaſie: Conſidering the numerouſneſs of the Differences, eſpecially near the Beginning, to every of which a due Reſpect muſt be had in order to the making out a true proportional Part, there was a Neceſſity of compoſing Tables adapted to every Rank of Differences from the Third to the Tenth, for the Correction of the Second and thereby the Firſt, neither of which need any Tables. The vaſt Expence of Labour and Time in the Computation of theſe Tables will not eaſily be credited; but the Method taken therein was ſuch as all along the Proceſs both exemplified and prov'd the Truth of the Work: They are in all Eight, beginning with that for the third Difference, and proceeding to the tenth, every of them was more difficult and troubleſome in the compoſing than the next preceding, admitting of more Differences, the following extending one further than the former: Conſequently all are terminate, the firſt Differences being equal in the I^ſt Table, the ſecond in the II^d, *&c.* and the eighth in the VIII^th; in all after the II. alternately increaſing and decreaſing as the Sines: Thoſe for the

odd

odd Differences, *viz.* 3d, 5th, 7th, 9th, reſembling and depending upon each other: So likewiſe thoſe for the Even, *viz.* 4th, 6th, 8th, 10th; ſo that there was no attempting the following till the former was perfected; thoſe for the even Differences riſe higher, or contain more Integers than the Odd, and ſtill the more the further remote, and the more intricate: Many of the Numbers terminate in a Fraction, and cannot be perfectly expreſs'd otherwiſe; the Numbers are complete in all, except the laſt, in ſeveral of which the Figures are too numerous.

The Integers in theſe Tables (though they be not always properly ſo, but only with reſpect to the Number of the Figures in the Differences by the following Rules determin'd) are clearly diſtinguiſh'd, being ſeparated by a *Comma*. In the Firſt there are none, in the Second and Third no more than one; nor more than three in the Fourth and Fifth; in the Sixth and Seventh they exceed not Four, but in all of the Eight there are Five.

Table

TABLE I.

Rem. of Versed Sine.	No. 1 mult. third Diff.	1st diff.
0	100	
1	99	0,8 1/3
2	98	0,8
3	97	0,7 5/6
4	96	0,7 2/3
5	95	0,7 5/6
6	94	0,7 1/6
7	93	0,7 1/6
8	92	0,7
9	91	0,6 5/6
10	90	0,6 2/3
11	89	0,6 5/6
12	88	0,6 4/6
13	87	0,6 3/6
14	86	0,6
15	85	0,5 5/6
16	84	0,5 2/3
17	83	0,5 5/6
18	82	0,5 2/3
19	81	0,5 1/6
20	80	0,5
21	79	0,4 5/6
22	78	0,4 2/3
23	77	0,4 5/6
24	76	0,4 4/6
25	75	0,4 3/6
26	74	0,4
27	73	0,3 5/6
28	72	0,3 4/6
29	71	0,3 5/6
30	70	0,3 1/6
31	69	0,3 5/6
32	68	0,3
33	67	0,2 5/6
34	66	0,2 4/6
35	65	0,2 5/6
36	64	0,2 2/6
37	63	0,2 1/6
38	62	0,2
39	61	0,1 5/6
40	60	0,1 4/6
41	59	0,1 5/6
42	58	0,1 4/6
43	57	0,1 3/6
44	56	0,1
45	55	0,0 5/6
46	54	0,0 4/6
47	53	0,0 5/6
48	52	0,0 4/6
49	51	0,0 3/6
50	00	0,0

TABLE II.

Numbers to Mult. the Fourth Differen.	1st Diff.	2d diff.
8,333333 1/3		
8,374583 1/3	4125	83 1/3
8,415	4041 2/3	
8,454583 1/3	3958 1/3	
8,493333 1/3	3875	
8,53125	3791 2/3	
	3708 1/3	
8,568333 1/3	3525	83 1/3
8,604583 1/3	3541 2/3	
8,64	3458 1/3	
8,674583 1/3	3375	
8,708333 1/3	3291 2/3	
8,74125	3208 1/3	83 1/3
8,773333 1/3	3125	
8,804583 1/3	3041 2/3	
8,835	2958 1/3	
8,864583 1/3	2875	
8,893333 1/3	2791 2/3	83 1/3
8,92125	2708 1/3	
8,948333 1/3	2625	
8,974583 1/3	2541 2/3	
9,0	2458 1/3	
9,024583 1/3	2375	83 1/3
9,048333 1/3	2291 2/3	
9,07125	2208 1/3	
9,093333 1/3	2125	
9,114583 1/3	2041 2/3	
9,135	1958 1/3	83 1/3
9,154583 1/3	1875	
9,173333 1/3	1791 2/3	
9,19125	1708 1/3	
9,208333 1/3	1625	
9,224583 1/3	1541 2/3	
9,24	1458 1/3	
9,254583 1/3	1375	
9,268333 1/3	1291 2/3	
9,28125	1208 1/3	
9,293333 1/3	1125	
9,304583 1/3	1041 2/3	
9,315	958 1/3	
9,324583 1/3	875	
9,333333 1/3	791 2/3	
9,34125	708 1/3	
9,348333 1/3	625	
9,354583 1/3	541 2/3	
9,36	458 1/3	
9,364583 1/3	375	
9,368333 1/3	291 2/3	
9,37125	208 1/3	
9,373333 1/3	125	
9,374583 1/3	41 2/3	
9,375		

TABLE III.

Numbers to multiply the Fifth Difference.	1st Differ.	2d.
8,333333 1/3		
8,207091 2/3	12624 1/6	250
8,0784	12869 1/6	245
7,947308 2/3	13109 1/6	240
7,813866 2/3	13344 1/6	235
7,678125	13574 1/6	230
	13799 1/6	225
7,540133 1/3	14019 1/6	220
7,399941 2/3	14234 1/6	215
7,2576	14444 1/6	210
7,113158 1/3	14649 1/6	205
6,966666 2/3	14849 1/6	200
6,818175	15044 1/6	195
6,667733 1/3	15234 1/6	190
6,515391 1/3	15419 1/6	185
6,3612	15599 1/6	180
6,205208 1/3	15774 1/6	175
6,074666 2/3	15944 1/6	170
5,888025	16109 1/6	165
5,726933 1/3	16269 1/6	160
5,564241 2/3	16424 1/6	155
5,4	16574 1/6	150
5,234258 1/3	16719 1/6	145
5,067066 2/3	16859 1/6	140
4,898475	16994 1/6	135
4,728533 1/3	17124 1/6	130
4,557291 2/3	17249 1/6	125
4,3848	17369 1/6	120
4,211108 1/3	17484 1/6	115
4,036266 2/3	17594 1/6	110
3,860325	17699 1/6	105
3,683333 1/3	17799 1/6	100
3,505341 2/3	17894 1/6	95
3,3264	17984 1/6	90
3,146558 1/3	18069 1/6	85
2,965866 2/3	18149 1/6	80
2,784375	18224 1/6	75
2,602133 1/3	18294 1/6	70
2,419191 2/3	18359 1/6	65
2,2356	18419 1/6	60
2,051408 1/3	18474 1/6	55
1,866666 2/3	18524 1/6	50
1,681425	18569 1/6	45
1,495733 1/3	18605 1/6	40
1,309641 2/3	18644 1/6	35
1,1232	18674 1/6	30
0,936458 1/3	18699 1/6	25
0,749466 2/3	18719 1/6	20
0,562275	18734 1/6	15
0,374933 1/3	18744 1/6	10
0,187491 2/3	18749 1/6	5
0,00		

TABLE IV.

Numbers to Multiply the Sixth Difference.	1st Difference.	2d Differ.	3d diff.
166,6666,666 2/3			
167,7680,279 1/6	1013,6125	19609 1/2	161 1/2
168,8497,8	1017,5208 1/3	19770 1/2	158 1/2
169,9117,6125	1019,8125	19929 1/2	155
170,9538,133 1/3	1020,5208 1/3	20084 1/6	151 1/2
171,9757,8125	1021,9791 2/3	20235 1/6	148 1/2
172,9775,1333 1/3	1017,3208 1/3	20384 1/6	145
173,9588,6125	981,34791 2/3	20529 1/6	141 1/2
174,9196,8	960,81875	20670 1/2	138 1/2
175,8598,2791 2/3	940,14791 2/3	20809 1/2	135
176,7791,6666 2/3	919,33875	20944 1/6	131 1/2
177,6775,6125	898,39458 1/3	21075 1/6	128 1/2
178,5548,8	877,31875	21204 1/6	125
179,4109,9458 1/3	856,11458 1/3	21325 1/6	121 1/2
180,2457,8	834,78541 2/3	21450 1/2	118 1/2
181,0591,1458 1/3	813,33458 1/3	21569 1/6	115
181,8508,8	791,76541 2/3	21684 1/6	111 1/2
182,6209,6125	770,08125	21795 1/2	108 1/2
183,3692,4666 2/3	748,28541 2/3	21904 1/6	105
184,0956,2791 2/3	726,38125	22009 1/6	101 1/2
184,8	704,37208 1/3	22110 1/2	98
185,4822,6125	682,26125	22209 1/2	95
186,1423,1333 1/3	660,05208 1/3	22304 1/6	91 1/2
186,7800,6125	637,74791 2/3	22395 1/2	88 1/2
187,3954,1333 1/3	615,35208 1/3	22484 1/6	85
187,9882,8125	592,86791 2/3	22569 1/6	81 1/2
188,5585,8	570,29875	22650 1/2	78 1/2
189,1062,2791 2/3	547,64791 2/3	22729 1/6	75
189,6311,4666 2/3	524,91875	22804 1/6	71 1/2
190,1332,6125	502,11458 1/3	22875 1/6	68 1/2
190,6125,	479,23875	22944 1/6	65
191,0687,9458 1/3	456,29458 1/3	23009 1/6	61 1/2
191,5020,8	433,28541 2/3	23070 1/2	58 1/2
191,9122,9458 1/3	410,21458 1/3	23129 1/6	55
192,2993,8	387,08541 2/3	23184 1/6	51 1/2
192,6632,8125	363,89125	23235 1/6	48 1/2
193,0039,4666 2/3	340,64541 2/3	23284 1/6	45
193,3213,2791 2/3	317,35125	23329 1/6	41 1/2
193,6153,8	294,00208 1/3	23370 1/2	38 1/2
193,8860,6125	270,60125	23409 1/6	35
194,1333,3333 1/3	247,14791 2/3	23444 1/6	31 1/2
194,3571,6125	223,64541 2/3	23475 1/6	28 1/2
194,5575,1333 1/3	200,09458 1/3	23504 1/6	25
194,7343,6125	176,49541 2/3	23529 1/6	21 1/2
194,8876,8	152,84791 2/3	23550 1/2	18 1/2
195,0174,4791 2/3	129,15208 1/3	23569 1/6	15
195,1236,4666 2/3	105,41875	23584 1/6	11 1/2
195,2062,6125	81,64791 2/3	23595 1/2	8 1/2
195,2652,8	57,84125	23604 1/6	5
195,3006,9458 1/3	34,00208 1/3	23609 1/6	1 1/2
195,3125,	10,13208 1/3	23610 1/2	

Rem. of Vers. Sine.	
0	100
1	99
2	98
3	97
4	96
5	95
6	94
7	93
8	92
9	91
10	90
11	89
12	88
13	87
14	86
15	85
16	84
17	83
18	82
19	81
20	80
21	79
22	78
23	77
24	76
25	75
26	74
27	73
28	72
29	71
30	70
31	69
32	68
33	67
34	66
35	65
36	64
37	63
38	62
39	61
40	60
41	59
42	58
43	57
44	56
45	55
46	54
47	53
48	52
49	51
50	00

Rem. of Vers. Sine.		TABLE V. Numbers for Multiplying the Seventh Difference.	1st Difference.	2d.	TABLE VI. Numbers for Multiplying the Eighth Difference.	1st Difference.	Rem. of Vers. Sine.	
0	100	119,04761,90476 $\frac{6}{21}$			3571,42857,14285,714 $\frac{3}{7}$		0	100
			1,6099,99505 $\frac{2}{21}$	149,13750		26,56649,72792,410 $\frac{5}{7}$		
1	99	117,43761,95416 $\frac{3}{21}$			3597,99506,87078,125		1	99
			1,6549,13255 $\frac{20}{21}$	441,81904 $\frac{16}{21}$		26,12424,50207,589 $\frac{2}{7}$		
2	98	115,78270,62857 $\frac{1}{7}$			3624,11931,37285,714 $\frac{3}{7}$		2	98
			1,6990,95160 $\frac{1}{7}$	434,38630 $\frac{20}{21}$		25,67634,20792,410 $\frac{5}{7}$		
3	97	114,08361,1125			3649,79565,58078,125		3	97
			1,7425,33791 $\frac{3}{7}$	426,84166 $\frac{2}{7}$		25,22289,13921,875		
4	96	112,34107,73333 $\frac{1}{3}$			3675,01854,72		4	96
			1,7852,17958 $\frac{1}{7}$	419,18750		24,76399,67453,125		
5	95	110,55585,9375			3699,78254,39453,125		5	95
			1,8271,36708 $\frac{1}{21}$	411,42619 $\frac{1}{21}$		24,29976,27546,875		
6	94	108,72872,2666 $\frac{2}{3}$			3724,08230,67		6	94
			1,8682,79327 $\frac{3}{7}$	403,56011 $\frac{19}{21}$		23,83029,48488,839 $\frac{2}{7}$		
7	93	106,86044,3339 $\frac{3}{7}$			3747,91260,15488,839 $\frac{2}{7}$		7	93
			1,9086,35339 $\frac{3}{7}$	395,59166 $\frac{1}{3}$		23,35569,92511,160 $\frac{5}{7}$		
8	92	104,95180,8			3771,26830,08		8	92
			1,9481,94505 $\frac{4}{21}$	387,52321 $\frac{2}{3}$		22,87608,29613,839 $\frac{2}{7}$		
9	91	103,00361,3494 $\frac{1}{21}$			3794,14438,37613,839 $\frac{2}{7}$		9	91
			1,9869,46827 $\frac{2}{21}$	379,35714 $\frac{2}{7}$		22,39155,37386,160 $\frac{5}{7}$		
10	90	101,01666,6666 $\frac{2}{3}$			3816,53593,75		10	90
			2,0248,82541 $\frac{2}{3}$	371,09583 $\frac{1}{3}$		21,90222,00828,125		
11	89	98,99178,4125			3838,43815,75328,125		11	89
			2,0619,92125	362,74166 $\frac{2}{3}$		21,40819,12171,875		
12	88	96,92979,2			3859,84634,88		12	88
			2,0982,66291 $\frac{2}{3}$	354,29702 $\frac{2}{3}$		20,90957,70703,125		
13	87	94,83152,5708 $\frac{1}{7}$			3880,75592,58703,125		13	87
			2,1336,95994 $\frac{5}{21}$	345,76428 $\frac{4}{7}$		20,40648,82582,589 $\frac{2}{7}$		
14	86	92,69782,9714 $\frac{2}{7}$			3901,16241,41285,714 $\frac{2}{7}$		14	86
			2,1682,72422 $\frac{1}{21}$	337,14583 $\frac{1}{3}$		19,89903,60667,410 $\frac{5}{7}$		
15	85	90,52955,7291 $\frac{2}{3}$			3921,06145,01953,125		15	85
			2,2019,87005 $\frac{20}{21}$	328,44404 $\frac{16}{21}$		19,38733,24332,589 $\frac{2}{7}$		
16	84	88,32757,02857 $\frac{1}{7}$			3940,44878,26285,714 $\frac{3}{7}$		16	84
			2,2348,31410 $\frac{2}{3}$	319,64130 $\frac{20}{21}$		18,87148,99292,410 $\frac{5}{7}$		
17	83	86,09273,8875			3959,32027,25578,125		17	83
			2,2667,95541 $\frac{1}{3}$	310,84000		18,35162,17421,875		
18	82	83,82594,1333 $\frac{1}{3}$			3977,67189,43		18	82
			2,2978,79541 $\frac{2}{3}$	301,8425		17,82784,16578,125		
19	81	81,52806,3791 $\frac{2}{3}$			3995,49973,59578,125		19	81
			2,3280,63791 $\frac{2}{3}$	292,85119 $\frac{1}{21}$		17,30026,40421,875		
20	80	79,2			4012,8		20	80
			2,3573,48910 $\frac{1}{7}$	283,76845 $\frac{5}{21}$		16,76900,38238,839 $\frac{2}{7}$		
21	79	76,84265,1089 $\frac{2}{7}$			4029,56900,38238,839 $\frac{2}{7}$		21	79
			2,3857,25755 $\frac{20}{21}$	274,61666 $\frac{2}{3}$		16,23417,64761,160 $\frac{5}{7}$		
22	78	74,45692,5333 $\frac{1}{3}$			4045,80318,03		22	78
			2,4131,87422 $\frac{1}{21}$	265,39821 $\frac{1}{3}$		15,69589,79988,839 $\frac{2}{7}$		
23	77	72,04373,79107 $\frac{1}{21}$			4061,49907,82988,839 $\frac{2}{7}$		23	77
			2,4397,27244 $\frac{1}{21}$	256,11547 $\frac{1}{21}$		15,15426,49011,160 $\frac{5}{7}$		
24	76	69,60401,0666 $\frac{2}{3}$			4076,65336,32		24	76
			2,4653,38791 $\frac{1}{21}$	246,77083 $\frac{1}{3}$		14,60945,41828,125		
25	75	67,13867,1875			4091,26281,73828,125		25	75
			2,4900,15875	237,36666 $\frac{2}{3}$		14,06152,33171,875		
26	74	64,64865,6			4105,32434,07		26	74
			2,5137,52541 $\frac{2}{3}$	227,90535 $\frac{5}{7}$		13,51061,02328,125		
27	73	62,13490,3458 $\frac{3}{4}$			4118,83495,09328,125		27	73
			2,5365,43077 $\frac{1}{21}$	218,38928 $\frac{4}{7}$		12,95683,32957,589 $\frac{2}{7}$		
28	72	59,59836,03805 $\frac{1}{21}$			4131,79178,42285,714 $\frac{3}{7}$		28	72
			2,5583,82005 $\frac{20}{21}$	208,82083 $\frac{1}{3}$		12,40031,12917,410 $\frac{5}{7}$		
29	71	57,03997,8375			4144,19209,55203,125		29	71
			2,5792,64089 $\frac{2}{7}$	199,20238 $\frac{1}{21}$		11,84116,34082,589 $\frac{2}{7}$		
30	70	54,46071,42857 $\frac{1}{7}$			4156,03325,89285,714 $\frac{2}{7}$		30	70
			2,5991,84327 $\frac{8}{21}$	189,53630 $\frac{20}{21}$		11,27950,92167,410 $\frac{5}{7}$		
31	69	51,86152,9958 $\frac{1}{3}$			4167,31276,81453,125		31	69
			2,6181,37958 $\frac{1}{3}$	179,825		10,71546,86546,875		
32	68	49,24339,2			4178,02823,68		32	68
			2,6361,20458 $\frac{1}{7}$	170,07083 $\frac{1}{3}$		10,14916,20078,125		
33	67	46,60727,1541 $\frac{3}{4}$			4188,17739,88078,125		33	67
			2,6531,27541 $\frac{3}{7}$	160,27619 $\frac{2}{21}$		9,58070,98921,875		
34	66	43,9541,44			4197,75810,87		34	66
			2,6691,55160 $\frac{5}{7}$	150,44345 $\frac{1}{21}$		9,01023,32363,839 $\frac{2}{7}$		
35	65	41,28498,8839 $\frac{2}{7}$			4206,76834,19363,839 $\frac{2}{7}$		35	65
			2,6841,99505 $\frac{20}{21}$	140,575		8,43785,32636,160 $\frac{5}{7}$		
36	64	38,60078,9333 $\frac{1}{3}$			4215,20619,52		36	64
			2,6982,57005 $\frac{20}{21}$	130,67321 $\frac{3}{7}$		7,86369,14738,839 $\frac{2}{7}$		
37	63	35,90253,2327 $\frac{3}{21}$			4223,06988,66738,839 $\frac{2}{7}$		37	63
			2,7113,24327 $\frac{1}{21}$	120,74047 $\frac{1}{21}$		7,28786,96261,160 $\frac{5}{7}$		
38	62	33,19120,8			4230,35775,63		38	62
			2,7233,98375	110,77916 $\frac{2}{3}$		6,71050,97203,125		
39	61	30,46780,9625			4237,06826,60203,125		39	61
			2,7344,76291 $\frac{2}{3}$	100,79166 $\frac{2}{3}$		6,13173,39796,875		
40	60	27,73333,3333 $\frac{1}{3}$			4243,2		40	60
			2,7445,55458 $\frac{1}{3}$	90,78035 $\frac{1}{3}$		5,55166,48328,125		
41	59	24,98877,7875			4248,75166,48328,125		41	59
			2,7536,33494 $\frac{1}{21}$	80,74761 $\frac{10}{21}$		4,97042,48957,589 $\frac{2}{7}$		
42	58	22,23514,43809 $\frac{17}{21}$			4253,72208,97285,714 $\frac{3}{7}$		42	58
			2,7617,08255 $\frac{20}{21}$	70,69583 $\frac{1}{3}$		4,38813,69542,410 $\frac{5}{7}$		
43	57	19,47343,6125			4258,11022,66828,125		43	57
			2,7687,77839 $\frac{2}{7}$	60,62738 $\frac{2}{21}$		3,80492,39457,589 $\frac{2}{7}$		
44	56	16,70465,82857 $\frac{1}{7}$			4261,91515,06285,714 $\frac{2}{7}$		44	56
			2,7748,40577 $\frac{1}{21}$	50,54464 $\frac{1}{7}$		3,22090,89417,410 $\frac{5}{7}$		
45	55	13,92981,7708 $\frac{1}{3}$			4265,13605,95703,125		45	55
			2,7798,95041 $\frac{1}{3}$	40,45		2,63621,51296,875		
46	54	11,14992,2666 $\frac{2}{3}$			4267,77227,47		46	54
			2,7839,40041 $\frac{1}{3}$	30,34583 $\frac{2}{3}$		2,05096,57953,125		
47	53	8,36598,2625			4269,82324,04953,125		47	53
			2,7869,74625	20,23452 $\frac{1}{21}$		1,46528,43046,875		
48	52	5,57900,8			4271,28852,48		48	52
			2,7889,98077 $\frac{8}{21}$	10,11845 $\frac{1}{21}$		,87929,40863,839 $\frac{2}{7}$		
49	51	2,79000,99226 $\frac{4}{21}$			4272,16781,88863,839 $\frac{2}{7}$		49	51
			2,7900,09922 $\frac{1}{21}$		4272,46093,75	,29311,86136,160 $\frac{5}{7}$		
50	100	0,00					50	100

Rem. of Vers. Sine.	TABLE VII. Numbers for Multiplying the Ninth Difference.	Difference.	TABLE VIII. Numbers for Multiplying the Tenth Difference.	Difference.	Rem. of Vers. Sine.
0	100				100
	1984,12698,41269,84 $\frac{4}{21}$		79365,07936,50793,65 $\frac{1}{2}$	529.94455.19611.43081	
1	99	25218,55783,05084 $\frac{3}{28}$	79995,02391,70405,08 $\frac{1}{2}$	619.88609.75378.34697	99
2	98	1958,90842,62964,75693 $\frac{4}{7}$	80614,91001,45783,42857 $\frac{1}{7}$	609.67017.40219.43080 $\frac{1}{2}$	98
3	97	26044,79230,79042 $\frac{1}{7}$	81224,58018,86002,85937 $\frac{5}{7}$	599.29942.94135.8072 $\frac{1}{2}$	97
4	96	1932,86363,39885,7 $\frac{1}{7}$	81823,87961,80138 $\frac{2}{3}$	588.77654.83679.6927 $\frac{1}{2}$	96
5	95	26859,23595,560268	82412,65616,63818,359375		95
		1906,00439,80329,6875		578.10425.15046.9739 $\frac{1}{2}$	
6	94	27661,58501,96354 $\frac{1}{7}$	82990,76041,78865 $\frac{1}{3}$	567.28529.47118.12128	94
7	93	1878,34281,30133,33 $\frac{1}{3}$	83558,04571,25983,45461 $\frac{3}{7}$	556.32246.84448.54538	93
8	92	28451,54104,0677 $\frac{1}{2}$	84114,36818,10432,	545.21859.70209.51016	92
9	91	1849,89127,19726,5625	84659,58677,80641,51016 $\frac{5}{9}$	533.97653.79080.712053	91
10	90	29228,81091,93229 $\frac{1}{2}$	85193,56331,59722 $\frac{2}{9}$		90
		1820,66246,10533,33 $\frac{1}{3}$		522.59918.10095.637153	
11	89	29993,10697,99776 $\frac{1}{14}$	85716,16249,69817,859375	511.08944.79440.8072 $\frac{1}{2}$	89
12	88	1790,66935,40733,5565 $\frac{1}{21}$	86227,25194,49258 $\frac{1}{3}$	499.45029.13210.0260 $\frac{1}{7}$	88
13	87	30744,14703,335565 $\frac{1}{21}$	86726,70223,62468,6927 $\frac{1}{2}$	487.68469.40114.7352 $\frac{1}{2}$	87
14	86	1759,92520,704	87214,38693,02583,428	475.79566.84151.598 $\frac{2}{9}$	86
15	85	31481,65443,75917 $\frac{6}{7}$	87690,18259,86735,0260 $\frac{1}{2}$		85
		1728.44355.26024.0823 $\frac{26}{63}$		463.76625.57228.402530	
16	84	32205,35815,79637 $\frac{8}{9}$	88153,96885,43963,4 $\frac{2}{7}$	451.65952.51749.430804	84
17	83	1696,23819,44444,44 $\frac{4}{9}$	88605,62837,95712,859375	439.41857.33161.362847	83
18	82	32914,99282,52256 $\frac{17}{18}$	89045,04695,28874 $\frac{2}{9}$	427.06652.32460.859375	82
19	81	1663,32320,10192,1875	89472,11347,61335,081597 $\frac{3}{7}$	414.60652.38651.918403	81
20	80	33610,29879,2552 $\frac{1}{2}$	89886,72		80
		1629,71290,28265,66 $\frac{2}{3}$		402.04174.91245.121280	
21	79	34291,02219,109375	90288,76174,91245,121280	389.37539.72526.878720	79
22	78	1595,42188,06355,729 $\frac{1}{7}$	90678,13714,63772,	376.61069.00054.787946	78
23	77	34956,91498,41443 $\frac{1}{21}$	91054,74783,63826,7879463 $\frac{3}{7}$	363.75087.18925.212054	77
24	76	1560,46496,56514,3 $\frac{3}{7}$	91418,49870,82752,	350.79920.94087.1927 $\frac{1}{2}$	76
25	75	35607,73501,99181 $\frac{5}{21}$	91769,29791,76839,1927 $\frac{1}{2}$		75
		1524,85723,06315,104 $\frac{1}{7}$		337.75899.02612.8072 $\frac{1}{2}$	
26	74	36243,24608,29389 $\frac{17}{21}$	92107,05690,79452,	324.63352.25938.081756	74
27	73	1488,61398,45485,7 $\frac{1}{7}$	92431,69043,05390,081756	311.42613.42075.569038	73
28	72	36863,21794,40401 $\frac{7}{9}$	92743,11656,47465,656 $\frac{1}{2}$	298.14017,17799.708581	72
29	71	1451,75076,66045,3125	93041,25673,65265,359375	284.77900.00806.069196	71
30	70	37467,42640,8975694 $\frac{4}{9}$	93326,03573,5607 $\frac{1}{7}$,		70
		1414,28334,01955,55 $\frac{5}{9}$		271.34600.11845.597470	
31	69	38055,65336,56423 $\frac{11}{18}$	93597.38173.77917.026 $\frac{1}{24}$	257.84457.36834.973 $\frac{23}{24}$	69
32	68	1376,22768,68299,131 $\frac{17}{18}$	93855 22631.14752.	244.27813.18944.1927 $\frac{1}{2}$	68
33	67	38627,68682,99131 $\frac{1}{18}$	94099.50444.33696.1927 $\frac{1}{2}$	230.65010.50662.4739 $\frac{1}{24}$	67
34	66	1337,6	94330.15454,84358 $\frac{3}{7}$	216.96393.65843.621280	66
35	65	39183,32099,00818 $\frac{11}{21}$	94547.11848.50202.287946 $\frac{3}{7}$		65
		1298,41667,90099,1815 $\frac{10}{21}$		203.22308.31731.934276	
36	64	39722,35624,99181 $\frac{10}{21}$	94750.34156.81934 $\frac{5}{9}$	189.43101.40969.787947	64
37	63	1258,69432,276	94939.77258,22904.010169	175.59121.03587.989831	63
38	62	40244,59927,03348 $\frac{2}{7}$	95115.36379.26492.	161.70716.38980.026 $\frac{1}{24}$	62
39	61	1218,44972,34896,65 $\frac{5}{18}$	95277.07095.65472.026 $\frac{1}{24}$	147.78237.67861.3072 $\frac{1}{2}$	61
40	60	40749,86300,9665 $\frac{5}{18}$	95424,85 $\frac{1}{3}$		60
		1177,69986,048		133.82036.04214.526042	
41	59	41237,96676,2552 $\frac{1}{2}$	95558.67369.37547.859375	119.82463.47222.235863	59
42	58	1136,46189,37174,479 $\frac{1}{36}$	95678.49832.84770.02 $\frac{1}{21}$	105.79872.73187.764136	58
43	57	41708,73619,74479 $\frac{1}{6}$	95784.29705.57957.859375	91.74617.27445.569196	57
44	56	1094,75315,752	95876.04322.85403,4 $\frac{2}{3}$	77.67051.16262.153026	56
45	55	42162,00339,27256 $\frac{17}{18}$	95953.71374.01665.581597 $\frac{3}{21}$		55
		1052,59115,41272,743 $\frac{1}{18}$		63.57528.98728.640625	
46	54	42597,60687,14012 $\frac{8}{21}$	96017.28903.00394. $\frac{2}{3}$	49.46405.78646.137153	54
47	53	1009,99354,72558,73 $\frac{8}{9}$	96066.75308.79040.359375	35.34036.96404.9739 $\frac{7}{24}$	53
48	52	43015,39163,44667 $\frac{6}{7}$	96102.09345.75445. $\frac{1}{3}$	21.20776.20858.954613 $\frac{7}{12}$	52
49	51	966,97815,56214,0625	96123.30123.96304.2879463 $\frac{3}{7}$	7.06985.41195.7120537 $\frac{3}{7}$	51
50	50	43415,20919,28348 $\frac{3}{7}$	96130.37109.375		50
		923,56294,64285,7 $\frac{1}{7}$			
51	49	43796,91759,78943 $\frac{11}{21}$			
52	48	879,76602,88306,77 $\frac{1}{2}$			
53	47	44160,38147,0677 $\frac{1}{2}$			
54	46	835,60564,736			
55	45	44505,47202,96354 $\frac{1}{6}$			
56	44	791,10017,53303,645 $\frac{5}{6}$			
57	43	44832,06711,703125			
58	42	746,26810,82133,33 $\frac{1}{3}$			
59	41	45140,05122,30360 $\frac{1}{7}$			
60	40	701,12805,69893,9732 $\frac{1}{21}$			
61	39	45429,31551,38417 $\frac{6}{7}$			
62	38	655,69874,14755,5 $\frac{5}{9}$			
63	37	45699,75784,48834 $\frac{16}{63}$			
64	36	609,99898,36306,7212 $\frac{19}{63}$			
65	35	45951,28279,06721 $\frac{23}{63}$			
66	34	564,04770,084			
67	33	46183,80165,97395 $\frac{1}{6}$			
68	32	517,86389,91802,60 $\frac{1}{12}$			
69	31	46397,23251,359375			
70	30	471,46666,66666,6 $\frac{2}{3}$			
71	29	46591,50018,33854 $\frac{1}{6}$			
72	28	424,87516,64832,8125			
73	27	46766,53628,51860 $\frac{5}{21}$			
74	26	378,10863,01980,95 $\frac{1}{21}$			
75	25	46922,27923,38764 $\frac{17}{21}$			
76	24	331,18635,09642,1875			
77	23	47058,67425,56473 $\frac{8}{21}$			
78	22	284,12767,67085,7 $\frac{1}{7}$			
79	21	47175,67339,91096 $\frac{9}{21}$			
80	20	236,95200,33094,618 $\frac{1}{18}$			
81	19	47273,23554,50173 $\frac{11}{18}$			
82	18	189,67876,77644,4 $\frac{4}{9}$			
83	17	47351,32641,46006 $\frac{7}{18}$			
84	16	142,32744,13498,4375			
85	15	47409,91857,65104 $\frac{1}{6}$			
86	14	94,91752,27733,3 $\frac{1}{3}$			
87	13	47448,99145,23735 $\frac{4}{21}$			
88	12	47,46853,13209,598 $\frac{3}{14}$			
89	11	47468,53132,09598 $\frac{3}{14}$			
90	10	00,			

BEfore the Differences can be rightly managed, ſo as to determine the juſt Number of Figures in the reſult, 'twill be neceſſary to cut off from the end of each ſo many as anſwer its Denomination, or equal its degree of diſtance from the Tabular Number, *viz.* from the Firſt one, from the Second two, from the Third three, from the Fourth four, *&c.* but if there be not ſo many Figures in the Difference as its degree of diſtance extends to, it muſt be depreſt ſo far below Unity as is equivalent; *Ex. gra.* Suppoſe in the Tenth Difference there be only five Figures, there muſt be five Cyphers prefix'd thereto, which will be equivalent to the cutting off ten Figures, yet tho the firſt of theſe ſignificant Figures ſtand at ſuch a diſtance below 1, in the Product there will ordinarily be an Integer, which before all the Operations requir'd be compleated may amount to ſeveral more, therefore muſt by no means be neglected: hence, 'tis evident that two Decimals (or Supernumary Figures) at leaſt muſt be admitted in the Products of the Differences, elſe the laſt Figures will ordinarily be vitiated.

To make out the true *Area* of the *Segment* from the Table or the *Tabular Number* anſwering to any *Verſed Sine* or *Marginal Number*, given to the whole extent of the Table, *i. e.* to 17 Figures.

The Rule is, Collect all the Differences to the Tenth (incluſive) if that conſiſt not of fewer than three Figures, obſerving, that for the *2d*, *4th*, *8th* and *10th* the half Sum of the two next on either ſide muſt be taken, which call the Mean Difference; then out of each of the foregoing Tables by a due Proportion make out the Number anſwering to the Figures of the *Verſed Sine* given, which extend beyond thoſe which are found in the Margin of the Table, multiply theſe Numbers ſeverally by their reſpective Differences, then if the next Figure in the *Verſed Sine* beyond thoſe found in the Margin be leſs than 5, to half the ſecond mean Difference, add the Products of the *3d*, *6th*, *7th* and *10th* Differences, and ſubtract thoſe of the *4th*, *5th*, *8th* and *9th* Differences. If it exceed 5, to half the ſecond mean Difference, add the Products of the *5th*, *6th*, *9th* and *10th* Differences, and ſubtract thoſe of the *3d*, *4th*, *7th* and *8th*; half the ſecond mean Difference thus corrected muſt be multiplyed by the Arithmetical Complement of the exceſs of the *Verſed Sine* above thoſe 4 Figures found in the Margin of the Table, and the Product added to the firſt Difference if thoſe preceeding it be greater, or ſubtracted if (as here) they be leſs; the Firſt Difference thus Corrected being multiply'd by all the reſt of the Figures of the *Verſed Sine* given above thoſe found in the Margin, will yield a true proportional Part to be added to the next leſs Segment in the Table. The ſame *Rule* is to be obſerved when the other ſide of the Proportional Part is required, which is to be ſubtracted from the next greater Segment in the Table, only the half ſecond mean Difference correct, muſt be multiply'd by the ſame Figures of the *Verſed Sine* which extend beyond the Marginal, and the Product added to the Firſt Difference here (ſince the next after it is greater, the proportional Part being now accounted on that ſide) which Sum is to be drawn into the Arithmetical Complement of the reſt of the *Verſed Sine*, and then ſubtract as propoſed.

A few Inſtances wherein the various Parts of the Rule are Exemplyfied will more clearly explain and illuſtrate it.

Suppoſe the Segment comprehended within that Arch which is the twelfth part of the Semi-circle be required, $\frac{1}{12}$ of 180^d is 15^d the Co-ſine of half thereof or Sine of $82\frac{1}{2}{}^d$ is 99144861373810406 9; hence the *Verſed Sine* of $7\frac{1}{2}{}^d$ is 00855513862618959 31, half whereof (to ſuit it to the Tabular Diameter ~~is~~ via. 00427756931309479655, being ſought in the Table the neareſt Marginal Number leſs is 0042, its Segment, 00046150331311835; the next greater 0043, whoſe Segment is, 00047806891465527; by the Differences betwixt theſe the true Segment may be obtained: The Firſt Difference is 1656560153692, the

the second mean Difference is 194075680^{205}, the third 231304^{149}, the fourth mean Difference $= 813^{8221}$, the fifth $= 4^{78514}$, the sixth mean Difference $= ,^{0395235}$, the seventh $= ,^{0004175}$, the eighth Mean $= ,^{00000548}$: The Number found in the first Table for the third Difference answering 7756931309 48 is 45948855158, being easily proportion'd, 9488555158 being $\frac{1}{5}$ of 5693130948, there being no more Labour ever necessary in the Use of this Table. This Number 45948855158 multiply'd by the third Diff. 231304^{149}, produces 10628160^{84}. The Number taken out of Table II. 9,0583054 drawn into the fourth mean Difference 813^{8221} gives 7371^{8491}: That taken out of Table III. 4,99429 x 4^{78514} the fifth Difference, makes 23^{8987}. From Table IV. is had 186^{414}, which multiply'd by the sixth mean Difference $,^{0395235}$, is $7,^{3677}$. Out of Table V. 73^{41} into $,0004175$ the seventh Difference makes ,03064. Out of the VI. $4052^{56} \times 00000548$ the eighth mean Difference is $,^{0230}$. To half the second mean Difference 97037840^{1025} add the Products of the fifth 23^{8987}, and of the sixth $7,^{3677}$. From the Sum 97037871^{3689} subtract the Products of the third 10628160^{84}, of the fourth 7371^{8491}, of the seventh, ,0306, and of the eighth, ,0230. The Remainder 96924217^{8578}, being the $\frac{1}{2}$ second mean Differ. correct, multiply by 224306869052, the Arithm. Complement of the Remainder of the Versed Sine beside the Marginal Number. The Product 21740767843 subtracted from the first Difference 165656015369^{2} (because the preceding are less) leaves 16543860769077, which drawn into the Overplus of the Versed Sine 7756931309 48 produces $1283295915\text{-}793^{26}$, the true proportional Part: This added to ,0004615033131 1835 the Tabular Number against ,0042, makes $,0004743362722762826$ the true Segment answering the Versed Sine $,0042775693130947965^{5}$.

If, to confirm the Operation, the other side of the Proportion be desired, multiply the correct half second Difference 96924217^{8578} by the Surplusage of the Versed Sine 7756931309 48; the Product 751834500^{148} add to the first Difference 165656015369^{2}, the Sum 166407849869^{148} multiply'd by 224306869052 the Arithm. Complement of the rest of the Versed Sine, gives 37326423789874 the true proportional Part to be subtracted out of ,0004780689 1465527 the Tabular Number for ,0043: The Remainder $,0004743362722762826$ is the true Segment required: Which is thus prov'd by the Series, putting $C = ,0042775693130947965$; C^2 is $= ,0000182975992283302 89$; $C^3 = ,0000000782692489624 1267$; $C^4 = ,0000000003348021375 2$; $C^5 = ,0000000000\text{-}1432139349$; $C^6 = ,0000000000000006126075$; $C^7 = ,0000000000000000262047$: Hence the Series,

$\frac{1}{5}C = \text{——} \quad ,0008555138626189593 1$
$\frac{1}{4\cdot 3}C^2 = \text{———} \quad 6534856867260 8$
$\frac{1}{7\cdot 6}C^3 = \text{——} \quad \text{——} \quad 1087072902 26$
$C^4 \times ,0071022727 27 = 2377856 09$
$C^5 \times ,0042067 31 = \text{——} \quad 6024 62$
$C^6 \times ,0027 24 + C^7 \times ,0019 = 168 0$
The Sum $= \quad ,0008561684377624851 6$
Taken from $\frac{2}{3} - \quad ,6666666666666666667$
Remains —— $\quad ,6658104982289041815 1$

The Result ,6658104982289041815 1 multiply'd by $2\sqrt{C^3} = ,0005595328371\text{-}50466706$, makes $,0003725428370785 8\text{-}454437$ the Segment, if the Diameter be 2: This multiply'd by 1,2732395 &c. is reduc'd to $,0004743362722762828705$, exactly agreeing with that deduced from the Table in the 18th Place.

A second Instance may be necessary to illustrate the other Case. Let it be requir'd to find the Segment to the Versed Sine of $2\frac{1}{4}^{d} = ,0021410767613964 94$, which being as near the beginning of the Table as can well in Practice be propos'd, will more fully exemplifie all the Varieties. The nearest less Marginal Number is ,0021, the Segment against it is ,0001632691015 3480; the first Difference betwixt this and the next follow-

ing againſt ,0022 is 117945708914^{5}; the 2^{d} mean Diff. is 2738005937^{55}; the 3^{d} 641304^{657}, &c. The Number anſwering the reſt of the Verſed Sine 410767613965 gives in the Ist Table, 1487206434, by which the third Difference 641304^{657} multiplied, produces 95375^{2412}. The Number deduc'd by due Proportion from the II^{d} Table, is 9,341823255, by which the fourth mean Difference 4484^{8312} being multiply'd, gives 41896^{5004}. The Number taken from Table III, 1,667186 drawn into the fifth Difference 52,^{20968} produces 87,^{24334}. That taken from Table IV. 194,37337 multiplied by the ſixth mean Difference ,86983, makes 167,^{35217}. The Number from Table V. 24,77709 drawn into the ſeventh Difference ,0180614, gives 44752. That deduced from Table VI. 4249,1538 into the eighth mean Difference ,00047422^{5} is 2,01505 : That from Table VII. 421,294 x 00001447I the ninth Difference is ,006096. That out of the VIII. 95568, x 000000-52855 the tenth mean Diff. is ,05051. To half of the ſecond mean Difference, *viz.*

To —— 1369900296,8775

Add the Products of the { 3d — 95375,2412 ; 6th — 167,3522 ; 7th ——— ,4475 ; 10th —— 0505 } Products of the { 4th 41896,5004 ; 5th 87,0433 ; 8th — 2,0151 ; 9th —— ,0061 } Out of 1369958 39,9689 ; Subtract 41985,5649 ; The Remainder 1369538 54,4040 is the half ſecond Diff. corrected.

+ 1369958 39,9689 — 41985,5649

Multiply this ½ ſecond mean Difference corrected 136953854,404 by 589232386035 the Arithm. Complement of the Overplus of the Vers'd Sine; the Product 806976464,07 ſubtracted from the firſt Difference 117945708914,5 leaves 117138732450,43, which multiply'd by 410767613964,94 the ſaid Overplus, the Product 481167976315,4 added to ,0001632691015348O the Segment for ,0021' makes, ,0001680807812979 5,4 the true Segment anſwering the Verſed Sine ,00214107676139 6494. Or half the 2^{d} mean Diff. correct 136953854,404 being multiply'd by 410767613965 the reſt of the Verſed Sine, and the Product 5625620799,68 added to the firſt Difference 117945708914 5, and their Sum 118508270994 4,68 drawn into the Arithm. Complement 589232386035 06, the Product 6982891128 29,6 deducted out of ,0001750636724262 5 the Tabular Number againſt ,0022, leaves the Remainder ,0001680807812979 5,4 the Segment required, prov'd by the Series in the ſame Method as the former; by which it was found ,0001680807812979573 05, exceeding that found by the Table only 3 in the 18th Place.

The finding the Marginal Number by the Tabular, will be ſomewhat more troubleſome and tedious, becauſe it cannot be performed at once, as the former, but gradually by ſeveral Steps or Tentations. Firſt, the Difference between the given Segment and the Tabular that is neareſt to it, muſt be divided by ſo many Figures of the firſt Difference, as agree mutually with each other. By the Complement of the Quotient multiply half the ſecond mean Difference, or only ſo many Figures thereof as are in the Quotient, and apply the Product, as before directed, to the firſt Difference: By ſo many Figures of it as are thereby corrected, divide again the aforeſaid given Difference; by that Quotient proceed to take out the Numbers from the I, and II Tables, as near as may be, whereby the third and fourth Differences muſt be multiply'd, and the Products apply'd (according to the Rule) to the half ſecond mean Difference: This being thereby in part corrected, muſt again be multiply'd by the Complement of the laſt Quotient, and the Product apply'd the ſame Way as before, to the firſt Difference; by which, thus further corrected, the Diviſion muſt be renewed. By the Quotient which now may be ſuppos'd to conſiſt of a competent Number of true Figures, (which will be triple, if rightly managed, to thoſe in the firſt Quotient) the Numbers for the third and fourth Differences may be obtain'd more exactly, and the reſt for the fifth, ſixth, ſeventh, eighth, ninth and tenth,

tenth, taken out of the reſpective Tables, multiply'd, and the ſeveral Products apply'd (as the Rule directs) to the ½ ſecond mean Difference: Let the Multiplication and Diviſion be repeated, and the Operation again reiterated ſo often, till it be found that the Repetition makes no Alteration in thoſe Figures propos'd to be obtain'd; though when it approaches ſo near as within one or two Figures, a renew'd Multiplication of the half ſecond Difference by the Complement of the Quotient laſt found (without any further Correction thereof only of the firſt Difference thereby) and a repeated Diviſion may obtain them, and compleat the Work.

A few Examples expreſſive of all the Varieties may be ſuppos'd neceſſary to render this Method more clear and intelligible.

Suppoſe the Area of a Circle divided by Chord-lines into any Number of equal Parts, to find the Verſed Sines, or Parts of the Diameter intercepted betwixt the Circumference and each Chord. Let the Area of the Circle, which in the Table is aſſumed = 1, be propos'd to be divided into ſeven equal Parts, the firſt or neareſt the Circumference will be ,142857142857142857, the Verſed Sine or Number in the Margin exactly anſwering thereto, is requir'd. The neareſt Marginal Number againſt the next leſs Segment found in the Table, is 2004: Its Tabular Number or Segment is ,14278607926966398, which ſubtracted from this given, leaves 7106358747887^{7} the Dividend or given Difference. The Tabular firſt Difference is 101945006204 2,8; the ſecond mean Difference is 1905388^{545}; the third Difference = $992,^{207}$; the fourth mean Difference = ,0556. Divide the five firſt Figures of the given Difference 71063^{6} by 101945 the ſix firſt Figures of the Tabular firſt Difference, the Quotient is 69707: By its Complement 30293 multiply ½ the ſecond Difference 95269, and ſubtract the Product 28860 out of the firſt Difference: By the Remainder 1019421202 divide again 7106358747 the given Difference, and by the Quotient 69709740 take out of Table I. the Number ,32849576, by which the third Difference $992,^{207}$ multiply'd is $325,^{936}$; and out of Table II. 9,213, which drawn into the fourth mean Diff. ,0556 produces ,5122. The Sum of theſe Numbers 326,4482 taken out of 9526944,2725 half the ſecond Difference, leaves 9526617,8243 the half ſecond Difference correct: This multiply'd by 30290260 the Complement of the laſt Quotient is 28856373 which deducted from the firſt Diff. and by the Remainder 101942120567 the Diviſion renew'd, the Quotient is 69709740276. By the Complement hereof 30290259724 multiply the ½ ſecond correct Difference 9526617,8243, and ſubtract the Product 288563728^{19} out of the firſt Diff. and by 10194212056699^{81} the Remainder compleat the Diviſion of the given Difference 710635, &c. Add the Quotient 6970974027578 to the Marginal Number 2004, it becomes 2004697097402757 8 the true Verſed Sine, conſiſting of as many true Figures as the Tabular Numbers. The ſame may with as much Certainty be obtain'd from the leſs Dividend 3088141872540,3 (which is the Difference of the next greater Tabular Number 14288802427586826 and the given 142857 &c.) if the Operation be proſecuted from the beginning: Wherefore it may be expedient to carry on both together, to confirm the Work all along, and prevent Miſtakes. The laſt Part of the Operation will ſufficiently ſhow how it differs from the former. By the Quotient next before the laſt 69709740276 multiply half the ſecond correct Difference 9526617,8243: The Product 664098054,24 add to 101945006204 28 the firſt Difference; and by the Sum 101951647184 82,24 divide 3088141872540,35 the Quotient 3029025972422 ſubtract out of the next greater Marginal Number 2005, the Remainder 2004697097402757 8 is the Verſed Sine ſought, as above, true in the 17th Figure. This will be more fully evident from the following Operation, which will illuſtrate the Method much better, ſince in the preceding only four of the Differences occur.

cur. Suppoſe the Table ſubdivided only into 500 Parts: Then the neareſt leſs Verſed Sine or Marginal Number to the Segment given 1428571428571428571 would be 200; the Segment againſt it 1423784899326470 3 ſubtracted, leaves 4786529244958 27. Out of the next greater againſt 201 = 1433980348425551 9 ſubtract the given Segment, the Remainder 5408919854123 33 added to the former compoſes the 1ſt Diff. 10195449099081 6; the ſecond mean Difference is 19049042875; the third Difference 991938,426; the fourth mean Difference 556,0139; the fifth ,70508; the ſixth mean = ,0011985; the ſeventh ,0000029. Four Figures of the leſs Dividend or given Difference 47865 divided by as many of the firſt Tabular Difference 10195 quotes 4697: By its Complement 5303 multiply the like Number of Figures of half the ſecond mean Difference 9524⁵, and the Product 50508 take from the firſt Difference: By the reſidue 101903983 divide again 478652924, and by the Quotient 46970973 proceed to take out of Table I. the Number ,05048378, by which the third Difference multiply'd produces 50076⁸⁰: And out of Table II. 9,37118, which drawn into the fourth Difference, makes 5210⁶⁰, (both theſe will need Correction.) Out of Tab. III. ,56771 multiply'd by the fifth Difference, gives ,40029. Out of Tab. IV. 195,20419 × the ſixth Difference is ,23421. The Products of the third and ſixth added to the half ſecond mean Difference 952452143,⁸⁷⁵ make 952502220,91; from which ſubtract the Products of the fourth and fifth: The reſt 952497009,91 multiply by 53029027 the Arith. Complement of the laſt Quotient; the Product 50509989645 deducted from the firſt Difference leaves 101903981001170, by which the Diviſion of 4786529 &c. further proſecuted, yields the Quotient 46970974028. By this the Number out of Tab. I. is more truly found ,0504837662, and its Product by the third Difference 50076,7875; likewiſe that out of Tab. II. 9,3711771, and its Product by the fourth Difference 5210,5980; whereby half the ſecond Difference corrected to a ſufficient accuracy is rendred 952497009⁸⁹⁹⁷. This multiply'd by 53029025972 the Arith. Complement of the laſt Quotient, and the Product 5050998867622 taken out of the firſt Difference, by the Remainder 101903981002139 38 divide again the given Difference 4786529 &c. the Quotient 4697097402757 7⁷⁹⁶ added to 200, is 20046970--974027578, agreeing with the former ſo nearly as ſufficiently evinces its Certainty. After the ſame manner the Verſed Sine for two Sevenths of the Area, *viz.* the Segment ,2857142857142857 14 being given, is found ,3282610875736701 29. The Verſed Sine for the three Sevenths of the Area, or the Segment 4285714285714285 7, is ,4437814 53--63734041: For four Sevenths, the Complement of the laſt, *i.e.* ,5562185463626595 9: For five Sevenths, the Complement of the former ,6717389124263298 71: For ſix Sevenths, the Complement of the firſt ,7995302902597242 2.

Since theſe falling ſo far diſtant from the Beginning of the Table, cannot ſufficiently exemplifie all the Varieties that may occur in theſe Operations, I ſhall offer another Inſtance as near the Beginning as can eaſily be propos'd; wherein, though the Progreſs be very ſlow, and advances little more than two Figures at each Step, yet thereby the ſeveral Varieties are better illuſtrated.

Suppoſe the Verſed Sine anſwering to $\frac{1}{63000}$ of the Area of the Circle be required, the whole Area being 1. $\frac{1}{63000}$ is = ,0001587301587301587, the neareſt leſs Number in the Table (againſt 0020 in the Margin) is ,0001517515377603 9, their Difference is 6978620969769; the next greater (againſt 0021) is ,0001632691015348 0; the Difference from this is 4538942804641: The Sum of theſe 11517563774 41 is the Tabular firſt Difference. The ſecond mean Difference is 280450934³⁰⁵: Divide the three firſt Figures of the former given Difference 697, by as many of the firſt Difference 115, the Quotient is 606: By its Complement 394, multiply as many Figures of half the ſecond mean

mean Difference 1402, the Product 552 ſubtract from the firſt Difference: By the Remainder 114624 renew the Diviſion of 697862: By the Quotient 6088 take out of Table I. the Number 1813, which multiply'd by the third Difference 688763,^{453} produces 124873, and out of Tab. II. the Number 9,3256, by which the fourth mean Diff. 5054,^{4925} multiply'd makes 47136: The Sum of theſe two Products 17201, deducted from $\frac{1}{2}$ the ſecond mean Difference, leaves 14005346: This being drawn into 3912 the Arith. Complement of the laſt Quotient, take the Product 547889 out of the firſt Difference, and by the Reſidue 114627749 repeat the Diviſion of 697862096. By the Quotient 60880729 take the Numbers more accurately out of Table I. 1813455, which drawn into the third Difference is ,24904,^{15}, and out of Table II. 9,32567076 × the fourth mean Difference is 47136,^{5329}; likewiſe out of Table III. 2,0294016, which multiply'd by the fifth Difference 61,^{72258} produces 125,^{2599}; Out of Table IV. 193,91678, by which the ſixth mean Difference 1,068926 multiply'd will be 207,^{28269}; Out of Table V. 30,^{142214} in the ſeventh Difference ,0235272 is ,^{70916}; Out of Table VI. 4237,^{831} in the eighth mean Difference ,000649845 will be 2,^{75393}; Out of Table VII. 512,^{295} × the ninth Difference ,000020653 is ,01058; Out of Table VIII. 95302,^{18} × the tenth mean Difference ,0000007887 makes ,07516. Add the Products of the fifth, ſixth, ninth and tenth Differences, *i. e.* 332,^{6293} to $\frac{1}{2}$ the ſecond mean Difference; from that Sum 140225799,^{7809} ſubtract 172044,^{15} the Sum of the Products of the third, fourth, ſeventh and eighth Differences: The Remainder 140053755,^{63} being the $\frac{1}{2}$ ſecond Difference correct (tho' not ſo truely as it ought, ſeeing the Number for the third Difference is yet imperfect) multiply by the Arith. Complement of the laſt Quotient 39119271; the Product 547880082 ſubtract out of the firſt Difference; and by the Remainder 114627757662 divide again 697862096977. By the Quotient 6088072481 take the Number more exactly out of Tab. I. 181345414 × the third Difference is ,124904,^{0935}; by which with the reſt, $\frac{1}{2}$ the ſecond Difference again corrected becomes 140053755,^{6914}: This drawn into 3911927518, and the Product 54788014089 taken out of the firſt Difference, leaves 1146277576032^{1}, whereby divide again 697862, &c. And by the Arith. Complement of the Quotient 391192751591^{1} multiply the $\frac{1}{2}$ ſecond Difference correct; the Product 5478801405959 taken out of the firſt Difference leaves 1146277576035,04, by which the Diviſion compleated yields in the Quotient 6088072484073. This ſubjoyn'd to the Marginal Number ,0020 gives the Verſed Sine to a ſufficient Accuracy ,002060880724840 73.

The ſame may as truely be obtain'd by the like Approaches from the other Dividend, or given Difference 4538942804641: To avoid Prolixity the laſt Operation may ſuffice. Multiply the $\frac{1}{2}$ ſecond correct Diff. ,140053755,^{6914} by the Quotient 60880724840,^{89}, and add the Product 8526574163,^{18} to the firſt Diff. By the Sum 1160282951604,^{18} divide 4538942804641, and take the Quotient 391192751592 7 from 0021 the neareſt greater Marginal Number, the Remainder ,002060880724840 73 is the Verſed Sine as above, differing in Exceſs only an Unite in the ſeventeenth Place from the ſame obtain'd by a decimal Subdiviſion, being thereby found ,00206088072484071,^{7}.

For the rendring theſe Operations (which may poſſibly ſeem tedious and intricate enough) more clear and eaſy, I ſhall propoſe another Inſtance or two in the Nature of Problems.

Suppoſe a Cylindrical Veſſel or Cask contains 139 Gallons, the Axis being plac'd Horizontal, What ſhall be the Verſed Sine or dry part of the Diameter upon the Vacuity of one Gallon; ſo much only being drawn out? $\frac{1}{139}$th part of the Content, or, (which in this Caſe is the ſame) of the Area of the Circle being every where ſuppos'd = 1, is ,0071942446-04316547: The neareſt leſs Segment in the Table is ,00718333161604722 againſt ,0263, the Diff. 1091298826932,^{7}; the neareſt greater againſt ,0264 is ,00722411955770595

the Diff. 2987495338940,^{3} : This added to the former gives the Tabular firſt Difference 4078794165873, by four or five Figures of which 10913 — divided gives the firſt Quotient 2676. By its Arith. Complement 7324 multiply ſo many Figures of the half ſecond mean Difference 37651037,^{446}, the Product 275756 deduct out of the firſt Difference, and by the Remainder 407603660 divide 1091298827 : By the Quotient 267735288 take out of Tab. I. ,38710785, which multiply'd by 15492,^{009} the third Difference, makes 5997,^{0782} ; Out of Tab. II. 9,15022126, which drawn into 8,5806 the fourth mean Difference is 78,^{5141} ; Out of Tab. III. 4,^{25} × ,00810 the fifth Difference is ,0344. To half the ſecond mean Diff. add the Product of the third 5997,^{0782}, from the Sum 37657034,^{524} ſubtract the Products of the fourth and fifth 78,^{5485} ; the Remainder 37656955,^{976} multiply by 732264712 the Arith. Complement of the laſt Quotient, and ſubtract the Product 2757486002 from the firſt Difference. By the reſt 4076036679871 renew the Diviſion of 10912988, &c. and the Quotient is 267735281265 ; by its Arith. Complement 732264-718735 multiply half the ſecond Difference laſt corrected ; the Product 27574860276 take out of the firſt Difference ; by the Reſidue 40760366798454 the Diviſion being perfected renders the Quotient 267735281266^{9}, which added to the Marginal Number 0263, gives 0263267735281266^{9} the Verſed Sine to as many Figures as our Table conſiſts of.

But ſince in this Operation there are only five Differences ingredient, which do but exemplify half the Varieties that may occur : I ſhall (to prove the Truth of this Verſed Sine) compute it from the Segments for 026 and 027, ſuppoſing the Table ſubdivided only into 500 Parts. The Segment againſt 026 = ,0070614206922797^{4} ſubtracted from that given 0071942446043165^{47} leaves 1328239120368^{07}, and that given from ,0074-704215617027^{4} which ſtands againſt 027, leaves 27617695738619,^{3}. The Sum of theſe two is the firſt Tabular Difference 4090008694230^{0}. By 409 divide 2762 —, by the Quotient 675 multiply half the ſecond mean Diff. 3754405984,^{21}, the Product 25342 take from the firſt Difference, and by the Remainder 4064667 divide 13282391 : With the Quotient 326769 take out of Tab. I. ,288718, multiply it by the third Diff. 15374049,^{092} it produces 4438760 ; Out of Table II. 9,249 drawn into the fourth mean Difference 84905,^{91645} is 785300 ; Out of Tab. III. 3,2046 × 797,^{864217} the fifth Difference makes 2557 ; out of Tab. IV. 191,78 × 10,^{6065365} the ſixth mean Difference is 2034. To ½ the ſecond mean Diff. add the Products of the third and ſixth ; from the Sum 3758846782 deduct the Products of the fourth and fifth, the reſt 375805886 multiply by the Arith. Complement of the laſt Quotient 673231 ; the Reſult 25300417 take from the firſt Diff. With the reſt 4064708277 divide 1328239120, and by the Quotient 32677354 rectify the Numbers for the third and fourth Differences (which will yet need another Correction) the former will be found ,28871077, its Product 4438653,^{6} ; the latter 9,24996914, and its Product 785377,^{10497} : Theſe, together with the Products of the fifth and ſixth Differences, apply as above to ½ the ſecond Diff. and it will be (better corrected) 3758058737,^{5}. Multiply it by 67322646 the Arith. Complement of the laſt Quotient, and deduct the Product 253002458 out of the firſt Difference : By the Remainder 40647084484 again divide 1328239120368, and by the Quotient 3267735281 perfect the Numbers for the third and all the other Differences : And the Work will ſtand thus.

To ½ the ſecond mean Diff.		3754405984,21	
Add the	3^{d} × 28871078645^{8}	= 4438653,8044	
	6th × 191,78$_{3}$464	= 2034,1477	
	7th = 1801859×47,45972	= 8,5516	
	10th = 0000027127×94021,	= ,2551	
	Sum	3758846680,9688	

Subtr. the	4th × 9,2499691227	=	785377,1055
	5th = 797,96427×3,204679355	=	2557,2196
	8th = ,00380152 × 4184,964	=	15,9092
	9th = ,000093348 × 805,5	=	0,0752
	Sum		787950,3095

From this firſt Sum 3758846680,9688 having Subtracted 787950,3095, multiply the Remainder

mainder 3758058730,6593 by the Arith. Complement of the laſt Quotient 6732264719, the Product 2530024620337[1] take out of the firſt Diff. By the reſt 4064708448o2,[663] finiſh the Diviſion of 1328 &c. The Quotient 3267735281267o,[1] added to ,026, gives the Vers'd Sine ,02632677352812670[1], differing from the former but a Unice in the ſeventeenth Place.

To render this Method as eaſy and clear as poſſible, I ſhall ſuperadd the Reſults of another Example, waving all the gradual Approaches (to avoid Tedioufneſs) being in the former ſufficiently particulariz'd. Suppoſing the whole Capacity of the Cylindrical Cask 143$\frac{1}{2}$ Gallons, and One only wanting, What will be the Verſed Sine, or the dry part of the Diameter? $\frac{10}{1493}$ or $\frac{2}{287}$ths of the Area (= 1) is ,0069686411149825 7,8: Out of this deduct ,00694019241934193 the neareſt leſs Segment, anſwering to ,0257 the Verſed Sine in the Margin, and there remains 2844869564064 8 the Dividend.

To half the ſecond mean Diff. 38123670,955
Add the { 5th Diff. = 00878×3,808 = ,0334 / 6th mean Diff. ,000238×190,28 = ,0045 }
Sum 38123670,9929

Subt. the { 3d Diff. = 16021,814×,34256051 7 = 5488,4401 / 4th mean Diff. 90867×9,1989784 = 83,5884 }
Sum 5572 0285

From this firſt Sum 38123670,9929 Subtract 5572,0285, and multiply the Remainder 38118098,9644 by 2944636895 the Arith. Complement of the Quotient ſuppos'd to be already obtain'd by former Approaches: The Product 11224396058 deduct from 40333-31018437 the firſt Diff. By the reſt 40322085788312 divide 2844869564064 8, the Quotient 7055363105470 68 ſubjoyn'd to 0257, makes the Verſed Sine 0257705536310547o,7.

For the Confirmation hereof, and the more ample Illuſtration of the Certainty of this Method, I ſhall ſhow that the ſame is attainable by the Segments for 025 and 026 and their Differences.

From the given Segment 0069686411149825 78 take that for ,025 = 0066600055-0507062, the reſt 308635609911 95,[8] is the Dividend.

To half the ſecond mean Difference = 3833498623,115

Add the { 5th = 913,03893 × 4,9078447 = 4481,0533 / 6th mean = 12,6218085 × 186,745338 = 2357,0639 / 9th = ,00012 4955 × 1220,65 = ,1533 / 10th mean = ,00000379605 × 91075,6 = ,3483 }
Sum 3833505461,7338

Subtract the { 3d = 16263006,470 × ,450922718425 = 7333359,0872 / 4th mean = 93460,93245 × 9070030589 = 847690,9407 / 7th = ,2228685 × 72,1776634 = 16,0859 / 8th mean = ,004893035 × 4060,616 = 19,8687 }
Sum 8181085,9825

Out of the firſt Sum 3833505461,7338 Subtract the latter 8181085,9825, the Remainder 3825324375,7513 multiply by 2294463689453 the Arith. Complement of the Quotient obtain'd before by Approaches; the Product 877706788054 take from the firſt Difference 401415187209 12; by the Remainder 4005374804210 66 divide 308635609911 95,[8], the Quotient

Quotient 7705536105471,², ſubjoyn'd to 025, renders it ,0257705536105471,² the Verſed Sine, exceeding the former only half an Unite in the ſeventeenth Place.

The preceding Rules are applicable, in the very ſame Order (as has been directed and exemplify'd) to the Logarithms, and to all other Tables where the Diff. decreaſe; but where they increaſe, as in the Tables of Natural Tangents, Secants and Powers, *&c.* the Products of the Numbers and Differences are to be apply'd in the ſame Order to the half ſecond mean Difference, when the reſt of the Marginal Number is Leſs or Greater than 5, as they are in the former when 'tis Greater or Leſs than 5.

But in the Tables of Natural and Verſed Sines, and all other whoſe Differences increaſe and decreaſe alternately, when the next figure ſucceeding the laſt found in the Margin of the Table is leſs than 5, if the firſt Differences decreaſe, all the Products of the odd Differences, *viz.* the third, fifth, ſeventh, and ninth muſt be ſubtracted from half the ſecond mean Difference, and all thoſe of the even Differences, *viz.* fourth, ſixth, eighth, tenth muſt be added; but if it exceed 5, all are to be added. The contrary will obtain when the firſt Differences encreaſe.

Hence 'tis obvious, that by the help of theſe Tables, a Method of Decimal Interpolation is offer'd (perhaps) as commodious as any other, and (probably) leſs intricate, but ſo accurate, that if the eleventh Difference conſiſts not of more than 50000, the Reſult will ſcarce differ an Unite in the laſt Figure from the Truth; *Ex. gr.* Suppoſe the Space betwixt the Segments 0250 and 0260 be to be divided into ten Parts: To avoid Tedioufneſs I ſhall only inſtance in finding the third and ſeventh Parts, which require moſt Trouble, the reſt being made with more Facility by the ſame Method.

To half the ſecond mean Difference	=	—	3833498623,115
Add the 3d	= 16263006,470 × ⅓	= —	5421002,1567
Add the 6th mean	= 12,621808¼ × 190,6125	=	2405,8747
Add the 7th	= 2228685⁵ × 54,4607⅐	=	12,1376
Add the 10th mean	= ,000003795 8¼ × 93326,035	=	,3543
	Sum		3838922043,6383

Subtract the 4th mean	= 93460,9324⁵ × 9,208⅓	=	860619,4196
Subtract the 5th	= 913,03893 × 3,68⅐	=	3363,0267
Subtract the 8th mean	= 00489305 × 4156,03326	=	20,3357
Subtract the 9th	= ,000124951 × 923,56295	=	,1154
	Sum		864002,8974

From the firſt Sum 3838922043,⁶³⁸³ Subtract 864002,8974, the Remainder being half the ſecond Difference correct 3838058040,⁷⁴⁰⁹ multiply'd by 7 = 26866406285,¹⁸⁶³ ſubtract from 401415 1872091,² the firſt Difference: The reſt 3987285465806,⁰¹⁴ × 3 = 11961-856397418,⁰⁴² added to ,006660005507062 the Segment for 0250, makes ,0067796-2406904480,⁰⁴ the Segment for 0253. Or half the ſecond correct Diff. 3838058040,⁷⁴⁰⁹ × 3 = 11514174122,²²³ added to 401415 &c. the firſt Difference, and the Sum 40256-66046213,⁴²³ × 7 = 281796623 23493,⁹⁶ ſubtracted from 00706142069227974 the Segment for 0260, leaves 0067796240690448 0⁰⁴ the Segment for 0253 as above.

Again

Again for ,0257

To half the second mean Difference 3833498623,115

Add the
- 5th = 913,03893 × 3,68$\frac{1}{3}$ = 3363,0267
- 6th mean = 12,621808$\frac{1}{4}$ × 190,6125 = 2405,8747
- 9th = ,000124951 × 923,56295 = ,1154
- 10th mean = ,000003795875 × 93326,035 = 3543

Sum 3833504392,4861

Subtract the
- 3d = 16263006,470 × $\frac{1}{3}$ = 5421002,1567
- 4th mean = 93460,93245 × 9,208$\frac{1}{3}$ = 860619,4196
- 7th = ,22286855 × 54,4607$\frac{1}{7}$ = 12,1376
- 8th mean = ,00489305 × 4156,03326 = 20,3357

Sum 6281654,0496

Out of the Sum 3833504392,4861 subtract the third, fourth, seventh and eighth Products = 6281654,0496: The Residue 3827222738,4365 (the half second correct Diff.) × 3 = 11481668215,^{31} deduct from 4014151872091^{2} the first Difference, the Remainder 4002670203875^{8,9} × 7 = 28018691427131,^{23} added to ,006660005505070^{62} the Segment for 0250 gives ,006940192419341^{93,2} the Segment for 0257. Or half the second Difference correct × 7 = 26790559169,0555 added to the first Difference, and the Sum 4040942431260^{2,55} × 3 = 12122827293780^{7,65} taken out of ,007061420692279^{74} the Segment for 0260, leaves ,006940192419341^{93,2} the Segment for 0257 true in the seventeenth Place.

Hereby also not only Bisection and Quinquesection, but likewise Quinquagesimal, Centesimal, Millesimal, *&c.* Interpolations may be perform'd with as much, or possibly more Conveniency and Accuracy than by any other Method, but the last Instances sufficiently explain and are expressive of all the Varieties of the Rule.

But to give a more full and satisfactory Evidence of the singular Advantage that may be made of this Method depending upon these eight short Tables, I have (at the Conclusion) given a Specimen of their Application to the composing of Logarithms, which renders it evident, that hereby, together with the Assistance of a short Table of Logarithms annex'd to the end of the Tables, 'tis possible to make out the Logarithm to any Natural Number propos'd, or to find the Natural Number for any Logarithm given, to the utmost Extent of that Table, *i. e.* to sixty-one Figures, with as much Ease and Conveniency (perhaps) as by any other Method.

The common Uses to which these Tables of Segments are ordinarily apply'd, being comprehended in those already exemplify'd, need not be any further insisted on: I shall therefore specify some more uncommon, wherein the Usefulness of the Table of Segments will more eminently appear, particularly such as relate to the finding the Solidity of the primary Sections of an Erect Cone.

PROBLEM I.

Let the Cone ABD *Fig.* 1. be cut thro' the Vertex A by the Plane HAG, and thro' the Base in the Chord Line HG, limiting the Segment HDG, which is the Base of the inclining Pyramid HGAD. That it is no other than a Pyramid is evident; for the Base HDG

is a Plane *(per Hypotheſin)* ſo alſo is HGA, which, together with an infinite Number of narrow Planes or Triangles whoſe ſides conſtitute the Circular part of the Superficies, do meet in a Point in the Vertex A (which is the proper Definition of a Pyramid *(Def.* 12. *e* XI.) The perpendicular or Altitude of this Pyramid AC is the ſame with the Axis of the Cone, therefore *(per* 6 and 7 *e* XII) $\frac{1}{3}$ AC the Altitude into the Baſe, *i. e.* the Circles Segment HDG, will be = the Solidity of the Cone's Section HGAD. Let the Diameter of the Circle which is the Cone's Baſe BD = RS be 38,5 = *d*, its Altitude or Axis AC = 91 = *p*, and the Vers'd Sine DE = 14,7 = *c*: Then $\frac{c}{d} = \frac{147}{385} =$ 3818181818181818 the Tabular Verſed Sine: The Segment anſwering thereto taken out of the Table by a due Proportion is ,3509393235417001o, = S, which multiply'd by the Area of the Circle or Cone's Baſe = 1164,156427695867757 = *ddn*, and the Product 408,548269232309936 by $\frac{1}{3}$ AC the Altitude = $\frac{91}{3}$ makes 12392,630833380068o6 = $\frac{pddnS}{3}$ the Solidity of the Section HGAD. *Note*, the Number ,7853981633974483 1 is put = *n*, being the Area of the Circle whoſe Diameter is 1.

PROBLEM II.

Suppoſe the Cone again cut by the Plane HGI parallel to the Side BA: Then will the Section HGIA be (as is evident *per Problem* I.) a reclining Pyramid, its Baſe HGI is a *Parabola*, its Altitude AK = EV; BE = BD — DE = *d* — *c* = 23,8; HE^2 or EG^2 = BE × ED = *dc* — *cc* = 349,86, and the Chord HG = $2\sqrt{dc - cc}$ = 37,4090898044846849. In the Similar Triangles BDA,EDI; BD : BA :: ED : EI, whence EI = $\frac{c}{d}$ × BA, conſequently the Area of the *Parabola* HGI, being = $\frac{2}{3}$ EI × HG, is = BA × $\frac{4c}{3d}\sqrt{dc - cc}$: In the Similar Triangles BCA,BEV; BA : AC :: BE : EV = $\frac{pd - pc}{BA}$ = AK the Pyramids Altitude, therefore (*per* 6 and 7 *e* XII) the Solidity of the Parabolic Pyramid HGIAG is = $\frac{1}{3}$ AK × the Area of the Parabola HGI = $\frac{\sqrt{4pdc - 4pcc}}{9d}\sqrt{dc - cc} = \frac{4p}{9d} \times GE^3$.

PROBLEM III.

Out of the Conical Pyramid HGDA = $\frac{pddnS}{3}$ take the Parabolic Pyramid HGAI = $\frac{\sqrt{4pdc - 4pcc}}{9d}\sqrt{dc - cc}$, there will remain $\frac{pd^2nS}{3} - \frac{\sqrt{4pdc - 4pc^2}}{9d}\sqrt{dc - cc}$ = the Parabolic Segment HGIDH = $d^2nS - \frac{4}{3}c + \frac{4cc}{3d}\sqrt{dc - cc} \times \frac{1}{3}p = \frac{91}{3} \times 408,548269232309936 -$ $- 226,631067688259946 = 5518,155113502849 73.$

Tho' it might have been excuſable to have expatiated to a far greater length in the Demonſtration and Illuſtration of theſe uncommon Problems (having a different Demonſtration at hand, perhaps more clear, however more copious and prolix, and requiring more Schemes to explain it) I judg'd this, as more ſhort and conciſe, to be the more eligible, and (I doubt not) more acceptable to the Judicious, and ſhall therefore proceed upon the ſame Principles: But before I enter upon other Problems, it may not be improper to accommodate the preceding to ordinary Practice, which will be a more ample Illuſtration thereof.

Suppoſe

Suppoſe BOXD (the *Truncus* or *Fruſtum* of the Cone ABD) a Conical Veſſel or Cask, whoſe Length $rX = tO = CF = 32,7 = p$, the greater Diameter $BD = 38,5 = d$, the leſs $OX = 29,7 = f$; then $Dr = CD - Cr\,(= FX) = \frac{d-f}{2}$; In the ſimilar Triangles DrX, DCA; $Dr : rX :: DC : CA = \frac{pd}{d-f} = \frac{1258,95}{8,8} = 143,0625$ = the Axis of the Cone: Suppoſe BO the lower ſide of the Cask plac'd Horizontal, DE the greateſt Depth of Vacuity or Vers'd Sine $= 14,7 = c$: Then the Area of the Segment HGD will be (as before *Prob.* 1.) $= 408,5482692323099 36 = ddnS$, and all the reſt (except the Cone's Axis) the ſame; conſequently the Parabolic Section or *Cuneus* $HGIDH = ddnS - \frac{4}{3}c + \frac{4cc}{3d}\sqrt{dc - cc} \times \frac{pd}{3d-3f} = 181,917201544049 99 \times \left(\frac{143,0625}{3} =\right) 47,6875 = 8675,176548631883898.$

To find the leſs *Cuneus* $Iuq\,XI : Dr = EI$, therefore $lr = bX = ED - 2Dr = c - d + f = 5,9$ the Vers'd Sine or leaſt Depth of the Vacuity call it S. $\frac{c-d+f}{f} = \frac{5,9}{32,7} = ,1986-$ $-53198653198653,^3$ the Tabular Vers'd Sine: The Segment anſwering it is $,1410083855 25-$ $-41904 = x$, which being reduc'd to its proper Diameter or multiply'd by ffn is $= 97,689-$ $-462522929017 = ffnx$. $Dr : rX :: XF : FA = \frac{pf}{d-f}$ the Axis $= 110,3625$, hence the Solidity of the Parabolic *Cuneus* $Iuq\,XI$ will be $= ffnx - \frac{4}{3}S + \frac{4SS}{3f}\sqrt{fS - SS} \times \frac{pf}{3d-3f} = 97,689462522929017 - 6,303928170594837 26 \times 11,849894514984289 \times 36,7875$ $= 845,692338031060 18$; which ſubtracted from $HGIDH = 8675,176548631883 90$ leaves $Xuq\,HGD = 7829,484210600823 72$, the true Vacuity. If the greater part $quGHBO$, *viz.* the Quantity contain'd, be requir'd immediately; then let the greater Segment HGB $= ,6490606764582998 9,8$ be term'd Z, which reduc'd to its proper Diameter will be $ddnZ = 755,608158463557 8208$: Then will the greater part of the Cone BHGIAB be $= ddnZ + \frac{4}{3}c - \frac{4cc}{3d}\sqrt{dc - cc} \times \frac{pd}{3d-3f} = 982,239226151817766 \times 47,6875 = 46840,-$ $-533097114809 7$: The Segment $Ouq = ,8589916144745 8096$ put $= z$, which reduc'd and drawn into ffn is $595,102403428326 198$; then will the greater part $OuqIAO$ be $= ffnz + \frac{4}{3}S - \frac{4SS}{3f}\sqrt{fS - SS} \times \frac{pf}{3d-3f} = 669,803287275589 255 \times 36,7875 =$ $24640,388430650739 73$, which deducted from $BHGIAB = 46840,533097114809 75$ leaves $BOuq\,HG = 22200,144666464070 02$ the Quantity contain'd or remaining.

PROBLEM IV.

Suppoſe the Cone ABD *Fig.* 1. cut by a Plane paſſing thro' the Vertex A and the Baſe in the Chord Line MN, and again cut by another Plane MNP parallel to the Axis CA; Let $BL = 6,2$ the Vers'd Sine be $= c$, $\frac{c}{d} = \frac{6,2}{38,5} = ,1610389610389610 4$ is the Tabular Verſed Sine; the Segment ſuited to it is $,1042466872320591 = S$, which reduc'd to that Diameter, *i. e.* drawn into *ddn*, will be $ddnS = 121,359429460001939$, which multiply'd

tiply'd by $\frac{1}{3}$ CA the Altitude $= \frac{2}{3}$ becomes 3681,2360269533921 59 $= \frac{1}{3} pddnS$ (*per Prob.* 1.) = the Conical inclining Pyramid BAMNB: The Base MNP of the reclining Pyramid PMNAP is an *Hyperbola*, its Altitude TA = LC $= \frac{1}{2} d - c$ is 13,05; for Brevity put it $= b$; the Chord MN $= 2\sqrt{BL \times LD} = 2\sqrt{dc - cc} = \sqrt{801,04} = 28302650$-
-526010814 76 $= g$: In the Similar Triangles BCA, BLP; BC : CA :: BL : LP $= \frac{2pc}{d} =$
$= \frac{11284}{385} = \frac{3234}{110} = 29,309090909090909$. To find the Area of the Hyperbola MNP, in *Fig.* 2. (being of the same Dimensions) AB,AD are the *Asymptotes* = the Sides of the Cone, MN the Ordinate $= g$, AP the transverse Semidiameter = TP $= p - \frac{2pc}{d}$, PY = LC $= b$ the Semiconjugate, LB = LD the Semiordinate extended to the *Asymptotes* = BC $= \frac{1}{2} d$; Let the Logarithm of $\frac{d+g}{2b} = 2,5594885077624935$ taken out of *Briggs*'s Tables (or those at the latter end, by the Method herein prescrib'd) = ,4081531838856-
-63049 $= l$, be multiply'd by 2,3025850929940 4568 $= L$ the natural Logarithm of 10; The Product $Ll =$,9398074368731 8528 drawn into $\frac{2PY^2 \times AL}{BD} = \frac{2bbp}{d} = 805,066$-
363636 &c. and that Product 756,6073557219 06644 subtracted from AL × LM, *i. e.* half $pg = 1287,7705773933 49207$, the Remainder $\frac{1}{2} pg - \frac{2pbbLl}{d} = 531,1632216714 42563$ is the Area of the Hyperbola MNP = the Base of the reclining Pyramid MNPAM. The Demonstration hereof would be too tedious, and not so proper for this Place, it being the Reverse of *Mercators* (or rather of a more general) Quadrature of the *Hyperbola*, illustrated by Dr. *Wallis's Philos. Transf.* N° 38. This Base MNP $= \frac{1}{2} pg - \frac{2pbbLl}{d}$ drawn into $\frac{1}{3}$ of the Altitude TA = LC, *i. e.* $\frac{1}{3} b = 4,35$, produces (*per Problem* 2.) $\frac{1}{6} pbg -$
$\frac{2pb^3Ll}{3d}$ or $\frac{1}{3} pb \times \frac{1}{2} g - \frac{2bbLl}{d} = 2310,5600142707751$ = the Solidity of the Hyperbolic Pyramid MNPAM. Deduct this (*per Prob.* 3.) from the Conical Pyramid BAMNB $=$ 3681,2360269533921 59 $= \frac{1}{3} pddnS$, the Remainder 1370,6760126826170 $= \frac{1}{3} p \times$
$ddnS - \frac{1}{2} bg + \frac{2b^3Ll}{d}$ is the Solidity of the Hyperbolic *Cuneus* BMNPB. For the better Illustration of this *Problem*, and the rendring it more practicable, suppose a Cask BDOX the *Frustum* of a Cone, whose Length Ot = CF is 32,7 $= p$, the Diameter of the greater End or Head BD $= 38,5 = d$, of the less OX $= 29,7 = f$: Supposing the Axis CF plac'd horizontal, LD is the greatest Depth of the Liquor, BL of the Vacuity $= c$ $= 6,2$ the Vers'd Sine, the Segment and the rest the same as above, only the Axis of the Cone CA (as in *Prob.* 3. latter *Ex.*) $= \frac{pd}{d-f} = 143,0625$. Hence the Hyperbolic *Cuneus* BMNPB $= \frac{pd}{3d-3f} \times ddnS - \frac{1}{2} bg + \frac{2b^3Ll}{d} = 47,6875 \times 45,1871212972291 32$
$= 2154,8608468616142$. For the less *Cuneus* O *ae* P, BC $-$ *t*C (*i. e.*) OF) = B*t* $=$
$\frac{1}{2} d - \frac{1}{2} f = 4,4$, and BL $-$ B*t* $=$ *t*L $=$ OW $= c - \frac{1}{2} d + \frac{1}{2} f = 1,8$ the Vers'd Sine or least

leaſt Depth of the Vacuity, $\frac{c-\frac{1}{2}d+\frac{1}{2}f}{f} = \frac{1\,8}{2\,7\,7} = ,06060606$ &c. the Tabular Vers'd Sine, whence the Segment $f = ,02486364765609778$, which reduc'd to its proper Diameter, *i. e.* drawn into ffn becomes $17,22533285402253 2,6 = ffnf$, this multiply'd by $\frac{1}{3}$ of the Axis FA $= \frac{pf}{3d-3f} = \frac{110,3625}{3} = 36,7875$, is the Conical Pyramid $OaeAO$ $= \frac{pfffnf}{3d-3f} = 633,67693236735391 9$. The Chord $ae = 2\sqrt{OW \times WX} = 2\sqrt{dc+\frac{1}{4}ff-cc-\frac{1}{4}dd} = 2\sqrt{50,22} = 14,17321417322125 98 = q$: Put the Sine WF $=$ LC $= \frac{1}{2}d-c = b$ as before, and the Logarithm of $\frac{f+q}{2b}$, *i. e.* of 1,6809660--602766766 multiply'd by 2,30258 &c. is $Ll = ,51936866402436 5015$, then will the Area of the *Hyperbola Pae* $= \frac{1}{2}q - \sqrt{\frac{2bbLl}{f}} \times \sqrt{\frac{pf}{d-f}} = 124,75297725656 3796$ be the Baſe; which drawn into $\frac{1}{3}b$ the Altitude $= 4,35$ becomes $\frac{1}{3}bq - \sqrt{\frac{2b^3Ll}{f}} \times \sqrt{\frac{pf}{3d-3f}} = 542,--67545106605 2513$ the Hyperbolic Pyramid PaeAP, which taken from the Conical Pyramid $OAeaO$ equal to $\frac{pfffnf}{3d-3f} = 633,67693236735391 9$, there remains $\sqrt{\frac{pf}{3d-3f}} \times \sqrt{ffnf-\frac{1}{2}bq+\frac{2b^3Ll}{f}} = 91,00148130130140 6$ the Hyperbolic *Cuneus* PaeOP, and this deducted from the greater *Cuneus* PMNBP, leaves the *Truncus* BMNaeOB equal to $2063,85936556031 28$, being the whole Vacuity or empty part of the Cask $= \sqrt{\frac{pd}{3d-3f}} \times \sqrt{ddnS-\frac{1}{2}bg+\frac{2b^3Ll}{d}} - \sqrt{\frac{pf}{3d-3f}} \times \sqrt{ffnf-\frac{1}{2}bq+\frac{2b^3Ll}{f}} = \sqrt{\frac{p}{3d-3f}} \times \sqrt{d^3nS-\frac{1}{2}bdg+2b^3Ll-f^3nf+\frac{1}{2}bfq-2b^3Ll}$. By this Theorem the Reſult may be immediately obtain'd without making out ſeveral of the conſtitutive Parts before particulariz'd.

If the greater Part DXaeNMD, in this Caſe the Quantity of Liquor remaining, be immediately requir'd, let the greater Segment MND $= ,89575333127679409$ be $= Z$, which reduc'd to its proper Diameter is $ddnZ = 1042,79699823586 5817$, then will the greater part of the Cone MNPADM be $= \sqrt{\frac{pd}{3d-3f}} \times \sqrt{ddnZ+\frac{1}{2}bg-\frac{2b^3Ll}{d}} = 53360,84879888 50794$: In the leſs Circle OX, let the greater Segment aeX $= ,97513--63523439 0222$ be $= z$; reduc'd 'tis $675,56653309723 26468 = ffnz$. Hence the greater part PeaXAP is $\sqrt{\frac{pf}{3d-3f}} \times \sqrt{ffnz+\frac{1}{2}bq-\frac{2b^3Ll}{f}} = 25395,07928738049 8507$: This taken from the former MNPADM leaves the greater part of the *Fruſtum* DXaeMDN or the Quantity remaining $\sqrt{\frac{p}{3d-3f}} \times \sqrt{d^3nZ+\frac{1}{2}dbg-2b^3Ll-f^3nz-\frac{1}{2}fbq+2b^3Ll} = 27965,76951150458 08$.

But ſince this Problem may poſſibly be of conſiderable Uſe in gauging of a Conical Cask, I have computed a Table (which immediately follows that of the Segments) for the more expeditious Solution hereof. It conſiſts only of 500 Numbers, which are ſufficient for this Purpoſe, ſince being compriz'd within the narrow Limits of $\frac{3}{5}$ and $\frac{4}{5}$, a more minute Subdiviſion might ſeem ſuperfluous: It may be eaſily conceiv'd how operoſe and tedious a Task the compoſing this Table muſt neceſſarily be, ſince every Number calculated was the Quotient obtain'd from the Reſult of the whole preceding Operation, as the Dividend; and the Product of the Cone's Axis, the Vers'd Sine, and the Segment reduc'd divided by the Semidiameter of the Baſe, as the Diviſor. The calculating every Tenth to 300, every Fifth from thence to 440, every Second from that to 470, and every ſingle Number thence to the end was unavoidable. The Intermediate were obtain'd by Interpolation. In the Uſe of the Table the proportional part is found in the ſame manner as in the Table of Segments, only the Correction deduc'd from the inferiour Differences is to be apply'd to half the Second mean Difference the contrary way, ſince the Differences here increaſe, *viz.* when the remaining part of the Vers'd Sine or Marginal Number is leſs than 5, the Products of the third, fourth, ſeventh and eighth muſt be ſubtracted, the reſt added, *&c.* Let the firſt Example in *Prob.* 4. be admitted, where the Vers'd Sine is $\frac{62}{385}$ = ,161038961038961o4, with which enter the Table, the Number next leſs anſwering 161 is ,385357209439609 53. To half the ſecond mean Difference 91406768,^{53025} add the Fifth = ,01673 × 7,8278 = ,13098. From the Sum 914-06768,^{66123} ſubtract the Sum of the Third = 55563,^{8663} × ,768398268 = 42695,^{1786}, and of the Fourth 25,66007 × 8,^{489346} = 217,8373. The Remainder 91363855,^{6453} the half ſecond Difference correct, multiply'd by 961038961039 the Arith. Complement of the reſt of the Vers'd Sine, and the Product 8780422490,^{6} ſubtracted from the firſt Diff. 10370844442413 leaves 10362064019922,^{4}: This drawn into 038961038961o4 the Reſidue of the Vers'd Sine, produces 403716779997 the true proportional part, which deducted from ,385357209439609 53, the Tabular Number againſt 161, leaves ,385353-17227180956 the true Tabular Number required, which call T. Multiply this by the Product of the Axis of the *Hyperbola* = $\frac{2pc}{d}$ = $\frac{3224}{110}$, or $\frac{1612}{55}$, and of the Segment reduc'd 121,3594294600019 39, *i.e.* $2pcd^2nS$ = 3556,93455071860228: The Reſult will be 1370,67601268261709 the Solidity of the Hyperbolic *Cuneus* BMNPB = $2pcdnST$, not exceeding that found by the other Operation an Unite in the ſeventeenth Figure.

In the ſecond Caſe where the Axis of the Cone is $\frac{pd}{d-f}$ = 143,0625: The ſame Number ,385353172271809 56 = T drawn into 5591,9115292547257 = $\frac{2pcdddnS}{d-f}$ produces 2154,860846861614 35 = $\frac{2pcdddnST}{d-f}$, exceeding that got by the former Operation but $1\frac{1}{2}$ in the ſeventeenth Place. In the next Caſe, where the Diameter OX is 29,7, and the Vers'd Sine $\frac{18}{297}$ = ,060606 &c. the Number thereby taken out of the Table by a due Proportion is ,394923754986085 06 = T, which multiply'd by the Product of double the Axis FA 220,725 into the Vers'd Sine c = ,06060606 &c. into the Segment reduc'd 17,225332854022532 6, which will be $\frac{2pcffffnS}{d-f}$ = 230,427954063105 15, produces $\frac{2pcffffnST}{d-f}$ = 91,00148130130140 7, greater by an Unite in the 17th Figure.

To

To illuſtrate both theſe Operations more effectually, I ſhall propoſe another Inſtance very near the latter end of the Table. Suppoſe the Cone *Fig.* 1. the ſame in all its Dimenſions but the part of the Diameter of the Baſe BL (cut off by the Plane MNP parallel to the Axis) = 18,74 = c, the Tabular Vers'd Sine $\frac{c}{d} = \frac{1874}{3850}$ = ,48675324675324675; hence the Tabular Segment is found ,4831356832260 5607 = S, reduc'd 'tis 562,445511076847 81,[423] = $ddnS$; $2\sqrt{dc-cc}$ = 38,486485939872 4528 = g, and $\frac{d+g}{d-2c}$ or $\frac{d+g}{2b}$ = 75,476946999874 9538, the Natural Logarithm whereof is 4,32382727187991645 = Ll; $\frac{2b^3Ll}{d}$ = ,02979532526972170; and half bg = 9,81405391466747547; and $ddnS + \frac{2b^3Ll}{d} - \frac{1}{2}bg$ = 552,66125248745006046 × $\frac{1}{3}p$ = 47,6875 is = 26355,0334779952747 = the Solidity of the Hyperbolic *Cuneus* BMNPB.

In the Operation by the Table, the moſt conſiderable part of the Labour is the proportioning the Number, which requires to be a little inſiſted on, with as much Conciſeneſs and Brevity as the Matter will admit.

To half the ſecond mean Difference				—	460971277,8425
Add the	3^d	= 1207577,213	× 42207792208	=	509691,6809
	6^{th} mean	= ,7620935	× 187,79826	=	143,1198
	7^{th}	= ,0176181	× 67,94185	=	1,1970
	10^{th} mean	= ,0000010270	× 91656,73	=	,0941
				Sum	461481113,9343

Subtract the	4^{th} mean	= 4990,77025	× 9,107775342	=	45454,8142
	5^{th}	= 46,94717	× 4,613029	=	216,5687
	8^{th} mean	= ,000556365	× 4086,5794	=	2,2737
	9^{th}.	= ,000021169	× 1149,915	=	,0243
				Sum	45673,6809

Out of the firſt Sum 461481113,9343 Subtract the latter 45673,6809: The reſt 461435440,2534 (which is the half ſecond Difference correct) multiply'd by 2467532467532 the Arith. Complement of the Tabular Vers'd Sine: The Product 113860693 0,5 deducted from 228369252259 0,[1] the firſt Difference; and the Reſidue 2282553915659,6 drawn into 753246753246753 the reſt of the Vers'd Sine: The Product 1719326326081 2,[6] ſubtracted from 3366203226991 2756 the Number in the Table againſt 486, leaves 3364483900665 1943,[4] the Number requir'd anſwering to the Vers'd Sine ,48675324675324675: Which may be otherwiſe obtain'd, if the half ſecond correct Difference be drawn into 7532467 &c. the reſt of the Vers'd Sine; and the *Factus* 347574747 2,[04] added to the firſt Difference, and the Sum 228716827006 2,[14] multiply'd by the Arith. Complement 246753 &c. The Product 564366196508 8,[4] added to 33639195344686855 the Number againſt 487, makes ,33644839006651943,[4] exactly the ſame as above = T. This multiply'd by ($2pc$ = 5361,9875 × dnS 14,6089743136843588) = 78333,0646129250425 produces $2pcdnST$ = 26355,0334779952745 the Hyperbolic *Cuneus*, leſs by 2 than the former in the eighteenth Figure.

The

The Preceding Problems are the moſt obvious and common of this kind, and conſequently (in Probability) moſt uſeful; yet, it muſt be acknowledg'd, they are no more than particular Caſes; therefore I ſhall offer another more general, which may extend to all other poſſible Poſitions of a Cask of this Form.

PROBLEM V.

Suppoſe a Cone ABD, *Fig.* 3. cut by a Plane GHI, paſſing thro' the Baſe in the Line GH, interſecting the one Side BA in the Point I, and the other Side AD extended beyond the Vertex in O; the Superficies of the Section upon the Cone will be an *Hyperbola*, whoſe Tranſverſe Diameter is OI: Or ſuppoſe a Conical Cask ſo poſited, that the Superficies of the Liquor remaining in it cut the Heads in the Lines HG and $\alpha\varepsilon$: To find the Vacuity GHBK$\varepsilon\alpha$, or the Quantity remaining GHD$\alpha\varepsilon$L.

Given
- The Diameters of the Greater Circle BD = 38,5 = D, of the Leſs KL = 29,7 = f.
- The Vers'd Sine BE or greateſt Depth of the Vacuity = 21,6 = c: And ſince it may be reaſonably ſuppos'd the leaſt KY cannot be actually meaſur'd, by a Level from B draw the Horizontal Line BW, which is therefore Parallel to EI, and extend the Line KL unto W: Then is WK = 7,8008 = x the Difference of the Vers'd Sines, or of the greateſt and leaſt Depths of the Vacuity.
- A Perpendicular from B to the Line WK, *viz.* BM is the Length of the Cask = KF = βc = 32,7 = b.
- The Horizontal Line WB = EY = 33,572 = x.

For Brevity put
- the Difference of the Diameters BD − KL, *i. e.* $D - f = d$ = 8,8 = 2BF.
- the Axis of the Cone AC = $\frac{Db}{d}$ = P = 143,0625.
- the Quantities
  - $Dx - dc = G$ = 110,2508.
  - $Dx + dc - 2cx = R$ = 153,41624.
  - $\sqrt{Dc - cc} = H = \sqrt{365,04}$ = 19,106019993708789165 94.
  - $\sqrt{dx - xx} = k = \sqrt{7,79455936}$ = 2,791873808036 45922953.
- the Logarithm of $\frac{R + 2kH}{G}$ taken out of the common, or *Briggs*'s Tables = l.
- the Natural Logarithm of 10 = 2,302585092994045684 = L.
- the Area of the Circle's Segment BGH taken out of the Table of Segments = S.
- the Number ,7853981633974483096 = n.

Then will the Solidity of the Hyperbolic *Cuneus* BHGIB be = $\frac{1}{3}P \times \overline{D^2 n S - \frac{RHG}{2Dkk} + \frac{LlG^3}{4Dk^3}}$.

If the Area of the Circle's Segment GHD found in the Table be put = Z, then will the Solidity of the greater part of the Cone DGHIAD be = $\frac{1}{3}P \times \overline{D^2 n Z + \frac{RHG}{2Dk^2} - \frac{LlG^3}{4Dk^3}}$.

By the ſame *Theorem* may both the Parts of the leſs Cone AKL be obtain'd, only inſtead of the greater Diameter BD = D ſubſtitute the leſs KL = f = 29,7; and for the

the greater Verſed Sine BE = c, the leſs KY = v = 13,7992. All the other *Data* remain the ſame.

Put
- the Axis of the Cone $\beta A = \frac{fb}{d} = p = 110{,}3625$.
- the Quantities $fx - dv = g = 110{,}2508 = G$; $fx + dv - 2xv = r = 137{,}82712128$. ; $\sqrt{fv - v^2} = h = \sqrt{219{,}41831936} = 14{,}81277554545399840 61$. — k is the ſame.
- the Logarithm of $\frac{r + 2hk}{g}$ taken out of *Briggs*'s Tables, or thoſe at the end hereof = l.
- the Segment $K\alpha\varepsilon$ taken out of the Table = f.

Then the Solidity of the Hyperbolic *Cuneus* $K\alpha\varepsilon IK$ will be $= \frac{1}{3} P \times \overline{ffnf - \frac{rhg}{2k^3 f} + \frac{Llg^3}{4fk^3}}$.

If the Segment $L\alpha\varepsilon$ be put = z, then the Solidity of the greater part $L\alpha\varepsilon IAL$ will be $= \frac{1}{3} P \times \overline{ffnz + \frac{rhg}{2fk^3} - \frac{Llg^3}{4fk^3}}$.

Note, That whether I, the Vertex of the Section, fall betwixt B and K, or betwixt K and A, it cauſes no Alteration in the Theorem; but if it be coincident with K, than the leſs Vers'd Sine KY or v vaniſheth, and c muſt be every where ſubſtituted in the Place of x.

The Illuſtration hereof, tho' far more laborious than the former, ought not to be declin'd: But the deduction of the ſeveral Parts of the Theorem would require more and larger Schemes, and be too prolix and tedious to be here particularly inſiſted on. It will only be proper and convenient to ſhew whence ſome of the moſt neceſſary conſtitutive Parts are deriv'd, proceeding in the ſame Order as in the former.

The Semiordinate of the *Hyperbola* EG = EH = $\sqrt{BE \times ED} = \sqrt{Dc - cc}$ will be 19,10601999370878916594 = H. The Axis of the *Hyperbola* PE = $\frac{Rx}{2k^2} = \frac{5150{,}4900928}{15{,}58911872}$ = 330,3900689826807605.

The Tranſverſe Semidiameter IP = $\frac{Gx}{2k^2}$ = 237,4309878627956206: The Conjugate Semidiameter ZI = XI = $\frac{G}{2k}$ = 19,744946867340686928966: The Semiordinate to the *Aſymptotes* NE = ES = $\frac{R}{2k}$ = 27,47549684344401881061. Divide the Sum of the Semiordinates by the Conjugate Semidiameter, and the Quote $\frac{GE + NE}{ZI} = \frac{R + 2Hk}{G}$ will be 2,359161417354912327532, the Number to which a Logarithm muſt be adapted; which deduc'd from the Tables at the latter end is 0,372757656980636772437 = l: This multiply'd by 2,302585 &c. = L is reduc'd to 0,858306224263002104 9875 = Ll the Natural or Hyperbolic Logarithm. From the Rectangle of the Axis and Semiordinate of the *Hyperbola* PE × EH, ſubtract the Product of this Logarithm into that of the Tranſverſe and Conjugate Semidiameters, *i. e.* $Ll \times PI \times IX$: The Remainder will be the Area of

the *Hyperbola* GHI $= \frac{RH\varkappa}{2k^2} - \frac{LlG^2\varkappa}{4k^3} = 6312{,}4392637059246823 - 4023{,}7930003333$-
-8886798 = 2288,6462633720360025: This multiply'd by $\frac{1}{3}$ of the Perpendicular AT =
$= \frac{Db\varkappa - dbc}{3d\varkappa} = \frac{Gb}{3d\varkappa} = 4{,}06769480519480519\overset{2}{5}$. The Product $\frac{RHbG}{6dk^2} - \frac{LlbG^3}{12dk^3} =$
$= 9309{,}5145164469327\overset{\wedge}{4}5$ is the Hyperbolic Pyramid IGHAI.

By the Tabular Vers'd Sine $\frac{c}{d} = \frac{3\,1\,6}{5\,0\,0} = {,}561038961038961039$; or rather by its Complement ,4389610389610389$\overset{6}{}$, take out of the Table, by a due Proportion, the Segment ,4224762517399405$\overset{7}{8}$; the Arith. Complement whereof, 5775237482600594$\overset{2}{2}$ = S being drawn into D^2n is $D^2nS = 672{,}327983683958399$; and this into $\frac{1}{3}$ the Cone's Altitude $= \frac{1}{3}P = 47{,}6875$ produces $\frac{1}{3}PD^2nS = 32061{,}64072192876614$ the Conical Pyramid BGHAB: From which deducting the Hyperbolic Pyramid IGHAI =
$= 9309{,}5145164469327\overset{\wedge}{4}$, the Remainder $\frac{PD^2nS}{3} - \frac{RHbG}{6dk^2} + \frac{LlbG^3}{12dk^3}$, equal to
$\overline{\frac{1}{3}P \times D^2nS - \frac{RHG}{2Dk^2} + \frac{LlG^3}{4Dk^3}} = 22752{,}12620548183340$, is the Hyperbolic *Cuneus* BGHIB. This might have been more readily obtain'd from the Theorem immediately, but then the Reaſon and Method of the Operation had not been ſo evident.

The greater Part of the Cone DGHIAD may be thus found, aſſuming the Segment of DGH = Z = ,4224762517 &c. (as before) which reduc'd is $D^2nZ = 491{,}828440$-
-11909358: This drawn into $\frac{1}{3}P$ becomes $\frac{1}{3}PD^2nZ = 23454{,}0689238179275$ the Conical Pyramid DGHAD: To it adding the Hyperbolic Pyramid IGHAI = 9309,5145164$\overset{\wedge}{4}$-
-69327, it makes 32763,5834402648602 $= \overline{\frac{1}{3}P \times D^2nZ + \frac{RHG}{2Dk^2} - \frac{LlG^3}{4Dk^3}}$ the greater Part or Segment of the Cone DGHIAD.

In the leſs Cone AKL, the Quantities $\varkappa$, k, G, and the Tranſverſe and Conjugate Semidiameters are the ſame: The Axis of the *Hyperbola* PY $= \frac{R\varkappa}{2k^2} = 296{,}81806898268$-
-07605: The Semiordinate to the *Hyperbola* $_\alpha Y = {}_\varepsilon Y = \sqrt{fv - v^2} = b = 14{,}812$-
-7755454539984061: The Semiordinate to the *Aſymptotes* $Y\eta = Y\zeta = \frac{r}{2k} = 24{,}68$-
-3623035407642651$\overset{6}{}$: The Sum of the Semiordinates $\alpha Y + Y\zeta$ divided by the Conjugate Semidiameter IX quotes $\frac{r + 2bk}{G} = 2{,}000329443589996517\overset{5}{}$, the Number for which the Logarithm, according to *Briggs*'s Tables, is 0,3011015275393304119 $= l$, which reduc'd to the Hyperbolic or natural Form is ,6933118887897983240474 $= Ll$. This multiply'd by $\frac{G^2\varkappa}{4k^3} = 4688{,}06224001111110474$, the Product $\frac{LlG^2\varkappa}{4k^3} = 3250{,}28$-
-928638623624 deducted from $\frac{rb\varkappa}{2k^2} = 4396{,}69943367553152\overset{9}{5}$, leaves 1146,4101472-
-892952877 $= \frac{rb\varkappa}{2k^2} - \frac{LlG^2\varkappa}{4k^3}$ the Area of the *Hyperbola* $_\alpha{}_\varepsilon I$; which drawn into $\frac{Gb}{3d\varkappa}$
$= 4{,}06769480519480519\overset{5}{}$ or $\frac{1}{4}$ of the Perpendicular AT, produces $\frac{rbGb}{6k^2d} - \frac{LlG^3b}{12dk^3}$ equal to 4663,2466007512779$\overset{3}{}$ = the Hyperbolic Pyramid $I_\alpha{}_\varepsilon AI$. By

By the Tabular Vers'd Sine $\frac{v}{f} = \frac{13,7992}{29,7} = ,46461952861952861952$, the Segment $,45498980624803856^6 = f$ is found in the Table; reduc'd 'tis $ffnf = 315,213236-8593787003$: This drawn into $36,7875 = \frac{1}{2}p$ or $\frac{1}{4}$ of the Axis, the Product $\frac{1}{3}pffnf = 11595,9069509643939$ is the Conical Pyramid K$\alpha\varepsilon$AK: Out of which take the Hyperbolic Pyramid I$\alpha\varepsilon$AI $= \frac{rhGb}{6k^2d} - \frac{LlG^3b}{12k^3d} = 4663,2466$ &c. The Residue $\overline{\frac{1}{3}P \times ffnf - \frac{rhG}{2fk^2} + \frac{LlG^3}{4fk^3}} = 6932,660350213116 01$ is the Hyperbolic *Cuneus* K$\alpha\varepsilon$KI; which subtracted from the greater *Cuneus* BGHIB $= 22752,1262054818334$, leaves $15819,4658552687174$ = the *Truncus* GH$\alpha\varepsilon$KB or the Vacuity.

If the Quantity remaining DGH$\alpha\varepsilon$LD be requir'd, the Segment L$\alpha\varepsilon = ,54501019-3751961434$ (the Arith. Complement of the Segment for K$\alpha\varepsilon$) $= z$, reduc'd is $ffnz = 377,5786290918 76479$, multiply'd by $\frac{1}{3}$ of the Axis $= \frac{1}{3}p = 36,7875$ makes $\frac{1}{3}pffnz = 13890,17381771740597$ the Conical Pyramid A$\alpha\varepsilon$LA: To which add the Hyperbolic Pyramid I$\alpha\varepsilon$AI $= \frac{rhGb}{6k^2d} - \frac{LlG^3b}{12k^3d} = 4663,246600751277 93$, and the Sum $18553,4204184686839 = \overline{\frac{1}{3}P \times ffnz + \frac{rhG}{2k^2f} - \frac{LlG^3}{4k^3f}}$ is the greater part or Segment of the lefs Cone I$\alpha\varepsilon$LAI: This deducted from $32763,583440264860 2$ equal to $\overline{\frac{1}{3}P \times D^2nS + \frac{RHG}{2Dk^2} - \frac{LlG^3}{4Dk^3}}$ the greater Segment DGIAD, there remains the *Truncus* DGH$\alpha\varepsilon$LD $= 14210,1630217961763$ the Quantity remaining in the Cask.

This laft Problem (I prefume) was never before expos'd to publick View, though the two preceding have been by One, to whom they were voluntarily and out of pure Civility communicated, I not in the leaft fufpecting his Defign to print 'em: But I was much more furpriz'd to fee them come out fo invidioufly mifrepreferted and difguis'd, as if on purpofe to render them unferviceable, and detract from or prejudice the Author's Reputation, of whom, in his *Preface*, fo flight and undervaluing a Mention is made.

PROBLEM VI.

Suppofe a Cone ABD, *Fig.* 4. cut by Planes, BS, KE, LM interfecting both its Sides: Or (which is a common Cafe) fuppofe a Conical Tun fo inclin'd, that the Surface of the Liquor, when covering the bottom BD, fhall extend to the Point S, being repreferted by the Line BS, which limits the *Ungula* BDS: But if the Liquor do not afcend to that Height, but fuppofe only to E, then its Superficies is terminated by the Line FGH, leaving fo much of the Diameter of the Tuns bottom dry as is contain'd betwixt B and G. To find the true folid Capacity of, or the juft Quantity contain'd in, that Section of the *Ungula* EFHDE. (1. *Cafe.*) When the bottom of the Tun is wider.

Given { the Lower or Greater Diameter of the *Ungula* BD $= b = 38,5$; the Upper or Lefs Diameter —— VS $= d = 31$, $n = ,785398$ &c.; the Depth of the *Ungula* or neareft Diftance of its Diameters $Sa = p = 18,2$; the Depth of the Section taken alfo perpendicular to the bottom $En = c = 12,1$.

Put

Put { the Tranſverſe Diameter of the *Ungula* = BS $\sqrt{\frac{1}{4}b^2 + \frac{1}{2}dp + \frac{1}{4}d^2 + p^2} = g$ = 39,227573210689442293.
the Upper Diameter of the Section LE = $\frac{pb - cb + cd}{p} = b$ = 33,51373626--37362637 36
the Tabular Segment of the Circle whoſe Diameter is BD = b and Vers'd Sine DG or $\frac{cb}{p} = S$ = ,706008515772565266.
the Tabular Segment of the Circle whoſe Diameter is KE = $\frac{bg}{d}$ and Vers'd Sine EG or $\frac{cg}{p} = Z$ = ,645082040022501621.

Then will the Solidity of the *Ungular* Section EFHDE be = $\frac{pbn}{3b - 3d} \times \overline{bbS - \frac{b^3 Z \sqrt{bd}}{dd}}$.

The Illuſtration, which is equivalent to (and without Impropriety may be term'd) a Demonſtration, follows.

The Vers'd Sine DG = $\frac{cb}{p}$: Hence the Tabular Vers'd Sine $\frac{c}{p}$ = $\frac{121}{1825}$ = ,6648--351648351648 35: By the Arith. Compliment whereof the Segment taken out of the Table is ,293399148422743 4734. The Arith. Complement of it ,706008515772565266 = S multiply'd by bbn is reduc'd to $bbnS$ = 821,904351644651287. And this by $\frac{1}{3}$ AC = $\frac{pb}{3b - 3d}$ = 31,14$\frac{2}{7}$ becomes $\frac{pb^3 nS}{3b - 3d}$ = 25595,92796432920696 the Conical Pyramid AFHDA.

The Vers'd Sine EG = $\frac{cg}{p}$ divided by EK its Diameter = $\frac{bg}{d}$ is $\frac{cd}{bp}$ = $\frac{632}{1109}$ = = ,6149684400360685302 the Tabular Vers'd Sine. By its Arith. Complement is found (as before) the Segment ,645082040022501621 = Z, which drawn into EK^2 $\times$ n = $\frac{g^2 b^2}{d^2} \times n$ = 1160,16602067561703 19 $\times n$ = $\frac{g^2 b^2 nZ}{d^2}$ = 911,1922618747556--595 the Area of the Segment of the Circle whoſe Diameter is EK and Vers'd Sine EG: Then as the Tranſverſe Diameter of the *Ellipſis* EK = $\frac{bg}{d}$: is to its Conjugate Diameter $\frac{b}{d}\sqrt{bd}$:: ſo is the Segment of the Circle $\frac{b^2 g^2 nZ}{d^2}$: to the Segment of the *Ellipſis* EFH = $\frac{b^2 gnZ\sqrt{bd}}{dd}$ = 802,47182470894976 88. One third hereof multiply'd by the Perpendicular AR = $\frac{bpb}{bg - dg}$ = 79,81826073843012 99 is 21350,63511328--758358 = $\frac{pbb^3 nZ\sqrt{bd}}{3bd^2 - 3d^3}$ the *Elliptical* Pyramid AFHEA; which deducted from the Conical Pyramid AFHDA leaves the Section or part of the *Ungula* EFHDE = 4245,2928--5104162337 = $\frac{pb^3 nS}{3b - 3d} - \frac{pbb^3 nZ\sqrt{bd}}{3bd^2 - 3d^3} = \overline{\frac{pbn}{3b - 3d} \times b^2 S - \frac{b^3 Z\sqrt{bd}}{dd}}$: The Reſult whereof in Numbers may be ſomewhat more readily obtain'd. From $b^2 S$ equal to 1046,-

1046,48112250388486 5 ſubtract $\frac{b^3 z\sqrt{bd}}{d^2}$ equal to 872,913716223204488: The Remainder 173,567406280680377 multiply'd by $\frac{pbn}{3b-3d}$ = 24,45904413744853469 will produce 4245,292851041623365 the part, of the *Ungula* EFHDE requir'd: Hereby it will appear what Proportion this part bears to the whole *Ungula* DBS, which in the ſame Terms is $\frac{pbn}{3b-3d} \times \overline{bb-d\sqrt{bd}}$ = 10059,781064540783564 7: The whole Cone BDA is 36254,4181727330905457 = $\frac{pbn}{3b-3d} \times bb$, from which the *Elliptic* Cone BSA = $\frac{pbn}{3b-3d} \times \overline{d\sqrt{bd}}$ = 26194,6371081923069810 being taken, leaves 10059,-781064540783564 7 the *Ungula* BDS; which may more eaſily be obtain'd, near enough for ordinary Practice, by this Approximation, BDS near = $\frac{pbn}{3b+3d} \times \overline{b^2+\frac{1}{4}d^2+\frac{7}{4}bd}$; or $\overline{\frac{2}{3}pbn} \times \overline{b+\frac{3}{4}d-\frac{d^2}{2b+2d}}$.

2. *Caſe.* When the lower or bottom Diameter is the leſs.

All the given Parts being the ſame, only the Depth of the Section VLN, or the neareſt Diſtance of its Upper and Lower Diameters $V\zeta = f$ = 6,1. The Tranſverſe Diameter of the *Ungula* BS = g as before. The Upper Diameter of the Section LE = $\frac{pd+fb-fd}{p} = b$. The Vers'd Sine VN = $\frac{fd}{p}$ divided by its Diameter VS = d is $\frac{f}{p} = \frac{61}{182} =$,335164835164835165 the Tabular Vers'd Sine, by which the Segment is found ,293991484227434734 = z: This drawn into ddn is 221,8952572678-1516478 = $ddnz$: And this into $\frac{1}{3}$ AX = $\frac{pd}{3b-3d}$ = 25,07$\frac{5}{7}$ is $\frac{pd^3nz}{3b-3d}$ equal to 5564,14685113339182 the Conical Pyramid AVPQA.

The Tranſverſe Diameter of the *Ellipſis* LM = $\frac{bg}{b}$, by which the Vers'd Sine LN = $\frac{fg}{p}$ being divided will be $\frac{fb}{pb} = \frac{427}{1109} =$,385031559963931469 8 the Tabular Vers'd Sine, whereby the Segment is found ,354917959977498379 = z. This multiply'd by LM $q \times n = \frac{g^2b^2n}{bb}$ gives $\frac{g^2b^2nz}{bb}$ the Segment of a Circle, whoſe Diameter is LM and Vers'd Sine LN: Then as the Tranſverſe Diameter of the *Ellipſis* $\frac{bg}{b}$: to the Conjugate $\frac{b}{b}\sqrt{bd}$:: ſo is the Segment of the Circle $\frac{b^2g^2nz}{b^2}$ to the Segment of the *Ellipſis* LQP = $\frac{\overline{b^2gnz}\sqrt{bd}}{bb}$ = 286,249507100152954, which multiply'd by one third of the Perpendicular (AT = $\frac{pdh}{bg-dg}$ = 64,26924890626841 63) produces $\frac{pdb^3nz\sqrt{bd}}{3b^3-3b^2d}$ equal to 6132,346940372126 17 the *Elliptical* Pyramid ALQPA; from which deduct the Coni-

cal Pyramid AVPQA = 5564,14685113339182 : The Reſidue 568,20008923873435 is the Section or part of the leſs *Ungula* VPQLV equal to $\frac{pdh^3nz\sqrt{bd}}{3b^3-3b^2d} - \frac{pd^3nf}{3b-3d}$, or $\frac{h^3z\sqrt{bd}}{bb} - dd\int \times \frac{pdn}{3b-3d}$: From $\frac{h^3z\sqrt{bd}}{bb}$ = 311,37681513052669 2 ſubtract $dd\int$ = 282,52581634256478 0; the Remainder 28,85099878796191 2 multiply'd by $\frac{pdn}{3b-3d}$ = 19.694295279504014 9 is 568,20008923873434 = the Section or part of the *Ungula* VPQLV, as before.

The whole *Ungula* BSV = $\frac{pdn}{3b-3d} \times \overline{b\sqrt{bd} - dd}$ is 7268,41934458894857 9, which may be had near enough for common Uſe by the Approximation $\frac{pdn}{3b+3d} \times \overline{d^2 + \frac{1}{4}b^2 + \frac{7}{4}bd}$; or $\frac{1}{3}pdn \times \overline{d + \frac{3}{4}b - \frac{bb}{2b+2d}}$: This and the former will always yield four, ſometimes more true Figures: But the Failure in this Caſe is in Exceſs in the former, in Defect about $\frac{1}{2000}$th Part.

For the further Illuſtration of the Uſefulneſs of the Eight ſmall Tables relating to Differences, I have here ſubjoyn'd a Method of compoſing or proportioning Logarithms to any Natural Number given, or deducing by them the Natural Number from any Logarithm given, to any Number of Figures not exceeding ſixty one. In order hereto are annex'd ſome Tables of Logarithms according to *Briggs*'s Form (which are the moſt common and uſeful) viz. 1*ſt*, Of all Numbers to 100. 2*dly*, Of all Prime Numbers to 1100. All which have been confirm'd by a double Operation to be true to an Unite in the ſixty firſt Figure. 3*dly*, Twenty Logarithms of the Numbers from 999990 to 1000010, and their Differences to the Tenth. Theſe are extended to ſixty three Figures to ſecure the Truth of the ſixty firſt, and the Regularity of the Differences; which otherwiſe, by the Deficiency or Redundancy of half an Unite or leſs in the laſt Figure, might be vitiated in three or more of the preceding, in the more remote Differences: All of them after the firſt would be moſt conveniently extended at Length (upon a Schedule to be folded) the better to ſhew their Dependance on each other, and to render the taking out of ſuch as are requir'd the more eaſy and clear, and leſs liable to miſtake, which, if they were plac'd below one another, would ſcarce be avoidable without much trouble and Caution. In every of the Differences, except the Tenth, a due Number are cut off by a vacant Space or Line, to prepare them according to the Rule, ſo as to render the ultimate Reſult juſt ſixty-one Figures, that hereby it may be more eaſily diſcover'd how many are to be admitted in each Product. And tho' all the Figures following are to be reputed Decimals, yet they are by no means to be neglected, as is apparent in the Tenth, which though depreſs'd by the Cyphers prefix'd three Degrees below Unity, yet when multiply'd by its proper Number, is rais'd two places at leaſt above it: Beſides, it will be neceſſary to retain three or more Decimals or ſupernumerary Figures in every Operation, otherwiſe 'tis ſcarce conceivable that the laſt Figures of the Reſult ſhould prove true, by reaſon of the various Multiplications which are unavoidable.

When the Logarithm of any Number is requir'd, the Number muſt be multiply'd or divided by ſome of the Primes under 1100, or their Products, ſo as that in the Reſult five Cyphers with an Unite prefix'd, or five Nines at leaſt ſhall precede the reſt of the

the Figures; then the Logarithm of that Result is to be deduc'd by a due Proportion from the last Table of twenty Logarithms, by the help of their Differences and the eight small Tables; which being found and apply'd, the Logarithm thereby rais'd must be reduc'd by the Logarithms of the Primes before us'd. *Ex. gr.* Suppose the Logarithm of 3,14159,26535,89793,23846,26433,83279,50288,41971,69399,37510,58209,749446 (the Number expressing the Proportion the Diameter of a Circle bears to its Circumference) be requir'd: If it be multiply'd by 31831 = 139 x 229, the Product will be 10000003575,64167,08573,50440,15331,69856,30688,00991,51508,99338,74534613, which falls so near the middle of the Table, that all the significant Figures 35756 &c. are the Particular Differences by which the Proportion is to be made. The Correction of the half second Difference being the first and most arduous Work to be undertaken: In order thereto, the third Number taken out of the I. Table is ,23739,30548,57108,-25997,44471,69061,55199,83474,74850; which multiply'd by the third Difference 86858,76609,25663,70809,52573,93666,83591,87386,^{79201} will produce 20619,66782,-38333,43333,29684,12134,46893,41782,^{29695}: The fourth Number taken out of Tab. II. is found 9,29046,68062,58414,98256,61682,19749,83479,87877, by which 26057616,-79907,44279,88648,30625,833492,^{69697}, the fourth mean Difference multiply'd produces 24208,74239,22002,62334,28231,44540,58490,^{570136}. The fifth Number deduc'd from Tab. III. is 2,64565,90755,42349,67414,87898,65502,7749, which multiply'd by the fifth Difference 104230,41508,11336,00705,6954304,^{0737250} is 275,85525,29876,82-003,69834,62117,^{774214}. The sixth Number from Tab. IV. = 192,92310,95326,63746,-38472,8819510 drawn into 52115,18148,34711,525938,^{17792} the sixth mean Diff. produces 1005,42228,65650,35468,27185,^{36098}. The seventh Number taken from Tab. V. 39,25594,82781,35614,50646 multiply'd by the seventh Diff. 31269,09325,55543,^{04074} makes 12,27497,90754,42389,^{39614}. The eighth Number out of Tab. VI. 4213,20370,-39147,249888 drawn into the eighth mean Difference 21888,3543,^{3507565} will produce 92,22009,55571,^{386607}. The ninth Number from Tab. VII. 666,79019,86717, multiply'd by the ninth Difference 175,^{10674},^{7128} makes 1,16759,^{462706}. The tenth Number out of Tab. VIII. 94702,10852 drawn into the tenth mean Diff. ,000157596011 5 produces 14,^{9246746}. Here it is to be observ'd, that in taking these Numbers out of their respective Tables for the making a due Proportion, if the first two Figures found in the Margin of the Table be less than 50 (as here they are 35) and the next two Figures by which the Tables must again be entred to take out the secondary Numbers, be greater than 50 (as here they are 75) then in all the Odd Tables, *viz.* 3^{d}, 5th and 7th, the Products of these secondary Odd Numbers into their proper Differences, *i. e.* 3^{d}, 5th and 7th must be subtracted from the respective half second mean Difference; but the Even Products, *i. e.* 4th, 6th, &c. are always to be added: And in the Even Tables, *viz.* 4th, 6th and 8th, all the Products are to be added. But if the first two Figures were greater than 50, or the second two less, it would be directly contrary, *viz.* in the Odd Tables all must be added, and in the Even Tables the Products of the Odd Differences subtracted: Hence the Rule accommodated to these Tables is, If the first two Couples of Figures be alike, *i. e.* both greater or both less than 50, the Products of all the Numbers must be added in the 3^{d}, 5th and 7th Tables, and those of the Odd Numbers subtracted in the 4th, 6th and 8th: But the contrary will obtain, if one Couple be less and the other greater than 50. *Note* also, that any one of the Secondary Numbers being found, it remains the same and serves for all the Tables. The several Products above are thus apply'd.

The

The Product of the third Number and Diff. 20619,66782,38333,43333,29684,12134,46893,41783,29695.
The Product of the sixth 1005,42228,65650,35468,27185,36098.
The Product of the seventh 12,27497,90754,42389,39614.
The Product of the tenth 14,92467.

The Sum of the 3d, 6th, 7th and 10th Products 20619,66782,38333,44338,71925,05282,73116,11372,97874
to be added

The Product of the fourth Number and Diff. 24208,74239,22002,62334,28231,44540,58490,57014.
The Product of the fifth 275,85525,29876,82003,69834,62117,77424.
The Product of the eighth 92,22009,55571,38661.
The Product of the ninth 1,16759,46270.

The Sum of the 4th, 5th, 8th and 9th Products 24208,74515,07527,92211,10327,36385,92939,19369
to be Subtracted.

The Difference or Correction to be added 20619,42573,63818,36810,79713,94955,36730,18433,78505.
to the half second mean Diff. = 21,71470,23804,81925,60301,13320,98328,05572,64206,05492,87097.
The Sum is ÷ second Diff. correct 21,71470,44424,24499,24119,50131,78042,00528,00936,23926,65602.
to be multiply'd by the Arithmetical Compliment of the particular Difference equal to 06424,35832,91426,49559,84668,30143,69311,99008,48491,00661,25465. Add the Product thereof 1,39503,04234,95607,25684,73802,99446,21884,99259,01434,11625, to 1st Diff. 43,42942,64756,15564,07439,42643,67770,70416,84136,16671,45121,61201 The Sum 43,42944,04259,19799,03046,68328,41573,69863,06021,15930,46555,72826, is the first Difference corrected; which multiply'd by the particular Difference equal to 35756,41670,85735,04401,53316,98563,06880,09915,15089,93387,4534613. From the Product = 1552,88116,92893,56313,56137,40505,84673,04534,84158,31860,50877,-76632 (the Characteristic 5, with six Cyphers being prefix'd, because 'tis the immediate Diff. of the Logarithms of the Number propos'd and of 1000000) deduct 4,50285,02-825,93983,07458,43630,67846,50618,48156,26210,46114,07399,16824,24923 the Sum of the Logarithms of 139 and 229, viz. the Logarithm of 31831: The rest 0,49714,-98726,94133,85435,12682,88290,89887,36516,78324,38044,24461,34053,51709 is the Logarithm of the Number 3,14159 &c. which was requir'd, true in the sixty-first Figure; as will appear by the following Operation deduc'd from the Series exhibited by Dr. *Halley* in *Philos. Transf.* N° 216. The Number propos'd 3,14159265 &c. whereof the Logarithm is requir'd, being multiply'd by 27, produces 84,82300,164692,44174,38491,-3713485,46577,87332,35737,83127,85716,63235,039921 = b: The five first Figures hereof 84823 = a are the Product of 271 × 313: The Difference of these two Numbers $b - a = x$ = 0000000 1646924 &c. divided by the Sum of them $b + a$ equal to 1696460016469244174384913713485 &c. equal to z, yields the Quotient $\frac{x}{z}$ equal to 0000000097080,06091,80375,07168,77079,59994,42154,65882,88821,25594,7123822 = half the first Term of the Series

$\frac{2x}{z}$ = 194,16012,18360,75014,33754,15919,98884,30931,76577,64251,18942,47644.

$\frac{2x^3}{3z^3}$ 6,09956,49685,60259,74331,40037,71709,71376,99791.

$\frac{2x^5}{5z^5}$ 34491,34993,16700,47470,36524.

$\frac{2x^7}{7z^7}$ 2321,89318.

The Sum of the Series = 194,16012,18360,75020,43710,65605,59144,39754,51608,52661,40111,73277.

Which

Which being multiply'd by ,43429,44819,03251,82765,11289,18916,60508,22943,97005,80366,65661,-
-14453,78316 the Reciprocal of 2,30258,50929,94045,684 &c. the Natural Logarithm of 10, is thereby
reduc'd to the common Form 84322669519070452983198213806447 38123 25534002160800088857
To this add the $\frac{1}{271}$ = 2,43296929087 44057 29521 18019 48751 80269 02802 80997 11474 71969 59682 5144
Logarithms of $\frac{1}{313}$ = 2,49554433754 64484 84808 12650 48612 43151 57929 86939 85715 29931 96812 7996
From the Sum = 4,92851 36368 53121 16623 63519 98056 24480 12520 64916 95253 00406 23650 41997
Subtr. Log. of 27000 = 4,43136 37641 58987 31188 50837 09765 34592 76003 86592 57208 75944 89596 92121
The Remainder 0,49714 98726 94133 85435 12682 88290 89887 36516 78324 38044 24613 40534 9876
is the Logarithm of 3,14159 &c. desir'd, agreeing with the former, only less by 2 in the sixty second Figure.

The Natural Number may be obtain'd from the Logarithm given by this Method, with no less Accuracy, though perhaps some what more Trouble. If the $\sqrt[365]{}$ of 1,06 be requir'd to be extracted, divide the Logar. of 1,06 = ,02530586526477024084673118635174961946369 22827 57046 32190 45304 1690 by 365: From the Quot. ,00006933113771169928999104434616917703962655419933437348 4669946 Subtract ,00006948155 87280 37517 72471 26967 38258 66726 43579 96844 99768 9493 108; which is the Logarithm of 1,00016 = 2,8 × ,47 × ,76 compos'd by the Addition of their three Logarithms. Out of the Remainder 9999998495 78983 66177 22663 31649 43091 83723 62196 20248 93757 95176838 take the next less of 20 9999995657 05300 94936 24557 87082 46424 16033 63057 91588 69140 08641 779 Rests a constant Dividend 2838 73682 71240 98105 44566 96667 67689 99138 28660 24617 86535 059

The first Divisor is seven Figures of the first Difference 4342947: By which dividing 2838736 &c. the first Quotient is 6536429. By its Arith. Compliment 3463571 multiply the half second mean Difference 21714746: The Product 75210563 added to 4342-94699050637 the first Difference makes 4342947742612 0 the second Divisor: Hereby the second Quotient will be 6536428700 8823, wherewith seven or eight Figures of the third Number must be taken out of Tab. I. = ,25607145; which drawn into the third Difference 86859026 +, and the Product 22242117 subtracted out of half the second Diff. 2171474580993, the Remainder 217147435857 2 multiply by 346357129911 77 the Arith. Compliment of the last Quotient, and add the Product 7521056265119 9 to the first Difference 434294599050637544 21. By the Sum 4342947742612 0019541 (the third Divisor) again divide 28387 &c. and by the third Quotient 6536428700 8822759897 extend the third Number to ,25607145014705; which drawn into the third Difference 8685902666925 produces 2224211691756. Take out of Tab. II. six or seven Figures of the fourth Number 9,276641; which drawn into the fourth mean Difference 2605772 is 2417281: This added to the third Product, and the Sum 222435864568 taken from 217147458099301160 58 the half second mean Difference, the Remainder 217147-435856942514 9 multiply by 346357129911 77240103 the Arith. Complement of the third Quotient; and the Product 7521056265111113031 22 added to the first Difference, makes the fourth Divisor 434947742612 0019532422 0658, by which 6536428700 88-2275990851 2675 the fourth Quotient is obtain'd, the which consists of Figures nearly sufficient for the taking all the rest of the Numbers out of their respective Tables: To avoid that Prolixity and those tedious (if not nauseous) Repetitions which the particularizing of the six remaining Operations must necessarily require, since for every Difference there must be a renew'd Operation, (like the preceding) but every one greater, and consisting of more Figures than the former, by every Odd Number five true Figures being added to the Quotient, and by each Even six or more; pretermitting the particular Steps by which the Quotient is gradually rais'd, I shall (as in the former) specify the several Numbers, Differences and Products with their Application, and the tenth or finishing Operation at length, with the Proof. The third Number intire ,25607,14501,47045,99847,-52112,24125,13628,47240,21825,74352 multiply'd by the third Diff. 86859,02666,-92555,13629,21129,38532,74652,37517,^{44806} gives the third Product = 22242,11691,-75572,02098,69257,56818,08875,83210,^{44542}77. The fourth Number 9,27664,11186,-

-29383,40382,88308,29844,64637,78937 multiply'd by the fourth mean Difference 26057,72102,97500,85811,39369,91055,9202$^{516}_{3075}$ is 24172,81263,62353,24445,--97293,97801,51984,^{384633} the fourth Product: The fifth Number 2,85057,95324,--89369,41193,13307,82676,535 drawn into the fifth Difference 10423,09362,34511,-89007,99990,837^{89014} is 29711,85734,82304,17784,28143,517,^{710583} the fifth Product: The sixth Number 192,53340,46034,68112,99794,71723,09 multiply'd by the sixth mean Difference 52115,49417,54981,302312,^{8099597} produces 1003,39735,26200,--86733,71072^{009639}: The seventh Number 42,25912,12444,78304,094769 drawn into the seventh Difference 31269,31213,99731,^{8850636}, the Product is 13,21413,65295,--45643,^{120453}: The eighth Number 4203,55220,98566,04923 multiply'd by the eighth mean Difference 218885294,^{4261076} produces 92,00957,63089^{978307}: The ninth Number 717,60647,39685 in the ninth Diff. 175,108323095 produces 1,25658,^{866199}: The tenth Number 94469,66928 in the tenth mean Difference ,000157597566 yields 14,^{888190}.

To half the second mean Diff.	21,71474,58099,30116,05848,24417,82586,36071,59816,67753,471125.
Add the fifth Product	297,11857,34823,04177,84281,43517,710583.
The sixth Product	1003,39735,26200,86733,71072,009639.
The ninth Product	1,25658,866199.
The tenth Product	14,888190.
And from their Sum, *viz.* from	21,71474,58099,30116,06145,37278,57144,66450,30833,08016,945736.
Subtract the third Product	22242,11691,75572,02098,69257,56818,08875,83210,445428.
The fourth Product	24172,81263,62353,24445,97293,97801,51984,384633.
The seventh Product	13,21413,65295,45643,120453.
The eighth Product	92,00957,63089,978307.
The Sum of those Products to be Subtr. =	22242,35864,56835,64451,93716,75617,72930,43927,928821.
The rest is the $\frac{1}{2}$ 2^{d} Diff. correct =	21,71474,35856,94251,49309,72826,63427,90832,57902,64089,016915.

By 3463571,29911,77240,09148,73265,52491,82291,65586,90455,388512 being the Arith. Complement of the Quotient obtain'd, by the eighth or ninth of the aforesaid Essays, multiply that $\frac{1}{2}$ second Diff. correct.

Add the Product	75,21056,26511,11303,13332,42986,53516,28378,71641,80829,013313
to the first Difference	4342,94699,05063,75442,12917,53575,83966,36942,08411,30859,91358,220895.
And by the Sum thereof	4342,94774,26120,01953,24220,66908,26952,90458,36790,02501,72187,234208

divide the constant Dividend 28387 &c. The Quotient 6536,42870,08822,75990,85126,--73447,50817,70834,41309,54461,14878,7837 being added to the Marginal Number 999999, (found in the little Table of Twenty Logarithms) by 1,00016 multiply their Sum, *viz.* ,99999,96536,42870,08822,75990,85126,73447,50817,70834,41309,54461,14878,7837: The Product 1,00015,96535,87452,94744,17155,00980,35475,25977,83917,74660,15413,86257,1643 is $\sqrt{^{365}}$ of 1,06 true to an Unite in the sixty first Figure. To confirm the Truth of this Operation, subtract the Diff. of the Logarithms of $\sqrt{^{365}}$ 1,06, and of 1,00016, *viz.* 9999998--4957,898 &c. (before expres'd) out of 1,0000000 &c. which is the next greater Logarithm in the little Table of 20 Logarithms, suiting the Characteristic thereto: The Remainder will be = 15042,10163,38227,73366,83505,69081,62763,78037,97510,62420,--48231,6188 the other Dividend. Multiply the $\frac{1}{2}$ second Diff correct 217147435856 &c. by the ninth Quotient 653642870088 &c. and subtract the Product 14193,68732,05831,--21179,76485,27980,76279,94707,38460,06115,5837 from the first Diff. there remains 43429,45571,13764,33838,17057,38109,86865,61792,84642,34753,12970,65058 for the Divisor; by which 1504210163 &c. being divided, the Quotient ,000000034635,71299,--11772,40091,48732,65524,91822,91655,86904,55388,51212,1626 deducted from 1,00-0000 the Marginal Number, leaves 9999996536428 7 &c. the same as above, the Natural Number answering to 9999998495789 8 &c. the Logarithm given. But a more certain and indisputable Proof will arise from Dr. *Halley*'s Series in *Philos. Transf.* N° 216. The Logarithm of $\sqrt{^{365}}$ 1,06 = ,000069331137 &c. taken from the Logarithm of 1,00016 = ,0000694815 &c. leaves ,000000150421016338 &c. as above: Put it = *n*: This being

being reduc'd to the Natural Form by multiplying it by 2,302585 &c. $= l$, the Natural Logarithm of 10 becomes thereby

$ln =$,000000 3463,57189,89341,69713,22305,54835,82225,32861,41751,01028,01330,626077.
l^2n^2 119,96330,29908,64503,38236,86101,03636,37764,19566,53717,656453.
l^3n^3 4,15501,52514,24837,28993,16427,39396,16938,86692,677094.
l^4n^4 14391,19406,44779,60302,49067,81615,53538,910983.
l^5n^5 498,44935,35383,40809,76217,00670,930003.
l^6n^6 17,26415,17395,73003,83889,945538.
l^7n^7 59795,63082,41205,182955.
l^8n^8 2071,06466,601466.
l^9n^9 71,732814.

$1 + \frac{1}{2}l^2n^2$ 1,00000,00000,00059,98165,14954,32251,69118,43050,51818,18882,09783,26858,828226.
$24)\ l^4n^4$ 599,63308,60199,15012,60377,82567,31397,454624.
$720)\ l^6n^6$ 2397,79885,27184,72755,402702.
$40320)\ l^8n^8$ 5136,569112.

Sum of the even Pow. 1,00000,00000,00059,98165,14954,32851,32427,03249,69228,59145,19535,36148,254664.

ln 3463,57189,89341,69713,22305,54835,82225,32861,41751,01028,01330,626077.
$6)\ l^3n^3$ 69250,25419,04139,54832,19404,56566,02823,14448,779516.
$120)\ l^5n^5$ 4,15374,46128,19506,74801,80838,924417.
$5040)\ l^7n^7$ 11,86421,24651,032774.
$362880)\ l^9n^9$ 198.

Sum of the Odd Powers Subtract 3463,57189,89342,38963,47724,58979,52431,98394,17835,65074,21269,362982.

The Result of the Series 99999965 36,42870,08822,75990,85126,73447,50817,70834,41309,54461,14878,891683.

This multiply'd by 1,00016

produces 1,00015,96535,87452,94744,17155,00980,35475,25977,83917,74660,15413,86257,27230.

exceeding the former only an Unite in the fixty firſt Figure.

This latter Operation (it muſt be acknowledg'd) is tedious enough, by reaſon of the large and ſo often renewed Diviſions; but 'tis eaſy ſo to manage them as to abbreviate the Work near one half, by converting ſo much thereof as the former Quotient extends to into Multiplication; and in every Member of the following, retaining only three of the laſt Figures of the foregoing; and about the ſeventh or eighth Repetition a conſiderable Number of the middle Terms of the Diviſion may be compleated and collected altogether into one Sum, and ſo us'd in the ſucceeding Operations which will exceedingly ſhorten the Work: The like Method may be us'd in the repeated Multiplications of the half ſecond correct Difference.

Hence it may eaſily be collected how many Figures may be obtain'd by any of the Differences, either in making the Logarithm or in finding the Natural Number. If the firſt only be us'd, 13 or 14 may be got, 20 by the ſecond, 25 by the third, 31 or 32 by the fourth, 36 by the fifth, 42 by the ſixth, 47 by the ſeventh, 53 by the eighth, 58 by the ninth, and 64 might be had from the tenth, if the Logarithms were extended ſo far. Although it may ſeem too laborious to carry on the Operation to ſo great a Number of Figures, yet this will, in all Probability, be found the eaſieſt and moſt expeditious Method for raiſing a Logarithm or deducing a Natural Number from one given to twenty Figures or upwards: Whereas to obtain a Logarithm or Natural Number to the utmoſt Length of the largeſt Tables extant, which reach only to fourteen Figures, little leſs Labour is requir'd; yet after the greateſt Care the laſt Figure will ordinarily be vitiated, ſo that no more than thirteen can be depended on with any Certainty.

The Natural Logarithm of 10 is

2,30258,50929,94045,68401,79914,54684,36420,76011,01488,62877,29760,33327,901.

The Reciprocal of it is

0,43429,44819,03251,82765,11289,18916,60508,22943,97005,80366,65661,14453,783.

A TABLE for the Reduction of the SEGMENTS into their Natural Form, being the Products of the Number call'd *n* to 100.

1	78539,81633,97448,309616	51	4005530,63332,69863,790399
2	157079,63267,94896,619231	52	4084070,44966,67312,100014
3	235619,44901,92344,928847	53	4162610,26600,64760,409630
4	314159,26535,89793,238463	54	4241150,08234,62208,719246
5	392699,08169,87241,548078	55	4319689,89868,59657,028861
6	471238,89803,84689,857694	56	4398229,71502,57105,338477
7	549778,71437,82138,167310	57	4476769,53136,54553,648093
8	628318,53071,79586,476925	58	4555309,34770,52001,957708
9	706858,34705,77034,786541	59	4633849,16404,49450,267324
10	785398,16339,74482,096157	60	4712388,98038,46898,576940
11	863937,97973,71931,405772	61	4790928,79672,44346,886555
12	942477,79607,69379,715388	62	4869468,61306,41795,196171
13	1021017,61241,66828,025004	63	4948008,42940,39243,505787
14	1099557,42875,64276,334619	64	5026548,24574,36691,815402
15	1178097,24509,61724,644235	65	5105088,06208,34140,125018
16	1256637,06143,59172,953851	66	5183627,87842,31588,434634
17	1335176,87777,56621,263466	67	5262167,69476,29036,744249
18	1413716,69411,54069,573082	68	5340707,51110,26485,053865
19	1492256,51045,51517,882698	69	5419247,32744,23933,363481
20	1570796,32679,48966,192313	70	5497787,14378,21381,673096
21	1649336,14313,46414,501929	71	5576326,96012,18829,982712
22	1727875,95947,43862,811545	72	5654866,77646,16278,292328
23	1806415,77581,41311,121160	73	5733406,59280,13726,601943
24	1884955,59215,38759,430776	74	5811946,40914,11174,911559
25	1963495,40849,36207,740392	75	5890486,22548,08623,221175
26	2042035,22483,33656,050007	76	5969026,04182,06071,530790
27	2120575,04117,31104,359623	77	6047565,85816,03519,840406
28	2199114,85751,28552,669239	78	6126105,67450,00968,150022
29	2277654,67385,26000,978854	79	6204645,49083,98416,459637
30	2356194,49019,23449,288470	80	6283185,30717,95864,769253
31	2434734,30653,20897,598085	81	6361725,12351,93313,078869
32	2513274,12287,18345,907701	82	6440264,93985,90761,388484
33	2591813,93921,15794,217317	83	6518804,75619,88209,698100
34	2670353,75555,13242,526932	84	6597344,57253,85658,007716
35	2748893,57189,10690,836548	85	6675884,38887,83106,317331
36	2827433,38823,08139,146164	86	6754424,20521,80554,626947
37	2905973,20457,05587,455779	87	6832964,02155,78002,936562
38	2984513,02091,03035,765395	88	6911503,83789,75451,246178
39	3063052,83725,00484,075011	89	6990043,65423,72899,555794
40	3141592,65358,97932,384626	90	7068583,47057,70347,865409
41	3220132,46992,95380,694242	91	7147123,28691,67796,175025
42	3298672,28626,92829,003858	92	7225663,10325,65244,484641
43	3377212,10260,90277,313473	93	7304202,91959,62692,794256
44	3455751,91894,87725,623089	94	7382742,73593,60141,103872
45	3534291,73528,85173,932705	95	7461282,55227,57589,413488
46	3612831,55162,82622,242320	96	7539822,36861,55037,723103
47	3691371,36796,80070,551936	97	7618362,18495,52486,032719
48	3769911,18430,77518,861552	98	7696902,00129,49934,342335
49	3848451,00064,74967,171167	99	7775441,81763,47382,651950
50	3926990,81698,72415,480783	100	7853981,63397,44830,961566

A Table of AREAS *of the Segments of a Circle, whose whole* AREA *is* 1,00000,00000,0000000.

Verſ. Sine.	*Area of Segments.*	*Differences.*
0001	00000,16976,0179582	31037,9711217
0002	00000,48013,9890799	40190,6946261
0003	00000,88204,6837060	47591,2357686
0004	00001,35795,9194746	53978,9523924
0005	00001,89774,8718670	59683,1891791
0006	00002,49458,0610461	64885,5895109
0007	00003,14343,6505570	69699,1054381
0008	00003,84042,7559951	74199,7013290
0009	00004,58242,4573241	78441,3895409
0010	00005,36683,8468650	82464,2095768
0011	00006,19148,0564418	86298,8228779
0012	00007,05446,8793197	89969,3290679
0013	00007,95416,2083876	93495,0794390
0014	00008,88911,2878266	96891,8925247
0015	00009,85803,1803513	100172,8964736
0016	00010,85976,0768249	103349,1294310
0017	00011,89325,2062559	106429,9778576
0018	00012,95755,1841135	109423,5032620
0019	00014,05178,6873756	112336,6902284
0020	00015,17515,3776039	115175,6377441
0021	00016,32691,0153480	117945,7089145
0022	00017,50636,7242625	120651,6496192
0023	00018,71288,3738817	123297,6836410
0024	00019,94586,0575227	125887,5897335
0025	00021,20473,6472562	128424,7646460
0026	00022,48898,4119022	130912,2751162
0027	00023,79810,6870184	133352,9011017
0028	00025,13163,5881201	135749,1719899
0029	00026,48912,7601100	138103,3971325
0030	00027,87016,1572425	140417,6917560
0031	00029,27433,8489985	142693,9990746
0032	00030,70127,8480731	144934,1092672
0033	00032,15061,9573403	147139,6758429
0034	00033,62201,6331832	149312,2298227
0035	00035,11513,8630059	151453,1920836
0036	00036,62967,0550895	153563,8841470
0037	00038,16530,9392365	155645,5376460
0038	00039,72176,4768825	157699,3026615
0039	00041,29875,7795440	159726,2550923
0040	00042,89602,0346363	161727,4031875
0041	00044,51329,4378238	163703,6933597
0042	00046,15033,1311835	165656,0153692
0043	00047,80689,1465527	167585,2069638
0044	00049,48274,3535165	169492,0580399
0045	00051,17766,4115564	171377,3143861
0046	00052,89143,7259425	173241,6810577
0047	00054,62385,4070002	175085,8254259
0048	00056,37471,2324261	176910,3799420
0049	00058,14381,6123681	178715,9446419
0050	00059,93097,5570100	180503,0894286

Verſ. Sine.	*Area of Segments.*	*Differences.*
0051	00061,73600,6464386	182272,3561495
0052	00063,55873,0025881	184024,2604938
0053	00065,39897,2630819	185759,2937281
0054	00067,25656,5568100	187477,9242866
0055	00069,13134,4810966	189180,5992303
0056	00071,02315,0803269	190867,7455891
0057	00072,93182,8259160	192539,7715964
0058	00074,85722,5975124	194197,0678287
0059	00076,79919,6653411	195840,0082567
0060	00078,75759,6735978	197468,9512184
0061	00080,73228,6248162	199084,2403190
0062	00082,72312,8651352	200686,2052664
0063	00084,72999,0704016	202275,1626454
0064	00086,75274,2330470	203851,4166386
0065	00088,79125,6496856	205415,2596962
0066	00090,84540,9093818	206966,9731685
0067	00092,91507,8825423	208506,8278485
0068	00095,00014,7103908	210035,0845945
0069	00097,10049,7949853	211551,9947592
0070	00099,21601,7897445	213057,8007044
0071	00101,34659,5904489	214552,7362377
0072	00103,49212,3266866	216037,0270305
0073	00105,65249,3537171	217510,8910083
0074	00107,82760,2447254	218974,5387187
0075	00110,01734,7834441	220428,1736768
0076	00112,22162,9571209	221871,9926895
0077	00114,44034,9498104	223306,1861613
0078	00116,67341,1359717	224730,9383836
0079	00118,92072,0743553	226146,4278043
0080	00121,18218,5021596	227552,8272854
0081	00123,45771,3294450	228950,3043449
0082	00125,74721,6337899	230339,0213851
0083	00128,05060,6551750	231719,1359089
0084	00130,36779,7910839	233090,8007249
0085	00132,69870,5918088	234454,1641407
0086	00135,04324,7559495	235809,3701464
0087	00137,40134,1260959	237156,5585894
0088	00139,77290,6846853	238495,8653386
0089	00142,15786,5500240	239827,4224419
0090	00144,55613,9724659	241151,3582750
0091	00146,96765,3307409	242467,7976826
0092	00149,39233,1284235	243776,8621133
0093	00151,83009,9905368	245078,5697478
0094	00154,28088,6602846	246373,3356203
0095	00156,74461,9959049	247660,9717353
0096	00159,22122,9676402	248941,6871778
0097	00161,71064,6548180	250215,5882190
0098	00164,21280,2430370	251482,7784171
0099	00166,72763,0214541	252743,3587132
0100	00169,25506,3801673	253997,4275230

Verf. Sine.	Area of Segments.	Differences.
0101	00171,79503,8076903	
		255245,0808247
0102	00174,34748,8885150	
		256486,4122428
0103	00176,91235,3007578	
		257721,5131279
0104	00179,48956,8138857	
		258950,4726338
0105	00182,07907,2865195	
		260173,3777901
0106	00184,68080,6643096	
		261390,3135736
0107	00187,29470,9778832	
		262601,3629743
0108	00189,92072,3408575	
		263806,6070608
0109	00192,55878,9479183	
		265006,1250418
0110	00195,20885,0729601	
		266199,9943251
0111	00197,87085,0672852	
		267388,2905750
0112	00200,54473,3578602	
		268571,0877662
0113	00203,23044,4456264	
		269748,4582367
0114	00205,92792,9038631	
		270920,4727382
0115	00208,63713,3766013	
		272087,2004839
0116	00211,35800,5770852	
		273248,7091955
0117	00214,09049,2862807	
		274405,0651475
0118	00216,83454,3514282	
		275556,3332106
0119	00219,59010,6846388	
		276702,5768926
0120	00222,35713,2615314	
		277843,8583783
0121	00225,13557,1199097	
		278980,2385681
0122	00227,92537,3584778	
		280111,7771147
0123	00230,72649,1355925	
		281238,5324583
0124	00233,53887,6680508	
		282360,5618617
0125	00236,36248,2299125	
		283477,9214424
0126	00239,19726,1513549	
		284590,6662048
0127	00242,04316,8175597	
		285698,8500713
0128	00244,90015,6676310	
		286802,5259113
0129	00247,76818,1935423	
		287901,7455700
0130	00250,64719,9391123	
		288996,5598962
0131	00253,53716,4990085	
		290087,0187689
0132	00256,43803,5177774	
		291173,1711225
0133	00259,34976,6888999	
		292255,0649726
0134	00262,27231,7538725	
		293332,7474393
0135	00265,20564,5013118	
		294406,2647706
0136	00268,14970,7660824	
		295475,6623652
0137	00271,10446,4284476	
		296540,9847936
0138	00274,06987,4132412	
		297602,2758197
0139	00277,04589,6890609	
		298659,5784207
0140	00280,03249,2674816	
		299712,9348072
0141	00283,02962,2022888	
		300762,3864419
0142	00286,03724,5887308	
		301807,9740581
0143	00289,05532,5627889	
		302849,7376777
0144	00292,08382,3004666	
		303887,7166283
0145	00295,12270,0170949	
		304921,9495602
0146	00298,17191,9666551	
		305952,4744625
0147	00301,23144,4411176	
		306979,3286790
0148	00304,30123,7697966	
		308002,5489231
0149	00307,38126,3187197	
		309022,1712931
0150	00310,47148,4900126	
		310038,2312861

Verf. Sine.	Area of Segments.	Differences.
0151	00313,57186,7212989	
		311050,7638125
0152	00316,68237,4851114	
		312059,8032088
0153	00319,80297,2883202	
		313065,3832515
0154	00322,93362,6715717	
		314067,5371692
0155	00326,07430,2087409	
		315066,2976552
0156	00329,22496,5063961	
		316061,6968798
0157	00332,38558,2032759	
		317053,7665014
0158	00335,55611,9697773	
		318042,5376783
0159	00338,73654,5074556	
		319028,0410797
0160	00341,92682,5485353	
		320010,3068959
0161	00345,12692,8554312	
		320989,3648494
0162	00348,33682,2202806	
		321965,2442046
0163	00351,55647,4644853	
		322937,9737777
0164	00354,78585,4382630	
		323907,5819462
0165	00358,02493,0202092	
		324874,0966584
0166	00361,27367,1168676	
		325837,5454425
0117	00364,53204,6623101	
		326797,9554149
0168	00367,80002,6177250	
		327755,3532894
0169	00371,07757,9710144	
		328709,7653852
0170	00374,36467,7363996	
		329661,2176351
0171	00377,66128,9540347	
		330609,7355934
0172	00380,96738,6896281	
		331555,3444437
0173	00384,28294,0340718	
		332498,0690062
0174	00387,60792,1030780	
		333437,9337451
0175	00390,94230,0368231	
		334374,9627759
0176	00394,28604,9995990	
		335309,1798720
0177	00397,63914,1794710	
		336240,6084718
0178	00401,00154,7879428	
		337169,2716849
0179	00404,37324,0596277	
		338095,1922991
0180	00407,75419,2519268	
		339018,3927860
0181	00411,14437,6447128	
		339938,8953075
0182	00414,54376,5400203	
		340856,7217218
0183	00417,95233,2617421	
		341771,8935891
0184	00421,37005,1553312	
		342684,4321771
0185	00424,79689,5875083	
		343594,3584667
0186	00428,23283,9459750	
		344501,6931575
0187	00431,67785,6391325	
		345406,4566730
0188	00435,13192,0958055	
		346308,6691655
0189	00438,59500,7649709	
		347208,3505214
0190	00442,06709,1154923	
		348105,5203660
0191	00445,54814,6358583	
		349000,1980685
0192	00449,03814,8339268	
		349892,4027460
0193	00452,53707,2366728	
		350782,1532691
0194	00456,04489,3899419	
		351669,4682650
0195	00459,56158,8582069	
		352554,3661236
0196	00463,08713,2243305	
		353436,8650002
0197	00466,62150,0893307	
		354316,9828201
0198	00470,16467,0721508	
		355194,7372833
0199	00473,71661,8094341	
		356070,1458675
0200	00477,27731,9553016	
		356943,2258330

Vers. Sine.	Area of Segments.	Differences.
0201	00480,84675,1811346	
		357813,9942253
0202	00484,42489,1753599	
		358682,4678800
0203	00488,01171,6432399	
		359548,6634256
0204	00491,60720,3066655	
		360412,5972874
0205	00495,21132,9039529	
		361274,2856909
0206	00498,82407,1896438	
		362133,7446654
0207	00502,44540,9343092	
		362990,9900465
0208	00506,07531,9243557	
		363846,0374808
0209	00509,71377,9618365	
		364698,9024275
0210	00513,36076,8642640	
		365549,5001628
0211	00517,01626,4644268	
		366398,1457821
0212	00520,68024,6102089	
		367244,5542032
0213	00524,35269,1644121	
		368088,8401695
0214	00528,03358,0045816	
		368931,0182526
0215	00531,72289,0228342	
		369771,1028549
0216	00535,42060,1256891	
		370609,1082130
0217	00539,12669,2339022	
		371445,0483995
0218	00542,84114,2823017	
		372278,9373264
0219	00546,56393,2196281	
		373110,7887472
0220	00550,29504,0083753	
		373940,6162595
0221	00554,03444,6246348	
		374768,4333076
0222	00557,78213,0579424	
		375594,2531850
0223	00561,53807,3111274	
		376418,0890363
0224	00565,30225,4001637	
		377239,9538602
0225	00569,07465,3540239	
		378059,8605109
0226	00572,85525,2145348	
		378877,8217014
0227	00576,64403,0362363	
		379693,8500048
0228	00580,44096,8862411	
		380507,9578567
0229	00584,24604,8440978	
		381320,1575575
0230	00588,05925,0016553	
		382130,4612744
0231	00591,88055,4629297	
		382938,8810431
0232	00595,70994,3439728	
		383745,4287702
0233	00599,54739,7727430	
		384550,1162348
0234	00603,39289,8889778	
		385352,9550908
0235	00607,24642,8440686	
		386153,9568682
0236	00611,10796,8009368	
		386953,1329755
0237	00614,97749,9339123	
		387750,4947011
0238	00618,85500,4286134	
		388546,0532153
0239	00622,74046,4818287	
		389339,8195721
0240	00626,63386,3014008	
		390131,8047102
0241	00630,53518,1061110	
		390922,0194560
0242	00634,44440,1255670	
		391710,4745236
0243	00638,36150,6000906	
		392497,1805179
0244	00642,28647,7806086	
		393282,1479352
0245	00646,21929,9285438	
		394065,3871651
0246	00650,15995,3157089	
		394846,9084920
0247	00654,10842,2242009	
		395626,7220966
0248	00658,06468,9462975	
		396404,8380572
0249	00662,02873,7843547	
		397181,2663515
0250	00666,00055,0507062	
		397956,0168575

Vers. Sine.	Area of Segments.	Differences.
0251	00669,98011,0675637	
		398729,0993555
0252	00673,96740,1669192	
		399500,5235288
0253	00677,96240,6904480	
		400270,2989654
0254	00681,96510,9894135	
		401038,4351595
0255	00685,97549,4245730	
		401804,9415124
0256	00689,99354,3660854	
		402569,8273339
0257	00694,01924,1934193	
		403333,1018437
0258	00698,05257,2952630	
		404094,7741721
0259	00702,09352,0694351	
		404854,8533623
0260	00706,14206,9227974	
		405613,3453702
0261	00710,19820,2711676	
		406370,2580666
0262	00714,26190,5392343	
		407125,6212379
0263	00718,33316,1604722	
		407879,4165873
0264	00722,41195,5770595	
		408631,6627358
0265	00726,49827,2397953	
		409382,3682235
0266	00730,59209,6080188	
		410131,5415105
0267	00734,69341,1495293	
		410879,1909779
0268	00738,80220,3405072	
		411625,3249293
0269	00742,91845,6654365	
		412369,9515909
0270	00747,04215,6170274	
		413113,0791133
0271	00751,17328,6961407	
		413854,7155723
0272	00755,31183,4117130	
		414594,8687695
0273	00759,45778,2806825	
		415333,5472339
0274	00763,61111,8279164	
		416070,7582221
0275	00767,77182,5861385	
		416806,5097196
0276	00771,93989,0958581	
		417540,8094419
0277	00776,11529,9053000	
		418273,6650350
0278	00780,29803,5703350	
		419005,0840763
0279	00784,48808,6544112	
		419735,0740757
0280	00788,68543,7284870	
		420463,6424765
0281	00792,89007,3709636	
		421190,7366558
0282	00797,10198,1676194	
		421916,5439257
0283	00801,32114,7115451	
		422640,8915338
0284	00805,54755,6030788	
		423363,8466644
0285	00809,78119,4497432	
		424085,4164389
0286	00814,02204,8661821	
		424805,6079168
0287	00818,27010,4740989	
		425524,4280964
0288	00822,52534,9021953	
		426241,8839152
0289	00826,78776,7861106	
		426957,9822515
0290	00831,05734,7683621	
		427672,7299241
0291	00835,33407,4982862	
		428386,1336936
0292	00839,61793,6319798	
		429098,2002630
0293	00843,90891,8322428	
		429808,9362784
0294	00848,20700,7685212	
		430518,3483296
0295	00852,51219,1168508	
		431226,4429507
0296	00856,82445,5598015	
		431933,2266209
0297	00861,14378,7864224	
		432638,7057654
0298	00865,47017,4921878	
		433342,8867552
0299	00869,80360,3789430	
		434045,7759087
0300	00874,14406,1548517	
		434747,3794917

Vers. Sine.	Area of Segments.	Differences.
0301	00878,49153,5343435	
		435447,7037183
0302	00882,84601,2380618	
		436146,7547514
0303	00887,20747,9928132	
		436844,5387030
0304	00891,57592,5315162	
		437541,0616353
0305	00895,95133,5931515	
		438236,3295612
0306	00900,33369,9227127	
		438930,3484444
0307	00904,72300,2711571	
		439623,1242003
0308	00909,11923,3953574	
		440314,6626968
0309	00913,52238,0580543	
		441004,9697542
0310	00917,93243,0278085	
		441694,0511463
0311	00922,34937,0789548	
		442381,9126004
0312	00926,77318,9915552	
		443068,5597987
0313	00931,20387,5513539	
		443753,9983776
0314	00935,64141,5497316	
		444438,2339293
0315	00940,08579,7836609	
		445121,2720015
0316	00944,53701,0556624	
		445803,1180985
0317	00948,99504,1737610	
		446483,7776812
0318	00953,45987,9514422	
		447163,2561679
0319	00957,93151,2076102	
		447841,5589345
0320	00962,40992,7665447	
		448518,6913153
0321	00966,89511,4578601	
		449194,6586030
0322	00971,38706,1164631	
		449869,4660498
0323	00975,88575,5825129	
		450543,1188670
0324	00980,39118,7013800	
		451215,6222262
0325	00984,90334,3236062	
		451886,9812593
0326	00989,42221,3048655	
		452557,2010591
0327	00993,94778,5059246	
		453226,2866795
0328	00998,48004,7926041	
		453894,2431364
0329	01003,01899,0357405	
		454561,0754073
0330	01007,56460,1111478	
		455226,7884326
0331	01012,11686,8995804	
		455891,3871155
0332	01016,67578,2866959	
		456554,8763223
0333	01021,24133,1630182	
		457217,2608829
0334	01025,81350,4239011	
		457878,5455917
0335	01030,39228,9694928	
		458538,7352069
0336	01034,97767,7046997	
		459197,8344519
0337	01039,56965,5391516	
		459855,8480151
0338	01044,16821,3871667	
		460512,7805503
0339	01048,77334,1677170	
		461168,6366774
0340	01053,38502,8043944	
		461823,4209823
0341	01058,00326,2253767	
		462477,1380176
0342	01062,62803,3633943	
		463129,7923026
0343	01067,25933,1556969	
		463781,3883240
0344	01071,89714,5440209	
		464431,9305361
0345	01076,54146,4745570	
		465081,4233610
0346	01081,19227,8979180	
		465729,8711889
0347	01085,84957,7691069	
		466377,2783789
0348	01090,51335,0474858	
		467023,6492586
0349	01095,18358,6967444	
		467668,9881248
0350	01099,86027,6848692	
		468313,2992441

Vers. Sine.	Area of Segments.	Differences.
0351	01104,54340,9841133	
		468956,5868525
0352	01109,23297,5709658	
		469598,8551562
0353	01113,92896,4261220	
		470240,1083319
0354	01118,63136,5344539	
		470880,3505268
0355	01123,34016,8849807	
		471519,5858591
0356	01128,05536,4708398	
		472157,8184183
0357	01132,77694,2892581	
		472795,0522654
0358	01137,50489,3415235	
		473431,2914331
0359	01142,23920,6329565	
		474066,5399263
0360	01146,97987,1728828	
		474700,8017222
0361	01151,72687,9746050	
		475334,0807705
0362	01156,48022,0553755	
		475966,3809940
0363	01161,23988,4363695	
		476597,7062885
0364	01166,00586,1426581	
		477228,0605232
0365	01170,77814,2031813	
		477857,4475409
0366	01175,55671,6507222	
		478485,8711584
0367	01180,34157,5218806	
		479113,3351666
0368	01185,13270,8570472	
		479739,8433307
0369	01189,93010,7003779	
		480365,3993909
0370	01194,73376,0997688	
		480990,0070617
0371	01199,54366,1068305	
		481613,6700332
0372	01204,35979,7768637	
		482236,3919706
0373	01209,18216,1688343	
		482858,1765148
0374	01214,01074,3453491	
		483479,0272824
0375	01218,84553,3726315	
		484098,9478660
0376	01223,68652,3204975	
		484717,9418347
0377	01228,53370,2623322	
		485336,0127338
0378	01233,38706,2750660	
		485953,1640853
0379	01238,24659,4391513	
		486569,3993883
0380	01243,11228,8385396	
		487184,7221189
0381	01247,98413,5606585	
		487799,1357306
0382	01252,86212,6963891	
		488412,6436542
0383	01257,74625,3400433	
		489025,2492985
0384	01262,63650,5893418	
		489636,9560502
0385	01267,53287,5453920	
		490247,7672739
0386	01272,43535,3126659	
		490857,6863130
0387	01277,34392,9989789	
		491466,7164888
0388	01282,25859,7154677	
		492074,8611021
0389	01287,17934,5765698	
		492682,1234318
0390	01292,10616,7006016	
		493288,5067366
0391	01297,03905,2067382	
		493894,0142540
0392	01301,97799,2209922	
		494498,6492013
0393	01306,92297,8701935	
		495102,4147753
0394	01311,87400,2849688	
		495705,3141527
0395	01316,83105,5991215	
		496307,3504901
0396	01321,79412,9496116	
		496908,5269244
0397	01326,76321,4765360	
		497508,8465731
0398	01331,73830,3231091	
		498108,3125336
0399	01336,71938,6356427	
		498706,9278847
0400	01341,70645,5635274	
		499304,6956857

Vers. Sine.	Area Segment.	Difference.
0401	01346,69950,2592131	
		499901,6189770
0402	01351,69851,8781901	
		500497,7007803
0403	01356,70349,5789704	
		501092,9440985
0404	01361,71442,5230689	
		501687,3519163
0405	01366,73129,8749851	
		502280,9271998
0406	01371,75410,8021849	
		502873,6728972
0407	01376,78284,4750821	
		503465,5919384
0408	01381,81750,0670205	
		504056,6872360
0409	01386,85806,7542566	
		504646,9616843
0410	01391,90453,7159409	
		505236,4181604
0411	01396,95690,1341013	
		505825,0595240
0412	01402,01515,1936253	
		506412,8886173
0413	01407,07928,0822426	
		506999,9082659
0414	01412,14927,9905085	
		507586,1212779
0415	01417,22514,1117864	
		508171,5304450
0416	01422,30685,6422314	
		508756,1385420
0417	01427,39441,7807734	
		509339,9483273
0418	01432,48781,7291007	
		509922,9625428
0419	01437,58704,6916435	
		510505,1839142
0420	01442,69209,8755577	
		511086,6151512
0421	01447,80296,4907089	
		511667,2589474
0422	01452,91963,7496563	
		512247,1179803
0423	01458,04210,8676367	
		512826,1949122
0424	01463,17037,0625489	
		513404,4923895
0425	01468,30441,5549383	
		513982,0130430
0426	01473,44423,5679813	
		514558,7594885
0427	01478,58982,3274698	
		515134,7343263
0428	01483,74117,0617962	
		515709,9401418
0429	01488,89827,0019380	
		516284,3795055
0430	01494,06111,3814435	
		516858,0549726
0431	01499,22969,4364161	
		517430,9690842
0432	01504,40400,4055003	
		518003,1243662
0433	01509,58403,5298665	
		518574,5233307
0434	01514,76978,0531972	
		519145,1684746
0435	01519,96123,2216718	
		519715,0622813
0436	01525,15838,2839531	
		520284,2072196
0437	01530,36122,4911727	
		520852,6057444
0438	01535,56975,0969171	
		521420,2602968
0439	01540,78395,3572139	
		521987,1733038
0440	01546,00382,5305177	
		522553,3471790
0441	01551,22935,8776967	
		523118,7843224
0442	01556,46054,6620191	
		523683,4871202
0443	01561,69738,1491393	
		524247,4579455
0444	01566,93985,6070848	
		524810,6991583
0445	01572,18796,3062431	
		525373,2131049
0446	01577,44169,5193480	
		525935,0021190
0447	01582,70104,5214670	
		526496,0685212
0448	01587,96600,5899882	
		527056,4146191
0449	01593,23657,0046073	
		527616,0427079
0450	01598,51273,0473152	
		528174,9550696

Vers. Sine.	Area Segment.	Difference.
0451	01603,79448,0023848	
		528733,1539742
0452	01609,08181,1563590	
		529290,6416788
0453	01614,37471,7980378	
		529847,4204284
0454	01619,67319,2184662	
		530403,4924556
0455	01624,97722,7109218	
		530958,8599808
0456	01630,28681,5709026	
		531513,5252126
0457	01635,60195,0961152	
		532067,4903469
0458	01640,92262,5864621	
		532620,7575686
0459	01646,24883,3440307	
		533173,3290502
0460	01651,58056,6730809	
		533725,2069525
0461	01656,91781,8800334	
		534276,3934250
0462	01662,26058,2734584	
		534826,8906053
0463	01657,60885,1640637	
		535376,7006198
0464	01672,96261,8646835	
		535925,8255831
0465	01678,32187,6902666	
		536474,2675992
0466	01683,68661,9578658	
		537022,0287603
0467	01689,05683,9866261	
		537569,1111477
0468	01694,43253,0977738	
		538115,5168318
0469	01699,81368,6146057	
		538661,2478718
0470	01705,20029,8624775	
		539206,3063161
0471	01710,59236,1687936	
		539750,6942024
0472	01715,98986,8629960	
		540294,4135574
0473	01721,39281,2755534	
		540837,4663977
0474	01726,80118,7429512	
		541379,8547289
0475	01732,21498,5976801	
		541921,5805462
0476	01737,63420,1782263	
		542462,6458344
0477	01743,05882,8240607	
		543003,0525682
0478	01748,48885,8766289	
		543542,8027116
0479	01753,92428,6793405	
		544081,8982190
0480	01759,36510,5775595	
		544620,3410341
0481	01764,81130,9185936	
		545158,1330910
0482	01770,26289,0516846	
		545695,2763138
0483	01775,71984,3279984	
		546231,7726164
0484	01781,18216,1006148	
		546767,6239033
0485	01786,64983,7245181	
		547302,8320689
0486	01792,12286,5565870	
		547837,3989981
0487	01797,60123,9555851	
		548371,3265663
0488	01803,08495,2821514	
		548904,6166392
0489	01808,57399,8987907	
		549437,2710731
0490	01814,06837,1698638	
		549969,2917148
0491	01819,56806,4615786	
		550500,6804020
0492	01825,07307,1419806	
		551031,4389627
0493	01830,58338,5809433	
		551561,5692163
0494	01836,09900,1501597	
		552091,0729726
0495	01841,61991,2231323	
		552619,9520325
0496	01847,14611,1751648	
		553148,2081878
0497	01852,67759,3833526	
		553675,8432215
0498	01858,21435,2265742	
		554202,8589076
0499	01863,75638,0854818	
		554729,2570114
0500	01869,30367,3424932	
		555255,0392892

Vers. Sine.	Segment.	Difference.
0501	01874,85622,3817824	
		555780,2074889
0502	01880,41402,5892713	
		556304,7633496
0503	01885,97707,3526209	
		556828,7086018
0504	01891,54536,0612227	
		557352,0449675
0505	01897,11888,1061902	
		557874,7741604
0506	01902,69762,8803506	
		558396,8978855
0507	01908,28159,7782361	
		558918,4178398
0508	01913,87078,1960759	
		559439,3357118
0509	01919,46517,5317877	
		559959,6531817
0510	01925,06477,1849694	
		560479,3719217
0511	01930,66956,5568912	
		560998,4935959
0512	01936,27955,0504871	
		561517,0198602
0513	01941,89472,0703473	
		562034,9523625
0514	01947,51507,0227098	
		562552,2927429
0515	01953,14059,3154527	
		563069,0426334
0516	01958,77128,3580862	
		563585,2036584
0517	01964,40713,5617445	
		564100,7774342
0518	01970,04814,3391788	
		564615,7655696
0519	01975,69430,1047484	
		565130,1696657
0520	01981,34560,2744141	
		565643,9913158
0521	01987,00204,2657299	
		566157,2321058
0522	01992,66361,4978357	
		566669,8936138
0523	01998,33031,3914495	
		567181,9774109
0524	02004,00213,3688604	
		567693,4850602
0525	02009,67906,8539206	
		568204,4181178
0526	02015,36111,2720384	
		568714,7781322
0527	02021,04826,0501706	
		569224,5666450
0528	02026,74050,6168156	
		569733,7851901
0529	02032,43784,4020057	
		570242,4352945
0530	02038,14026,8373002	
		570750,5184780
0531	02043,84777,3557782	
		571258,0362532
0532	02049,56035,3920314	
		571764,9901258
0533	02055,27800,3821572	
		572271,3815944
0534	02061,00071,7637515	
		572777,2121506
0535	02066,72848,9759021	
		573282,4832792
0536	02072,46131,4591814	
		573787,1964581
0537	02078,19918,6556395	
		574291,3531584
0538	02083,94210,0087980	
		574794,9548443
0539	02089,69004,9636423	
		575298,0029733
0540	02095,44302,9666156	
		575800,4989964
0541	02101,20103,4656120	
		576302,4443576
0542	02106,96405,9099696	
		576803,8404946
0543	02112,73209,7504642	
		577304,6888384
0544	02118,50514,4393026	
		577804,9908135
0545	02124,28319,4301162	
		578304,7478380
0546	02130,06624,1779542	
		578803,9613234
0547	02135,85428,1392776	
		579302,6326748
0548	02141,64730,7719524	
		579800,7632912
0549	02147,44531,5352436	
		580298,3545651
0550	02153,24829,8898087	
		580795,4078825

Vers. Sine.	Segment.	Difference.
0551	02159,05625,2976912	
		581291,9246237
0552	02164,86917,2223149	
		581787,9061623
0553	02170,68705,1284772	
		582283,3538659
0554	02176,50988,4823431	
		582778,2690963
0555	02182,33766,7514394	
		583272,6532086
0556	02188,17039,4046480	
		583766,5075523
0557	02194,00805,9122003	
		584259,8334709
0558	02199,85065,7456713	
		584752,6323017
0559	02205,69818,3779730	
		585244,9053763
0560	02211,55063,2833493	
		585736,6540201
0561	02217,40799,9373694	
		586227,8795530
0562	02223,27027,8169224	
		586718,5832889
0563	02229,13746,4002113	
		587208,7665358
0564	02235,00955,1667471	
		587698,4305962
0565	02240,88653,5973433	
		588187,5767667
0566	02246,76841,1741100	
		588676,2063383
0567	02252,65517,3804483	
		589164,3205964
0568	02258,54681,7010448	
		589651,9208207
0569	02264,44333,6218654	
		590139,0082852
0570	02270,34472,6301507	
		590625,5842588
0571	02276,25098,2144096	
		591111,6500044
0572	02282,16209,8644140	
		591597,2067797
0573	02288,07807,0711937	
		592082,2558370
0574	02293,99889,3270307	
		592566,7984229
0575	02299,92456,1254536	
		593050,8357788
0576	02305,85506,9612324	
		593534,3691410
0577	02311,79041,3303734	
		594017,3997400
0578	02317,73058,7301134	
		594499,9288015
0579	02323,67558,6589150	
		594981,9575456
0580	02329,62540,6164606	
		595463,4871874
0581	02335,58004,1036480	
		595944,5189368
0582	02341,53948,6225848	
		596425,0539983
0583	02347,50373,6765830	
		596905,0935715
0584	02353,47278,7701546	
		597384,6388510
0585	02359,44663,4090056	
		597863,6910263
0586	02365,42527,1000319	
		598342,2512815
0587	02371,40869,3513134	
		598820,3207962
0588	02377,39689,6721096	
		599297,9007447
0589	02383,38987,5728543	
		599774,9922966
0590	02389,38762,5651509	
		600251,5966163
0591	02395,39014,1617672	
		600727,7148636
0592	02401,39741,8766308	
		601203,3481933
0593	02407,40945,2248241	
		601678,4977554
0594	02413,42623,7225796	
		602153,1646951
0595	02419,44776,8872746	
		602627,3501528
0596	02425,47404,2374274	
		603101,0552642
0597	02431,50505,2926916	
		603574,2811602
0598	02437,54079,5738518	
		604047,0289673
0599	02443,58126,6028192	
		604519,2998070
0600	02442,62645,9026262	
		604991,0947962

Vers. Sine.	Segment.	Difference.
0601	02455,67636,9974225	
		605462,4150475
0602	02461,73099,4124700	
		605933,2616687
0603	02467,79032,6741387	
		606403,6357626
0604	02472,85436,3099013	
		606873,5384288
0605	02479,92309,8483301	
		607342,9707608
0606	02485,99652,8190909	
		607811,9338485
0607	02492,07464,7529394	
		608280,4287774
0608	02498,15745,1817168	
		608748,4566283
0609	02504,24493,6383451	
		609216,0184778
0610	02510,33709,6568229	
		609683,1153978
0611	02516,43392,7722207	
		610149,7484562
0612	02522,53542,5206770	
		610615,9187165
0613	02528,64158,4393935	
		611081,6272378
0614	02534,75240,0606313	
		611546,8750750
0615	02540,86786,9417063	
		612011,6632786
0616	02546,98798,6049849	
		612475,9928952
0617	02553,11274,5978801	
		612939,8649669
0618	02559,24214,4628469	
		613403,2805317
0619	02565,37617,7433786	
		613866,2406235
0620	02571,51483,9840021	
		614328,7462720
0621	02577,65812,7302741	
		614790,7985030
0622	02583,80603,5287771	
		615252,3983378
0623	02589,95855,9271149	
		615713,5467940
0624	02596,11569,4739089	
		616174,2448851
0625	02602,27743,7187940	
		616634,4936205
0626	02608,44378,2124145	
		617094,2940055
0627	02614,61472,5064200	
		617553,6470418
0628	02620,79026,1534618	
		618012,5537266
0629	02626,97038,7071884	
		618471,0150538
0630	02633,15509,7222422	
		618929,0320128
0631	02639,34438,7542550	
		619386,6055896
0632	02645,53825,3598446	
		619843,7367660
0633	02651,73669,0966107	
		620300,4265202
0634	02657,93969,5231309	
		620756,6758263
0635	02664,14726,1989572	
		621212,4856549
0636	02670,35938,6846121	
		621667,8569726
0637	02676,57606,5415847	
		622122,7907423
0638	02682,79729,3323270	
		622577,2879234
0639	02689,02306,6202504	
		623031,3494710
0640	02695,25337,9697214	
		623484,9763372
0641	02701,48822,9460587	
		623938,1694699
0642	02707,72761,1155286	
		624390,9298137
0643	02713,97152,0453423	
		624843,2583091
0644	02720,21995,3036514	
		625295,1558936
0645	02726,47290,4595451	
		625746,6235006
0646	02732,73037,0830457	
		626197,6620602
0647	02738,99234,7451059	
		626648,2724988
0648	02745,25883,0176047	
		627098,4557391
0649	02751,52981,4733438	
		627548,2127008
0650	02757,80529,6860446	
		627997,5442996

Vers. Sine.	Segment.	Difference.
0651	02764,08527,2303442	
		628446,4514479
0652	02770,36973,6817921	
		628894,9350546
0653	02776,65868,6168467	
		629342,9960252
0654	02782,95211,6128719	
		629790,6352619
0655	02789,25002,2481338	
		630237,8536631
0656	02795,55240,1017969	
		630684,6521241
0657	02801,85924,7539210	
		631131,0315368
0658	02808,17055,7854578	
		631576,9927898
0659	02814,48632,7782476	
		632022,5367681
0660	02820,80655,3150157	
		632467,6643537
0661	02827,13122,9793694	
		632912,3764251
0662	02833,46035,3557946	
		633356,6738575
0663	02839,79392,0296521	
		633800,5575230
0664	02846,13192,5671751	
		634244,0282903
0665	02852,47436,6154654	
		634687,0870248
0666	02858,82123,7024902	
		635129,7345890
0667	02865,17253,4370792	
		635571,9718417
0668	02871,52825,4089209	
		636013,7996391
0669	02877,88839,2085601	
		636455,2188338
0670	02884,25294,4273939	
		636896,2302753
0671	02890,62190,6576692	
		637336,8348102
0672	02896,99527,4924794	
		637777,0332817
0673	02903,37304,5257611	
		638216,8265302
0674	02909,75521,3522913	
		638656,2153925
0675	02916,14177,5676838	
		639095,2007030
0676	02922,53272,7683868	
		639533,7832926
0677	02928,92806,5516795	
		639971,9639893
0678	02935,32778,5156688	
		640409,7436180
0679	02941,73188,2592868	
		640847,1230006
0680	02948,14035,3822874	
		641284,1029562
0681	02954,55319,4852436	
		641720,6843006
0682	02960,97040,1695442	
		642156,8678469
0683	02967,39197,0373912	
		642592,6544052
0684	02973,81789,6917964	
		643028,0447825
0685	02980,24817,7365789	
		643463,0397832
0686	02986,68280,7763621	
		643897,6402083
0687	02993,12178,4165704	
		644331,8468566
0688	02999,56510,2634270	
		644765,6605234
0689	03006,01275,9239504	
		645199,0820014
0690	03012,46475,0059518	
		645632,1120806
0691	03018,92107,1180324	
		646064,7515478
0692	03025,38171,8695802	
		646497,0011874
0693	03031,84668,8707676	
		646928,8617807
0694	03038,31597,7325483	
		647360,3341063
0695	03044,78958,0666546	
		647791,4189401
0696	03051,26749,4855947	
		648222,1170550
0697	03057,74971,6026497	
		648652,4292216
0698	03064,23624,0318713	
		649082,3562074
0699	03070,72706,3880787	
		649511,8987771
0700	03077,22218,2868558	
		649941,0576931

Vers. Sine.	Segment.	Difference.
0701	03083,72159,3445489	650369,8337148
0702	03090,22529,1782637	650798,2275990
0703	03096,73327,4058627	651226,2400998
0704	03103,24553,6459625	651653,8719688
0705	03109,76207,5179313	652081,1239549
0706	03116,28288,6418862	652507,9968040
0707	03122,80796,6386902	652934,4912601
0708	03129,33731,1299503	653360,6080640
0709	03135,87091,7380143	653786,3479541
0710	03142,40878,0859684	654211,7116664
0711	03148,95089,7976348	654636,6999340
0712	03155,49726,4975688	655061,3134878
0713	03162,04787,8110566	655485,5530559
0714	03168,60273,3641126	655909,4193641
0715	03175,16182,7834767	656332,9131355
0716	03181,72515,6966122	656756,0350907
0717	03188,29271,7317028	657178,7859479
0718	03194,86450,5176507	657601,1664229
0719	03201,44051,6840736	658023,1772288
0720	03208,02074,8613023	658444,8190765
0721	03214,60519,6803788	658866,0926742
0722	03221,19385,7730530	659286,9987280
0723	03227,78672,7717810	659707,5379413
0724	03234,38380,3097224	660127,7110152
0725	03240,98508,0207376	660547,5186485
0726	03247,59055,5393861	660966,9615373
0727	03254,20022,5009234	661386,0403758
0728	03260,81408,5412992	661804,7558555
0729	03267,43213,2971547	662223,1086654
0730	03274,05436,4058201	662641,0994929
0731	03280,68077,5053130	663058,7290220
0732	03287,31136,2343350	663475,9979355
0733	03293,94612,2322705	663892,9069131
0734	03300,58505,1391836	664309,4566324
0735	03307,22814,5958160	664725,6477690
0736	03313,87540,2435850	665141,4809957
0737	03320,52681,7245807	665556,9569838
0738	03327,18238,6815645	665972,0764015
0739	03333,84210,7579660	666386,8399153
0740	03340,50597,5978813	666801,2481895
0741	03347,17398,8460708	667215,3018858
0742	03353,84614,1479566	667629,0016640
0743	03360,52243,1496206	668042,3481816
0744	03367,20285,4978022	668455,3420939
0745	03373,88740,8398961	668867,9840542
0746	03380,57608,8239503	669280,2747133
0747	03387,26889,0986636	669692,2147201
0748	03393,96581,3133837	670103,8047213
0749	03400,66685,1181050	670515,0453614
0750	03407,37200,1634664	670925,9372828

Vers. Sine.	Segment.	Difference.
0751	03414,08126,1007492	671336,4811259
0752	03420,79462,5818752	671746,6775289
0753	03427,51209,2594041	672156,5271277
0754	03434,23365,7865318	672566,0305565
0755	03440,95931,8170883	672975,1884472
0756	03447,68907,0055355	673384,0014296
0757	03454,42291,0069652	673792,4701315
0758	03461,16083,4770967	674200,5951788
0759	03467,90284,0722755	674608,3771950
0760	03474,64892,4494705	675015,8168020
0761	03481,39908,2662725	675422,9146192
0762	03488,15331,1808917	675829,6712645
0763	03494,91160,8521562	676236,0873534
0764	03501,67396,9395096	676642,1634996
0765	03508,44039,1030092	677047,9003147
0766	03515,21087,0033239	677453,2984086
0767	03521,98540,3017325	677858,3583888
0768	03528,76398,6601213	678263,0808611
0769	03535,54661,7409824	678667,4664295
0770	03542,33329,2074119	679071,5156955
0771	03549,12400,7231074	679475,2292595
0772	03555,91875,9523669	679878,6077192
0773	03562,71754,5600862	680281,6516709
0774	03569,52036,2117571	680684,3617086
0775	03576,32720,5734657	681086,7384248
0776	03583,13807,3118905	681488,7824099
0777	03589,95296,0943004	681890,4942522
0778	03596,77186,5885526	682291,8745387
0779	03603,59478,4530914	682692,9238540
0780	03610,42171,3869454	683093,6427811
0781	03617,25265,0297265	683494,0319010
0782	03624,08759,0616275	683894,0917932
0783	03630,92653,1534207	684293,8230349
0784	03637,76946,9764556	684693,2262018
0785	03644,61640,2026575	685092,3018677
0786	03651,46732,5045252	685491,0506046
0787	03658,32223,5551298	685889,4729826
0788	03665,18113,0281124	686287,5695703
0789	03672,04400,5976827	686685,3409340
0790	03678,91085,9386167	687082,7876389
0791	03685,78168,7262556	687479,9102478
0792	03692,65648,6365034	687876,7093221
0793	03699,53525,3458255	688273,1854216
0794	03706,41798,5312471	688669,3391036
0795	03713,30467,8703507	689065,1709248
0796	03720,19533,0412755	689460,6814391
0797	03727,08993,7227146	689855,8711993
0798	03733,98849,5939139	690250,7407563
0799	03740,89100,3346702	690645,2906595
0800	03747,79745,6253297	691039,5214561

Vers. Sine.	Segment.	Difference.
0801	03754,70785,1467858	691433,4336922
0802	03761,62218,5804780	691827,0279117
0803	03768,54045,6083897	692220,3046574
0804	03775,46265,9130471	692613,2644697
0805	03782,38879,1775168	693005,9078881
0806	03789,31885,0854049	693398,2354499
0807	03796,25283,3208548	693790,2476910
0808	03803,19073,5685458	694181,9451455
0809	03810,13255,5136912	694573,3283460
0810	03817,07828,8420373	694964,3978235
0811	03824,02793,2398608	695355,1541073
0812	03830,98148,3939681	695745,5977250
0813	03837,93893,9916931	696135,7292029
0814	03844,90029,7208960	696525,5490653
0815	03851,86555,2699613	696915,0578352
0816	03858,83470,3277965	697304,2560338
0817	03865,80774,5838303	697693,1441811
0818	03872,78467,7280115	698081,7227951
0819	03879,76549,4508066	698469,9923924
0820	03886,75019,4431990	698857,9534880
0821	03893,73877,3966870	699245,6065956
0822	03900,73123,0032826	699632,9522270
0823	03907,72755,9555096	700019,9908925
0824	03914,72775,9464021	700406,7231013
0825	03921,73182,6695034	700793,1493604
0826	03928,73975,8188638	701179,2701759
0827	03935,75155,0890398	701565,0860520
0828	03942,76720,1750918	701950,5974916
0829	03949,78670,7725833	702335,8049959
0830	03956,81006,5775792	702720,7090647
0831	03963,83727,2866439	703105,3101965
0832	03970,86832,5968404	703489,6088881
0833	03977,90322,2057285	703873,6056347
0834	03984,94195,8113632	704257,3009305
0835	03991,98453,1122937	704640,6952677
0836	03999,03093,8075614	705023,7891373
0837	04006,08117,5966987	705406,5830291
0838	04013,13524,1797278	705789,0774308
0839	04020,19313,2571586	706171,2728294
0840	04027,25484,5299880	706553,1697099
0841	04034,32037,6996979	706934,7685562
0842	04041,38972,4682541	707316,0698506
0843	04048,46288,5381047	707697,0740741
0844	04055,53985,6121789	708077,7817063
0845	04062,62063,3938852	708458,1932252
0846	04069,70521,5871104	708838,3091077
0847	04076,79359,8962181	709218,1298290
0848	04083,88578,0260471	709597,6558631
0849	04090,98175,6819102	709976,8876828
0850	04098,08152,5695930	710355,8257590

Vers. Sine.	Segment.	Difference.
0851	04105,18508,3953520	710734,4705617
0852	04112,29242,8659137	711112,8225594
0853	04119,40355,6884731	711490,8822191
0854	04126,51846,5706922	711868,6500067
0855	04133,63715,2206989	712246,1263865
0856	04140,75961,3470854	712623,3118217
0857	04147,88584,5589071	713000,2067739
0858	04155,01584,8656810	713376,8117036
0859	04162,14961,6773846	713753,1270699
0860	04169,28714,8044545	714129,1533305
0861	04176,42843,9577850	714504,8909418
0862	04183,57348,8487268	714880,3403591
0863	04190,72229,1890859	715255,5020361
0864	04197,87484,6911220	715630,3764284
0865	04205,03115,0675474	716004,9639782
0866	04212,19120,0315256	716379,2651445
0867	04219,35499,2966701	716753,2803729
0868	04226,52252,5770430	717127,0101109
0869	04233,69379,5871539	717500,4548044
0870	04240,86880,0419583	717873,6148985
0871	04248,04753,6568568	718246,4908367
0872	04255,23000,1476935	718619,0830613
0873	04262,41619,2307548	718991,3920133
0874	04269,60610,6227681	719363,4181326
0875	04276,79974,0409007	719735,1618579
0876	04283,99709,2027586	720106,6236263
0877	04291,19815,8263849	720477,8038742
0878	04298,40293,6302591	720848,7030363
0879	04305,61142,3332954	721219,3215461
0880	04312,82361,6548415	721589,6598364
0881	04320,03951,3146779	721959,7183382
0882	04327,25911,0330162	722329,4974816
0883	04334,48240,5304978	722698,9976954
0884	04341,70939,5281932	723068,2194072
0885	04348,94007,7476004	723437,1630433
0886	04356,17444,9106437	723805,8290292
0887	04363,41250,7396729	724174,2177887
0888	04370,65424,9574616	724542,3297448
0889	04377,89967,2872064	724910,1653191
0890	04385,14877,4525255	725277,7249322
0891	04392,40155,1774577	725645,0090033
0892	04399,65800,1864610	726012,0179507
0893	04406,91812,2044117	726378,7521915
0894	04414,18190,9566032	726745,2121414
0895	04421,44936,1687445	727111,3982152
0896	04428,72047,5669597	727477,3108265
0897	04435,99524,8777862	727842,9503877
0898	04443,27367,8281739	728208,3173101
0899	04450,55576,1454840	728573,4120039
0900	04457,84149,5574879	728938,2348782

Vers. Sine.	Segment.	Difference.
0901	04465,13087,7923661	
		729302,7863407
0902	04472,42390,5787068	
		729667,0667986
0903	04479,72057,6455054	
		730031,0766572
0904	04487,02088,7221626	
		730394,8163212
0905	04494,32483,5384838	
		730758,2861941
0906	04501,63241,8246779	
		731121,4866784
0907	04508,94363,3113562	
		731484,4181751
0908	04516,25847,7295313	
		731847,0810846
0909	04523,57694,8106159	
		732209,4758059
0910	04530,89904,2864218	
		732571,6027370
0911	04538,22475,8891588	
		732933,4622749
0912	04545,55409,3514337	
		733295,0548154
0913	04552,88704,4062491	
		733656,3807533
0914	04560,22360,7870024	
		734017,4404823
0915	04567,56378,2274847	
		734378,2343950
0916	04574,90756,4618797	
		734738,7628831
0917	04582,25495,2247628	
		735099,0263371
0918	04589,60594,2510999	
		735459,0251464
0919	04596,96053,2762463	
		735818,7596995
0920	04604,31872,0359458	
		736178,2303837
0921	04611,68050,2663295	
		736537,4375855
0922	04619,04587,7039151	
		736895,3816901
0923	04626,41484,0856052	
		737255,0630818
0924	04633,78739,1486870	
		737613,4821439
0925	04641,16352,6308309	
		737971,6392585
0926	04648,54324,2700894	
		738329,5348070
0927	04655,92653,8048964	
		738687,1691694
0928	04663,31340,9740658	
		739044,5427250
0929	04670,70385,5167908	
		739401,6558519
0930	04678,09787,1726427	
		739758,5089272
0931	04685,49545,6815699	
		740115,1023272
0932	04692,89660,7838971	
		740471,4364270
0933	04700,30132,2203241	
		740827,5116008
0934	04707,70959,7319249	
		741183,3282217
0935	04715,12143,0601466	
		741538,8866619
0936	04722,53681,9468085	
		741894,1872927
0937	04729,95576,1341012	
		742249,2304842
0938	04737,37825,3645854	
		742604,0166057
0939	04744,80429,3811911	
		742958,5460255
0940	04752,23387,9272167	
		743312,8191109
0941	04759,66700,7463276	
		743666,8362283
0942	04767,10367,5825559	
		744020,5977430
0943	04774,54388,1802989	
		744374,1040193
0944	04781,98762,2843182	
		744727,3554210
0945	04789,43489,6397392	
		745080,3523103
0946	04796,88569,9920495	
		745433,0950489
0947	04804,34003,0870984	
		745785,5839975
0948	04811,79788,6710959	
		746137,8195156
0949	04819,25926,4906115	
		746489,8019622
0950	04826,72416,2925737	
		746841,3516949

Vers. Sine.	Segment.	Difference.
0951	04834,19257,8242686	
		747193,0090706
0952	04841,66450,8333392	
		747544,2344453
0953	04849,13995,0677845	
		747895,2081742
0954	04856,61890,2759587	
		748245,9306111
0955	04864,10136,2065698	
		748596,4021094
0956	04871,58732,6086792	
		748946,6230214
0957	04879,07679,2317006	
		749296,5936983
0958	04886,56975,8253989	
		749646,3144907
0959	04894,06622,1398896	
		749995,7857481
0960	04901,56617,9256377	
		750345,0078193
0961	04909,06962,9334570	
		750693,9810519
0962	04916,57656,9145089	
		751042,7057929
0963	04924,08699,6203018	
		751391,1823880
0964	04931,60090,8026898	
		751739,4111827
0965	04939,11830,2138725	
		752087,3925209
0966	04946,63917,6063934	
		752435,1267460
0967	04954,16352,7331394	
		752782,6142006
0968	04961,69135,3473400	
		753129,8552261
0969	04969,22265,2025661	
		753476,8501632
0970	04976,75742,0527294	
		753823,5993518
0971	04984,29565,6520812	
		754170,1031310
0972	04991,83735,7552122	
		754516,3618386
0973	04999,38252,1170508	
		754862,3758120
0974	05006,93114,4928628	
		755208,1453877
0975	05014,48322,6382505	
		755553,6709011
0976	05022,03876,3091516	
		755898,9526869
0977	05029,59775,2618385	
		756243,9910789
0978	05037,16019,2529174	
		756588,7864102
0979	05044,72608,0393276	
		756933,3390130
0980	05052,29541,3783406	
		757277,6492184
0981	05059,86819,0275590	
		757621,7173571
0982	05067,44440,7449161	
		757965,5437586
0983	05075,02406,2886747	
		758309,1287518
0984	05082,60715,4174265	
		758652,4726646
0985	05090,19367,8900911	
		758995,5758243
0986	05097,78363,4659155	
		759338,4385572
0987	05105,37701,9044727	
		759681,0611888
0988	05112,97382,9656614	
		760023,4440438
0989	05120,57406,4097053	
		760365,5874462
0990	05128,17771,9971515	
		760707,4917190
0991	05135,78479,4888704	
		761049,1571845
0992	05143,39528,6460550	
		761390,5841643
0993	05151,00919,2302192	
		761731,7729790
0994	05158,62651,0031981	
		762072,7239483
0995	05166,24723,7271464	
		762413,4373917
0996	05173,87137,1645381	
		762753,9136271
0997	05181,49891,0781652	
		763094,1529723
0998	05189,12985,2311376	
		763434,1557439
0999	05196,76419,3868815	
		763773,9222578
1000	05204,40193,3091393	
		764113,4528293

Vers. Sine.	Segment.	Difference.
1001	05212,04306,7619686	
		764452,7477727
1002	05219,68759,5097413	
		764791,8074015
1003	05227,33551,3171428	
		765130,6320287
1004	05234,98681,9491715	
		765469,2219662
1005	05242,64151,1711377	
		765807,5775255
1006	05250,29958,7486633	
		766145,6990170
1007	05257,96104,4476803	
		766483,5867505
1008	05265,62588,0344308	
		766821,2410349
1009	05273,29409,2754657	
		767158,6621786
1010	05280,96567,9376443	
		767495,8504890
1011	05288,64063,7881333	
		767832,8062729
1012	05296,31896,5944062	
		768169,5298362
1013	05304,00066,1242424	
		768506,0214842
1014	05311,68572,1457266	
		768842,2815215
1015	05319,37414,4272481	
		769178,3102516
1016	05327,06592,7374997	
		769514,1079778
1017	05334,76106,8454775	
		769849,6750023
1018	05342,45956,5204798	
		770185,0116265
1019	05350,16141,5321063	
		770520,1181514
1020	05357,86661,6502577	
		770854,9948770
1021	05365,57516,6451347	
		771189,6421027
1022	05373,28706,2872374	
		771524,0601271
1023	05381,00230,3473645	
		771858,2492480
1024	05388,72088,5966125	
		772192,2097629
1025	05396,44280,8063754	
		772525,9419680
1026	05404,16806,7483434	
		772859,4461592
1027	05411,89666,1945026	
		773192,7226314
1028	05419,62858,9171340	
		773525,7716792
1029	05427,36384,6888132	
		773858,5935960
1030	05435,10243,2824092	
		774191,1886749
1031	05442,84434,4710841	
		774523,5572079
1032	05450,58958,0282920	
		774855,6994867
1033	05458,33813,7277787	
		775187,6158021
1034	05466,09001,3435808	
		775519,3064443
1035	05473,84520,6500251	
		775850,7717026
1036	05481,60371,4217277	
		776182,0118657
1037	05489,36553,4335935	
		776513,0272219
1038	05497,13066,4608154	
		776843,8180585
1039	05504,89910,2788739	
		777174,3846620
1040	05512,67084,6635359	
		777504,7273186
1041	05520,44589,3908544	
		777834,8463135
1042	05528,22424,2371679	
		778164,7419314
1043	05536,00588,9790994	
		778494,4144564
1044	05543,79083,3935557	
		778823,8641716
1045	05551,57907,2577273	
		779153,0913598
1046	05559,37060,3490871	
		779482,0963028
1047	05567,16542,4453899	
		779810,8792820
1048	05574,96353,3246719	
		780139,4405781
1049	05582,76492,7652500	
		780467,7804709
1050	05590,56960,5457209	
		780795,8992398

Vers. Sine.	Segment.	Difference.
1051	05598,37756,4449607	
		781123,7971636
1052	05606,18880,2421243	
		781451,4745200
1053	05614,00331,7166443	
		781778,9315866
1054	05621,82110,6482309	
		782106,1686346
1055	05629,64216,8168709	
		782433,1859562
1056	05637,46650,0028271	
		782759,9838107
1057	05645,29409,9866378	
		783086,5624782
1058	05653,12496,5491160	
		783412,9222328
1059	05660,95909,4713488	
		783739,0633481
1060	05668,79648,5346969	
		784064,9860968
1061	05676,63713,5207937	
		784390,6907511
1062	05684,48104,2115448	
		784716,1775827
1063	05692,32820,3891275	
		785041,4468623
1064	05700,17861,8359898	
		785366,4988605
1065	05708,03228,3348503	
		785691,3338467
1066	05715,88919,6686971	
		786015,9520902
1067	05723,74935,6207873	
		786340,3538592
1068	05731,61275,9746465	
		786664,5394217
1069	05739,47940,5140682	
		786988,5090448
1070	05747,34929,0231130	
		787312,2629950
1071	05755,22241,2861081	
		787635,8015384
1072	05763,09877,0876465	
		787959,1249403
1073	05770,97836,2125868	
		788282,2334653
1074	05778,86118,4460521	
		788605,1273776
1075	05786,74723,5734297	
		788927,8069408
1076	05794,63651,3803705	
		789250,2724177
1077	05802,52901,6527882	
		789572,5240707
1078	05810,42474,1768589	
		789894,5621613
1079	05818,32368,7390202	
		790216,3869508
1080	05826,22585,1259711	
		790537,9986997
1081	05834,13123,1246708	
		790859,3976678
1082	05842,03982,5223385	
		791180,5841144
1083	05849,95163,1064529	
		791501,5582983
1084	05857,86664,6647512	
		791822,3204776
1085	05865,78486,9852288	
		792142,8709099
1086	05873,70629,8561387	
		792463,2098520
1087	05881,63093,0659907	
		792783,3375604
1088	05889,55876,4035511	
		793103,2542909
1089	05897,48979,6578421	
		793422,9602986
1090	05905,42402,6181407	
		793742,4558383
1091	05913,36145,0739790	
		794061,7411638
1092	05921,30206,8151428	
		794380,8165288
1093	05929,24587,6316716	
		794699,6821860
1094	05937,19287,3138576	
		795018,3383880
1095	05945,14305,6522456	
		795336,7853863
1096	05953,09642,4376319	
		795655,0234322
1097	05961,05297,4610641	
		795973,0527763
1098	05969,01270,5138404	
		796290,8736687
1099	05976,97561,3875091	
		796608,4863588
2000	05984,94169,8738679	
		796925,8910957

Vers. Sine.	Segment.	Difference.
1101	05992,91095,7649635	797243,0881276
1102	06000,88338,8530912	797560,0777024
1103	06008,85898,9307936	797876,8600673
1104	06016,83775,7908610	798193,4354693
1105	06024,81969,2263303	798509,8041541
1106	06032,80479,0304844	798825,9663676
1107	06040,79304,9968521	799141,9223548
1108	06048,78446,9192069	799457,6723603
1109	06056,77904,5915672	799773,2166278
1110	06064,77677,8081950	800088,5554009
1111	06072,77766,3635959	800403,6889225
1112	06080,78170,0525184	800718,6174350
1113	06088,78888,6699534	801033,3411799
1114	06096,79922,0111333	801347,8603989
1115	06104,81269,8715322	801662,1753322
1116	06112,82932,0468644	801976,2862205
1117	06120,84908,3330850	802290,1933032
1118	06128,87198,5263882	802603,8968194
1119	06136,89802,4232076	802917,3970080
1120	06144,92719,8202156	803230,6941066
1121	06152,95950,5143222	803543,7883531
1122	06160,99494,3026753	803856,6799845
1123	06169,03350,9826598	804169,3692372
1124	06177,07520,3518970	804481,8563472
1125	06185,12002,2082442	804794,1415500
1126	06193,16796,3497942	805106,2250805
1127	06201,21902,5748747	805418,1071732
1128	06209,27320,6820480	805729,7880620
1129	06217,33050,4701100	806041,2679803
1130	06225,39091,7380903	806352,5471610
1131	06233,45444,2852513	806663,6258364
1132	06241,52107,9110878	806974,5042385
1133	06249,59082,4153263	807285,1825987
1134	06257,66367,5979250	807595,6611476
1135	06265,73963,2590726	807905,9401159
1136	06273,81869,1991885	808216,0197332
1137	06281,90085,2189217	808525,9002290
1138	06289,98611,1191507	808835,5818322
1139	06298,07446,7009829	809145,0647710
1140	06306,16591,7657539	809454,3492734
1141	06314,26046,1150274	809763,4355668
1142	06322,35809,5505941	810072,3238779
1143	06330,45881,8744721	810381,0144333
1144	06338,56262,8889054	810689,5074588
1145	06346,66952,3963642	810997,8031798
1146	06354,77950,1995440	811305,9018213
1147	06362,89256,1013653	811613,8036076
1148	06371,00869,9049729	811921,5087629
1149	06379,12791,4137358	812229,0175104
1150	06387,25020,4312462	812536,3300733

Vers. Sine.	Segment.	Difference.
1151	06395,37556,7613195	812843,4466740
1152	06403,50400,2079935	813150,3675346
1153	06411,63550,5755281	813457,0928766
1154	06419,77007,6684047	813763,6229212
1155	06427,90771,2913259	814069,9578888
1156	06436,04841,2492147	814376,0979998
1157	06444,19217,3472145	814682,0434737
1158	06452,33899,3906882	814987,7945297
1159	06460,48887,1852179	815293,3513867
1160	06468,64180,5366046	815598,7142627
1161	06476,79779,2508673	815903,8833757
1162	06484,95683,1342430	816208,8589430
1163	06493,11891,9931860	816513,6411814
1164	06501,28405,6343674	816818,2303074
1165	06509,45223,8646748	817122,6265369
1166	06517,62346,4912117	817426,8300854
1167	06525,79773,3212971	817730,8411670
1168	06533,97504,1624651	818034,6599991
1169	06542,15538,8224642	818338,2867931
1170	06550,33877,1092573	818641,7217634
1171	06558,52518,8310207	818944,9651234
1172	06566,71463,7961441	819248,0170859
1173	06574,90711,8132300	819550,8778631
1174	06583,10262,6910931	819853,5476669
1175	06591,30116,2387600	820156,0267088
1176	06599,50272,2654688	820458,3151997
1177	06607,70730,5806685	820760,4133502
1178	06615,91490,9940186	821062,3213704
1179	06624,12553,3153890	821364,0394699
1180	06632,33917,3548589	821665,5678580
1181	06640,55582,9227169	821966,9067434
1182	06648,77549,8294603	822268,0563345
1183	06656,99817,8857948	822569,0168392
1184	06665,22386,9026340	822869,7884649
1185	06673,45256,6910989	823170,3714188
1186	06681,68427,0625177	823470,7659073
1187	06689,91897,8284250	823770,9721367
1188	06698,15668,8005617	824070,9903128
1189	06706,39739,7908746	824370,8206408
1190	06714,64110,6115154	824670,4633257
1191	06722,88781,0748411	824969,9185718
1192	06731,13750,9934130	825269,1865833
1193	06739,39020,1799963	825568,2675638
1194	06747,64588,4475601	825867,1617164
1195	06755,90455,6092765	826165,8692439
1196	06764,16621,4785204	826464,3903488
1197	06772,43085,8688692	826762,7252328
1198	06780,69848,5941020	827060,8740976
1199	06788,96909,4681996	827358,8371443
1200	06797,24268,3053439	827656,6145734

Vers. Sine.	Segment.	Difference.
1201	06805,51924,9199173	827954,2065854
1202	06813,79879,1265027	828251,6133800
1203	06822,08130,7398827	828548,8351568
1204	06830,36679,5750395	828845,8721147
1205	06838,65525,4471542	829142,7244524
1206	06846,94668,1716066	829439,3923682
1207	06855,24107,5639748	829735,8760597
1208	06863,53843,4400345	830032,1757245
1209	06871,83875,6157590	830328,2915596
1210	06880,14203,9073186	830624,2237615
1211	06888,44828,1310801	830919,9725264
1212	06896,75748,1036065	831215,5380503
1213	06905,06963,6416568	831510,9205284
1214	06913,38474,5621853	831806,1201558
1215	06921,70280,6823411	832101,1371270
1216	06930,02381,8194681	832395,9716364
1217	06938,34777,7911045	832690,6238776
1218	06946,67468,4149821	832985,0940442
1219	06955,00453,5090263	833279,3823291
1220	06963,33732,8913554	833573,4889250
1221	06971,67306,3802804	833867,4140241
1222	06980,01173,7943045	834161,1578184
1223	06988,35334,9521229	834454,7204991
1224	06996,69789,6726220	834748,1022576
1225	07005,04537,7748796	835041,3032843
1226	07013,39579,0781639	835334,3237698
1227	07021,74913,4019337	835627,1639038
1228	07030,10540,5658375	835919,8238758
1229	07038,46460,3897133	836212,3038752
1230	07046,82672,6935885	836504,6040906
1231	07055,19177,2976791	836796,7247105
1232	07063,55974,0223896	837088,6659229
1233	07071,93062,6883125	837380,4279153
1234	07080,30443,1162278	837672,0108752
1235	07088,68115,1271030	837963,4149893
1236	07097,06078,5420923	838254,6404443
1237	07105,44333,1825366	838545,6874261
1238	07113,82878,8699627	838836,5561207
1239	07122,21715,4260834	839127,2467134
1240	07130,60842,6727968	839417,7593892
1241	07139,00260,4321861	839708,0943329
1242	07147,39968,5265190	839998,2517286
1243	07155,79966,7782476	840288,2317604
1244	07164,20255,0100080	840578,0346118
1245	07172,60833,0446198	840867,6604659
1246	07181,01700,7050857	841157,1095056
1247	07189,42857,8145913	841446,3819134
1248	07197,84304,1965047	841735,4778714
1249	07206,26039,6743761	842024,3975613
1250	07214,68064,0719374	842313,1411645

Vers. Sine.	Segment.	Difference.
1251	07223,10377,2131019	842601,7088620
1252	07231,52978,9219639	842890,1008345
1253	07239,95869,0227985	843178,3172625
1254	07248,39047,3400610	843466,3583255
1255	07256,82513,6983865	843754,2242035
1256	07265,26267,9225900	844041,9150756
1257	07273,70309,8376656	844329,4311206
1258	07282,14639,2687862	844616,7725172
1259	07290,59256,0413034	844903,9394435
1260	07299,04159,9807469	845190,9320774
1261	07307,49350,9128243	845477,7505963
1262	07315,94828,6634206	845764,3951774
1263	07324,40593,0585980	846050,8659974
1264	07332,86643,9245955	846337,1632330
1265	07341,32981,0878285	846623,2870600
1266	07349,79604,3748885	846909,2376543
1267	07358,26513,6125428	847195,0151913
1268	07366,73708,6277340	847480,6198460
1269	07375,21189,2475800	847766,0517932
1270	07383,68955,2993732	848051,3112073
1271	07392,17006,6105805	848336,3982623
1272	07400,65343,0088429	848621,3131320
1273	07409,13964,3219748	848906,0559896
1274	07417,62870,3779644	849190,6270083
1275	07426,12061,0049727	849475,0263606
1276	07434,61536,0313333	849759,2542191
1277	07443,11295,2855525	850043,3107557
1278	07451,61338,5963082	850327,1961421
1279	07460,11665,7924503	850610,9105496
1280	07468,62276,7029999	850894,4541494
1281	07477,13171,1571492	851177,8271120
1282	07485,64348,9842613	851461,0296079
1283	07494,15810,0138693	851744,0618071
1284	07502,67554,0756764	852026,9238794
1285	07511,19580,9995558	852309,6159940
1286	07519,71890,6155497	852592,1383200
1287	07528,24482,7538697	852874,4910263
1288	07536,77357,2448960	853156,6742811
1289	07545,30513,9191771	853438,6882526
1290	07553,83952,6074297	853720,5331086
1291	07562,37673,1405383	854002,2090163
1292	07570,91675,3495546	854283,7161432
1293	07579,45959,0656978	854565,0546558
1294	07588,00524,1203536	854846,2247206
1295	07596,55370,3450742	855127,2265040
1296	07605,10497,5715782	855408,0601715
1297	07613,65905,6317497	855688,7258889
1298	07622,21594,3576386	855969,2238212
1299	07630,77563,5814599	856249,5541335
1300	07639,33813,1355933	856529,7169902

Vers. Sine.	Segment.	Difference.
1301	07647,90342,8525836	
		856809,7125557
1302	07656,47152,5651393	
		857089,5409938
1303	07665,04242,1061331	
		857369,2024684
1304	07673,61611,3086015	
		857648,6971425
1305	07682,19260,0057440	
		857928,0251793
1306	07690,77188,0309233	
		858207,1867416
1307	07699,35395,2176649	
		858486,1819917
1308	07707,93881,3996566	
		858765,0112916
1309	07716,52646,4107482	
		859043,6742032
1310	07725,11690,0849514	
		859322,1714880
1311	07733,71012,2564394	
		859600,5031071
1312	07742,30612,7595464	
		859878,6692214
1313	07750,90491,4287678	
		860156,6699915
1314	07759,50648,0987593	
		860434,5055776
1315	07768,11082,6043370	
		860712,1761398
1316	07776,71794,7804767	
		860989,6818376
1317	07785,32784,4623143	
		861267,0228304
1318	07793,94051,4851447	
		861544,1992773
1319	07802,55595,6844221	
		861821,2113371
1320	07811,17416,8957592	
		862098,0591682
1321	07819,79514,9549273	
		862374,7429288
1322	07828,41889,6978561	
		862651,2627766
1323	07837,04540,9606327	
		862927,6188695
1324	07845,67468,5795022	
		863203,8113646
1325	07854,30672,3908668	
		863479,8404188
1326	07862,94152,2312856	
		863755,7061889
1327	07871,57907,9374745	
		864031,4088313
1328	07880,21939,3463058	
		864306,9485021
1329	07888,86246,2948079	
		864582,3253571
1330	07897,50828,6201650	
		864857,5395518
1331	07906,15686,1597168	
		865132,5912415
1332	07914,80818,7509583	
		865407,4805811
1333	07923,46226,2315393	
		865682,2077253
1334	07932,11908,4392646	
		865956,7728283
1335	07940,77865,2120929	
		866231,1760445
1336	07949,44096,3881374	
		866505,4175274
1337	07958,10601,8056648	
		866779,4974307
1338	07966,77381,3030955	
		867053,4159075
1339	07975,44434,7190030	
		867327,1731109
1340	07984,11761,8921139	
		867600,7691934
1341	07992,79362,6613073	
		867874,2043075
1342	08001,47236,8656148	
		868147,4786052
1343	08010,15384,3442200	
		868420,5922384
1344	08018,83804,9364584	
		868693,5453586
1345	08027,52498,4818170	
		868966,3381170
1346	08036,21464,8199340	
		869238,9706646
1347	08044,90703,7905986	
		869511,4431523
1348	08053,60215,2337509	
		869783,7557303
1349	08062,29998,9894812	
		870055,9085487
1350	08071,00054,8980299	
		870327,9017576

Vers. Sine.	Segment.	Difference.
1351	08079,70382,7997875	
		870599,7355064
1352	08088,40982,5352939	
		870871,4099445
1353	08097,11853,9452385	
		871142,9252210
1354	08105,82996,8704595	
		871414,2814846
1355	08114,54411,1519441	
		871685,4788838
1356	08123,26096,6308279	
		871956,5175669
1357	08131,98053,1483948	
		872227,3976818
1358	08140,70280,5460766	
		872498,1193761
1359	08149,42778,6654527	
		872768,6827975
1360	08158,15547,3482502	
		873039,0880928
1361	08166,88586,4363430	
		873309,3354091
1362	08175,61895,7717521	
		873579,4248931
1363	08184,35475,1966452	
		873849,3566908
1364	08193,10324,5533360	
		874119,1309487
1365	08201,83443,6842847	
		874388,7478123
1366	08210,57832,4320970	
		874658,2074273
1367	08219,32490,6395243	
		874927,5099390
1368	08228,07418,1494633	
		875196,6554923
1369	08236,82614,8049557	
		875465,6442321
1370	08245,58080,4491878	
		875734,4763029
1371	08254,33814,9254907	
		876003,1518488
1372	08263,09818,0773395	
		876271,6710139
1373	08271,86089,7483534	
		876540,0339419
1374	08280,62629,7822953	
		876808,2407762
1375	08289,39438,0230715	
		877076,2916600
1376	08298,16514,3147315	
		877344,1867363
1377	08306,93858,5014678	
		877611,9261478
1378	08315,71470,4276156	
		877879,5100368
1379	08324,49349,9376524	
		878146,9385456
1380	08333,27496,8761981	
		878414,2118161
1381	08342,05911,0880142	
		878681,3299899
1382	08350,84592,4180041	
		878948,2932084
1383	08359,63540,7112125	
		879215,1016129
1384	08368,42755,8128254	
		879481,7553440
1385	08377,22237,5681694	
		879748,2545426
1386	08386,01985,8227120	
		880014,5993491
1387	08394,82000,4220611	
		880280,7899035
1388	08403,62281,2119646	
		880546,8263457
1389	08412,42828,0383103	
		880812,7088154
1390	08421,23640,7471257	
		881078,4374521
1391	08430,04719,1845778	
		881344,0123947
1392	08438,86063,1969726	
		881609,4337823
1393	08447,67672,6307549	
		881874,7017535
1394	08456,49547,3325084	
		882139,8164466
1395	08465,31687,1489550	
		882404,7779999
1396	08474,14091,9269549	
		882669,5865512
1397	08482,96761,5135061	
		882934,2422382
1398	08491,79695,7557443	
		883198,7451984
1399	08500,62894,5009427	
		883463,0955688
1400	08509,46357,5965115	
		883727,2934865

Vers. Sine.	Segment.	Difference.
1401	08518,30084,8899980	883991,3390881
1402	08527,14076,2290861	884255,2325100
1403	08535,98331,4615962	884518,9738886
1404	08544,82850,4354848	884782,5633598
1405	08553,67632,9988446	885046,0010591
1406	08562,52678,9999037	885309,2871223
1407	08571,37988,2870260	885572,4216844
1408	08580,23560,7087104	885835,4048806
1409	08589,09396,1135910	886098,2368455
1410	08597,95494,3504365	886360,9177138
1411	08606,81855,2681503	886623,4476197
1412	08615,68478,7157700	886885,8266972
1413	08624,55364,5424672	887148,0550803
1414	08633,42512,5975475	887410,1329025
1415	08642,29922,7304500	887672,0602970
1416	08651,17594,7907470	887933,8373972
1417	08660,05528,6281442	888195,4643359
1418	08668,93724,0924801	888456,9412455
1419	08677,82181,0337256	888718,2682588
1420	08686,70899,3019845	888979,4455078
1421	08695,59878,7474923	889240,4731245
1422	08704,49119,2206169	889501,3512406
1423	08713,38620,5718575	889762,0799877
1424	08722,28382,6518452	890022,6594969
1425	08731,18405,3113421	890283,0898994
1426	08740,08688,4012415	890543,3713258
1427	08748,99231,7725673	890803,5039070
1428	08757,90035,2764744	891063,4877731
1429	08766,81098,7642475	891323,3230544
1430	08775,72422,0873019	891583,0098807
1431	08784,64005,0971826	891842,5483817
1432	08793,55847,6455644	892101,9386869
1433	08802,47949,5842513	892361,1809255
1434	08811,40310,7651769	892620,2752265
1435	08820,32931,0404034	892879,2217188
1436	08829,25810,2621222	893138,0205307
1437	08838,18948,2826529	893396,6717908
1438	08847,12344,9544437	893655,1756270
1439	08856,06000,1300707	893913,5321675
1440	08864,99913,6622382	894171,7415397
1441	08873,94085,4037779	894429,8038711
1442	08882,88515,2076490	894687,7192890
1443	08891,83202,9269380	894945,4879205
1444	08900,78148,4148585	895203,1098922
1445	08909,73351,5247507	895460,5853308
1446	08918,68812,1100815	895717,9143626
1447	08927,64530,0244441	895975,0971139
1448	08936,60505,1215580	896232,1337105
1449	08945,56737,2552685	896489,0242781
1450	08954,53226,2795466	896745,7689422

Vers. Sine.	Segment.	Difference.
1451	08963,49972,0484888	897002,3678282
1452	08972,46974,4163170	897258,8210610
1453	08981,44233,2373780	897515,1287656
1454	08990,41748,3661436	897771,2910666
1455	08999,39519,6572102	898027,3080884
1456	09008,37546,9652986	898283,1799552
1457	09017,35830,1452538	898538,9067911
1458	09026,34369,0520439	898794,4887198
1459	09035,33163,5407637	899049,9258648
1460	09044,32213,4666295	899305,2183497
1461	09053,31518,6849793	899560,3662975
1462	09062,31079,0512768	899815,3698313
1463	09071,30894,4211082	900070,2290737
1464	09080,30964,6501818	900324,9441472
1465	09089,31289,5943291	900579,5151743
1466	09098,31869,1095034	900833,9422770
1467	09107,32703,0517804	901088,2255772
1468	09116,33791,2773576	901342,3651967
1469	09125,35133,6425544	901596,3612569
1470	09134,36730,0038113	901850,2138792
1471	09143,38580,2176905	902103,9231846
1472	09152,40684,1408752	902357,4892941
1473	09161,43041,6301692	902610,9123282
1474	09170,45652,5424975	902864,1924075
1475	09179,48516,7349050	903117,3296523
1476	09188,51634,0645573	903370,3241826
1477	09197,55004,3887399	903623,1761183
1478	09206,58627,5648583	903875,8855791
1479	09215,62503,4504374	904128,4526844
1480	09224,66631,9031218	904380,8775536
1481	09233,71012,7806574	904633,1603056
1482	09242,75645,9409810	904885,3010593
1483	09251,80531,2420403	905137,2999334
1484	09260,85668,5419737	905389,1570465
1485	09269,91057,6990202	905640,8725167
1486	09278,96698,5715369	905892,4464626
1487	09288,02591,0179989	906143,8790005
1488	09297,08734,8369994	906395,1702498
1489	09306,15130,0672492	906646,3203273
1490	09315,21776,3875765	906897,3293503
1491	09324,28673,7169268	907148,1974360
1492	09333,35821,9143528	907398,9247012
1493	09342,43220,8390640	907649,5112627
1494	09351,50870,3503267	907899,9572368
1495	09360,58770,3075636	908150,2627400
1496	09369,66920,5703036	908400,4278884
1497	09378,75320,9981920	908650,4527978
1498	09387,83971,4509893	908900,3375841
1499	09396,92871,7885739	909150,0823627
1500	09406,02021,8709366	909399,6872496

Vers. Sine.	Segment.	Difference.
1501	09415,11421,5581856	909649,1523583
1502	09424,21070,7105439	909898,4778053
1503	09433,31069,1883492	910147,6637049
1504	09442,41216,8520541	910396,7101718
1505	09451,51513,5622259	910645,6173202
1506	09460,61959,1795461	910894,3852645
1507	09469,73053,5648106	911143,0141185
1508	09478,84196,5789291	911391,5039962
1509	09487,95588,0829253	911639,8550113
1510	09497,07227,9379366	911888,0672770
1511	09506,19116,0052136	912136,1409069
1512	09515,31252,1461205	912384,0760138
1513	09524,43636,2221343	912631,8727107
1514	09533,56268,0948450	912879,5311103
1515	09542,69147,6259553	913127,0513252
1516	09551,82274,6772806	913374,4334677
1517	09560,95649,1107483	913621,6776500
1518	09570,09270,7883983	913868,7839839
1519	09579,23139,5723822	914115,7525814
1520	09588,37255,3249636	914362,5835540
1521	09597,51617,9085176	914609,2770131
1522	09606,66227,1855307	914855,8330701
1523	09615,81083,0186008	915102,2518358
1524	09624,96185,2704366	915348,5334214
1525	09634,11533,8038580	915594,6779373
1526	09643,27128,4817953	915840,6854942
1527	09652,42969,1672894	916086,5562023
1528	09661,59055,7234918	916332,2901719
1529	09670,75388,0136637	916577,8875129
1530	09679,91965,9011766	916823,3483352
1531	09689,08789,2495118	917068,6727483
1532	09698,25857,9222601	917313,8608616
1533	09707,43171,7831217	917558,9127845
1534	09716,60730,6959062	917803,8286261
1535	09725,78534,5245323	918048,6084952
1536	09734,96583,1330275	918293,2525006
1537	09744,14876,3855281	918537,7607508
1538	09753,33414,1462789	918782,1333542
1539	09762,52196,2796331	919026,3704190
1540	09771,71222,6500521	919270,4720534
1541	09780,90493,1221055	919514,4383650
1542	09790,10007,5604706	919758,2694616
1543	09799,29765,8299323	920001,9654508
1544	09808,49767,7953831	920245,5264398
1545	09817,70013,3218230	920488,9525358
1546	09826,90502,2743588	920732,2438459
1547	09836,11234,5182047	920975,4004767
1548	09845,32209,9186814	921218,4225350
1549	09854,53428,3412164	921461,3101272
1550	09863,74889,6513436	921704,0633597

Vers. Sine.	Segment.	Difference.
1551	09872,96593,7147033	921946,6823385
1552	09882,18540,3970418	922189,1671697
1553	09891,40729,5642116	922431,5179590
1554	09900,63161,0821706	922673,7348121
1555	09909,85834,8169828	922915,8178344
1556	09919,08750,6348172	923157,7671311
1557	09928,31908,4019483	923399,5828076
1558	09937,55307,9247559	923641,2649685
1559	09946,78949,2497244	923882,8137187
1560	09956,02832,0634431	924124,2291630
1561	09965,26956,2926061	924365,5114056
1562	09974,51321,8040117	924606,6605508
1563	09983,75928,4645625	924847,6767030
1564	09993,00776,1412655	925088,5599657
1565	10002,25864,7012312	925329,3104431
1566	10011,51194,0116743	925569,9282386
1567	10020,76763,9399129	925810,4134556
1568	10030,02574,3533685	926050,7661975
1569	10039,28625,1195661	926290,9865674
1570	10048,54916,1061335	926531,0746683
1571	10057,81447,1808018	926771,0306029
1572	10067,08218,2114048	927010,8544740
1573	10076,35229,0658788	927250,5463839
1574	10085,62479,6122627	927490,1064349
1575	10094,89969,7186977	927729,5347293
1576	10104,17699,2534270	927968,8313689
1577	10113,45668,0847959	928207,9964558
1578	10122,73876,0812517	928447,0300912
1579	10132,02323,1113429	928685,9323771
1580	10141,31009,0437201	928924,7034146
1581	10150,59933,7471347	929163,3433049
1582	10159,89097,0904396	929401,8521490
1583	10169,18498,9425886	929640,2300478
1584	10178,48139,1726364	929878,4771020
1585	10187,78017,6497384	930116,5934122
1586	10197,08134,2431507	930354,5790787
1587	10206,38488,8222294	930592,4342018
1588	10215,69081,2564312	930830,1588815
1589	10224,99911,4153127	931067,7532178
1590	10234,30979,1685305	931305,2173104
1591	10243,62284,3858409	931542,5512589
1592	10252,93826,9370998	931779,7551627
1593	10262,25606,6922625	932016,8291213
1594	10271,57623,5213838	932253,7732337
1595	10280,89877,2946175	932490,5875987
1596	10290,22367,8822162	932727,2723155
1597	10299,55095,1545317	932963,8274825
1598	10308,88058,9820142	933200,2531982
1599	10318,21259,2352124	933436,5495612
1600	10327,54695,7847736	933672,7166695

Vers. Sine.	Area of Segment.	Difference.
1601	10336,88368,5014431	933908,7546212
1602	10346,22277,2560643	934144,5635143
1603	10355,56421,9195786	934380,4434464
1604	10364,90802,3630250	934616,0945153
1605	10374,25418,4575403	934851,6168182
1606	10383,60270,0743585	935087,0104526
1607	10392,95357,0848111	935322,2755156
1608	10402,30679,3603267	935557,4121041
1609	10411,66236,7724308	935792,4203151
1610	10421,02029,1927459	936027,3002452
1611	10430,38056,4929911	936262,0519909
1612	10439,74318,5449820	936496,6756487
1613	10449,10815,2206307	936731,1713148
1614	10458,47546,3919455	936965,5390853
1615	10467,84511,9310308	937199,7790561
1616	10477,21711,7100869	937433,8913231
1617	10486,59145,6014100	937667,8759819
1618	10495,96813,4773919	937901,7331280
1619	10505,34715,2105199	938135,4628568
1620	10514,72850,6733707	938369,0652634
1621	10524,11219,7386402	938602,5404430
1622	10533,49822,2790832	938835,8884905
1623	10542,88658,1675737	939069,1095006
1624	10552,27727,2770743	939302,2035680
1625	10561,67029,4806423	939535,1707870
1626	10571,06564,6514293	939768,0112522
1627	10580,46332,6626816	940000,7250576
1628	10589,86333,3877393	940233,3122975
1629	10599,26566,7000368	940465,7730655
1630	10608,67032,4731023	940698,1074555
1631	10618,07730,5805578	940930,3155611
1632	10627,48660,8961189	941162,3974757
1633	10636,89823,2935946	941394,3532928
1634	10646,31217,6468874	941626,1831055
1635	10655,72843,8299929	941857,8870068
1636	10665,14701,7169997	942089,4650895
1637	10674,56791,1820892	942320,9174467
1638	10683,99112,0995359	942552,2441707
1639	10693,41664,3437066	942783,4453541
1640	10702,84447,7890607	943014,5210893
1641	10712,27462,3101500	943245,4714683
1642	10721,70707,7816183	943476,2965834
1643	10731,14184,0782017	943706,9965263
1644	10740,57891,0747280	943937,5713890
1645	10750,01828,6461170	944168,0212630
1646	10759,45996,6673800	944398,3462397
1647	10768,90395,0136197	944628,5464106
1648	10778,35023,5600303	944858,6218670
1649	10787,79882,1818973	945088,5726998
1650	10797,24970,7545971	945318,3990000

Vers. Sine.	Segment.	Difference.
1651	10806,70289,1535971	945548,1008585
1652	10816,15837,2544556	945777,6783659
1653	10825,61614,9328215	946007,1316126
1654	10835,07622,0644340	946236,4606892
1655	10844,53858,5251232	946465,6656859
1656	10854,00324,1908091	946694,7465920
1657	10863,47018,9375019	946923,7037999
1658	10872,93942,6413018	947152,5370970
1659	10882,41095,1783988	947381,2466740
1660	10891,88476,4250728	947609,8326202
1661	10901,36086,2576930	947838,2950253
1662	10910,83924,5527183	948066,6339784
1663	10920,31991,1866967	948294,8495689
1664	10929,80286,0362656	948522,9418856
1665	10939,28808,9781512	948750,9110177
1666	10948,77559,8891689	948978,7570536
1667	10958,26538,6462225	949206,4800823
1668	10967,75745,1263048	949434,0801922
1669	10977,25179,2054770	949661,5574715
1670	10986,74840,7639685	949888,9120087
1671	10996,24729,6759772	950116,1438918
1672	11005,74845,8198690	950343,2532087
1673	11015,25189,0730777	950570,2400473
1674	11024,75759,3131250	950797,1044955
1675	11034,26556,4176206	951023,8466407
1676	11043,77580,2642613	951250,4665704
1677	11053,28830,7308316	951476,9643719
1678	11062,80307,6952035	951703,3401324
1679	11072,32011,0353358	951929,5939390
1680	11081,83940,6292749	952155,7258786
1681	11091,36096,3551535	952381,7360381
1682	11100,88478,0911916	952607,6245041
1683	11110,41085,7156957	952833,3913631
1684	11119,93919,1070588	953059,0367016
1685	11129,46978,1437604	953284,5606059
1686	11139,00262,7043663	953509,9631622
1687	11148,53772,6675285	953735,2444563
1688	11158,07507,9119849	953960,4045745
1689	11167,61468,3165593	954185,4436022
1690	11177,15653,7601616	954410,3616253
1691	11186,70064,1217869	954635,1587293
1692	11196,24699,2805162	954859,8349994
1693	11205,79559,1155156	955084,3905212
1694	11215,34643,5060368	955308,8253796
1695	11224,89952,3314164	955533,1396597
1696	11234,45485,4710761	955757,3334464
1697	11244,01242,8045225	955981,4068245
1698	11253,57224,2113470	956205,3598786
1699	11263,13429,5712256	956429,1926933
1700	11272,69858,7639189	956652,9053529

Vers. Sine.	Segment.	Difference.
1701	11282,26511,6692718	956876,4979416
1702	11291,83388,1672134	957099,9705439
1703	11301,40488,1377573	957323,3232434
1704	11310,97811,4610007	957546,5561244
1705	11320,55358,0171251	957769,6692703
1706	11330,13127,6863954	957992,6627650
1707	11339,71120,3491604	958215,5366920
1708	11349,29335,8858524	958438,2911347
1709	11358,87774,1769871	958660,9261763
1710	11368,46435,1031635	958883,4419001
1711	11378,05318,5450636	959105,8383891
1712	11387,64424,3834528	959328,1157262
1713	11397,23752,4991790	959550,2739943
1714	11406,83302,7731733	959772,3132759
1715	11416,43075,0864492	959994,2336537
1716	11426,03069,3201029	960216,0352101
1717	11435,63285,3553130	960437,7180274
1718	11445,23723,0733404	960659,2821879
1719	11454,84382,3555283	960880,7277736
1720	11464,45263,0833019	961102,0548664
1721	11474,06365,1381683	961323,2635482
1722	11483,67688,4017165	961544,3539009
1723	11493,29232,7556174	961765,3260058
1724	11502,90998,0816232	961986,1799445
1725	11512,52984,2615677	962206,9157985
1726	11522,15191,1773662	962427,5336489
1727	11531,77618,7110151	962648,0335768
1728	11541,40266,7445920	962868,4156635
1729	11551,03135,1602555	963088,6799895
1730	11560,66223,8402450	963308,8266359
1731	11570,29532,6668809	963528,8556831
1732	11579,93061,5225640	963748,7672118
1733	11589,56810,2897758	963968,5613024
1734	11599,20778,8510782	964188,2380353
1735	11608,84967,0891135	964407,7974906
1736	11618,49374,8866041	964627,2397483
1737	11628,14002,1263524	964846,5648885
1738	11637,78848,6912409	965065,7729910
1739	11647,43914,4642319	965284,8641356
1740	11657,09199,3283675	965503,8384018
1741	11666,74703,1667693	965722,6958692
1742	11676,40425,8626385	965941,4366171
1743	11686,06367,2992557	966160,0607249
1744	11695,72527,3599806	966378,5682717
1745	11705,38905,9282523	966596,9593365
1746	11715,05502,8875888	966815,2339984
1747	11724,72318,1215872	967033,3923359
1748	11734,39351,5139232	967251,4344281
1749	11744,06602,9433513	967469,3603533
1750	11753,74072,3087046	967687,1701902

Vers. Sine.	Segment.	Difference.
1751	11763,41759,4788948	967904,8640170
1752	11773,09664,3429118	968122,4419119
1753	11782,77786,7848237	968339,9039534
1754	11792,46126,6887771	968557,2502192
1755	11802,14683,9389963	968774,4807873
1756	11811,83458,4197836	968991,5957355
1757	11821,52450,0155191	969208,5951417
1758	11831,21658,6106608	969425,4790832
1759	11840,91084,0897440	969642,2476376
1760	11850,60726,3373816	969858,9008823
1761	11860,30585,2382639	970075,4388946
1762	11870,00660,6771585	970291,8617515
1763	11879,70952,5389101	970508,1695302
1764	11889,41460,7084403	970724,3623075
1765	11899,12185,0707478	970940,4401603
1766	11908,83125,5109082	971156,4031653
1767	11918,54281,9140735	971372,2513990
1768	11928,25654,1654725	971587,9849381
1769	11937,97242,1504106	971803,6038589
1770	11947,69045,7542695	972019,1082374
1771	11957,41064,8625069	972234,4981502
1772	11967,13299,3606571	972449,7736731
1773	11976,85749,1343303	972664,9348822
1774	11986,58414,0692124	972879,9818531
1775	11996,31294,0510656	973094,9146619
1776	12006,04388,9657274	973309,7333839
1777	12015,77698,6991113	973524,4380948
1778	12025,51223,1372061	973739,0288699
1779	12035,24962,1660760	973953,5057847
1780	12044,98915,6718607	974167,8689142
1781	12054,73083,5407749	974382,1183335
1782	12064,47465,6591084	974596,2541179
1783	12074,22061,9132263	974810,2763419
1784	12083,96872,1895682	975024,1850805
1785	12093,71896,3746487	975237,9804083
1786	12103,47134,3550569	975451,6623999
1787	12113,22586,0174568	975665,2311297
1788	12122,98251,2485865	975878,6866722
1789	12132,74129,9352587	976092,0291015
1790	12142,50221,9643602	976305,2584918
1791	12152,26527,2228520	976518,3749173
1792	12162,03045,5977693	976731,3784517
1793	12171,79776,9762210	976944,2691690
1794	12181,56721,2453900	977157,0471430
1795	12191,33878,2925330	977369,7124470
1796	12201,11248,0049800	977582,2651550
1797	12210,88830,2701350	977794,7053400
1798	12220,66624,9754750	978007,0330757
1799	12230,44632,0085507	978219,2484350
1800	12240,22851,2569857	978431,3514912

Vers. Sine.	Segment.	Difference.
1801	12250,01282,6084769	
		978643,3423173
1802	12259,79925,9507942	978855,2209862
1803	12269,58781,1717803	979066,9875707
1804	12279,37848,1593510	979278,6421435
1805	12289,17126,8014945	979490,1847772
1806	12298,96616,9862717	
		979701,6155444
1807	12308,76318,6018162	979912,9345175
1808	12318,56231,5363337	980124,1417687
1809	12328,36355,6781024	980335,2373704
1810	12338,16690,9154728	980546,2213945
1811	12347,97237,1368673	
		980757,0939131
1812	12357,77994,2307804	980967,8549981
1813	12367,58962,0857785	981178,5047213
1814	12377,40140,5904998	981389,0431545
1815	12387,21529,6336543	981599,4703692
1816	12397,03129,1040235	
		981809,7864369
1817	12406,84938,8904604	982019,9914291
1818	12416,66958,8818895	982230,0854171
1819	12426,49188,9673066	982440,0684720
1820	12436,31629,0357786	982649,9406651
1821	12446,14278,9764437	
		982859,7020673
1822	12455,97138,6785110	983069,3527495
1823	12465,80208,0312605	983278,8927826
1824	12475,63486,9240430	983488,3222372
1825	12485,46975,2462803	983697,6411841
1826	12495,30672,8874644	
		983906,8496937
1827	12505,14579,7371581	984115,9478365
1828	12514,98695,6849947	984324,9356828
1829	12524,83020,6206775	984533,8133029
1830	12534,67554,4339804	984742,5807668
1831	12544,52297,0147472	
		984951,2381447
1832	12554,37248,2528919	985159,7855064
1833	12564,22408,0383983	985368,2229219
1834	12574,07776,2613202	985576,5504609
1835	12583,93352,8117811	985784,7681930
1836	12593,79137,5799742	
		985992,8761879
1837	12603,65130,4561621	986200,8745149
1838	12613,51331,3306770	986408,7632435
1839	12623,37740,0939205	986616,5424430
1840	12633,24356,6363635	986824,2121824
1841	12643,11180,8485459	
		987031,7725310
1842	12652,98212,6210769	987239,2235578
1843	12662,85451,8446347	987446,5653315
1844	12672,72898,4099662	987653,7979210
1845	12682,60552,2078872	987860,9213951
1846	12692,48413,1292823	
		988067,9358224
1847	12702,36481,0651047	988274,8412713
1848	12712,24755,9063760	988481,6378104
1849	12722,13237,5441864	988688,3255079
1850	12732,01925,8696943	988894,9044321

Vers. Sine.	Segment.	Difference.
1851	12741,90820,7741264	
		989101,3746512
1852	12751,79922,1487776	989307,7352332
1853	12761,69229,8850107	989513,9892401
1854	12771,58743,8742568	989720,1337577
1855	12781,48464,0080145	989926,1698359
1856	12791,38390,1778504	
		990132,0975483
1857	12801,28522,2753987	990337,9169620
1858	12811,18860,1923612	990543,6281462
1859	12821,09403,8205074	990749,2311666
1860	12831,00153,0516740	990954,7260910
1861	128409,1107,7777650	
		991160,1129868
1862	128508,2267,8907518	991365,3919210
1863	128607,3633,2826728	991570,5629608
1864	128706,5203,8456336	991775,6261730
1865	128805,6979,4718066	991980,5816246
1866	12890,48960,0534312	
		992185,4293823
1867	12900,41145,4828136	992390,1695128
1868	12910,33535,6523264	992594,8020828
1869	12920,26130,4544092	992799,3271587
1870	12930,18929,7815679	993003,7448069
1871	12940,11933,5263748	
		993208,0550938
1872	12950,05141,5814686	993412,2580856
1873	12959,98553,8395542	993616,3538485
1874	12969,92170,1934027	993820,3424485
1875	12979,85990,5358512	994024,2239517
1876	12989,80014,7598029	
		994227,9984238
1877	12999,74242,7582267	994431,6659308
1878	13009,68674,4241575	994635,2265382
1879	13019,63309,6506957	994838,6803117
1880	13029,58148,3310074	995042,0273169
1881	13039,53190,3583243	
		995245,2676192
1882	13049,48435,6259436	995448,4012840
1883	13059,43884,0272276	995651,4283764
1884	13069,39535,4556040	995854,3489619
1885	13079,35389,8045659	996057,1631052
1886	13089,31446,9676711	
		996259,8708716
1887	13099,27706,8385428	996462,4723259
1888	13109,24169,3108687	996664,9675330
1889	13119,20834,2784017	996867,3565576
1890	13129,17701,6349593	997069,6394643
1891	13139,14771,2744237	
		997271,8163178
1892	13149,12043,0907415	997473,8871825
1893	13159,09516,9779240	997675,8521229
1894	13169,07192,8300469	997877,7112031
1895	13179,05070,5412500	998079,4644876
1896	13189,03150,0057376	
		998281,1120404
1897	13199,01431,1177780	998482,6539255
1898	13208,99913,7717035	998684,0902070
1899	13218,98597,8619105	998885,4209488
1900	13228,97483,2828593	999086,6462145

Vers. Sine.	Segment.	Difference.
1901	13238,96569,9290738	
		999287,7660681
1902	13248,95857,6951419	
		999488,7805730
1903	13258,95346,4757149	
		999689,6897929
1904	13268,95036,1655078	
		999890,4937912
1905	13278,94926,6592989	
		1000091,1926312
1906	13288,95017,8519302	
		1000291,7863764
1907	13298,95309,6383065	
		1000492,2750899
1908	13308,95801,9133964	
		1000692,6588347
1909	13318,96494,5722311	
		1000892,9376741
1910	13328,97387,5099052	
		1001093,1116709
1911	13338,98480,6215762	
		1001293,1808880
1912	13348,99773,8024642	
		1001493,1453882
1913	13359,01266,9478524	
		1001693,0052343
1914	13369,02959,9530867	
		1001892,7604888
1915	13379,04852,7135756	
		1002092,4112143
1916	13389,06945,1247899	
		1002291,9574733
1917	13399,09237,0822632	
		1002491,3993281
1918	13409,11728,4815913	
		1002690,7368411
1919	13419,14419,2184324	
		1002889,9700745
1920	13429,17309,1885069	
		1003089,0990903
1921	13439,20398,2875972	
		1003288,1239507
1922	13449,23686,4115479	
		1003487,0447176
1923	13459,27173,4562655	
		1003685,8614530
1924	13469,30859,3177185	
		1003884,5742186
1925	13479,34743,8919371	
		1004083,1830761
1926	13489,38827,0750132	
		1004281,6880873
1927	13499,43108,7631005	
		1004480,0893136
1928	13509,47588,8524140	
		1004678,3868166
1929	13519,52267,2392306	
		1004876,5806576
1930	13529,57143,8198882	
		1005074,6708980
1931	13539,62218,4907862	
		1005272,6575990
1932	13549,67491,1483852	
		1005470,5408219
1933	13559,72961,6892071	
		1005668,3206276
1934	13569,78630,0098348	
		1005865,9970772
1935	13579,84496,0069120	
		1006063,5702317
1936	13589,90559,5771437	
		1006261,0401517
1937	13599,96820,6172954	
		1006458,4068982
1938	13610,03279,0241936	
		1006655,6705317
1939	13620,09934,6947253	
		1006852,8311131
1940	13630,16787,5258384	
		1007047,8887025
1941	13640,23837,4145409	
		1007246,8433607
1942	13650,31084,2579016	
		1007443,6951480
1943	13660,38527,9530496	
		1007640,4441245
1944	13670,46168,3971741	
		1007837,0903507
1945	13680,54005,4875248	
		1008033,6338865
1946	13690,62039,1214113	
		1008230,0747920
1947	13700,70269,1962033	
		1008426,4131273
1948	13710,78695,6093306	
		1008622,6489522
1949	13720,87318,2582828	
		1008818,7823265
1950	13730,96137,0406093	
		1009014,8133100

Vers. Sine.	Segment.	Difference.
1951	13741,05151,8539193	
		1009210,7419623
1952	13751,14362,5958816	
		1009406,5683431
1953	13761,23769,1642247	
		1009602,2925118
1954	13771,33371,4567365	
		1009797,9145279
1955	13781,43169,3712645	
		1009993,4344507
1956	13791,53162,8057152	
		1010188,8523396
1957	13801,63351,6580548	
		1010384,1682537
1958	13811,73735,8263085	
		1010579,3822521
1959	13821,84315,2085606	
		1010774,4943938
1960	13831,95089,7029544	
		1010969,5047381
1961	13842,06059,2076925	
		1011164,4133435
1962	13852,17223,6210360	
		1011359,2202690
1963	13862,28582,8413050	
		1011553,9255734
1964	13872,40136,7668783	
		1011748,5293152
1965	13882,51885,2961936	
		1011943,0315532
1966	13892,63828,3277467	
		1012137,4323457
1967	13902,75965,7600925	
		1012331,7317513
1968	13912,88297,4918438	
		1012525,9298284
1969	13923,00823,4216722	
		1012720,0266351
1970	13933,13543,4483073	
		1012914,0222298
1971	13943,26457,4705371	
		1013107,9166705
1972	13953,39565,3872076	
		1013301,7100154
1973	13963,52867,0972230	
		1013495,4023225
1974	13973,66362,4995455	
		1013688,9936495
1975	13983,80051,4931950	
		1013882,4840545
1976	13993,93933,9772495	
		1014075,8735951
1977	14004,08009,8508446	
		1014269,1623291
1978	14014,22279,0131737	
		1014462,3503140
1979	14024,36741,3634878	
		1014655,4376076
1980	14034,51396,8010954	
		1014848,4242670
1981	14044,66245,2253624	
		1015041,3103499
1982	14054,81286,5357124	
		1015234,0959135
1983	14064,96520,6316259	
		1015426,7810151
1984	14075,11947,4126411	
		1015619,3657119
1985	14085,27566,7783530	
		1015811,8500609
1986	14095,43378,6284139	
		1016004,2341192
1987	14105,59382,8625331	
		1016196,5179438
1988	14115,75579,3804769	
		1016388,7015915
1989	14125,91968,0820684	
		1016580,7851192
1990	14136,08548,8671875	
		1016772,7685835
1991	14146,25321,6357711	
		1016964,6520413
1992	14156,42286,2878124	
		1017156,4355490
1993	14166,59442,7233614	
		1017348,1191632
1994	14176,76790,8425246	
		1017539,7029404
1995	14186,94330,5454650	
		1017731,1869369
1996	14197,12061,7324018	
		1017922,5712090
1997	14207,29984,3036109	
		1018113,8558130
1998	14217,48098,1594239	
		1018305,0408051
1999	14227,66403,2002290	
		1018496,1262413
2000	14237,84899,3264703	
		1018687,1121777

Vers. Sine.	Segment.	Difference.
2001	14248,03586,4386480	101887,79986702
2002	14258,22464,4373181	101906,87857747
2003	14268,41533,2230928	101925,94735470
2004	14278,60792,6966398	101945,00620428
2005	14288,80242,7586826	101964,05513179
2006	14298,99883,3100005	101983,09414278
2007	14309,19714,2514283	102002,12324281
2008	14319,39735,4838564	102021,14243741
2009	14329,59946,9082305	102040,15173214
2010	14339,80348,4255519	102059,15113251
2011	14350,00939,9368770	102078,14064406
2012	14360,21721,3433176	102097,12027231
2013	14370,42692,5460408	102116,09002276
2014	14380,63853,4462684	102135,04990092
2015	14390,85203,9452776	102153,99991229
2016	14401,06743,9444005	102172,94006235
2017	14411,28473,3450240	102191,87035659
2018	14421,50392,0485899	102210,79080048
2019	14431,72499,9565947	102229,70139950
2020	14441,94796,9705897	102248,60215910
2021	14452,17282,9921807	102267,49308475
2022	14462,39957,9230282	102286,37418189
2023	14472,62821,6648471	102305,24545595
2024	14482,85874,1194066	102324,10691239
2025	14493,09115,1885305	102342,95855662
2026	14503,32544,7740967	102361,80039407
2027	14513,56162,7780374	102380,63243015
2028	14523,79969,1023389	102399,45467026
2029	14534,03963,6490415	102418,26711981
2030	14544,28146,3202396	102437,06978421
2031	14554,52517,0180817	102455,86266881
2032	14564,77075,6447698	102474,64577902
2033	14575,01822,1025601	102493,41912021
2034	14585,26756,2937622	102512,18269773
2035	14595,51878,1207395	102530,93651697
2036	14605,77187,4859092	102549,68058325
2037	14616,02684,2917417	102568,41490194
2038	14626,28368,4407612	102587,13947837
2039	14636,54239,8355449	102605,85431788
2040	14646,80298,3787237	102624,55942580
2041	14657,06543,9729817	102643,25480743
2042	14667,32976,5210560	102661,94046811
2043	14677,59595,9257371	102680,61641313
2044	14687,86402,0898684	102699,28264780
2045	14698,13394,9163464	102717,93917740
2046	14708,40574,3081204	102736,58600723
2047	14718,67940,1681927	102755,22314257
2048	14728,95492,3996184	102773,85058869
2049	14739,23230,9055053	102792,46835085
2050	14749,51155,5890138	102811,07643433

Vers. Sine.	Segment.	Difference.
2051	14759,79266,3533571	102829,67484437
2052	14770,07563,1018008	102848,26358622
2053	14780,36045,7376630	102866,84266512
2054	14790,64714,1643142	102885,41208632
2055	14800,93568,2851774	102903,97185502
2056	14811,22608,0037276	102922,52197647
2057	14821,51833,2234923	102941,06245587
2058	14831,81243,8480510	102959,59329843
2059	14842,10839,7810353	102978,11450935
2060	14852,40620,9261288	102996,62609384
2061	14862,70587,1870672	103015,12805707
2062	14873,00738,4676380	103033,62040424
2063	14883,31074,6716804	103052,10314052
2064	14893,61595,7030856	103070,57627108
2065	14903,92301,4657964	103089,03980108
2066	14914,23191,8638072	103107,49373568
2067	14924,54266,8011640	103125,93808004
2068	14934,85526,1819644	103144,37283930
2069	14945,16969,9103574	103162,79801859
2070	14955,48597,8905433	103181,21362304
2071	14965,80410,0267737	103199,61965780
2072	14976,12406,2233517	103218,01612796
2073	14986,44586,3846313	103236,40303865
2074	14996,76950,4150178	103254,78039498
2075	15007,09498,2189676	103273,14820204
2076	15017,42229,7009880	103291,50646492
2077	15027,75144,7656372	103309,85518873
2078	15038,08243,3175245	103328,19437853
2079	15048,41525,2613098	103346,52403941
2080	15058,74990,5017039	103364,84417642
2081	15069,08638,9434681	103383,15479465
2082	15079,42470,4914146	103401,45589913
2083	15089,76485,0504059	103419,74749493
2084	15100,10682,5253552	103438,02958709
2085	15110,45062,8212262	103456,30218064
2086	15120,79625,8430326	103474,56528063
2087	15131,14371,4958389	103492,81889206
2088	15141,49299,6847595	103511,06301997
2089	15151,84410,3149592	103529,29766937
2090	15162,19703,2916530	103547,52284526
2091	15172,55178,5201056	103565,73855265
2092	15182,90835,9056321	103583,94479653
2093	15193,26675,3535974	103602,14158189
2094	15203,62696,7694163	103620,32891372
2095	15213,98900,0585535	103638,50679698
2096	15224,35285,1265233	103656,67523666
2097	15234,71851,8788899	103674,83423771
2098	15245,08600,2212670	103692,98380510
2099	15255,45530,0593180	103711,12394377
2100	15265,82641,2987557	103729,25465868

Vers. Sine.	Segment.	Difference.
2101	15276,19933,8453425	103747,37595477
2102	15286,57407,6048902	103765,48783696
2103	15296,95062,4832599	103783,59031020
2104	15307,32898,3863618	103801,68337939
2105	15317,70915,2201557	103819,76704946
2106	15328,09112,8906504	103837,84132532
2107	15338,47491,3039036	103855,90621188
2108	15348,86050,3660224	103873,96171402
2109	15359,24789,9831626	103892,00783665
2110	15369,63710,0615291	103910,04458465
2111	15380,02810,5073756	103928,07196290
2112	15390,42091,2270046	103946,08997628
2113	15400,81552,1267674	103964,09862966
2114	15411,21193,1130640	103982,09792789
2115	15421,61014,0923429	104000,08787585
2116	15432,01014,9711014	104018,06847836
2117	15442,41195,6558850	104036,03974030
2118	15452,81556,0532880	104054,00166649
2119	15463,22096,0699529	104071,95426176
2120	15473,62815,6125705	104089,89753095
2121	15484,03714,5878800	104107,83147888
2122	15494,44792,9026688	104125,75611035
2123	15504,86050,4637723	104143,67143020
2124	15515,27487,1780743	104161,57744322
2125	15525,69102,9525065	104179,47415419
2126	15536,10897,6940484	104197,36156793
2127	15546,52871,3097278	104215,23968922
2128	15556,95023,7066200	104233,10852284
2129	15567,37354,7918484	104250,96807357
2130	15577,79864,4725841	104268,81834616
2131	15588,22552,6560457	104286,65934540
2132	15598,65419,2494998	104304,49107604
2133	15609,08464,1602602	104322,31354283
2134	15619,51687,2956885	104340,12675051
2135	15629,95088,5631936	104357,93070383
2136	15640,38667,8702320	104375,72540754
2137	15650,82425,1243074	104393,51086634
2138	15661,26360,2329708	104411,28708498
2139	15671,70473,1038206	104429,05406816
2140	15682,14763,6445023	104446,81182061
2141	15692,59231,7627084	104464,56034702
2142	15703,03877,3661786	104482,29965210
2143	15713,48700,3626996	104500,02974056
2144	15723,93700,6601052	104517,75061706
2145	15734,38878,1662758	104535,46228631
2146	15744,84232,7891389	104553,16475298
2147	15755,29764,4366686	104570,85802174
2148	15765,75473,0168860	104588,54209727
2149	15776,21358,4378587	104606,21698422
2150	15786,67420,6077009	104623,88268725

Vers. Sine.	Segment.	Difference.
2151	15797,13659,4345734	104641,53921102
2152	15807,60074,8266836	104659,18656016
2153	15818,06666,6922852	104676,82473933
2154	15828,53434,9396785	104694,45375314
2155	15839,00379,4772099	104712,07360624
2156	15849,47500,2132723	104729,68430325
2157	15859,94797,0563048	104747,28584878
2158	15870,42269,9147927	104764,87824745
2159	15880,89918,6972672	104782,46150387
2160	15891,37743,3123059	104800,03562262
2161	15901,85743,6685321	104817,60060833
2162	15912,33919,6746154	104835,15646556
2163	15922,82271,2392711	104852,70319892
2164	15933,30798,2712602	104870,24081297
2165	15943,79500,6793899	104887,76931230
2166	15954,28378,3725129	104905,28870145
2167	15964,77431,2595274	104922,79898503
2168	15975,26659,2493777	104940,30016756
2169	15985,76062,2510533	104957,79225361
2170	15996,25640,1735894	104975,27524772
2171	16006,75392,9260666	104992,74915443
2172	16017,25320,4176109	105010,21397829
2173	16027,75422,5573938	105027,66972382
2174	16038,25699,2546320	105045,11639555
2175	16048,76150,4185875	105062,55399799
2176	16059,26775,9585674	105079,98253567
2177	16069,77575,7839240	105097,40201309
2178	16080,28549,8040549	105114,81243476
2179	16090,79697,9284025	105132,21380517
2180	16101,31020,0664542	105149,60612882
2181	16111,82516,1277424	105166,98941021
2182	16122,34186,0218445	105184,36365380
2183	16132,86029,6583825	105201,72886409
2184	16143,38046,9470234	105219,08504553
2185	16153,90237,7974787	105236,43220261
2186	16164,42602,1195048	105253,77033978
2187	16174,95139,8229026	105271,09946149
2188	16185,47850,8175175	105288,41957220
2189	16196,00735,0132395	105305,73067636
2190	16206,53792,3200031	105323,03277841
2191	16217,07022,6477872	105340,32588278
2192	16227,60425,9066150	105357,60999390
2193	16238,14002,0065540	105374,88511620
2194	16248,67750,8577160	105392,15125410
2195	16259,21672,3702570	105409,40841201
2196	16269,75766,4543772	105426,65659435
2197	16280,30033,0203206	105443,89580551
2198	16290,84471,9783757	105461,12604990
2199	16301,39083,2388748	105478,34733191
2200	16311,93866,7121939	105495,55965594

Vers. Sines.	Segment.	Difference.
2201	16322,48822,8087533	105512,76302635
2202	16393,03949,9390168	105529,25744755
2203	16343,59249,5134923	105547,14292388
2204	16354,14720,9427311	105564,31945973
2205	16364,70364,1373284	105581,48705947
2206	16375,26179,0079231	105598,64572744
2207	16385,82165,4651975	105615,79546800
2208	16396,38323,4198775	105632,93628550
2209	16406,94652,7827325	105650,06818428
2210	16417,51153,4645753	105667,19116868
2211	16428,07825,3762622	105684,30524304
2212	16438,64668,4286925	105701,41041167
2213	16449,21682,5328093	105718,50667891
2214	16459,78867,5995984	105735,59404907
2215	16470,36223,5400891	105752,67252646
2216	16480,93750,2653537	105763,74211540
2217	16491,51447,6865077	105786,80282018
2218	16502,09315,7147095	105803,85464510
2219	16512,67354,2611605	105820,89759446
2220	16523,25563,2371051	105837,93167254
2221	16533,83942,5538305	105854,95688362
2222	16544,42492,1226667	105871,97323199
2223	16555,01211,8549866	105888,98072192
2224	16565,60101,6622058	105905,97935766
2225	16576,19161,4557824	105922,96914349
2226	16586,78391,1472173	105939,95008366
2227	16597,37790,6480539	105956,92218244
2228	16607,97359,8698783	105973,88544406
2229	16618,57098,7243189	105990,83987276
2230	16629,17007,1230465	106007,78547279
2231	16639,77084,9777744	106024,72224838
2232	16650,37332,2002582	106041,65020376
2233	16660,97748,7022958	106058,56934314
2234	16671,58334,3957272	106075,47967076
2235	16682,19089,1924349	106092,38119082
2236	16692,80013,0043431	106109,27390753
2237	16703,41105,7434184	106126,15782510
2238	16714,02367,3216694	106143,03294771
2239	16724,63797,6511465	106159,89927959
2240	16735,25396,6439424	106176,75682489
2241	16745,87164,2121913	106193,60558782
2242	16756,49100,2680695	106210,44557255
2243	16767,11204,7237950	106227,27678326
2244	16777,73477,4916276	106244,09922411
2245	16788,35918,4838687	106260,91289927
2246	16798,98527,6128614	106277,71781290
2247	16809,61304,7909904	106294,51396917
2248	16820,24243,9306821	106311,30137221
2249	16830,87362,9444042	106328,08002618
2250	16841,50643,7446660	106344,84993521

Vers. Sines.	Segment.	Difference.
2251	16852,14092,2440181	106361,61110344
2252	16862,77708,3550524	106378,36353500
2253	16873,41491,9904025	106395,10723403
2254	16884,05443,0627428	106411,84220463
2255	16894,69561,4847891	106428,56845094
2256	16905,33847,1692986	106445,28597706
2257	16915,98300,0290692	106461,99478710
2258	16926,62919,9769402	106478,69488517
2259	16937,27706,9257919	106495,38627535
2260	16947,92660,7885454	106512,06896175
2261	16958,57781,4781629	106528,74294846
2262	16969,23068,9076475	106545,40823956
2263	16979,88522,9900431	106562,06483912
2264	16990,54143,6384343	106578,71275123
2265	17001,19930,7659466	106595,35197996
2266	17011,85884,2857462	106611,98252936
2267	17022,52004,1110397	106628,60440350
2268	17033,18290,1550748	106645,21760645
2269	17043,84742,3311392	106661,82214224
2270	17054,51360,5525616	106678,41801493
2271	17065,18144,7327109	106695,00522856
2272	17075,85094,7849965	106711,58378716
2273	17086,52210,6228681	106728,15369478
2274	17097,19492,1598159	106744,71495543
2275	17107,86939,3093702	106761,26757315
2276	17118,54551,9851017	106777,81155195
2277	17129,22330,1006212	106794,34689585
2278	17139,90273,5695797	106810,87360886
2279	17150,58382,3056683	106827,39169497
2280	17161,26656,2226180	106843,90115821
2281	17171,95095,2342001	106860,40200255
2282	17182,63699,2542256	106876,89423200
2283	17193,32468,1965456	106893,37785054
2284	17204,01401,9750510	106909,85286215
2285	17214,70500,5036725	106926,31927081
2286	17225,39763,6963806	106942,77708051
2287	17236,09191,4671857	106959,22629519
2288	17246,78783,7301376	106975,66691883
2289	17257,48540,3993259	106992,09895540
2290	17268,18461,3888799	107008,52240885
2291	17278,88546,6129684	107024,93728311
2292	17289,58795,9857995	107041,34358216
2293	17300,29209,4216212	107057,74130992
2294	17310,99786,8347204	107074,13047034
2295	17321,70528,1394238	107090,51106734
2296	17332,41433,2500972	107106,88310487
2297	17343,12502,0811459	107123,24658683
2298	17353,83734,5470142	107139,60151716
2299	17364,55130,5621858	107155,94789976
2300	17375,26690,0411834	107172,28573855

Vers. Sine.	Segment.	Difference.
2301	17385,98412,8985690	107188,61503744
2302	17396,70299,0489434	107204,93580033
2303	17407,42348,4069467	107221,24803111
2304	17418,14560,8872578	107237,55173368
2305	17428,86936,4045946	107253,84691194
2306	17439,59474,8737140	107270,13356974
2307	17450,32176,2094114	107286,41171101
2308	17461,05040,3265215	107302,68133958
2309	17471,78067,1399173	107318,94245935
2310	17482,51256,5645108	107335,19507418
2311	17493,24608,5152526	107351,43918792
2312	17503,98122,9071318	107367,67480445
2313	17514,71799,6551763	107383,90192761
2314	17525,45638,6744524	107400,12056126
2315	17536,19639,8800650	107416,33070923
2316	17546,93803,1871573	107432,53237537
2317	17557,68128,5109110	107448,72556353
2318	17568,42615,7665463	107464,91027752
2319	17579,17264,8693215	107481,08652117
2320	17589,92075,7345332	107497,25429833
2321	17600,67048,2775165	107513,41361278
2322	17611,42182,4136443	107529,56446838
2323	17622,17478,0583281	107545,70686890
2324	17632,92935,1270171	107561,84081817
2325	17643,68553,5351988	107577,96631998
2326	17654,44333,1983986	107594,08337814
2327	17665,20274,0321800	107610,19199644
2328	17675,96375,9521445	107626,29217867
2329	17686,72638,8739312	107642,38392861
2330	17697,49062,7132173	107658,46725005
2331	17708,25647,3857178	107674,54214675
2332	17719,02392,8071853	107690,60862250
2333	17729,79298,8934103	107706,66668107
2334	17740,56365,5602210	107722,71632621
2335	17751,33592,7234830	107738,75756168
2336	17762,10980,2990999	107754,79039125
2337	17772,88528,2030124	107770,81481867
2338	17783,66236,3511991	107786,83084767
2339	17794,44104,6596758	107802,83848201
2340	17805,22133,0444960	107818,83772543
2341	17816,00321,4217502	107834,82858165
2342	17826,78669,7075667	107850,81105441
2343	17837,57177,8181109	107866,78514744
2344	17848,35845,6695853	107882,75086446
2345	17859,14673,1782299	107898,70820918
2346	17869,93660,2603217	107914,65718532
2347	17880,72806,8321749	107930,59779659
2348	17891,52112,8101408	107946,53004671
2349	17902,31578,1106079	107962,45393935
2350	17913,11202,6500014	107978,36947823

Vers. Sine.	Segment.	Difference.
2351	17923,90986,3447837	107994,27666705
2352	17934,70929,1114542	108010,27550947
2353	17945,51030,8665489	108026,06600920
2354	17956,31291,5266409	108041,94816992
2355	17967,11711,0083401	108057,82199530
2356	17977,92289,2282931	108073,68748900
2357	17988,73026,1031831	108089,54465472
2358	17999,53921,5497303	108105,39349610
2359	18010,34975,4846913	108121,23401680
2360	18021,16187,8248593	108137,06622050
2361	18031,97558,4870643	108152,89011083
2362	18042,79087,3881726	108168,70569144
2363	18053,60774,4450870	108184,51296599
2364	18064,42619,5747469	108200,31193810
2365	18075,24622,6941280	108216,10261143
2366	18086,06783,7202423	108231,88498959
2367	18096,89102,5701381	108247,65907022
2368	18107,71579,1609003	108263,42487494
2369	18118,54213,4096497	108279,18238937
2370	18129,37005,2335433	108294,93162313
2371	18140,19954,5497746	108310,67257983
2372	18151,03061,2755729	108326,40526307
2373	18161,86325,3282036	108342,12967648
2374	18172,69746,6249684	108357,84582363
2375	18183,53325,0832047	108373,55370813
2376	18194,37060,6202860	108389,25333358
2377	18205,20953,1536218	108404,94470355
2378	18216,05002,6006573	108420,62782164
2379	18226,89208,8788730	108436,30269142
2380	18237,73571,9057880	108451,96931648
2381	18248,58091,5989528	108467,62770037
2382	18259,42767,8759565	108483,27784669
2383	18270,27600,6544234	108498,91975897
2384	18281,12589,8520131	108514,55344079
2385	18291,97735,3864210	108530,17889571
2386	18302,83037,1753781	108545,79612728
2387	18313,68495,1365509	108561,40513904
2388	18324,54109,1880413	108577,00593454
2389	18335,39879,2473867	108592,59851732
2390	18346,25805,2325599	108608,18289093
2391	18357,11887,0614692	108623,75905889
2392	18367,98124,6520581	108639,32702472
2393	18378,84517,9223053	108654,88679197
2394	18389,71066,7902250	108670,43836414
2395	18400,57771,1738664	108685,98174477
2396	18411,44630,9913141	108701,51693735
2397	18422,31646,1606876	108717,04394541
2398	18433,18816,6001417	108732,56277244
2399	18444,06142,2278661	108748,07342195
2400	18454,93622,9620856	108763,57589744

Vers. Sine.	Segment.	Difference.
2401	18465,81258,7210600	1087790,7020240
2402	18476,69049,4230841	1087945,5634034
2403	18487,56994,9864875	1088100,3431472
2404	18498,45095,3296347	1088255,0412903
2405	18509,33350,3709251	1088409,6578676
2406	18520,21760,0287927	1088564,1929135
2407	18531,10324,2217065	1088718,6464636
2408	18541,99042,8681701	1088873,0185517
2409	18552,87915,8867218	1089027,3092127
2410	18563,76943,1959345	1089181,5184813
2411	18574,66124,7144158	1089335,6463920
2412	18585,55460,3608078	1089489,6929793
2413	18596,44950,0537871	1089643,6582777
2414	18607,34593,7120648	1089797,5423217
2415	18618,24391,2543865	1089951,3451457
2416	18629,14342,5995322	1090105,0667841
2417	18640,04447,6663163	1090258,7072712
2418	18650,94706,3735875	1090412,2666413
2419	18661,85118,6402288	1090565,7449287
2420	18672,75684,3851575	1090719,1421676
2421	18683,66403,5273251	1090872,4583922
2422	18694,57275,9857173	1091025,6936366
2423	18705,48301,6793539	1091178,8479351
2424	18716,39480,5272890	1091331,9213215
2425	18727,30812,4486005	1091484,9138301
2426	18738,22297,3624406	1091637,8254948
2427	18749,13935,1879354	1091790,6563495
2428	18760,05725,8442849	1091943,4064282
2429	18770,97669,2507131	1092096,0757648
2430	18781,89765,3264779	1092248,6643932
2431	18792,82013,9908711	1092401,1723471
2432	18803,74415,1632182	1092553,5996604
2433	18814,66968,7628786	1092705,9463667
2434	18825,59674,7092453	1092858,2124999
2435	18836,52532,9217453	1093010,3980936
2436	18847,45543,3198389	1093162,5031814
2437	18858,38705,8230203	1093314,5277969
2438	18869,32020,3508171	1093466,4719737
2439	18880,25486,8227908	1093618,3357453
2440	18891,19105,1585361	1093770,1191452
2441	18902,12875,2776813	1093921,8222068
2442	18913,06797,0998881	1094073,4449637
2443	18924,00870,5448518	1094224,9874491
2444	18934,95095,5323009	1094376,4496964
2445	18945,89471,9819973	1094527,8317389
2446	18956,83999,8137362	1094679,1336099
2447	18967,78678,9473461	1094830,3553427
2448	18978,73509,3026888	1094981,4969703
2449	18989,68490,7996591	1095132,5585261
2450	19000,63623,3581852	1095283,5400431

Vers. Sine.	Segment.	Difference.
2451	19011,58906,8982283	1095434,4415544
2452	19022,54341,3397827	1095585,2630931
2453	19033,49926,6028759	1095736,0046922
2454	19044,45662,6075681	1095886,6663847
2455	19055,41549,2739528	1096037,2482036
2456	19066,37586,5221565	1096187,7501817
2457	19077,33774,2723382	1096338,1723519
2458	19088,30112,4440901	1096488,5147472
2459	19099,26600,9594373	1096638,7774002
2460	19110,23239,7368370	1096788,9603438
2461	19121,20028,6971814	1096939,0636108
2462	19132,16967,7007922	1097089,0872337
2463	19143,14056,8480259	1097239,0312453
2464	19154,11295,8792712	1097388,8956783
2465	19165,08684,7749495	1097538,6805651
2466	19176,06223,4555146	1097688,3859385
2467	19187,03911,8414531	1097838,1118308
2468	19198,01749,8532839	1097987,7582747
2469	19208,99737,4115586	1098137,3253025
2470	19219,97874,4368611	1098286,4129466
2471	19230,96160,8498077	1098435,7212396
2472	19241,94596,5710473	1098584,9502137
2473	19252,93181,5212011	1098734,0999012
2474	19263,91915,6211623	1098883,1703345
2475	19274,90798,7914968	1099032,1615457
2476	19285,89830,9530425	1099181,0735672
2477	19296,89012,0206097	1099329,9064310
2478	19307,88341,9330407	1099478,6601693
2479	19318,87820,5932100	1099627,3348143
2480	19329,87447,9280243	1099775,9303979
2481	19340,87223,8584222	1099924,4469524
2482	19351,87148,3053746	1100072,8845095
2483	19362,87221,1898841	1100221,2431014
2484	19373,87442,4329856	1100369,5227600
2485	19384,87811,9557456	1100517,7235172
2486	19395,88329,6792628	1100665,8454048
2487	19406,88995,5246676	1100813,8884547
2488	19417,89809,4131223	1100961,8526987
2489	19428,90771,2658210	1101109,7381686
2490	19439,91881,0039896	1101257,5448960
2491	19450,93138,5488856	1101405,2729127
2492	19461,94543,8217983	1101552,9222504
2493	19472,96096,7440487	1101700,4929408
2494	19483,97797,2369895	1101847,9850153
2495	19494,99645,2220048	1101995,3985055
2496	19506,01640,6205103	1102142,7334431
2497	19517,03783,3539534	1102289,9898594
2498	19528,06073,3438128	1102437,1677860
2499	19539,08510,5115988	1102584,2672544
2500	19550,11094,7788532	1102731,2882957

Vers. Sine.	Segment.	Difference.
2501	19561,13826,0671489	
		1102878,2309416
2502	19572,16704,2980905	
		1103025,0952232
2503	19583,19729,3933138	
		1103171,8811719
2504	19594,22901,2744857	
		1103318,5888190
2505	19605,26219,8633047	
		1103465,2181956
2506	19616,29685,0815003	
		1103611,7693330
2507	19627,33296,8508333	
		1103758,2422624
2508	19638,37055,0930957	
		1103904,6370148
2509	19649,40959,7301105	
		1104050,9536214
2510	19660,45010,6837320	
		1104197,1921132
2511	19671,49207,8758452	
		1104343,3525213
2512	19682,53551,2283665	
		1104489,4348767
2513	19693,58040,6632432	
		1104635,4392102
2514	19704,62676,1024534	
		1104781,3655531
2515	19715,67457,4680065	
		1104927,2139358
2516	19726,72384,6819423	
		1105072,9843896
2517	19737,77457,6663319	
		1105218,6769451
2518	19748,82676,3432770	
		1105364,2916332
2519	19759,88040,6349102	
		1105509,8284846
2520	19770,93550,4633949	
		1105655,2875301
2521	19781,99205,7509250	
		1105800,6688004
2522	19793,05006,4197255	
		1105945,9723262
2523	19804,10952,3920517	
		1106091,1981380
2524	19815,17043,5901897	
		1106236,3462666
2525	19826,23279,9364563	
		1106381,4167424
2526	19837,29661,3531986	
		1106526,4095960
2527	19848,36187,7627946	
		1106671,3248579
2528	19859,42859,0876525	
		1106816,1625587
2529	19870,49675,2502112	
		1106960,9227287
2530	19881,56636,1729399	
		1107105,6053983
2531	19892,63741,7783382	
		1107250,2105980
2532	19903,70991,9889362	
		1107394,7383581
2533	19914,78386,7272943	
		1107539,1887089
2534	19925,85925,9160031	
		1107683,5616806
2535	19936,93609,4776838	
		1107827,8573036
2536	19948,01437,3349874	
		1107972,0756081
2537	19959,09409,4105955	
		1108116,2166242
2538	19970,17525,6272197	
		1108260,2803822
2539	19981,25785,9076019	
		1108404,2669120
2540	19992,34190,1745139	
		1108548,1762439
2541	20003,42738,3507578	
		1108692,0084079
2542	20014,51430,3591657	
		1108835,7634339
2543	20025,60266,1225996	
		1108979,4413521
2544	20036,69245,5639517	
		1109123,0421924
2545	20047,78368,6061441	
		1109266,5659847
2546	20058,87635,1721288	
		1109410,0127589
2547	20069,97045,1848877	
		1109553,3825448
2548	20081,06598,5674325	
		1109696,6753725
2549	20092,16295,2428050	
		1109839,8912715
2550	20103,26135,1340765	
		1109983,0302718

Vers. Sine.	Segment.	Difference.
2551	20114,36118,1643483	
		1110126,0924029
2552	20125,46244,2567512	
		1110269,0776949
2553	20136,56513,3344461	
		1110411,9861772
2554	20147,66925,3206232	
		1110554,8178794
2555	20158,77480,1385026	
		1110697,5728312
2556	20169,88177,7113338	
		1110840,2510623
2557	20180,99017,9623962	
		1110982,8526022
2558	20192,10000,8149984	
		1111125,3774804
2559	20203,21126,1924788	
		1111267,8257264
2560	20214,32394,0182052	
		1111410,1973696
2561	20225,43804,2155748	
		1111552,4924396
2562	20236,55356,7080144	
		1111694,7109657
2563	20247,67051,4189801	
		1111836,8529772
2564	20258,78888,2719573	
		1111978,9185035
2565	20269,90867,1904608	
		1112120,9075741
2566	20281,02988,0980349	
		1112262,8202179
2567	20292,15250,9182528	
		1112404,6564645
2568	20303,27655,5747173	
		1112546,4163430
2569	20314,40201,9910603	
		1112688,0998825
2570	20325,52890,0909428	
		1112829,7071122
2571	20336,65719,7980550	
		1112971,2380613
2572	20347,78691,0361163	
		1113112,6927589
2573	20358,91803,7283752	
		1113254,0712340
2574	20370,05057,8001092	
		1113395,3735156
2575	20381,18453,1736248	
		1113536,5996328
2576	20392,31989,7732576	
		1113677,7496145
2577	20403,45667,5228721	
		1113818,8234897
2578	20414,59486,3463618	
		1113959,8212873
2579	20425,73446,1676492	
		1114100,7430362
2580	20436,87546,9106854	
		1114241,5887652
2581	20448,01788,4994506	
		1114382,3585032
2582	20459,16170,8579539	
		1114523,0522789
2583	20470,30693,9102328	
		1114663,6701212
2584	20481,45357,5803540	
		1114804,2120588
2585	20492,60161,7924128	
		1114944,6781201
2586	20503,75106,4705329	
		1115085,0683343
2587	20514,90191,5388672	
		1115225,3827296
2588	20526,05416,9215968	
		1115365,6213349
2589	20537,20782,5429317	
		1115505,7841786
2590	20548,36288,3271104	
		1115645,8712894
2591	20559,51934,1983997	
		1115785,8826957
2592	20570,67720,0810954	
		1115925,8184260
2593	20581,83645,8995214	
		1116065,6785089
2594	20592,99711,5780303	
		1116205,4629727
2595	20604,15917,0410030	
		1116345,1718459
2596	20615,32262,2128489	
		1116484,8051568
2597	20626,48747,0180057	
		1116624,3629338
2598	20637,65371,3809395	
		1116763,8452051
2599	20648,82135,2261446	
		1116903,2519992
2600	20659,99038,4781438	
		1117042,5833442

Vers. Sine.	Segment.	Difference.
2601	20671,16081,0614880	1117181,8392684
2602	20682,33262,9007564	1117321,0197999
2603	20693,50583,9205563	1117460,1249670
2604	20704,68044,0455233	1117599,1547978
2605	20715,85643,2003211	1117738,1093203
2606	20727,03381,3096414	1117876,9885628
2607	20738,21258,2982042	1118015,7925532
2608	20749,39274,0907574	1118154,5213195
2609	20760,57428,6120769	1118293,1748898
2610	20771,75721,7869668	1118431,7532920
2611	20782,94153,5402588	1118570,2565541
2612	20794,12723,7968129	1118708,6847039
2613	20805,31432,4815168	1118847,0377694
2614	20816,50279,5192862	1118985,3157784
2615	20827,69264,8350646	1119123,5187587
2616	20838,88388,3538233	1119261,6467381
2617	20850,07650,0005614	1119399,6997443
2618	20861,27049,7003057	1119537,6778052
2619	20872,46587,3781109	1119675,5809484
2620	20883,66262,9590594	1119813,4092016
2621	20894,86076,3682610	1119951,1625925
2622	20906,06027,5308535	1120088,8411486
2623	20917,26116,3720021	1120226,4448976
2624	20928,46342,8168997	1120363,9738669
2625	20939,66706,7907666	1120501,4280842
2626	20950,87208,2188509	1120638,8075771
2627	20962,07847,0264280	1120776,1123728
2628	20973,28623,1388008	1120913,3424989
2629	20984,49536,4812997	1121050,4979829
2630	20995,70586,9792826	1121187,5788520
2631	21006,91774,5581346	1121324,5851337
2632	21018,13099,1432684	1121461,5168553
2633	21029,34560,6601237	1121598,3740442
2634	21040,56159,0341679	1121735,1567275
2635	21051,77894,1908954	1121871,8649326
2636	21062,99766,0558280	1122008,4986866
2637	21074,21774,5545147	1122145,0580168
2638	21085,43919,6125315	1122281,5429504
2639	21096,66201,1554819	1122417,9535144
2640	21107,88619,1089963	1122554,2897360
2641	21119,11173,3987323	1122690,5516423
2642	21130,33863,9503745	1122826,7392603
2643	21141,56690,6896348	1122962,8526170
2644	21152,79653,5422518	1123098,8917395
2645	21164,02752,4339913	1123234,8566547
2646	21175,25987,2906460	1123370,7473896
2647	21186,49358,0380356	1123506,5639711
2648	21197,72864,6020067	1123642,3064260
2649	21208,96506,9084327	1123777,9747813
2650	21220,20284,8832140	1123913,5690637

Vers. Sine.	Segment.	Difference.
2651	21231,44198,4522777	1124049,0893002
2652	21242,68247,5415779	1124184,5355174
2653	21253,92432,0770953	1124319,9077421
2654	21265,16751,9848374	1124455,2060010
2655	21276,41207,1908384	1124590,4303208
2656	21287,65797,6211592	1124725,5807283
2657	21298,90523,2018875	1124860,6572500
2658	21310,15383,8591375	1124995,6599125
2659	21321,40379,5190500	1125130,5887425
2660	21332,65510,1077925	1125265,4437664
2661	21343,90775,5515589	1125400,2250110
2662	21355,16175,7765699	1125534,9325025
2663	21366,41710,7090724	1125669,5662675
2664	21377,67380,2753399	1125804,1263325
2665	21388,93184,4016724	1125938,6127239
2666	21400,19123,0143963	1126073,0254681
2667	21411,45196,0398644	1126207,3645914
2668	21422,71403,4044559	1126341,6301202
2669	21433,97745,0345761	1126475,8220809
2670	21445,24220,8566570	1126609,9404996
2671	21456,50830,7971566	1126743,9854027
2672	21467,77574,7825593	1126877,9568164
2673	21479,04452,7393757	1127011,8547669
2674	21490,31464,5941426	1127145,6792803
2675	21501,58610,2734229	1127279,4303829
2676	21512,85889,7038058	1127413,1081008
2677	21524,13302,8119066	1127546,7124601
2678	21535,40849,5243667	1127680,2434867
2679	21546,68529,7678534	1127813,7012069
2680	21557,96343,4690603	1127947,0856465
2681	21569,24290,5547068	1128080,3968317
2682	21580,52370,9515385	1128213,6347883
2683	21591,80584,5863268	1128346,7995424
2684	21603,08931,3858692	1128479,8911198
2685	21614,37411,2769890	1128612,9095463
2686	21625,66024,1865353	1128745,8548480
2687	21636,94770,0413833	1128878,7270505
2688	21648,23648,7684338	1129011,5261798
2689	21659,52660,2946137	1129144,2522616
2690	21670,81804,5468753	1129276,9053216
2691	21682,11081,4521969	1129409,4853857
2692	21693,40490,9375826	1129541,9924794
2693	21704,70032,9300620	1129674,4266285
2694	21715,99707,3566905	1129806,7878586
2695	21727,29514,1445490	1129939,0761953
2696	21738,59453,2207443	1130071,2916643
2697	21749,89524,5124087	1130203,4342911
2698	21761,19727,9466998	1130335,5041013
2699	21772,50063,4508011	1130467,5011203
2700	21783,80530,9519214	1130599,4253738

Vers. Sine.	Segment.	Difference.
2701	21795,11130,3772952	1130731,2768870
2702	21806,41861,6541822	1130863,0556856
2703	21817,72724,7098679	1130994,7617949
2704	21829,03719,4716628	1131126,3952403
2705	21840,34845,8669031	1131257,9560471
2706	21851,66103,8229502	1131389,4442408
2707	21862,97493,2671910	1131520,8598466
2708	21874,29014,1270376	1131652,2028898
2709	21885,60666,3299274	1131783,4733956
2710	21896,92449,8033230	1131914,6713894
2711	21908,24364,4747124	1132045,7968962
2712	21919,56410,2716086	1132176,8499414
2713	21930,88587,1215501	1132307,8305501
2714	21942,20894,9521002	1132438,7387473
2715	21953,53333,6908475	1132569,5745583
2716	21964,85903,2654058	1132700,3380081
2717	21976,18603,6034139	1132831,0291216
2718	21987,51434,6325355	1132961,6479241
2719	21998,84396,2804596	1133092,1944405
2720	22010,17488,4749001	1133222,6686957
2721	22021,50711,1435959	1133353,0707148
2722	22032,84064,2143107	1133483,4005226
2723	22044,17547,6148333	1133613,6581441
2724	22055,51161,2729775	1133743,8436042
2725	22066,84905,1165817	1133873,9569276
2726	22078,18779,0735093	1134003,9981393
2727	22089,52783,0716486	1134133,9672640
2728	22100,86917,0389126	1134263,8643266
2729	22112,21180,9032392	1134393,6893516
2730	22123,55574,5925908	1134523,4423641
2731	22134,90098,0349549	1134653,1233885
2732	22146,24751,1583434	1134782,7324496
2733	22157,59533,8907930	1134912,2695720
2734	22168,94446,1603650	1135041,7347805
2735	22180,29487,8951455	1135171,1280995
2736	22191,64659,0232450	1135300,4495536
2737	22202,99959,4727986	1135429,6991675
2738	22214,35389,1719661	1135558,8769656
2739	22225,70948,0489317	1135687,9829725
2740	22237,06636,0319042	1135817,0172126
2741	22248,42453,0491168	1135945,9797104
2742	22259,78399,0288272	1136074,8704903
2743	22271,14473,8993174	1136203,6895767
2744	22282,50677,5888942	1136332,4369940
2745	22293,87010,0258882	1136461,1127667
2746	22305,23471,1386549	1136589,7169189
2747	22316,60060,8555738	1136718,2494750
2748	22327,96779,1050488	1136846,7104593
2749	22339,33625,8155081	1136975,0998961
2750	22350,70600,9154042	1137103,4178095

Vers. Sine.	Segment.	Difference.
2751	22362,07704,3332137	1137231,6642239
2752	22373,44935,9974376	1137359,8391633
2753	22384,82295,8366009	1137487,9426520
2754	22396,19783,7792529	1137615,9747141
2755	22407,57399,7539670	1137743,9353736
2756	22418,95143,6893406	1137871,8246548
2757	22430,33015,5139954	1137999,6425816
2758	22441,71015,1565770	1138127,3891781
2759	22453,09142,5457551	1138255,0644683
2760	22464,47397,6102234	1138382,6684761
2761	22475,85780,2786995	1138510,2012257
2762	22487,24290,4799253	1138637,6627409
2763	22498,62928,1426662	1138765,0530457
2764	22510,01693,1957118	1138892,3721637
2765	22521,40585,5678755	1139019,6201192
2766	22532,79605,1879947	1139146,7969358
2767	22544,18751,9849305	1139273,9026373
2768	22555,58025,8875678	1139400,9372476
2769	22566,97426,8248154	1139527,9007905
2770	22578,36954,7256059	1139654,7932896
2771	22589,76609,5188956	1139781,6147688
2772	22601,16391,1336644	1139908,3652517
2773	22612,56299,4989161	1140035,0447621
2774	22623,96334,5436782	1140161,6533235
2775	22635,36496,1970017	1140288,1909595
2776	22646,76784,3879612	1140414,6576939
2777	22658,17199,0456551	1140541,0535502
2778	22669,57740,0992053	1140667,3785520
2779	22680,98407,4777573	1140793,6327227
2780	22692,39201,1104800	1140919,8160859
2781	22703,80120,9265659	1141045,9286652
2782	22715,21166,8552311	1141171,9704839
2783	22726,62338,8257150	1141297,9415655
2784	22738,03636,7672805	1141423,8419335
2785	22749,45060,6092140	1141549,6716111
2786	22760,86610,2808251	1141675,4306219
2787	22772,28285,7114470	1141801,1189891
2788	22783,70086,8304361	1141926,7367361
2789	22795,12013,5671722	1142052,2838862
2790	22806,54065,8510584	1142177,7604626
2791	22817,96243,6115210	1142303,1664887
2792	22829,38546,7780097	1142428,5019876
2793	22840,80975,2799973	1142553,7669826
2794	22852,23529,0469799	1142678,9614968
2795	22863,66208,0084767	1142804,0855534
2796	22875,09012,0940300	1142929,1391756
2797	22886,51941,2332056	1143054,1223864
2798	22897,94995,3555920	1143179,0352090
2799	22909,38174,3908010	1143303,8776664
2800	22920,81478,2684674	1143428,6497817

Vers. Sine.	Segment.	Difference.
2801	22932,24906,9182491	1143553,3515780
2802	22943,68460,2698271	1143677,9830781
2803	22955,12138,2529052	1143802,5443051
2804	22966,55940,7972102	1143927,0352819
2805	22977,99867,8324922	1144051,4560315
2806	22989,43919,2885237	1144175,8065769
2807	23000,88095,0951006	1144300,0869407
2808	23012,32395,1820413	1144424,2971461
2809	23023,76819,4791874	1144548,4372157
2810	23035,21367,9164031	1144672,5071723
2811	23046,66040,4235754	1144796,5070390
2812	23058,10836,9306144	1144920,4368382
2813	23069,55757,3674526	1145044,2965929
2814	23081,00801,6640455	1145168,0863257
2815	23092,45969,7503711	1145291,8060594
2816	23103,91261,5564305	1145415,4558166
2817	23115,36677,0122471	1145539,0356199
2818	23126,82216,0478670	1145662,5454922
2819	23138,27878,5933592	1145785,9854958
2820	23149,73664,5788150	1145909,3555335
2821	23161,19573,9343485	1146032,6557478
2822	23172,65606,5900963	1146155,8861213
2823	23184,11762,4762175	1146279,0466764
2824	23195,58041,5228939	1146402,1374357
2825	23207,04443,6603296	1146525,1584217
2826	23218,50968,8187513	1146648,1096568
2827	23229,97516,9284081	1146770,9911634
2828	23241,44387,9195715	1146893,8029640
2829	23252,91281,7225355	1147016,5450809
2830	23264,38298,2676164	1147139,2175366
2831	23275,85437,4851530	1147261,8203534
2832	23287,32699,3055064	1147384,3535535
2833	23298,80083,6590599	1147506,8171593
2834	23310,27590,4762193	1147629,2111931
2835	23321,75219,6874124	1147751,5356772
2836	23333,22971,2230896	1147873,7906337
2837	23344,70845,0137233	1147995,9760849
2838	23356,18840,9898082	1148118,0920529
2839	23367,66959,0818611	1148240,1385600
2840	23379,15199,2204211	1148362,1156283
2841	23390,63561,3360494	1148484,0232798
2842	23402,12045,3593292	1148605,8615368
2843	23413,60651,2208661	1148727,6304213
2844	23425,09378,8512874	1148849,3299553
2845	23436,58228,1812427	1148970,9601610
2846	23448,07199,1414037	1149092,5210602
2847	23459,56291,6624639	1149214,0126750
2848	23471,05505,6751389	1149335,4350274
2849	23482,54841,1101663	1149456,7881393
2850	23494,04297,8983056	1149578,0720326

Vers. Sine.	Segment.	Difference.
2851	23505,53875,9703383	1149699,2867293
2852	23517,03575,2570676	1149820,4322513
2853	23528,53395,6893189	1149941,5086203
2854	23540,03337,1979392	1150062,5158583
2855	23551,53399,7137975	1150183,4539870
2856	23563,03583,1677845	1150304,3230282
2857	23574,53887,4908127	1150425,1230039
2858	23586,04312,6138166	1150545,8539356
2859	23597,54858,4677522	1150666,5158451
2860	23609,05524,9835973	1150787,1087542
2861	23620,56312,0923515	1150907,6326844
2862	23632,07219,7250359	1151028,0876576
2863	23643,58247,8126935	1151148,4736952
2864	23655,09396,2863887	1151268,7908191
2865	23666,60665,0772078	1151389,0390507
2866	23678,12054,1162585	1151509,2184117
2867	23689,63563,3346702	1151629,3289235
2868	23701,15192,6635937	1151749,3706078
2869	23712,66942,0342015	1151869,3434861
2870	23724,18811,3776876	1151989,2475798
2871	23735,70800,6252674	1152109,0829105
2872	23747,22909,7081779	1152228,8494996
2873	23758,75138,5576775	1152348,5473684
2874	23770,27487,1050459	1152468,1765386
2875	23781,79955,2815845	1152587,7370314
2376	23793,32543,0186159	1152707,2288681
2877	23804,85250,2474840	1152826,6520702
2878	23816,38076,8995543	1152946,0066590
2879	23827,91022,9062133	1153065,2926558
2880	23839,44088,1988691	1153184,5100818
2881	23850,97272,7089509	1153303,6589584
2882	23862,50576,3679093	1153422,7393068
2883	23874,03999,1072161	1153541,7511481
2884	23885,57540,8583642	1153660,6945037
2885	23897,11201,5528679	1153779,5693946
2886	23908,64981,1222626	1153898,3758421
2887	23920,18879,4981047	1154017,1138673
2888	23931,72896,6119719	1154135,7834912
2889	23943,27032,3954631	1154254,3847351
2890	23954,81286,7801982	1154372,9176199
2891	23966,35659,6978181	1154491,3821667
2892	23977,90151,0799848	1154609,7783967
2893	23989,44760,8583815	1154728,1063306
2894	24000,99488,9647121	1154846,3659897
2895	24012,54335,3307018	1154964,5573948
2896	24024,09299,8880966	1155082,6805669
2897	24035,64382,5686635	1155200,7355269
2898	24047,19583,3041904	1155318,7222958
2899	24058,74902,0264862	1155436,6408943
2900	24070,30338,6673805	1155554,4913435

Vers. Sine.	Segment.	Difference.
2901	24081,85893,1587241	1155672,2736641
2902	24093,41565,4323882	1155789,9878770
2903	24104,97355,4202652	1155907,6340030
2904	24116,53263,0542682	1156025,2120628
2905	24128,09288,2663310	1156142,7220773
2906	24139,65430,9884083	1156260,1640671
2907	24151,21691,1524754	1156377,5380531
2908	24162,78068,6905285	1156494,8440558
2909	24174,34563,5345844	1156612,0820961
2910	24185,91175,6166805	1156729,2521945
2911	24197,47904,8688750	1156846,3543717
2912	24209,04751,2232467	1156963,3886484
2913	24220,61714,6118951	1157080,3550450
2914	24232,18794,9669401	1157197,2535824
2915	24243,75992,2205225	1157314,0842808
2916	24255,33306,3048033	1157430,8471610
2917	24266,90737,1519643	1157547,5422435
2918	24278,48284,6942078	1157664,1695486
2919	24290,05948,8637564	1157780,7290971
2920	24301,63729,5928535	1157897,2209091
2921	24313,21626,8137626	1158013,6450054
2922	24324,79640,4587680	1158130,0014062
2923	24336,37770,4601742	1158246,2901319
2924	24347,96016,7503061	1158362,5112030
2925	24359,54379,2615091	1158478,6646398
2926	24371,12857,9261490	1158594,7504626
2927	24382,71452,6766116	1158710,7686918
2928	24394,30163,4453034	1158826,7193477
2929	24405,88990,1646511	1158942,6024505
2930	24417,47932,7671016	1159058,4180205
2931	24429,06991,1851221	1159174,1660780
2932	24440,66165,3512001	1159289,8466431
2933	24452,25455,1978432	1159405,4597361
2934	24463,84860,6575793	1159521,0053772
2935	24475,44381,6629565	1159636,4835865
2936	24487,04018,1465430	1159751,8943842
2937	24498,63770,0409272	1159867,2377903
2938	24510,23637,2787175	1159982,5138250
2939	24521,83619,7925425	1160097,7225085
2940	24533,43717,5150510	1160212,8638606
2941	24545,03930,3789116	1160327,9379015
2942	24556,64258,3168131	1160442,9446513
2943	24568,24701,2614644	1160557,8841298
2944	24579,85259,1455942	1160672,7563572
2945	24591,45931,9019514	1160787,5613533
2946	24603,06719,4633046	1160902,2991381
2947	24614,67621,7624427	1161016,9697315
2948	24626,28638,7321743	1161131,5731535
2949	24637,89770,3053278	1161246,1094239
2950	24649,51016,4147517	1161360,5785627

Vers. Sine.	Segment.	Difference.
2951	24661,12376,9933144	1161474,9805895
2952	24672,73851,9739040	1161589,3155244
2953	24684,35441,2894284	1161703,5833870
2954	24695,97144,8728154	1161817,7841972
2955	24707,58962,6570126	1161931,9179747
2956	24719,20894,5749873	1162045,9847394
2957	24730,82940,5597267	1162159,9845109
2958	24742,45100,5442376	1162273,9173089
2959	24754,07374,4615464	1162387,7831531
2960	24765,69762,2446995	1162501,5820633
2961	24777,32263,8267628	1162615,3140590
2962	24788,94879,1408218	1162728,9791599
2963	24800,57608,1199817	1162842,5773857
2964	24812,20450,6973674	1162956,1087558
2965	24823,83406,8061232	1163069,5732900
2966	24835,46476,3794132	1163182,9710076
2967	24847,09659,3504208	1163296,3019284
2968	24858,72955,6523492	1163409,5660718
2969	24870,36363,2184210	1163522,7634573
2970	24881,99887,9818783	1163635,8941044
2971	24893,63523,8759828	1163748,9580326
2972	24905,27272,8340154	1163861,9552612
2973	24916,91134,7892766	1163974,8858098
2974	24928,55109,6750864	1164087,7496978
2975	24940,19197,4247842	1164200,5469444
2976	24951,83397,9717286	1164313,2775691
2977	24963,47711,2492977	1164425,9415913
2978	24975,12137,1908890	1164538,5390302
2979	24986,76675,7299192	1164651,0699053
2980	24998,41326,7998245	1164763,5342356
2981	25010,06090,3340601	1164875,9320407
2982	25021,70966,2661008	1164988,2633397
2983	25033,35954,5294405	1165100,5281517
2984	25045,01055,0575922	1165212,7264962
2985	25056,66267,7840884	1165324,8583922
2986	25068,31592,6424806	1165436,9238589
2987	25079,97029,5663396	1165548,9229155
2988	25091,62578,4892551	1165660,8555812
2989	25103,28239,3448363	1165772,7218751
2990	25114,94012,0667114	1165884,5218162
2991	25126,59896,5885276	1165996,2554236
2992	25138,25892,8439512	1166107,9227165
2993	25149,92000,7666677	1166219,5237138
2994	25161,58220,2903815	1166331,0584347
2995	25173,24551,3488162	1166442,5268981
2996	25184,90993,8757143	1166553,9291229
2997	25196,57547,8048371	1166665,2651283
2998	25208,24213,0699654	1166776,5349331
2999	25219,90989,6048985	1166887,7385562
3000	25231,57877,3434547	1166998,8760167

Vers. Sine.	Segment.	Difference.
3001	25243,24876,2194714	1167109,9473333
3002	25254,91986,1668047	1167220,9525251
3003	25266,59207,1193298	1167331,8916108
3004	25278,26539,0109406	1167442,7646092
3005	25289,93981,7755498	1167553,5715393
3006	25301,61535,3470891	1167664,3124198
3007	25313,29199,6595090	1167774,9872695
3008	25324,96974,6467785	1167885,5961073
3009	25336,64860,2428858	1167996,1389517
3010	25348,32856,3818375	1168106,6158217
3011	25360,00962,9976592	1168217,0267358
3012	25371,69180,0243950	1168327,3717128
3013	25383,37507,3961078	1168437,6507714
3014	25395,05945,0468792	1168547,8639302
3015	25406,74492,9108094	1168658,0112080
3016	25418,43150,9220174	1168768,0926232
3017	25430,11919,0146406	1168878,1081945
3018	25441,80797,1228351	1168988,0579405
3019	25453,49785,1807756	1169097,9418799
3020	25465,18883,1226555	1169207,7600311
3021	25476,88090,8826866	1169317,5124126
3022	25488,57408,3950992	1169427,1990430
3023	25500,26835,5941422	1169536,8199408
3024	25511,96372,4140830	1169646,3751244
3025	25523,66018,7892074	1169755,8646125
3026	25535,35774,6538199	1169865,2884232
3027	25547,05639,9422431	1169974,6465752
3028	25558,75614,5888183	1170083,9390868
3029	25570,45698,5279051	1170193,1659763
3030	25582,15891,6938814	1170302,3272624
3031	25593,86194,0211438	1170411,4229631
3032	25605,56605,4441069	1170520,4530969
3033	25617,27125,8972037	1170629,4176821
3034	25628,97755,3148858	1170738,3167369
3035	25640,68493,6316227	1170847,1502798
3036	25652,39340,7819025	1170955,9183289
3037	25664,10296,7002314	1171064,6209025
3038	25675,81361,3211339	1171173,2580188
3039	25687,52534,5791527	1171281,8296961
3040	25699,23816,4088488	1171390,3359525
2041	25710,95206,7448014	1171498,7768063
3042	25722,66705,5216076	1171607,1522755
3043	25734,38312,6738831	1171715,4623783
3044	25746,10028,1362614	1171823,7071329
3045	25757,81851,8433943	1171931,8865573
3046	25769,53783,7299516	1172040,0006697
3047	25781,25823,7306213	1172148,0494880
3048	25792,97971,7801093	1172256,0330305
3049	25804,70227,8131398	1172363,9513151
3050	25816,42591,7644549	1172471,8043598

Vers. Sine.	Segment.	Difference.
3051	25828,15063,5688146	1172579,5921826
3052	25839,87643,1609972	1172687,3148015
3053	25851,60330,4757988	1172794,9722345
3054	25863,33125,4480333	1172902,5644996
3055	25875,06028,0125328	1173010,0916146
3056	25886,79038,1041474	1173117,5535974
3057	25898,52155,6577449	1173224,9504661
3058	25910,25380,6082110	1173332,2822384
3059	25921,98712,8904494	1173439,5489322
3060	25933,72152,4393816	1173546,7505654
3061	25945,45699,1899471	1173653,8871558
3062	25957,19353,0771029	1173760,9587212
3063	25968,93114,0358241	1173867,9652794
3064	25980,66982,0011035	1173974,9068481
3065	25992,40956,9079516	1174081,7834452
3066	26004,15038,6913968	1174188,5950883
3067	26015,89227,2864851	1174295,3417953
3068	26027,63522,6282804	1174402,0235838
3069	26039,37924,6518642	1174508,6404714
3070	26051,12433,2923355	1174615,1924759
3071	26062,87048,4848114	1174721,6796149
3072	26074,61770,1644263	1174828,1019061
3073	26086,36598,2603324	1174934,4593670
3074	26098,11532,7256994	1175040,7520154
3075	26109,86573,4777148	1175146,9798687
3076	26121,61720,4575835	1175253,1429445
3077	26133,36973,6005280	1175359,2412605
3078	26145,12332,8417885	1175465,2748340
3079	26156,87798,1166225	1175571,2436828
3080	26168,63369,3603054	1175677,1478242
3081	26180,39046,5081296	1175782,9872757
3082	26192,14829,4954052	1175888,7620548
3083	26203,90718,2574600	1175994,4721790
3084	26215,66712,7296390	1176100,1176656
3085	26227,42812,8473046	1176205,6985322
3086	26239,19018,5458368	1176311,2147960
3087	26250,95329,7606328	1176416,6664746
3088	26262,71746,4271074	1176522,0535851
3089	26274,48268,4805925	1176627,3761452
3090	26286,24895,8568377	1176732,6341719
3091	26298,01628,4910096	1176837,8276827
3092	26309,78466,3186924	1176942,9566948
3093	26321,55409,2753872	1177048,0212257
3094	26333,32457,2966129	1177153,0212923
3095	26345,09610,3179052	1177257,9569121
3096	26356,86868,2748173	1177362,8281024
3097	26368,64231,1029197	1177467,6348801
3098	26380,41698,7377998	1177572,3772628
3099	26392,19271,1150626	1177677,0552673
3100	26403,96948,1703299	1177781,6689110

Vers. Sine.	Area of Segment.	Difference.
3101	26415,74729,8392409	1177886,2182110
3102	26427,52616,0574519	1177990,7031844
3103	26439,30606,7606364	1178095,1238484
3104	26451,08701,8844848	1178199,4802200
3105	26462,86901,3647048	1178303,7723163
3106	26474,65205,1370210	1178408,0001544
3107	26486,43613,1371754	1178512,1637513
3108	26498,22125,3009267	1178616,2631241
3109	26510,00741,5640508	1178720,2982897
3110	26521,79461,8623405	1178824,2692653
3111	26533,58286,1316058	1178928,1760677
3112	26545,37214,3076735	1179032,0187139
3113	26557,16246,3263874	1179135,7972210
3114	26568,95382,1236084	1179239,5116057
3115	26580,74621,6352141	1179343,1618550
3116	26592,53964,7970991	1179446,7480759
3117	26604,33411,5451751	1179550,2701952
3118	26616,12961,8153703	1179653,7282598
3119	26627,92615,5436301	1179757,1222866
3120	26639,72372,6659167	1179860,4522922
3121	26651,52233,1182089	1179963,7182937
3122	26663,32196,8365027	1180066,9203078
3123	26675,12263,7568105	1180170,0583512
3124	26686,92433,8151617	1180273,1324409
3125	26698,72706,9476026	1180376,1425934
3126	26710,53083,0901960	1180479,0888255
3127	26722,33562,1790215	1180581,9711540
3128	26734,14144,1501755	1180684,7895956
3129	26745,94828,9397711	1180787,5441670
3130	26757,75616,4839381	1180890,2348847
3131	26769,56506,7188228	1180992,8617656
3132	26781,37499,5805884	1181095,4248261
3133	26793,18595,0054145	1181197,9240831
3134	26804,99792,9294976	1181300,3595530
3135	26816,81093,2890506	1181402,7312524
3136	26828,62496,0203030	1181505,0391979
3137	26840,44001,0595009	1181607,2834062
3138	26852,25608,3429072	1181709,4638937
3139	26864,07317,8068009	1181811,5806769
3140	26875,89129,3874778	1181913,6337725
3141	26887,71043,0212503	1182015,6231968
3142	26899,53058,6444471	1182117,5489663
3143	26911,35176,1934134	1182219,4110976
3144	26923,17395,6045110	1182321,2096070
3145	26934,99716,8141180	1182422,9445110
3146	26946,82139,7586290	1182524,6158260
3147	26958,64664,3744550	1182626,2235684
3148	26970,47290,5980234	1182727,7677547
3149	26982,30018,3657781	1182829,2484010
3150	26994,12847,6141791	1182930,6655239

Vers. Sine.	Segment.	Difference.
3151	27005,95778,2797030	1183032,0191397
3152	27017,78810,2988427	1183133,3092646
3153	27029,61943,6081073	1183234,5359150
3154	27041,45178,1440223	1183335,6991072
3155	27053,28513,8431295	1183436,7988574
3156	27065,11950,6419869	1183537,8351819
3157	27076,95488,4771688	1183638,8080970
3158	27088,79127,2852658	1183739,7176187
3159	27100,62867,0028846	1183840,5637636
3160	27112,46707,5666482	1183941,3465476
3161	27124,30648,9131958	1184042,0659869
3162	27136,14690,9791827	1184142,7220978
3163	27147,98833,7012805	1184243,3148963
3164	27159,83077,0161768	1184343,8443986
3165	27171,67420,8605754	1184444,3106208
3166	27183,51865,1711962	1184544,7135791
3167	27195,36409,8847753	1184645,0532894
3168	27207,21054,9380647	1184745,3297679
3169	27219,05800,2678326	1184845,5430307
3170	27230,90645,8108633	1184945,6930937
3171	27242,75591,5039570	1185045,7799730
3172	27254,60637,2839300	1185145,8036846
3173	27266,45783,0876146	1185245,7642445
3174	27278,31028,8518591	1185345,6616686
3175	27290,16374,5135277	1185445,4959730
3176	27302,01820,0095057	1185545,2671735
3177	27313,87365,2766742	1185644,9752862
3178	27325,73010,2519604	1185744,6203269
3179	27337,58754,8722873	1185844,2023114
3180	27349,44599,0745987	1185943,7212558
3181	27361,30542,7958545	1186043,1771759
3182	27373,16585,9730304	1186142,5700875
3183	27385,02728,5431179	1186241,9000064
3184	27396,88970,4431243	1186341,1669485
3185	27408,75311,6100728	1186440,3709297
3186	27420,61751,9810025	1186539,5119655
3187	27432,48291,4929680	1186638,5900720
3188	27444,34930,0830400	1186737,6052648
3189	27456,21667,6883048	1186836,5575596
3190	27468,08504,2458644	1186935,4469723
3191	27479,95439,6928367	1187034,2735185
3192	27491,82473,9663552	1187133,0372138
3193	27503,69607,0035690	1187231,7380741
3194	27515,56838,7416431	1187330,3761150
3195	27527,44169,1177581	1187428,9513521
3196	27539,31598,0691102	1187527,4638010
3197	27551,19125,5329112	1187625,9134775
3198	27563,06751,4463887	1187724,3003970
3199	27574,94475,7467857	1187822,6245752
3200	27586,82298,3713609	1187920,8860277

Vers. Sine.	Segment.	Difference.
3201	27598,70219,2573886	1188019,0847701
3202	27610,58238,3421587	1188117,2208178
3203	27622,46355,5629765	1188215,2941865
3204	27634,34570,8571630	1188313,3048916
3205	27646,22884,1620546	1188411,2529486
3206	27658,11295,4150032	1188509,1383731
3207	27669,99804,5533763	1188606,9611804
3208	27681,88411,5145567	1188704,7213862
3209	27693,77116,2359429	1188802,4190058
3210	27705,65918,6549487	1188900,0540546
3211	27717,54818,7090033	1188997,6265480
3212	27729,43816,3355513	1189095,1365015
3213	27741,32911,4720528	1189192,5839304
3214	27753,22104,0559832	1189289,9688502
3215	27765,11394,0248334	1189387,2912761
3216	27777,00781,3161095	1189484,5512235
3217	27788,90265,8673330	1189581,7487077
3218	27800,79847,6160408	1189678,8837441
3219	27812,69526,4997849	1189775,9563478
3220	27824,59302,4561327	1189872,9665344
3221	27836,49175,4226671	1189969,9143189
3222	27848,39145,3369860	1190066,7997166
3223	27860,29212,1367026	1190163,6227427
3224	27872,19375,7594453	1190260,3834126
3225	27884,09636,1428579	1190357,0817413
3226	27895,99993,2245992	1190453,7177441
3227	27907,90446,9423434	1190550,2914362
3228	27919,80997,2337796	1190646,8028327
3229	27931,71644,0366123	1190743,2519487
3230	27943,62387,2885610	1190839,6387995
3231	27955,53226,9273605	1190935,9634001
3232	27967,44162,8907606	1191032,2257656
3233	27979,35195,1165262	1191128,4259111
3234	27991,26323,5424373	1191224,5638517
3235	28003,17548,1062890	1191320,6396025
3236	28015,08868,7458915	1191416,6531783
3237	28027,00285,3990698	1191512,6045945
3238	28038,91798,0036643	1191608,4938659
3239	28050,83406,4975302	1191704,3210074
3240	28062,75110,8185376	1191800,0860343
3241	28074,66910,9045719	1191895,7889614
3242	28086,58806,6935333	1191991,4298035
3243	28098,50798,1233368	1192087,0085758
3244	28110,42885,1319126	1192182,5252931
3245	28122,35067,6572057	1192277,9799704
3246	28134,27345,6371761	1192373,3726224
3247	28146,19719,0097985	1192468,7032642
3248	28158,12187,7130627	1192563,9719106
3249	28170,04751,6849733	1192659,1785765
3250	28181,97410,8635498	1192754,3232766

Vers. Sine.	Segment.	Difference.
3251	28193,90165,1868264	1192849,4060259
3252	28205,83014,5928523	1192944,4268390
3253	28217,75959,0196913	1193039,3857310
3254	28229,68998,4054223	1193134,2827164
3255	28241,62132,6881387	1193229,1178102
3256	28253,55361,8059489	1193323,8910269
3257	28265,48685,6969758	1193418,6023815
3258	28277,42104,2993573	1193513,2518885
3259	28289,35617,5512458	1193607,8395629
3260	28301,29225,3908087	1193702,3654191
3261	28313,22927,7562278	1193796,8294719
3262	28325,16724,5856997	1193891,2317360
3263	28337,10615,8174357	1193985,5722260
3264	28349,04601,3896617	1194079,8509566
3265	28360,98681,2406183	1194174,0679425
3266	28372,92855,3085608	1194268,2231981
3267	28384,87123,5317589	1194362,3167381
3268	28396,81485,8484970	1194456,3485772
3269	28408,75942,1970742	1194550,3187298
3270	28420,70492,5158040	1194644,2272106
3271	28432,65136,7430146	1194738,0740340
3272	28444,59874,8170486	1194831,8592146
3273	28456,54706,6762632	1194925,5827669
3274	28468,49632,2590301	1195019,2447055
3275	28480,44651,5037356	1195112,8450447
3276	28492,39764,3487803	1195206,3837991
3277	28504,34970,7325794	1195299,8609932
3278	28516,30270,5935626	1195393,2766113
3279	28528,25663,8701739	1195486,6306979
3280	28540,21150,5008718	1195579,9232575
3281	28552,16730,4241293	1195673,1543044
3282	28564,12403,5784337	1195766,3238529
3283	28576,08169,9022866	1195859,4319175
3284	28588,04029,3342042	1195952,4785127
3285	28599,99981,8127169	1196045,4636526
3286	28611,96027,2763695	1196138,3873516
3287	28623,92165,6637211	1196231,2496241
3288	28635,88396,9133452	1196324,0504843
3289	28647,84720,9638294	1196416,7899465
3290	28659,81137,7537759	1196509,4680251
3291	28671,77647,2218010	1196602,0847342
3292	28683,74249,3065352	1196694,6400881
3293	28695,70943,9466233	1196787,1341012
3294	28707,67731,0807245	1196879,5667874
3295	28719,64610,6475119	1196971,9381612
3296	28731,61582,5856731	1197064,2482367
3297	28743,58646,8339098	1197156,4970280
3298	28755,55803,3309378	1197248,6845493
3299	28767,53052,0154871	1197340,8108148
3300	28779,50392,8263019	1197432,8758387

Vers. Sine.	Segment.	Difference.
3301	28791,47825,7021406	1197524,8796350
3302	28803,45350,5817756	1197616,8222178
3303	28815,42967,4039934	1197708,7036013
3304	28827,40676,1075947	1197800,5237994
3305	28839,38476,6313941	1197892,2828265
3306	28851,36368,9142206	1197983,9806964
3307	28863,34352,8949170	1198075,6174232
3308	28875,32428,5123402	1198167,1930208
3309	28887,30595,7053610	1198258,7075035
3310	28899,28854,4128645	1198350,1608851
3311	28911,27204,5737496	1198441,5531796
3312	28923,25646,1269293	1198532,8844011
3313	28935,24179,0113304	1198624,1545634
3314	28947,22803,1658938	1198715,3636805
3315	28959,21518,5295743	1198806,5117664
3316	28971,20325,0413407	1198897,5988350
3317	28983,19222,6401757	1198988,6249001
3318	28995,18211,2650758	1199079,5899757
3319	29007,17290,8550515	1199170,4940757
3220	29019,16461,3491272	1199251,3372138
3321	29031,15722,6863410	1199352,1194040
3322	29043,15074,8057450	1199442,8406602
3323	29055,14517,6464052	1199533,5009960
3324	29067,14051,1474012	1199624,1004255
3325	29079,13675,2478267	1199714,6389622
3326	29091,13389,8867889	1199805,1166201
3327	29103,13195,0034090	1199895,5334129
3328	29115,13090,5368219	1199985,8893543
3329	29127,13076,4261763	1200076,1844582
3330	29139,13152,6106344	1200166,4187382
3331	29151,13319,0293726	1200256,5922080
3332	29163,13575,6215806	1200346,7048813
3333	29175,13922,3264619	1200436,7567720
3334	29187,14359,0832339	1200526,7478936
3335	29199,14885,8311275	1200616,6782597
3336	29211,15502,5093872	1200706,5478841
3337	29223,16209,0572713	1200796,3567804
3338	29235,17005,4140517	1200886,1049621
3339	29247,17891,5190138	1200975,7924430
3340	29259,18867,3114568	1201065,4192366
3341	29271,19932,7306935	1201154,9853565
3342	29283,21087,7160500	1201244,4908163
3343	29295,22332,2068663	1201333,9356295
3344	29307,23666,1424958	1201423,3198097
3345	29319,25089,4623055	1201512,6433704
3346	29331,26602,1056759	1201601,9063251
3347	29343,28204,0120010	1201691,1086873
3348	29355,29895,1206883	1201780,2504706
3349	29367,31675,3711589	1201869,3316884
3350	29379,33544,7028473	1201958,3523541

Vers. Sine.	Segment.	Difference.
3351	29391,35503,0552014	1202047,3124813
3352	29403,37550,3676827	1202136,2120833
3353	29415,39686,5797660	1202225,0511736
3354	29427,41911,6309396	1202313,8297656
3355	29439,44225,4607052	1202402,5478727
3356	29451,46628,0085779	1202491,2055083
3357	29463,49119,2140862	1202579,8026858
3358	29475,51699,0167720	1202668,3394185
3359	29487,54367,3561905	1202756,8157198
3360	29499,57124,1719103	1202845,2316029
3361	29511,59969,4035132	1202933,5870813
3362	29523,62902,9905945	1203021,8821683
3363	29535,65924,8727628	1203110,1168771
3364	29547,69034,9896399	1203198,2912210
3365	29559,72233,2808609	1203286,4052133
3366	29571,75519,6860743	1203374,4588672
3367	29583,78894,1449415	1203462,4521961
3368	29595,82356,5971376	1203550,3852131
3369	29607,85906,9823507	1203638,2579314
3370	29619,89545,2402820	1203726,0703642
3371	29631,93271,3106462	1203813,8225248
3372	29643,97085,1331711	1203901,5144263
3373	29656,00986,6475974	1203989,1460819
3374	29668,04975,7936793	1204076,7175048
3375	29680,09052,5111841	1204164,2287080
3376	29692,13216,7398921	1204251,6797047
3377	29704,17468,4195968	1204339,0705081
3378	29716,21807,4901049	1204426,4011312
3379	29728,26233,8912360	1204513,6715871
3380	29740,30747,5628231	1204600,8818889
3381	29752,35348,4447120	12046880,320496
3382	29764,40036,4767616	12047751,220824
3383	29776,44811,5988440	12048621,520002
3384	29788,49673,7508442	12049491,218161
3385	29800,54622,8726603	12050360,315431
3386	29812,59658,9042034	1205122,8811941
3387	29824,64781,7853975	1205209,6707823
3388	29836,69991,4561798	1205296,4003205
3389	29848,75287,8565003	1205383,0698217
3390	29860,80670,9263219	1205469,6792988
3391	29872,86140,6056208	1205556,2287649
3392	29884,91696,8343857	1205642,7182328
3393	29896,97339,5526184	1205729,1477154
3394	29909,03068,7003338	1205815,5172256
3395	29921,08884,2175594	1205901,8267764
3396	29933,14786,0443358	1205988,0763806
3397	29945,20774,1207164	1206074,2660510
3398	29957,26848,3867674	1206160,3958005
3399	29969,33008,7825679	1206246,4656419
3400	29981,39255,2482098	1206332,4755881

Vers. Sine.	Segment.	Difference.
3401	29993,45587,7237979	1206418,4256520
3402	30005,52006,1494499	1206504,3158460
3403	30017,58510,4652959	1206590,1461834
3404	30029,65100,6114793	1206675,9166766
3405	30041,71776,5281559	1206761,6273385
3406	30053,78538,1554944	1206847,2781820
3407	30065,85385,4336764	1206932,8692192
3408	30077,92318,3028956	1207018,4004638
3409	30089,99336,7033594	1207103,8719278
3410	30102,06440,5752871	1207189,2836241
3411	30114,13629,8589112	1207274,6355654
3412	30126,20904,4944766	1207359,9277643
3413	30138,28264,4222409	1207445,1602336
3414	30150,35709,5824745	1207530,3329858
3415	30162,43239,9154603	1207615,4460337
3416	30174,50855,3614940	1207700,4993897
3417	30186,58555,8608837	1207785,4930666
3418	30198,66341,3539503	1207870,4270770
3419	30210,74211,7810273	1207955,3014333
3420	30222,82167,0824606	1208040,1161482
3421	30234,90207,1986088	1208124,8712343
3422	30246,98332,0698432	1208209,5667041
3423	30259,06541,6365473	1208294,2025702
3424	30271,14835,8391175	1208378,7788449
3425	30283,23214,6179624	1208463,2955410
3426	30295,31677,9135035	1208547,7526709
3427	30307,40225,6661744	1208632,1502470
3428	30319,48857,8164214	1208716,4882818
3429	30331,57574,3047032	1208800,7667879
3430	30343,66375,0714911	1208884,9857776
3431	30355,75260,0572687	1208969,1452634
3432	30367,84229,2025321	1209053,2452576
3433	30379,93282,4477897	1209137,2857729
3434	30392,02419,7335626	1209221,2668215
3435	30404,11641,0003841	1209305,1884157
3436	30416,20946,1887998	1209389,0505681
3437	30428,30335,2393679	1209472,8532909
3438	30440,39808,0926588	1209556,5965965
3439	30452,49364,6892553	1209640,2804973
3440	30464,59004,9697526	1209723,9050056
3441	30476,68728,8747582	1209807,4701336
3442	30488,78536,3448918	1209890,9758938
3443	30500,88427,3207856	1209974,4222984
3444	30512,98401,7430840	1210057,8093596
3445	30525,08459,5524436	1210141,1370897
3446	30537,18600,6895333	1210224,4055011
3447	30549,28825,0950344	1210307,6146059
3448	30561,39132,7096403	1210390,7644163
3449	30573,49523,4740566	1210473,8549447
3450	30585,59997,3290013	1210556,8862031

Vers. Sine.	Segment.	Difference.
3451	30597,70554,2152044	1210639,8582039
3452	30609,81194,0734083	1210722,7709591
3453	30621,91916,8443674	1210805,6244809
3454	30634,02722,4688483	1210888,4187816
3455	30646,13610,8876299	1210971,1538732
3456	30658,24582,0415030	1211053,8297679
3457	30670,35635,8712709	1211136,4464777
3458	30682,46772,3177486	1211219,0040150
3459	30694,57991,3217636	1211301,5023916
3460	30706,69292,8241552	1211383,9416197
3461	30718,80676,7657749	1211466,3217114
3462	30730,92143,0874863	1211548,6426788
3463	30743,03691,7301651	1211630,9045338
3464	30755,15322,6346989	1211713,1072886
3465	30767,27035,7419875	1211795,2509552
3466	30779,38830,9929427	1211877,3355454
3467	30791,50708,3284881	1211959,3610715
3468	30803,62667,6895597	1212041,3275454
3469	30815,74709,0171051	1212123,2349790
3470	30827,86832,2520841	1212205,0833843
3471	30839,99037,3354684	1212286,8727733
3472	30852,11324,2082417	1212368,6031580
3473	30864,23692,8113997	1212450,2745501
3474	30876,36143,0859498	1212531,8869617
3475	30888,48674,9729116	1212613,4404048
3476	30900,61288,4133164	1212694,9348911
3477	30912,73983,3482075	1212776,3704325
3478	30924,86759,7186401	1212857,7470410
3479	30936,99617,4656811	1212939,0647284
3480	30949,12556,5304095	1213020,3235066
3481	30961,25576,8539161	1213101,5233873
3482	30973,38678,3773034	1213182,6643824
3483	30985,51861,0416858	1213263,7465038
3484	30997,65124,7881896	1213344,7697631
3485	31009,78469,5579527	1213425,7341723
3486	31021,91895,2921251	1213506,6397431
3487	31034,05401,9318682	1213587,4864873
3488	31046,18989,4183555	1213668,2744166
3489	31058,32657,6927721	1213749,0035427
3490	31070,46406,6963148	1213829,6738775
3491	31082,60236,3701923	1213910,2854326
3492	31094,74146,6556249	1213990,8382196
3493	31106,88137,4938445	1214071,3322505
3494	31119,02208,8267950	1214151,7675367
3495	31131,16360,5936317	1214232,1440900
3496	31143,30592,7377217	1214312,4619221
3497	31155,44905,1996438	1214392,7210446
3498	31167,59297,9206884	1214472,9214691
3499	31179,73770,8421575	1214553,0632072
3500	31191,88323,9053647	1214633,1462707

Vers. Sine.	Segment.	Difference.
3501	31204,02957,0516354	1214713,1706711
3502	31216,17670,2223065	1214793,1364199
3503	31228,32463,3587264	1214873,0435288
3504	31240,47336,4022552	1214952,8920093
3505	31252,62289,2942645	1215032,6818731
3506	31264,77321,9761376	1215112,4131315
3507	31276,92434,3892691	1215192,0857963
3508	31289,07626,4750654	1215271,6998788
3509	31301,22898,1749442	1215351,2553907
3510	31313,38249,4303349	1215430,7523433
3511	31325,53680,1826782	1215510,1907483
3512	31337,69190,3734265	1215589,5706171
3513	31349,84779,9440436	1215668,8919611
3514	31362,00448,8360047	1215748,1547918
3515	31374,16196,9907964	1215827,3591206
3516	31386,32024,3499171	1215906,5049596
3517	31398,47930,8548761	1215985,5923185
3518	31410,63916,4471946	1216064,6212104
3519	31422,79981,0684050	1216143,5916460
3520	31434,96124,6600510	1216222,5036369
3521	31447,12347,1636879	1216301,3571943
3522	31459,28648,5208821	1216380,1523296
3523	31471,45028,6732118	1216458,8890543
3524	31483,61487,5622661	1216537,5673796
3525	31495,78025,1296456	1216616,1873168
3526	31507,94641,3169624	1216694,7488774
3527	31520,11336,0658398	1216773,2520724
3528	31532,28109,3179122	1216851,6969134
3529	31544,44961,0148256	1216930,0834115
3530	31556,61891,0982371	1217008,4115781
3531	31568,78899,5098153	1217086,6814244
3532	31580,95986,1912397	1217164,8929617
3533	31593,13151,0842014	1217243,0462011
3534	31605,30394,1304025	1217321,1411540
3535	31617,47715,2715565	1217399,1778315
3536	31629,65114,4493879	1217477,1562448
3537	31641,82591,6056327	1217555,0764052
3538	31654,00146,6820379	1217632,9383238
3539	31666,17779,6203617	1217710,7420118
3540	31678,35490,3623735	1217788,4874803
3541	31690,53278,8498538	1217866,1747406
3542	31702,71145,0245944	1217943,8038036
3543	31714,89088,8283980	1218021,3746808
3544	31727,07110,2030788	1218098,8873829
3545	31739,25209,0904517	1218176,3419212
3546	31751,43385,4323829	1218253,7383069
3547	31763,61639,1706898	1218331,0765509
3548	31775,79970,2472406	1218408,3566643
3549	31787,98378,6039049	1218485,5786582
3550	31800,16864,1825632	1218562,7425437

Vers. Sine.	Segment.	Difference.
3551	31812,35426,9251069	1218639,8483318
3552	31824,54066,7734387	1218716,8960335
3553	31836,72783,6694722	1218793,8856598
3554	31848,91577,5551320	1218870,8172218
3555	31861,10448,3723538	1218947,6907304
3556	31873,29396,0630841	1219024,5061966
3557	31885,48420,5692807	1219101,2636314
3558	31897,67521,8329121	1219177,9630457
3559	31909,86699,7959578	1219254,6044505
3560	31922,05954,4004083	1219331,1878568
3561	31934,25285,5882650	1219407,7132754
3562	31946,44693,3015404	1219484,1807173
3563	31958,64177,4822577	1219560,5901934
3564	31970,83738,0724511	1219636,9417145
3565	31983,03375,0141656	1219713,2352916
3566	31995,23088,2494572	1219789,4709356
3567	32007,42877,7203928	1219865,6486573
3568	32019,62743,3690501	1219941,7684674
3569	32031,82685,1375175	1220017,8303770
3570	32044,02702,9678946	1220093,8343968
3571	32056,22796,8022914	1220169,7805376
3572	32068,42966,5828290	1220245,6688103
3573	32080,63212,2516393	1220321,4992256
3574	32092,83533,7508649	1220397,2717943
3575	32105,03931,0226593	1220472,9865272
3576	32117,24404,0091865	1220548,6434352
3577	32129,44952,6526217	1220624,2425287
3578	32141,65576,8951504	1220699,7838187
3579	32153,86276,6789691	1220775,2673160
3580	32166,07051,9462851	1220850,6930311
3581	32178,27902,6393162	1220926,0609748
3582	32190,48828,7002910	1221001,3711579
3583	32202,69830,0714489	1221076,6235909
3584	32214,90906,6950398	1221151,8182846
3585	32227,12058,5133244	1221226,9552496
3586	32239,33285,4685740	1221302,0344967
3587	32251,54587,5030707	1221377,0560364
3588	32263,75964,5591071	1221452,0198793
3589	32275,97416,5789864	1221526,9260361
3590	32288,18943,5050225	1221601,7745175
3591	32300,40545,2795400	1221676,5653339
3592	32312,62221,8448739	1221751,2984961
3593	32324,83973,1433700	1221825,9740145
3594	32337,05799,1173845	1221900,5918997
3595	32349,27699,7092842	1221975,1521624
3596	32361,49674,8614466	1222049,6548130
3597	32373,71724,5162596	1222124,0998621
3598	32385,93848,6161217	1222198,4873202
3599	32398,16047,1034419	1222272,8171978
3600	32410,38319,9206397	1222347,0895055

Vers. Sine.	Segment.	Difference.
3601	32422,60667,0101452	1222421,3042536
3602	32434,83088,3143988	1222495,4614528
3603	32447,05583,7758516	1222569,5611135
3604	32459,28153,3369651	1222643,6032460
3605	32471,50796,9402111	1222717,5878610
3606	32483,73514,5280722	1222791,5149689
3607	32495,96306,0430411	1222865,3845799
3608	32508,19171,4276210	1222939,1967047
3609	32520,42110,6243257	1223012,9513535
3610	32532,65123,5756792	1223086,6485368
3611	32544,88210,2242160	1223160,2882650
3612	32557,11370,5124811	1223233,8705485
3613	32569,34604,3830296	1223307,3953975
3614	32581,57911,7784271	1223380,8628226
3615	32593,81292,6412497	1223454,2728339
3616	32606,04746,9140836	1223527,6254419
3617	32618,28274,5395255	1223600,9206569
3618	32630,51875,4601824	1223674,1584891
3619	32642,75549,6186715	1223747,3389490
3620	32654,99296,9576205	1223820,4620467
3621	32667,23117,4196672	1223893,5277926
3622	32679,47010,9474598	1223966,5361969
3623	32691,70977,4836565	1224039,4872699
3624	32703,95016,9709265	1224112,3810218
3625	32716,19129,3519483	1224185,2174630
3626	32728,43314,5694113	1224257,9966035
3627	32740,67572,5660148	1224330,7184537
3628	32752,91903,2844685	1224403,3830237
3629	32765,16306,6674922	1224475,9903237
3630	32777,40782,6578159	1224548,5403640
3631	32789,65331,1981800	1224621,0331547
3632	32801,89952,2313347	1224693,4687059
3633	32814,14645,7000456	1224765,8470279
3634	32826,39411,5470685	1224838,1681307
3635	32838,64249,7151992	1224910,4320245
3636	32850,89160,1472237	1224982,6387195
3637	32863,14142,7859432	1225054,7882257
3638	32875,39197,5741689	1225126,8805532
3639	32887,64324,4547221	1225198,9157122
3640	32899,89523,3704344	1225270,8937127
3641	32912,14794,2641471	1225342,8145648
3642	32924,40137,0787119	1225414,6782786
3643	32936,65551,7569904	1225486,4848640
3644	32948,91038,2418545	1225558,2343312
3645	32961,16596,4761857	1225629,9266902
3646	32973,42226,4028759	1225701,5619510
3647	32985,67927,9648269	1225773,1401236
3648	32997,93701,1049505	1225844,6612180
3649	33010,19545,7661685	1225916,1252443
3650	33022,45461,8914128	1225987,5322122

Vers. Sine.	Segment.	Difference.
3651	33034,71449,4236250	1226058,8821320
3652	33046,97508,3057571	1226130,1750135
3653	33059,23638,4807705	1226201,4108666
3654	33071,49839,8916371	1226272,5897013
3655	33083,76112,4813384	1226343,7115276
3656	33096,02456,1928660	1226414,7763553
3657	33108,28870,9692213	1226485,7841943
3658	33120,55356,7534156	1226556,7350546
3659	33132,81913,4884702	1226627,6289461
3660	33145,08541,1174163	1226698,4658785
3661	33157,35239,5832948	1226769,2458618
3662	33169,62008,8291566	1226839,9689059
3663	33181,88848,7980625	1226910,6350205
3664	33194,15759,4330830	1226981,2442156
3665	33206,42740,6772986	1227051,7965010
3666	33218,69792,4737996	1227122,2918863
3667	33230,96914,7656859	1227192,7303816
3668	33243,24107,4960675	1227263,1119965
3669	33255,51370,6080640	1227333,4367409
3670	33267,78704,0448049	1227403,7046245
3671	33280,06107,7494293	1227473,9156571
3672	33292,33581,6650864	1227544,0698484
3673	33304,61125,7349347	1227614,1672082
3674	33316,88739,9021429	1227684,2077462
3675	33329,16424,1098892	1227754,1914722
3676	33341,44178,3013614	1227824,1183958
3677	33353,72002,4197572	1227893,9885269
3678	33365,99896,4082841	1227963,8018750
3679	33378,27860,2101591	1228033,5584498
3680	33390,55893,7686089	1228103,2582611
3681	33402,83997,0268700	1228172,9013184
3682	33415,12169,9281884	1228242,4876315
3683	33427,40412,4158199	1228312,0172100
3684	33439,68724,4330299	1228381,4900634
3685	33451,97105,9230933	1228450,9062016
3686	33464,25556,8292949	1228520,2656339
3687	33476,54077,0949288	1228589,5683702
3688	33488,82666,6632990	1228658,8144199
3689	33501,11325,4777189	1228728,0037926
3690	33513,40053,4815115	1228797,1364979
3691	33525,68850,6180094	1228866,2125454
3692	33537,97716,8305548	1228935,2319447
3693	33550,26652,0624995	1229004,1947052
3694	33562,55656,2572047	1229073,1008365
3695	33574,84729,3580413	1229141,9503482
3696	33587,13871,3083894	1229210,7432497
3697	33599,43082,0516881	1229279,4795505
3698	33611,72361,5311893	1229348,1592602
3699	33624,01709,6904498	1229416,7823882
3700	33636,31126,4728380	1229485,3489440

Vers. Sine.	Segment.	Difference.
3701	33648,60611,8217820	1229553,8589371
3702	33660,90165,6807191	1229622,3123769
3703	33673,19787,9930960	1229690,7092729
3704	33685,49478,7023689	1229759,0496344
3705	33697,79237,7520033	1229827,3334710
3706	33710,09065,0854743	1229895,5607920
3707	33722,38960,6462663	1229963,7316069
3708	33734,68924,3778732	1230031,8459250
3709	33746,98956,2237982	1230099,9037557
3710	33759,29056,1275539	1230167,9051085
3711	33771,59224,7326624	1230235,8499925
3712	33783,89459,8826549	1230303,7384174
3713	33796,19763,6210723	1230371,5703922
3714	33808,50135,1914645	1230439,3459265
3715	33820,80574,5373910	1230507,0650295
3716	33833,11081,6024205	1230574,7277106
3717	33845,41656,3301311	1230642,3339789
3718	33857,72298,6641100	1230709,8838440
3719	33870,03008,5479540	1230777,3773150
2720	33882,33785,9252690	1230844,8144012
3721	33894,64630,7396701	1230912,1951118
3722	33906,95542,9347820	1230979,5194562
3723	33919,26522,4542382	1231046,7874436
3724	33931,57569,2416819	1231113,9990832
3725	33943,88683,2407651	1231181,1543843
3726	33956,19864,3951494	1231248,2533560
3727	33968,51112,6485054	1231315,2960077
3728	33980,82427,9445131	1231382,2823483
3729	33993,13810,2268614	1231449,2123873
3730	34005,45259,4392487	1231516,0861337
3731	34017,76775,5253824	1231582,9035967
3732	34030,08358,4289791	1231649,6647855
3733	34042,40008,0937646	1231716,3697092
3734	34054,71724,4634738	1231783,0183770
3735	34067,03507,4818507	1231849,6107980
3736	34079,35357,0926487	1231916,1469813
3737	34091,67273,2396299	1231982,6269360
3738	34103,99255,8665659	1232049,0506712
3739	34116,31304,9172371	1232115,4181961
3740	34128,63420,3354333	1232181,7295197
3741	34140,95602,0649530	1232247,9846511
3742	34153,27850,0496041	1232314,1835993
3743	34165,60164,2332034	1232380,3263735
3744	34177,92544,5595769	1232446,4129825
3745	34190,24990,9725594	1232512,4434355
3746	34202,57503,4159949	1232578,4177416
3747	34214,90081,8337365	1232644,3359097
3748	34227,22726,[illegible]96462	1232710,1979487
3749	34239,55436,[illegible]675949	1232776,0038679
3750	34251,88212,3714628	1232841,7536760

Vers. Sine.	Segment.	Difference.
3751	34264,21054,1251388	1232907,4473820
3752	34276,53961,5725208	1232973,0849952
3753	34288,86934,6575160	1233038,6665241
3754	34301,19973,3240400	1233104,1919779
3755	34313,53077,5160179	1233169,6613655
3756	34325,86247,1773834	1233235,0746959
3757	34338,19480,2520793	1233300,4319778
3758	34350,52782,6840571	1233365,7332204
3759	34362,86148,4172775	1233430,9784324
3760	34375,19579,3957099	1233496,1676227
3761	34387,53075,5633326	1233561,3008003
3762	34399,86636,8641329	1233626,3779739
3763	34412,20263,2421068	1233691,3991526
3764	34424,53954,6412594	1233756,3643450
3765	34436,87711,0056044	1233821,2735602
3766	34449,21532,2791646	1233886,1268068
3767	34461,55418,4059714	1233950,9240937
3768	34473,89369,3300651	1234015,6654297
3769	34486,23384,9954948	1234080,3508237
3770	34498,57465,3463185	1234144,9802845
3771	34510,91610,3265030	1234209,5538208
3772	34523,25819,8804238	1234274,0714413
3773	34535,60093,9518651	1234338,5331549
3774	34547,94432,4850200	1234402,9389704
3775	34560,28835,4239905	1234467,2888964
3776	34572,63302,7128869	1234531,5829418
3777	34584,97834,2958287	1234595,8211152
3778	34597,32430,1169439	1234660,0034253
3779	34609,67090,1203692	1234724,1298810
3780	34622,01814,2502502	1234788,2004908
3781	34634,36602,4507410	1234852,2152635
3782	34646,71454,6660045	1234916,1742078
3783	34659,06370,8402123	1234980,0773322
3784	34671,41350,9175445	1235043,9246456
3785	34683,76394,8421901	1235107,7161566
3786	34696,11502,5583467	1235171,4518737
3787	34708,46674,0102204	1235235,1318056
3788	34720,81909,1420260	1235298,7559611
3789	34733,17207,8979871	1235362,3243486
3790	34745,52570,2223356	1235425,8369767
3791	34757,87996,0593124	1235489,2938542
3792	34770,23485,3531666	1235552,6949895
3793	34782,59038,0481561	1235616,0403914
3794	34794,94654,0885475	1235679,3300682
3795	34807,30333,4186157	1235742,5640286
3796	34819,66075,9826443	1235805,7422812
3797	34832,01881,7249255	1235868,8648344
3798	34844,37750,5897600	1235931,9316969
3799	34856,73682,5214569	1235994,9428771
3800	34869,09677,4643340	1236057,8983836

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Vers. Sine.	Segment.	Difference.
3801	34881,45735,3627176	1236120,7982248
3802	34893,81856,1609424	1236183,6424093
3803	34906,18039,8033518	1236246,4309456
3804	34918,54286,2342974	1236309,1638421
3805	34930,90595,3981395	1236371,8411073
3806	34943,26967,2392468	1236434,4627496
3807	34955,63401,7019965	1236497,0287776
3808	34967,99898,7307741	1236559,5391996
3809	34980,36458,2699737	1236621,9940241
3810	34992,73080,2639978	1236684,3932596
3811	35005,09764,6572574	1236746,7369143
3812	35017,46511,3941716	1236809,0249968
3813	35029,83320,4191684	1236871,2575153
3814	35042,20191,6766837	1236933,4344784
3815	35054,57125,1111621	1236995,5558944
3816	35066,94120,6670565	1237057,6217716
3817	35079,31178,2888281	1237119,6321185
3818	35091,68297,9209466	1237181,5869433
3819	35104,05479,5078899	1237243,4862545
3820	35116,42722,9941444	1237305,3300602
3821	35128,80028,3242046	1237367,1183689
3822	35141,17395,4425735	1237428,8511889
3823	35153,54824,2937624	1237490,5285285
3824	35165,92314,8222909	1237552,1503959
3825	35178,29866,9726868	1237613,7167995
3826	35190,67480,6894863	1237675,2277476
3827	35203,05155,9172339	1237736,6832484
3828	35215,42892,6004823	1237798,0833100
3829	35227,80690,6837923	1237859,4279409
3830	35240,18550,1117332	1237920,7171493
3831	35252,56470,8288825	1237981,9509434
3832	35264,94452,7798259	1238043,1293313
3833	35277,32495,9091572	1238104,2523214
3834	35289,70600,1614786	1238165,3199218
3835	35302,08765,4814004	1238226,3321407
3836	35314,46991,8135411	1238287,2889864
3837	35326,85279,1025275	1238348,1904669
3838	35339,23627,2929944	1238409,0365904
3839	35351,62036,3295848	1238469,8273652
3840	35364,00506,1569500	1238530,5627993
3841	35376,39036,7197493	1238591,2429009
3842	35388,77627,9626502	1238651,8676782
3843	35401,16279,8303284	1238712,4371393
3844	35413,54992,2674677	1238772,9512921
3845	35425,93765,2187598	1238833,4101449
3846	35438,32598,6289047	1238893,8137059
3847	35450,71492,4426106	1238954,1619830
3848	35463,10446,6045936	1239014,4549843
3849	35475,49461,0595779	1239074,6927180
3850	35487,88535,7522959	1239134,8751919

Vers. Sine.	Segment.	Difference.
3851	35500,27670,6274878	1239195,0024144
3852	35512,66865,6299022	1239255,0743932
3853	35525,06120,7042954	1239315,0911366
3854	35537,45435,7954320	1239375,0526525
3855	35549,84810,8480845	1239434,9589489
3856	35562,24245,8070334	1239494,8100338
3857	35574,63740,6170672	1239554,6059153
3858	35587,03295,2229825	1239614,3466013
3859	35599,42909,5695838	1239674,0320998
3860	35611,82583,6016836	1239733,6624188
3861	35624,22317,2641024	1239793,2375662
3862	35636,62110,5016686	1239852,7575501
3863	35649,01963,2592187	1239912,2223782
3864	35661,41875,4815969	1239971,6320586
3865	35673,81847,1130555	1240030,9865992
3866	35686,21878,1002547	1240090,2860079
3867	35698,61968,3862626	1240149,5302927
3868	35711,02117,9165553	1240208,7194613
3869	35723,42326,6360166	1240267,8535218
3870	35735,82594,4895385	1240326,9324820
3871	35748,22921,4220205	1240385,9563497
3872	35760,63307,3783702	1240444,9251330
3873	35773,03752,3035031	1240503,8388393
3874	35785,44256,1423424	1240562,6974770
3875	35797,84818,8398194	1240621,5010535
3876	35810,25440,3408729	1240680,2495769
3877	35822,66120,5904498	1240738,9430548
3878	35835,06859,5335046	1240797,5814953
3879	35847,47657,1149999	1240856,1649059
3880	35859,88513,2799058	1240914,6932946
3881	35872,29427,9732004	1240973,1666691
3882	35884,70401,1398695	1241031,5850372
3883	35897,11432,7249067	1241089,9484066
3884	35909,52522,6733134	1241148,2567852
3885	35921,93670,9300986	1241206,5101806
3886	35934,34877,4402792	1241264,7086006
3887	35946,76142,1488798	1241322,8520530
3888	35959,17465,0009328	1241380,9405455
3889	35971,58845,9414783	1241438,9740857
3890	35984,00284,9155640	1241496,9526814
3891	35996,41781,8682454	1241554,8763403
3892	36008,83336,7445857	1241612,7450700
3893	36021,24949,4896557	1241670,5588783
3894	36033,66620,0485340	1241728,3177729
3895	36046,08348,3663068	1241786,0217613
3896	36058,50134,3880681	1241843,6708512
3897	36070,91978,0589193	1241901,2650504
3898	36083,33879,3239697	1241958,8043663
3899	36095,75838,1283360	1242016,2888067
3900	36108,17854,4171427	1242073,7183792

Vers. Sine.	Segment.	Difference.
3901	36120,59928,1355219	1242131,0930913
3902	36133,02059,2286132	1242188,4129508
3903	36145,44247,6415640	1242245,6779651
3904	36157,86493,3195291	1242302,8881418
3905	36170,28796,2076709	1242360,0434886
3906	36182,71156,2511595	1242417,1440130
3907	36195,13573,3951725	1242474,1897225
3908	36207,56047,5848950	1242531,1806248
3909	36219,98578,7655199	1242588,1167273
3910	36232,41166,8822472	1242644,9980376
3911	36244,83811,8802848	1242701,8245632
3912	36257,26513,7048480	1242758,5963116
3913	36269,69272,3011596	1242815,3132903
3914	36282,12087,6144499	1242871,9755069
3915	36294,54959,5899568	1242928,5829688
3916	36306,97888,1729256	1242985,1356835
3917	36319,40873,3086091	1243041,6336584
3918	36331,83914,9422675	1243098,0769011
3919	36344,27013,0191686	1243154,4654190
3920	36356,70167,4845876	1243210,7992194
3921	36369,13378,2838070	1243267,0783100
3922	36381,56645,3621170	1243323,3026981
3923	36393,99968,6648151	1243379,4723911
3924	36406,43348,1372062	1243435,5873964
3925	36418,86783,7246026	1243491,6477215
3926	36431,30275,3723241	1243547,6533737
3927	36443,73823,0256978	1243603,6043604
3928	36456,17426,6300581	1243659,5006890
3929	36468,61086,1307471	1243715,3423669
3930	36481,04801,4731140	1243771,1294013
3931	36493,48572,6025153	1243826,8617998
3932	36505,92399,4643152	1243882,5395696
3933	36518,36282,0038848	1243938,1627181
3934	36530,80220,1666029	1243993,7312526
3935	36543,24213,8978555	1244049,2451803
3936	36555,68263,1430358	1244104,7045087
3937	36568,12367,8475445	1244160,1092450
3938	36580,56527,9567895	1244215,4593964
3939	36593,00743,4161859	1244270,7549705
3940	36605,45014,1711564	1244325,9959742
3941	36617,89340,1671306	1244381,1824150
3942	36630,33721,3495456	1244436,3143001
3943	36642,78157,6638457	1244491,3916367
3944	36655,22649,0554824	1244546,4144322
3945	36667,67195,4699146	1244601,3826936
3946	36680,11796,8526082	1244656,2964283
3947	36692,56453,1490365	1244711,1556434
3948	36705,01164,3046799	1244765,9603463
3949	36717,45930,2650262	1244820,7105440
3950	36729,90750,9755702	1244875,4062437

Vers. Sine.	Segment.	Difference.
3951	36742,35626,3818139	1244930,0474528
3952	36754,80556,4292667	1244984,6341782
3953	36767,25541,0634449	1245039,1664272
3954	36779,70580,2298721	1245093,6442070
3955	36792,15673,8740791	1245148,0675246
3956	36804,60821,9416037	1245202,4363874
3957	36817,06024,3779911	1245256,7508022
3958	36829,51281,1287933	1245311,0107764
3959	36841,96592,1395697	1245365,2163169
3960	36854,41957,3558866	1245419,3674310
3961	36866,87376,7233177	1245473,4641257
3962	36879,32850,1874434	1245527,5064081
3963	36891,78377,6938515	1245581,4942853
3964	36904,23959,1881368	1245635,4277644
3965	36916,69594,6159012	1245689,3068524
3966	36929,15283,9227536	1245743,1315563
3967	36941,61027,0543100	1245796,9018833
3968	36954,06823,9561933	1245850,6178404
3969	36966,52674,5740337	1245904,2794346
3970	36978,98578,8534684	1245957,8866729
3971	36991,44536,7401413	1246011,4395624
3972	37003,90548,1797037	1246064,9381107
3973	37016,36613,1178137	1246118,3823228
3974	37028,82731,5001366	1246171,7722077
3975	37041,28903,2723443	1246225,1077718
3976	37053,75128,3801161	1246278,3890219
3977	37066,21406,7691380	1246331,6159651
3978	37078,67738,3851031	1246384,7886084
3979	37091,14123,1737115	1246437,9069586
3980	37103,60561,0806701	1246490,9710227
3981	37116,07052,0516928	1246543,9808076
3982	37128,53596,0325004	1246596,9363204
3983	37141,00192,9688209	1246649,8375678
3984	37153,46842,8063887	1246702,6845569
3985	37165,93545,4909456	1246755,4772944
3986	37178,40300,9682400	1246808,2157873
3987	37190,87109,1840273	1246860,9004250
3988	37203,33970,0840699	1246913,5300668
3989	37215,80883,6141367	1246966,1058672
3990	37228,27849,7200039	1247018,6274503
3991	37240,74868,3474542	1247071,0948233
3992	37253,21939,4422775	1247123,5079928
3993	37265,69062,9502703	1247175,8669657
3994	37278,16238,8172360	1247228,1717488
3995	37290,63466,9889848	1247280,4223489
3996	37303,10747,4113337	1247332,6187729
3997	37315,58080,0301066	1247384,7610276
3998	37328,05464,7911342	1247436,8491196
3999	37340,52901,6402538	1247488,8830560
4000	37353,00390,5233098	1247540,8628433

Vers. Sine.	Segment.	Difference.
4001	37365,47931,3861531	1247592,7884883
4002	37377,95524,1746414	1247644,6599980
4003	37390,43168,8346394	1247696,4773789
4004	37402,90865,3120183	1247748,2406377
4005	37415,38613,5526560	1247799,9497815
4006	37427,86413,5024375	1247851,6048166
4007	37440,34265,1072542	1247903,2057500
4008	37452,82168,3130042	1247954,7525883
4009	37465,30113,0655925	1248006,2453383
4010	37477,78129,3109308	1248057,6840065
4011	37490,26186,9949373	1248109,0685998
4012	37502,74296,0635371	1248160,3991246
4013	37515,22456,4626617	1248211,6755880
4014	37527,70668,1382497	1248262,8979963
4015	37540,18931,0362460	1248314,0663562
4016	37552,67245,1026022	1248365,1806745
4017	37565,15610,2832767	1248416,2409578
4018	37577,64026,5242345	1248467,2472125
4019	37590,12493,7714470	1248518,1994456
4020	37602,61011,9708926	1248569,0976634
4021	37615,09581,0685560	1248619,9418727
4022	37627,58201,0104287	1248670,7320800
4023	37640,06871,7425087	1248721,4682919
4024	37652,55593,2108006	1248772,1505150
4025	37665,04365,3613156	1248822,7787558
4026	37677,53188,1400714	1248873,3530210
4027	37690,02061,4930924	1248923,8733171
4028	37702,50985,3664095	1248974,3396506
4029	37714,99959,7060601	1249024,7520281
4030	37727,48984,4580882	1249075,1104561
4031	37739,98059,5685443	1249125,4149412
4032	37752,47184,9834855	1249175,6654897
4033	37764,96360,6489752	1249225,8621084
4034	37777,45586,5110836	1249276,0048035
4035	37789,94862,5158871	1249326,0935819
4036	37802,44188,6094690	1249376,1284497
4037	37814,93564,7379187	1249426,1094134
4038	37827,42990,8473321	1249476,0364798
4039	37839,92466,8838119	1249525,9096551
4040	37852,41992,7934670	1249575,7289457
4041	37864,91568,5224127	1249625,4943582
4042	37877,41194,0167709	1249675,2058989
4043	37889,90869,2226698	1249724,8635745
4044	37902,40594,0862443	1249774,4673911
4045	37914,90368,5536354	1249824,0173552
4046	37927,40192,5709906	1249873,5134733
4047	37939,90066,0844640	1249922,9557518
4048	37952,39989,0402158	1249972,3441969
4049	37964,89961,3844127	1250021,6788153
4050	37977,39983,0632280	1250070,9596131

Vers. Sine.	Segment.	Difference.
4051	37989,90054,0228410	1250120,1865967
4052	38002,40174,2094377	1250169,3597726
4053	38014,90343,5692103	1250218,4791469
4054	38027,40562,0483572	1250267,5447262
4055	38039,90829,5930834	1250316,5565168
4056	38052,41146,1496002	1250365,5145248
4057	38064,91511,6641250	1250414,4187568
4058	38077,41926,0828818	1250463,2692190
4059	38089,92389,3521008	1250512,0659176
4060	38102,42901,4180184	1250560,8088590
4061	38114,93462,2268773	1250609,4980495
4062	38127,44071,7249268	1250658,1334953
4063	38139,94729,8584221	1250706,7152027
4064	38152,45436,5736248	1250755,2431780
4065	38164,96191,8168028	1250803,7174274
4066	38177,46995,5342302	1250852,1379572
4067	38189,97847,6721875	1250900,5047736
4068	38202,48748,1769611	1250948,8178829
4069	38214,99696,9948440	1250997,0772912
4070	38227,50694,0721353	1251045,2830048
4071	38240,01739,3551401	1251093,4350299
4072	38252,52832,7901700	1251141,5333727
4073	38265,03974,3235427	1251189,5780393
4074	38277,55163,9015820	1251237,5690361
4075	38290,06401,4706181	1251285,5063690
4076	38302,57686,9769871	1251333,3900443
4077	38315,09020,3670314	1251381,2200682
4078	38327,60401,5870997	1251428,9964469
4079	38340,11830,5835465	1251476,7191864
4080	38352,63307,3027329	1251524,3882928
4081	38365,14831,6910257	1251572,0037724
4082	38377,66403,6947981	1251619,5656312
4083	38390,18023,2604293	1251667,0738754
4084	38402,69690,3343047	1251714,5285111
4085	38415,21404,8628158	1251761,9295442
4086	38427,73166,7923600	1251809,2769811
4087	38440,24976,0693411	1251856,5708277
4088	38452,76832,6401688	1251903,8110900
4089	38465,28736,4512588	1251950,9977743
4090	38477,80687,4490331	1251998,1308864
4091	38490,32685,5799196	1252045,2104326
4092	38502,84730,7903522	1252092,2364187
4093	38515,36823,0267709	1252139,2088509
4094	38527,88962,2356218	1252186,1277352
4095	38540,41148,3633570	1252232,9930776
4096	38552,93381,3564346	1252279,8048841
4097	38565,45661,1613187	1252326,5631607
4098	38577,97987,7244794	1252373,2679134
4099	38590,50360,9923927	1252419,9191482
4100	38603,02780,9115409	1252466,5168710

Vers. Sine.	Segment.	Differentæ.
4101	38615,55247,4284119	1252513,0610880
4102	38628,07760,4894999	1252559,5518049
4103	38640,60320,0413048	1252605,9890278
4104	38653,12926,0303326	1252652,3727626
4105	38665,65578,4030952	1252698,7030153
4106	38678,18277,1061105	1252744,9797918
4107	38690,71022,0859023	1252791,2030979
4108	38703,23813,2890002	1252837,3729398
4109	38715,76650,6619400	1252883,4892232
4110	38728,29534,1512632	1252929,5522540
4111	38740,82463,7035172	1252975,5617382
4112	38753,35439,2652554	1253021,5177816
4113	38765,88460,7830370	1253067,4203901
4114	38778,41528,2034271	1253113,2695696
4115	38790,94641,4729967	1253159,0653261
4116	38803,47800,5383228	1253204,8076651
4117	38816,01005,3459879	1253250,4965927
4118	38828,54255,8425806	1253296,1321147
4119	38841,07551,9746953	1253341,7142370
4120	38853,60893,6889323	1253387,2429653
4121	38866,14280,9318977	1253432,7183055
4122	38878,67713,6502032	1253478,1402634
4123	38891,21191,7904666	1253523,5088448
4124	38903,74715,2993114	1253568,8240554
4125	38916,28284,1233668	1253614,0859012
4126	38928,81898,2092680	1253659,2943877
4127	38941,35557,5036557	1253704,4495210
4128	38953,89261,9531767	1253749,5513065
4129	38966,43011,5044832	1253794,5997503
4130	38978,96806,1042335	1253839,5948579
4131	38991,50645,6990914	1253884,5366352
4132	39004,04530,2357266	1253929,4250878
4133	39016,58459,6608144	1253974,2602216
4134	39029,12433,9210360	1254019,0420422
4135	39041,66452,9630782	1254063,7705552
4136	39054,20516,7336334	1254108,4457666
4137	39066,74625,1794000	1254153,0676818
4138	39079,28778,2470818	1254197,6363067
4139	39091,82975,8833885	1254242,1516469
4140	39104,37218,0350354	1254286,6137080
4141	39116,91504,6487435	1254331,0224958
4142	39129,45835,6712393	1254375,3780159
4143	39142,00211,0492552	1254419,6802739
4144	39154,54630,7295291	1254463,9292755
4145	39167,09094,6588048	1254508,1250264
4146	39179,63602,7838310	1254552,2675320
4147	39192,18155,5513630	1254596,3567982
4148	39204,72751,4081612	1254640,3928305
4149	39217,27391,8009917	1254684,3756344
4150	39229,82076,1766261	1254728,3052156

Vers. Sine.	Segment.	Differentæ.
4151	39242,36804,4818417	1254772,1815798
4152	39254,91576,6634215	1254816,0047323
4153	39267,46392,6681538	1254859,7746789
4154	39280,01252,4428327	1254903,4914251
4155	39292,56155,9342578	1254947,1549764
4156	39305,11103,0892342	1254990,7653385
4157	39317,66093,8545727	1255034,3225169
4158	39330,21128,1770896	1255077,8265170
4159	39342,76206,0036056	1255121,2773445
4160	39355,31327,2809511	1255164,6750048
4161	39367,86491,9559559	1255208,0195034
4162	39380,41699,9754593	1255251,3108460
4163	39392,96951,2863053	1255294,5490379
4164	39405,52245,8353432	1255337,7340847
4165	39418,07583,5694279	1255380,8659918
4166	39430,62964,4354197	1255423,9447647
4167	39443,18388,3801844	1255466,9704090
4168	39455,73855,3505934	1255509,9429300
4169	39468,29365,2935234	1255552,8623331
4170	39480,84918,1558565	1255595,7286240
4171	39493,40513,8844805	1255638,5418080
4172	39505,96152,4262885	1255681,3018904
4173	39518,51833,7281789	1255724,0088769
4174	39531,07557,7370558	1255766,6627727
4175	39543,63324,3998285	1255809,2635832
4176	39556,19133,6634117	1255851,8113140
4177	39568,74985,4747257	1255894,3059704
4178	39581,30879,7806961	1255936,7475577
4179	39593,86816,5282538	1255979,1360813
4180	39606,42795,6643351	1256021,4715467
4181	39618,98817,1358818	1256063,7539592
4182	39631,54880,8898410	1256105,9833240
4183	39644,10986,8731650	1256148,1596467
4184	39656,67135,0328117	1256190,2829325
4185	39669,23325,3157442	1256232,3531868
4186	39681,79557,6689310	1256274,3704148
4187	39694,35832,0393458	1256316,3346221
4188	39706,92148,3739679	1256358,2458136
4189	39719,48506,6197815	1256400,1039950
4190	39732,04906,7237765	1256441,9091714
4191	39744,61348,6329479	1256483,6613481
4192	39757,17832,2942960	1256525,3605304
4193	39769,74357,6548264	1256567,0067235
4194	39782,30924,6615499	1256608,5999329
4195	39794,87533,2614828	1256650,1401637
4196	39807,44183,4016465	1256691,5274210
4197	39820,00875,0290675	1256733,0617104
4198	39832,57608,0907779	1256774,4430369
4199	39845,14382,5338148	1256815,7714057
4200	39857,71198,3052205	1256857,0468222

Vers. Sine.	Segment.	Difference.
4201	39870,28055,3520427	1256898,2692914
4202	39882,84953,6213341	1256939,4388188
4203	39895,41893,0601529	1256980,5554093
4204	39907,98873,6155622	1257021,6190683
4205	39920,55895,2346305	1257062,6298009
4206	39933,12957,8644314	1257103,5876122
4207	39945,70061,4520436	1257144,4925076
4208	39958,27205,9445512	1257185,3444921
4209	39970,84391,2890433	1257226,1435709
4210	39983,41617,4326142	1257266,8897491
4211	39995,98884,3223633	1257307,5830319
4212	40008,56191,9053952	1257348,2234244
4213	40021,13540,1288196	1257388,8109318
4214	40033,70928,9397513	1257429,3455592
4215	40046,28358,2853105	1257469,8273115
4216	40058,85828,1126220	1257510,2561941
4217	40071,43338,3688161	1257550,6322121
4218	40084,00889,0010282	1257590,9553703
4219	40096,58479,9563985	1257631,2256741
4220	40109,16111,1820726	1257671,4431283
4221	40121,73782,6252009	1257711,6077383
4222	40134,31494,2329392	1257751,7195088
4223	40146,89245,9524480	1257791,7784451
4224	40159,47037,7308931	1257831,7845523
4225	40172,04869,5154454	1257871,7378351
4226	40184,62741,2532805	1257911,6382988
4227	40197,20652,8915793	1257951,4859485
4228	40209,78604,3775278	1257991,2807891
4229	40222,36595,6583169	1258031,0228254
4230	40234,94626,6811423	1258070,7120628
4231	40247,52697,3932051	1258110,3485061
4232	40260,10807,7417112	1258149,9321602
4233	40272,68957,6738714	1258189,4630303
4234	40285,27147,1369017	1258228,9411212
4235	40297,85376,0780229	1258268,3664378
4236	40310,43644,4444607	1258307,7389854
4237	40323,01952,1834461	1258347,0587686
4238	40335,60299,2422147	1258386,3257926
4239	40348,18685,5680073	1258425,5400621
4240	40360,77111,1080694	1258464,7015822
4241	40373,35575,8096516	1258503,8103577
4242	40385,94079,6200093	1258542,8663938
4243	40398,52622,4864031	1258581,8696950
4244	40411,11204,3560981	1258620,8202665
4245	40423,69825,1763646	1258659,7181131
4246	40436,28484,8944777	1258698,5632397
4247	40448,87183,4577174	1258737,3556512
4248	40461,45920,8133686	1258776,0953523
4249	40474,04696,9087209	1258814,7823482
4250	40486,63511,6910691	1258853,4166435

Vers. Sine.	Segment.	Difference.
4251	40499,22365,1077126	1258891,9982431
4252	40511,81257,1059556	1258930,5271519
4253	40524,40187,6331075	1258969,0033746
4254	40536,99156,6364821	1259007,4269163
4255	40549,58164,0633984	1259045,7977815
4256	40562,17209,8611799	1259084,1159753
4257	40574,76293,9771552	1259122,3815024
4258	40587,35416,3586576	1259160,5943674
4259	40599,94576,9530250	1259198,7545755
4260	40612,53775,7076005	1259236,8621312
4261	40625,13012,5697317	1259274,9170393
4262	40637,72287,4867709	1259312,9193047
4263	40650,31600,4060756	1259350,8689319
4264	40662,90951,2750075	1259388,7659261
4265	40675,50340,0409336	1259426,6102916
4266	40688,09766,6512252	1259464,4020334
4267	40700,69231,0532586	1259502,1411562
4268	40713,28733,1944143	1259539,8276647
4269	40725,88273,0220795	1259577,4615636
4270	40738,47850,4836431	1259615,0428576
4271	40751,07465,5265007	1259652,5715516
4272	40763,67118,0980523	1259690,0476501
4273	40776,26808,1457024	1259727,4711578
4274	40788,86535,6168602	1259764,8420795
4275	40801,46300,4589397	1259802,1604198
4276	40814,06102,6193595	1259839,4261833
4277	40826,65942,0455428	1259876,6393748
4278	40839,25818,6849176	1259913,7999989
4279	40851,85732,4849165	1259950,9080604
4280	40864,45683,3929769	1259987,9635636
4281	40877,05671,3565405	1260024,9665135
4282	40889,65696,3230540	1260061,9169145
4283	40902,25758,2399685	1260098,8147713
4284	40914,85857,0547399	1260135,6600885
4285	40927,45992,7148284	1260172,4528708
4286	40940,06165,1676992	1260209,1931225
4287	40952,66374,3608218	1260245,8808488
4288	40965,26620,2416705	1260282,5160536
4289	40977,86902,7577242	1260319,0987419
4290	40990,47221,8564661	1260355,6289181
4291	41003,07577,4853842	1260392,1065869
4292	41015,67969,5919711	1260428,5317527
4293	41028,28398,1237238	1260464,9044202
4294	41040,88863,0281440	1260501,2245938
4295	41053,49364,2527378	1260537,4922782
4296	41066,09901,7450159	1260573,7074778
4297	41078,70475,4524937	1260609,8701971
4298	41091,31085,3226908	1260645,9804408
4299	41103,91731,3031316	1260682,0382133
4300	41116,52413,3413449	1260718,0435192

Vers. Sine.	Segment.	Difference.
4301	41129,13131,3848639	1260753,9963625
4302	41141,73885,3812264	1260789,8967484
4303	41154,34675,2779748	1260825,7446809
4304	41166,95501,0226557	1260861,5401648
4305	41179,56362,5628205	1260897,2832043
4306	41192,17259,8460248	1260932,9738040
4307	41204,78192,8198288	1260968,6119682
4308	41217,39161,4317970	1261004,1977016
4309	41230,00165,6294986	1261039,7310085
4310	41242,61205,3605071	1261075,2118932
4311	41255,22280,5724003	1261110,6403604
4312	41267,83391,2127607	1261146,0164143
4313	41280,44537,2291750	1261181,3400594
4314	41293,05718,5692344	1261216,6113001
4315	41305,66935,1805345	1261251,8301403
4316	41318,28187,0106753	1261286,9965858
4317	41330,89474,0072611	1261322,1106396
4318	41343,50796,1179006	1261357,1723065
4319	41356,12153,2902072	1261392,1815909
4320	41368,73545,4717981	1261427,1384972
4321	41381,34972,6102953	1261462,0430297
4322	41393,96434,6533250	1261496,8951928
4323	41406,57931,5485178	1261531,6949907
4324	41419,19463,2435085	1261566,4424280
4325	41431,81029,6859365	1261601,1375087
4326	41444,42630,8234452	1261635,7802374
4327	41457,04266,6036826	1261670,3706182
4328	41469,65936,9743008	1261704,9086555
4329	41482,27641,8829563	1261739,3943537
4330	41494,89381,2773100	1261773,8277169
4331	41507,51155,1050269	1261808,2087495
4332	41520,12963,3137764	1261842,5374558
4333	41532,74805,8512322	1261876,8138400
4334	41545,36682,6650722	1261911,0379063
4335	41557,98593,7029785	1261945,2096591
4336	41570,60538,9126376	1261979,3291027
4337	41583,22518,2417403	1262013,3962411
4338	41595,84531,6379813	1262047,4110787
4339	41608,46579,0490600	1262081,3736197
4340	41621,08660,4226797	1262115,2838683
4341	41633,70775,7065480	1262149,1418288
4342	41646,32924,8483768	1262182,9475052
4343	41658,95107,7958820	1262216,7009020
4344	41671,57324,4967840	1262250,4020233
4345	41684,19574,8988073	1262284,0508730
4346	41696,81858,9496803	1262317,6474556
4347	41709,44176,5971359	1262351,1917752
4348	41722,06527,7889112	1262384,6838360
4349	41734,68912,4727472	1262418,1236420
4350	41747,31330,5963892	1262451,5111975

Vers. Sine.	Segment.	Difference.
4351	41759,93782,1075867	1262484,8465067
4352	41772,56266,9540934	1262518,1295735
4353	41785,18785,0836669	1262551,3604022
4354	41797,81336,4440691	1262584,5389970
4355	41810,43920,9830661	1262617,6653618
4356	41823,06538,6484279	1262650,7395009
4357	41835,69189,3879288	1262683,7614182
4358	41848,31873,1493470	1262716,7311180
4359	41860,94589,8804650	1262749,6486044
4360	41873,57339,5290694	1262782,5138814
4361	41886,20122,0429508	1262815,3269529
4362	41898,82937,3699037	1262848,0878233
4363	41911,45785,4577270	1262880,7964964
4364	41924,08666,2542234	1262913,4529765
4365	41936,71579,7071999	1262946,0572674
4366	41949,34525,7644673	1262978,6093734
4367	41961,97504,3738407	1263011,1092982
4368	41974,60515,4831389	1263043,5570461
4369	41987,23559,0401850	1263075,9526210
4370	41999,86634,9928060	1263108,2960271
4371	42012,49743,2888331	1263140,5872681
4372	42025,12883,8761012	1263172,8263482
4373	42037,76056,7024494	1263205,0132714
4374	42050,39261,7157208	1263237,1480416
4375	42063,02498,8637624	1263269,2306628
4376	42075,65768,0944252	1263301,2611390
4377	42088,29069,3555642	1263333,2394743
4378	42100,92402,5950385	1263365,1656724
4379	42113,55767,7607109	1263397,0397373
4380	42126,19164,8004482	1263428,8616731
4381	42138,82593,6621213	1263460,6314837
4382	42151,46054,2936050	1263492,3491730
4383	42164,09546,6427780	1263524,0147448
4384	42176,73070,6575228	1263555,6282032
4385	42189,36626,2857260	1263587,1895529
4386	42202,00213,4752780	1263618,6987952
4387	42214,63832,1740733	1263650,1559366
4388	42227,27482,3300099	1263681,5609803
4389	42239,91163,8909902	1263712,9139298
4390	42252,54876,8049200	1263744,2147893
4391	42265,18621,0197093	1263775,4635626
4392	42277,82396,4832719	1263806,6602535
4393	42290,46203,1435254	1263837,8048659
4394	42303,10040,9483913	1263868,8974035
4395	42315,73909,8457948	1263899,9378705
4396	42328,37809,7836653	1263930,9262705
4397	42341,01740,7099358	1263961,8626072
4398	42353,65702,5725430	1263992,7468846
4399	42366,29695,3194276	1264023,5791066
4400	42378,93718,8985342	1264054,3592768

Vers. Sine.	Segment.	Difference.
4401	42391,57773,2578110	1264085,0873992
4402	42404,21858,3452102	1264115,7634573
4403	42416,85974,1086875	1264146,3875153
4404	42429,50120,4962028	1264176,9595167
4405	42442,14297,4557195	1264207,4794853
4406	42454,78504,9352048	1264237,9474249
4407	42467,42742,8826297	1264268,3633393
4408	42480,07011,2459690	1264298,7272322
4409	42492,71309,9732012	1264329,0391074
4410	42505,35639,0123086	1264359,2989686
4411	42517,99998,3112772	1264389,5068196
4412	42530,64387,8180968	1264419,6626640
4413	42543,28807,4807608	1264449,7665056
4414	42555,93257,2472664	1264479,8183482
4415	42568,57737,0656146	1264509,8181953
4416	42581,22246,8838099	1264539,7660508
4417	42593,86786,6498608	1264569,6619183
4418	42606,51356,3117791	1264599,5058015
4419	42619,15955,8175806	1264629,2977041
4420	42631,80585,1152847	1264659,0376297
4421	42644,45244,1529144	1264688,7255821
4422	42657,09932,8784965	1264718,3615648
4423	42669,74651,2400613	1264747,9455816
4424	42682,39399,1856429	1264777,4776360
4425	42695,04176,6632789	1264806,9577318
4426	42707,68983,6210107	1264836,3858726
4427	42720,33820,0068833	1264865,7620618
4428	42732,98685,7689451	1264895,0863033
4429	42745,63580,8552484	1264924,3586007
4430	42758,28505,2138491	1264953,5789574
4431	42770,93458,7928065	1264982,7473771
4432	42783,58441,5401836	1265011,8638636
4433	42796,23453,4040472	1265040,9284201
4434	42808,88494,3324673	1265069,9410504
4435	42821,53564,2735177	1265098,9017581
4436	42834,18663,1752758	1265127,8105467
4437	42846,83790,9858225	1265156,6674198
4438	42859,48947,6532423	1265185,4723809
4439	42872,14133,1256232	1265214,2254336
4440	42884,79347,3510568	1265242,9265813
4441	42897,44590,2776381	1265271,5758278
4442	42910,09861,8534659	1265300,1731764
4443	42922,75162,0266423	1265328,7186307
4444	42935,40490,7452730	1265357,2121941
4445	42948,05847,9574671	1265385,6538703
4446	42960,71233,6113374	1265414,0436627
4447	42973,36647,6550001	1265442,3815748
4448	42986,02090,0365749	1265470,6676101
4449	42998,67560,7041850	1265498,9017720
4450	43011,33059,6059570	1265527,0840640

Vers. Sine.	Segment.	Difference.
4451	43023,98586,6900210	1265555,2144897
4452	43036,64141,9045107	1265583,2930524
4453	43049,29725,1975631	1265611,3197556
4454	43061,95336,5173187	1265639,2946028
4455	43074,60975,8119215	1265667,2175973
4456	43087,26643,0295188	1265695,0887427
4457	43099,92338,1182615	1265722,9080423
4458	43112,58061,0263038	1265750,6754996
4459	43125,23811,7018034	1265778,3911180
4460	43137,89590,0929214	1265806,0549008
4461	43150,55396,1478222	1265833,6668515
4462	43163,21229,8146738	1265861,2269735
4463	43175,87091,0416473	1265888,7352702
4464	43188,52979,7769175	1265916,1917449
4465	43201,18895,9686624	1265943,5964010
4466	43213,84839,5650634	1265970,9492419
4467	43226,50810,5143053	1265998,2502709
4468	43239,16808,7645762	1266025,4994913
4469	43251,82834,2640675	1266052,6969067
4470	43264,48886,9609742	1266079,8425202
4471	43277,14966,8034944	1266106,9363352
4472	43289,81073,7398296	1266133,9783550
4473	43302,47207,7181846	1266160,9685829
4474	43315,13368,6867675	1266187,9070224
4475	43327,79556,5937899	1266214,7936765
4476	43340,45771,3874664	1266241,6285488
4477	43353,12013,0160152	1266268,4116423
4478	43365,78281,4276575	1266295,1429606
4479	43378,44576,5706181	1266321,8225067
4480	43391,10898,3931248	1266348,4502840
4481	43403,77246,8434088	1266375,0262958
4482	43416,43621,8697046	1266401,5505453
4483	43429,10023,4202499	1266428,0230358
4484	43441,76451,4432857	1266454,4437704
4485	43454,42905,8870561	1266480,8127525
4486	43467,09386,6998086	1266507,1299853
4487	43479,75893,8297940	1266533,3954720
4488	43492,42427,2252660	1266559,6092159
4489	43505,08986,8344819	1266585,7712201
4490	43517,75572,6057020	1266611,8814878
4491	43530,42184,4871898	1266637,9400222
4492	43543,08822,4272120	1266663,9468267
4493	43555,75486,3740387	1266689,9019042
4494	43568,42176,2759429	1266715,8052580
4495	43581,08892,0812009	1266741,6568913
4496	43593,75633,7380922	1266767,4568073
4497	43606,42401,1848995	1266793,2050091
4498	43619,09194,3999086	1266818,9014998
4499	43631,76013,3014084	1266844,5462820
4500	43644,42857,8476910	1266870,1393607

Vers. Sine.	Segment.	Difference.
4501	43657,09727,9870517	1266895,6807371
4502	43669,76623,6677888	1266921,1704151
4503	43682,43544,8382039	1266946,6083976
4504	43695,10491,4466015	1266971,9946880
4505	43707,77463,4412895	1266997,3292891
4506	43720,44460,7705786	1267022,6122042
4507	43733,11483,3827828	1267047,8434364
4508	43745,78531,2262192	1267073,0229887
4509	43758,45604,2492079	1267098,1508641
4510	43771,12702,4000720	1267123,2270659
4511	43783,79825,6271379	1267148,2515970
4512	43796,46973,8787349	1267173,2244605
4513	43809,14147,1031954	1267198,1456596
4514	43821,81345,2488550	1267223,0151971
4515	43834,48568,2640521	1267247,8330761
4516	43847,15816,0971282	1267272,5992998
4517	43859,83088,6964280	1267297,3138711
4518	43872,50386,0102991	1267321,9767929
4519	43885,17707,9870920	1267346,5880686
4520	43897,85054,5751606	1267371,1477008
4521	43910,52425,7228615	1267395,6556927
4522	43923,19821,3785542	1267420,1120473
4523	43935,87241,4906015	1267444,5167676
4524	43948,54686,0073691	1267468,8698564
4525	43961,22154,8772255	1267493,1713169
4526	43973,89648,0485424	1267517,4211520
4527	43986,57165,4696944	1267541,6193646
4528	43999,24707,0890590	1267565,7659576
4529	44011,92272,8550166	1267589,8609343
4530	44024,59862,7159509	1267613,9042972
4531	44037,27476,6202481	1267637,8960494
4532	44049,95114,5162975	1267661,8361940
4533	44062,62776,3524915	1267685,7247338
4534	44075,30462,0772253	1267709,5616716
4535	44087,98171,6388969	1267733,3470104
4536	44100,65904,9859073	1267757,0807532
4537	44113,33662,0666605	1267780,7629028
4538	44126,01442,8295633	1267804,3934620
4539	44138,69247,2230253	1267827,9724339
4540	44151,37075,1954593	1267851,4998213
4541	44164,04926,6952806	1267874,9756269
4542	44176,72801,6709075	1267898,3998539
4543	44189,40700,0707614	1267921,7725048
4544	44202,08621,8432662	1267945,0935827
4545	44214,76566,9368489	1267968,3630903
4546	44227,44535,2999392	1267991,5810306
4547	44240,12526,8809698	1268014,7474063
4548	44252,80541,6283761	1268037,8622202
4549	44265,48579,4905963	1268060,9254752
4550	44278,16640,4160715	1268083,9371741
4551	44290,84724,3532456	1268106,8973198
4552	44303,52831,2505654	1268129,8059148
4553	44316,20961,0564802	1268152,6629623
4554	44328,89113,7194425	1268175,4684647
4555	44341,57289,1879072	1268198,2224251
4556	44354,25487,4103323	1268220,9248461
4557	44366,93708,3351784	1268243,5757305
4558	44379,61951,9109089	1268266,1750810
4559	44392,30218,0859899	1268288,7229005
4560	44404,98506,8088904	1268311,2191917
4561	44417,66818,0280821	1268333,6639572
4562	44430,35151,6920393	1268356,0571999
4563	44443,03507,7492392	1268378,3989225
4564	44455,71886,1481617	1268400,6891277
4565	44468,40286,8372894	1268422,9278182
4566	44481,08709,7651076	1268445,1149966
4567	44493,77154,8801042	1268467,2506659
4568	44506,45622,1307701	1268489,3348286
4569	44519,14111,4655987	1268511,3674874
4570	44531,82622,8330861	1268533,3486449
4571	44544,51156,1817310	1268555,2783039
4572	44557,19711,4600349	1268577,1564672
4573	44569,88288,6165021	1268598,9831371
4574	44582,56887,5996392	1268620,7583166
4575	44595,25508,3579558	1268642,4820082
4576	44607,94150,8399640	1268664,1542145
4577	44620,62814,9941785	1268685,7749383
4578	44633,31500,7691168	1268707,3441820
4579	44646,00208,1132988	1268728,8619485
4580	44658,68936,9752473	1268750,3282402
4581	44671,37687,3034875	1268771,7430598
4582	44684,06459,0465473	1268793,1064099
4583	44696,75252,1529572	1268814,4182931
4584	44709,44066,5712503	1268835,6787120
4585	44722,12902,2499623	1268856,8876691
4586	44734,81759,1376314	1268878,0451672
4587	44747,50637,1827986	1268899,1512086
4588	44760,19536,3340072	1268920,2057960
4589	44772,88456,5398032	1268941,2089321
4590	44785,57397,7487353	1268962,1606192
4591	44798,26359,9093545	1268983,0608600
4592	44810,95342,9702145	1269003,9096569
4593	44823,64346,8798714	1269024,7070128
4594	44836,33371,5868842	1269045,4529297
4595	44849,02417,0398139	1269066,1474105
4596	44861,71483,1872244	1269086,7904576
4597	44874,40569,9776820	1269107,3820736
4598	44887,09677,3597556	1269127,9222608
4599	44899,78805,2820164	1269148,4110219
4600	44912,47953,6930383	1269168,8483592

Verſ. Sine.	Segment.	Difference.
4601	44925,17122,5413975	1269189,2342754
4602	44937,86311,7756729	1269209,5687729
4603	44950,55521,3444458	1269229,8518540
4604	44963,24751,1962998	1269250,0835214
4605	44975,94001,2798213	1269270,2637775
4606	44988,63271,5435988	1269290,3926247
4607	45001,32561,9362234	1269310,4700655
4608	45014,01872,4062889	1269330,4961021
4609	45026,71202,9023910	1269350,4707374
4610	45039,40553,3731284	1269370,3939734
4611	45052,09923,7671018	1269390,2658127
4612	45064,79314,0329145	1269410,0862577
4613	45077,48724,1191722	1269429,8553109
4614	45090,18153,9744831	1269449,5729745
4615	45102,87603,5474577	1269469,2392510
4616	45115,57072,7867087	1269488,8541429
4617	45128,26561,6408516	1269508,4176524
4618	45140,96070,0585040	1269527,9297819
4619	45153,65597,9882859	1269547,3905339
4620	45166,35145,3788198	1269566,7999106
4621	45179,04712,1787304	1269586,1579145
4622	45191,74298,3366449	1269605,4645478
4623	45204,43903,8011927	1269624,7198130
4624	45217,13528,5210057	1269643,9237123
4625	45229,83172,4447181	1269663,0762482
4626	45242,52835,5209663	1269682,1774228
4627	45255,22517,6983891	1269701,2272386
4628	45267,92218,9256277	1269720,2256978
4629	45280,61939,1513256	1269739,1728028
4630	45293,31678,3241284	1269758,0685559
4631	45306,01436,3926843	1269776,9129593
4632	45318,71213,3056437	1269795,7060153
4633	45331,41009,0116590	1269814,4477262
4634	45344,10823,4593852	1269833,1380944
4635	45356,80656,5974796	1269851,7771219
4636	45369,50508,3746015	1269870,3648112
4637	45382,20378,7394128	1269888,9011645
4638	45394,90267,6405773	1269907,3861839
4639	45407,60175,0267612	1269925,8198719
4640	45420,30100,8466331	1269944,2022305
4641	45433,00045,0488636	1269962,5332620
4642	45445,70007,5821256	1269980,8129687
4643	45458,39988,3950943	1269999,0413527
4644	45471,09987,4364470	1270017,2184164
4645	45483,80004,6548634	1270035,3441617
4646	45496,50039,9990251	1270053,4185911
4647	45509,20093,4176161	1270071,4417066
4648	45521,90164,8593227	1270089,4135105
4649	45534,60254,2728332	1270107,3340048
4650	45547,30361,6068380	1270125,2031919

Verſ. Sine.	Segment.	Difference.
4651	45560,00486,8100299	1270143,0210738
4652	45572,70629,8311037	1270160,7876528
4653	45585,40790,6187565	1270178,5029309
4654	45598,10969,1216875	1270196,1669103
4655	45610,81165,2885978	1270213,7795933
4656	45623,51379,0681911	1270231,3409818
4657	45636,21610,4091729	1270248,8510780
4658	45648,91859,2602509	1270266,3098841
4659	45661,62125,5701350	1270283,7174021
4660	45674,32409,2875371	1270301,0736342
4661	45687,02710,3611713	1270318,3785824
4662	45699,73028,7397537	1270335,6322490
4663	45712,43364,3720027	1270352,8346358
4664	45725,13717,2066385	1270369,9857451
4665	45737,84087,1923836	1270387,0855790
4666	45750,54474,2779626	1270404,1341393
4667	45763,24878,4121019	1270421,1314284
4668	45775,95299,5435303	1270438,0774482
4669	45788,65737,6209785	1270454,9722006
4670	45801,36192,5931791	1270471,8156880
4671	45814,06664,4088671	1270488,6079121
4672	45826,77153,0167792	1270505,3488752
4673	45839,47658,3656544	1270522,0385791
4674	45852,18180,4042335	1270538,6770259
4675	45864,88719,0812594	1270555,2642177
4676	45877,59274,3454771	1270571,8001564
4677	45890,29846,1456335	1270588,2848441
4678	45903,00434,4304776	1270604,7182828
4679	45915,71039,1487604	1270621,1004742
4680	45928,41660,2492346	1270637,4314207
4681	45941,12297,6806552	1270653,7111240
4682	45953,82951,3917792	1270669,9395861
4683	45966,53621,3313654	1270686,1168091
4684	45979,24307,4481745	1270702,2427949
4685	45991,95009,6909694	1270718,3175454
4686	46004,65728,0085148	1270734,3410625
4687	46017,36462,3495773	1270750,3133483
4688	46030,07212,6629256	1270766,2344046
4689	46042,77978,8973302	1270782,1042333
4690	46055,48761,0015635	1270797,9228365
4691	46068,19558,9244000	1270813,6902159
4692	46080,90372,6146159	1270829,4063736
4693	46093,61202,0209895	1270845,0713113
4694	46106,32047,0923008	1270860,6850311
4695	46119,02907,7773319	1270876,2475346
4696	46131,73784,0248665	1270891,7588241
4697	46144,44675,7836906	1270907,2189011
4698	46157,15583,0025917	1270922,6277676
4699	46169,86505,6303594	1270937,9854255
4700	46182,57443,6157849	1270953,2918767

Vers. Sine.	Segment.	Difference.
4701	46195,28396,9076616	1270968,5471229
4702	46207,99365,4547845	1270983,7511661
4703	46220,70349,2059506	1270998,9040080
4704	46233,41348,1099586	1271014,0056504
4705	46246,12362,1156090	1271029,0560954
4706	46258,83391,1717044	1271044,0553446
4707	46271,54435,2270490	1271059,0033997
4708	46284,25494,2304487	1271073,9002628
4709	46296,96568,1307115	1271088,7459355
4710	46309,67656,8766470	1271103,5404196
4711	46322,38760,4170666	1271118,2837170
4712	46335,09878,7007837	1271132,9758294
4713	46347,81011,6766131	1271147,6167586
4714	46360,52159,2933717	1271162,2065064
4115	46373,23321,4998781	1271176,7450745
4716	46385,94498,2449526	1271191,2324646
4717	46398,65689,4774172	1271205,6686786
4718	46411,36895,1460958	1271220,0537181
4719	46424,08115,1998139	1271234,3875850
4720	46436,79349,5873989	1271248,6702809
4721	46449,50598,2576798	1271262,9018076
4722	46462,21861,1594874	1271277,0821667
4723	46474,93138,2416541	1271291,2113600
4724	46487,64429,4530141	1271305,2893893
4725	46500,35734,7424034	1271319,3162561
4726	46513,07054,0586595	1271333,2919622
4727	46525,78387,3506217	1271347,2165094
4728	46538,49734,5671311	1271361,0898991
4729	46551,21095,6570302	1271374,9121333
4730	46563,92470,5691635	1271388,6832133
4731	46576,63859,2523768	1271402,4031412
4732	46589,35261,6555180	1271416,0719182
4733	46602,06677,7274362	1271429,6895463
4734	46614,78107,4169825	1271443,2560270
4735	46627,49550,6730095	1271456,7713620
4736	46640,21007,4443715	1271470,2355528
4737	46652,92477,6799243	1271483,6486011
4738	46665,63961,3285254	1271497,0105086
4739	46678,35458,3390340	1271510,3212768
4740	46691,06968,6603108	1271523,5809074
4741	46703,78492,2412182	1271536,7894018
4742	46716,50029,9306200	1271549,9467619
4743	46729,21578,9773819	1271563,0529891
4744	46741,93142,0303710	1271576,1080849
4745	46754,64718,1384559	1271589,1120511
4746	46767,36307,2505070	1271602,0648891
4747	46780,07909,3153961	1271614,9666005
4748	46792,79524,2819967	1271627,8171869
4749	46805,51152,0991836	1271640,6166498
4750	46818,22792,7158334	1271653,3649908

Vers. Sine.	Segment.	Difference.
4751	46830,94446,0808242	1271666,0622114
4752	46843,66112,1430356	1271678,7083131
4753	46856,37790,8513487	1271691,3032974
4754	46869,09482,1545461	1271703,8471660
4755	46881,81186,0018121	1271716,3399202
4756	46894,52902,3417323	1271728,7815616
4757	46907,24631,1232939	1271741,1720918
4758	46919,96372,2953857	1271753,5115120
4759	46932,68125,8068977	1271765,7998241
4760	46945,39891,6067218	1271778,0370292
4761	46958,11669,6437510	1271790,2231290
4762	46970,83459,8668799	1271802,3581248
4763	46983,55262,2250048	1271814,4420182
4764	46996,27076,6670230	1271826,4748108
4765	47008,98903,1418338	1271838,4565037
4766	47021,70741,5983375	1271850,3870985
4767	47034,42591,9854360	1271862,2665967
4768	47047,14454,2520328	1271874,0949997
4769	47059,86326,3470325	1271885,8723089
4770	47072,58214,2193414	1271897,5985258
4771	47085,30111,8178672	1271909,2736517
4772	47098,02021,0915189	1271920,8976880
4773	47110,73941,9892069	1271932,4706362
4774	47123,45874,4598431	1271943,9924976
4775	47136,17818,4523407	1271955,4632737
4776	47148,89773,9156143	1271966,8829658
4777	47161,61740,7985801	1271978,2515752
4778	47174,33719,0501553	1271989,5691035
4779	47187,05708,6192588	1272000,8355518
4780	47199,77709,4548106	1272012,0509217
4781	47212,49721,5057323	1272023,2152143
4782	47225,21744,7209466	1272034,3284312
4783	47237,93779,0493778	1272045,3905736
4784	47250,65824,4399514	1272056,4016428
4785	47263,37880,8415942	1272067,3616402
4786	47276,09948,2032344	1272078,2705671
4787	47288,82026,4738015	1272089,1284248
4788	47301,54115,6022263	1272099,9352146
4789	47314,26215,5374409	1272110,6909379
4790	47326,98326,2283788	1272121,3955958
4791	47339,70447,6239746	1272132,0491898
4792	47352,42579,6731644	1272142,6517210
4793	47365,14722,3248854	1272153,2031909
4794	47377,86875,5280763	1272163,7036005
4795	47390,59039,2316768	1272174,1529512
4796	47403,31213,3846280	1272184,5512443
4797	47416,03397,9358723	1272194,8984811
4798	47428,75592,8343534	1272205,1946626
4799	47441,47798,0290160	1272215,4397903
4800	47454,20013,4688063	1272225,6338653

Vers. Sine.	Segment.	Difference.
4801	47466,92239,1026716	1272235,7768888
4802	47479,64474,8795604	1272245,8688621
4803	47492,36720,7484225	1272255,9097864
4804	47505,08976,6582089	1272265,8996629
4805	47517,81242,5578718	1272275,8384928
4806	47530,53518,3963646	1272285,7262773
4807	47543,25804,1226420	1272295,5630176
4808	47555,98099,6856596	1272305,3487149
4809	47568,70405,0343745	1272315,0833703
4810	47581,42720,1177448	1272324,7669850
4811	47594,15044,8847298	1272334,3995602
4812	47606,87379,2842900	1272343,9810971
4813	47619,59723,2653871	1272353,5115968
4814	47632,32076,7769839	1272362,9910604
4815	47645,04439,7680443	1272372,4194891
4816	47657,76812,1875334	1272381,7968840
4817	47670,49193,9844174	1272391,1232462
4818	47683,21585,1076636	1272400,3985770
4819	47695,93985,5062406	1272409,6228773
4820	47708,66395,1291180	1272418,7961483
4821	47721,38813,9252663	1272427,9183912
4822	47734,11241,8436575	1272436,9896069
4823	47746,83678,8332643	1272446,0097966
4824	47759,56124,8430609	1272454,9789614
4825	47772,28579,8220223	1272463,8971023
4826	47785,01043,7191246	1272472,7642204
4827	47797,73516,4833451	1272481,5803169
4828	47810,45998,0636620	1272490,3453927
4829	47823,18488,4090548	1272499,0594490
4830	47835,90987,4635037	1272507,7224867
4831	47848,63495,1909904	1272516,3345068
4832	47861,36011,5254972	1272524,8955105
4833	47874,08536,4210077	1272533,4054988
4834	47886,81069,8265065	1272541,8644726
4835	47899,53611,6909791	1272550,2724331
4836	47912,26161,9634122	1272558,6293812
4837	47924,98720,5927934	1272566,9353179
4838	47937,71287,5281113	1272575,1902442
4839	47950,43862,7183555	1272583,3941611
4840	47963,16446,1125166	1272591,5470696
4841	47975,89037,6595862	1272599,6489708
4842	47988,61637,3085570	1272607,6998654
4843	48001,34245,0084224	1272615,6997546
4844	48014,06860,7081770	1272623,6486393
4845	48026,79484,3568163	1272631,5465203
4846	48039,52115,9033366	1272639,3933988
4847	48052,24755,2967354	1272647,1892757
4848	48064,97402,4860111	1272654,9341518
4849	48077,70057,4201629	1272662,6280280
4850	48090,42720,0481909	1272670,2709055

Vers. Sine.	Segment.	Difference.
4851	48103,15390,3190964	1272677,8627849
4852	48115,88068,1818813	1272685,4036673
4853	48128,60753,5855486	1272692,8935536
4854	48141,33446,4791022	1272700,3324446
4855	48154,06146,8115468	1272707,7203413
4856	48166,78854,5318882	1272715,0572446
4857	48179,51569,5891328	1272722,3431552
4858	48192,24291,9322880	1272729,5780742
4859	48204,97021,5103622	1272736,7620024
4860	48217,69758,2723646	1272743,8949406
4861	48230,42502,1673052	1272750,9768896
4862	48243,15253,1441948	1272758,0078504
4863	48255,88011,1520452	1272764,9878239
4864	48268,60776,1398691	1272771,9168107
4865	48281,33548,0566798	1272778,7948118
4866	48294,06326,8514916	1272785,6218280
4867	48306,79112,4733196	1272792,3978601
4868	48319,51904,8711797	1272799,1229089
4869	48332,24703,9940885	1272805,7969752
4870	48344,97509,7910638	1272812,4200599
4871	48357,70322,2111238	1272818,9921637
4872	48370,43141,2032875	1272825,5132874
4873	48383,15966,7165749	1272831,9834319
4874	48395,88798,7000068	1272838,4025977
4875	48408,61637,1026046	1272844,7707859
4876	48421,34481,8733905	1272851,0879972
4877	48434,07332,9613877	1272857,3542320
4878	48446,80190,3156197	1272863,5694915
4879	48459,53053,8851113	1272869,7337763
4880	48472,25923,6188876	1272875,8470870
4881	48484,98799,4659746	1272881,9094246
4882	48497,71681,3753992	1272887,9207895
4883	48510,44569,2961887	1272893,8811828
4884	48523,17463,1773715	1272899,7906048
4885	48535,90362,9679763	1272905,6490566
4886	48548,63268,6170329	1272911,4565387
4887	48561,36180,0735716	1272917,2130517
4888	48574,09097,2866233	1272922,9185965
4889	48586,82020,2052198	1272928,5731738
4890	48599,54948,7783936	1272934,1767840
4891	48612,27882,9551776	1272939,7294281
4892	48625,00822,6846057	1272945,2311065
4893	48637,73767,9157122	1272950,6818201
4894	48650,46718,5975323	1272956,0815694
4895	48663,19674,6791017	1272961,4303551
4896	48675,92636,1094558	1272966,7281777
4897	48688,65602,8376345	1272971,9750382
4898	48701,38574,8126727	1272977,1709368
4899	48714,11551,9836095	1272982,3158744
4900	48726,84534,2994839	1272987,4098515

Vers. Sine.	Segment.	Difference.
4901	48739,57521,7093354	1272992,4528688
4902	48752,30514,1622042	1272997,4449268
4903	48765,03511,6071311	1273002,3860262
4904	48777,76513,9931573	1273007,2761676
4905	48790,49521,2693249	1273012,1153514
4906	48803,22533,3846763	1273016,9035784
4907	48815,95550,2882547	1273021,6408491
4908	48828,68571,9291038	1273026,3271641
4909	48841,41598,2562679	1273030,9625238
4910	48854,14629,2187917	1273035,5469289
4911	48866,87664,7657206	1273040,0803800
4912	48879,60704,8461006	1273044,5628776
4913	48892,33749,4089782	1273048,9944221
4914	48905,06798,4034003	1273053,3750142
4915	48917,79851,7784145	1273057,7046544
4916	48930,52909,4830689	1273061,9833432
4917	48943,25971,4664121	1273066,2110810
4918	48955,99037,6774931	1273070,3878685
4919	48968,72108,0653616	1273074,5137061
4920	48981,45182,5790677	1273078,5885943
4921	48994,18261,1676620	1273082,6125336
4922	49006,91343,7801956	1273086,5855245
4923	49019,64430,3657201	1273090,5075674
4924	49032,37520,8732875	1273094,3786629
4925	49045,10615,2519504	1273098,1988113
4926	49057,83713,4507617	1273101,9680133
4927	49070,56815,4187750	1273105,6862691
4928	49083,29921,1050441	1273109,3535793
4929	49096,03030,4586234	1273112,9699442
4930	49108,76143,4285676	1273116,5353644
4931	49121,49259,9639320	1273120,0498403
4932	49134,22380,0137723	1273123,5133722
4933	49146,95503,5271445	1273126,9259606
4934	49159,68630,4531051	1273130,2876059
4935	49172,41760,7407110	1273133,5983085
4936	49185,14894,3390195	1273136,8580688
4937	49197,88031,1970883	1273140,0668873
4938	49210,61171,2639756	1273143,2247641
4939	49223,34314,4887397	1273146,3316999
4940	49236,07460,8204396	1273149,3876948
4941	49248,80610,2081344	1273152,3927494
4942	49261,53762,6008838	1273155,3468640
4943	49274,26917,9477478	1273158,2500388
4944	49287,00076,1977866	1273161,1022744
4945	49299,73237,3000610	1273163,9035708
4946	49312,46401,2036318	1273166,6539287
4947	49325,19567,8575605	1273169,3533482
4948	49337,92737,2109087	1273172,0018297
4949	49350,65909,2127384	1273174,5993735
4950	49363,39083,8121119	1273177,1459800

Vers. Sine.	Segment.	Difference.
4951	49376,12260,9580919	1273179,6416493
4952	49388,85440,5997412	1273182,0863820
4953	49401,58622,6861232	1273184,4801781
4954	49414,31807,1663013	1273186,8230380
4955	49427,04993,9893393	1273189,1149621
4956	49439,78183,1043014	1273191,3559505
4957	49452,51374,4602519	1273193,5460034
4958	49465,24568,0062553	1273195,6851214
4959	49477,97763,6913767	1273197,7733045
4960	49490,70961,4646812	1273199,8105530
4961	49503,44161,2752342	1273201,7968671
4962	49516,17363,0721013	1273203,7322471
4963	49528,90566,8043484	1273205,6166933
4964	49541,63772,4210417	1273207,4502058
4965	49554,36979,8712475	1273209,2327848
4966	49567,10189,1040323	1273210,9644307
4967	49579,83400,0684630	1273212,6451434
4968	49592,56612,7136064	1275214,2749235
4969	49605,29826,9885299	1273215,8537709
4970	49618,03042,8423008	1273217,3816858
4971	49630,76260,2239866	1273218,8586686
4972	49643,49479,0826552	1273220,2847193
4973	49656,22699,3673745	1273221,6598380
4974	49668,95921,0272125	1273222,9840251
4975	49681,69144,0112376	1273224,2572805
4976	49694,42368,2685181	1273225,4796046
4977	49707,15593,7481227	1273226,6509974
4978	49719,88820,3991201	1273227,7714590
4979	49732,62048,1705791	1273228,8409897
4980	49745,35277,0115688	1273229,8595895
4981	49758,08506,8711583	1273230,8272585
4982	49770,81737,6984168	1273231,7439970
4983	49783,54969,4424138	1273232,6098049
4984	49796,28202,0522187	1273233,4246823
4985	49809,01435,4769010	1273234,1886295
4986	49821,74669,6655305	1273234,9016465
4987	49834,47904,5671770	1273235,5637333
4988	49847,21140,1309103	1273236,1748900
4989	49859,94376,3058003	1273236,7351168
4990	49872,67613,0409171	1273237,2444136
4991	49885,40850,2853307	1273237,7027806
4992	49898,14087,9881113	1273238,1102178
4993	49910,87326,0983292	1273238,4667252
4994	49923,60564,5650544	1273238,7723029
4995	49936,33803,3373573	1273239,0269510
4996	49949,07042,3643083	1273239,2306694
4997	49961,80281,5949777	1273239,3834581
4998	49974,53520,9784358	1273239,4853173
4999	49987,26760,4637531	1273239,5362469
5000	50000,00000,0000000	

A Table for computing the Solidity of the Upright Hyperbolick Section *of a* Cone.

Ver. Sine		*Difference.*
000	000 40000,00000,0000000	
		800589,6883053
001	39991,99410,3116947	
		801770,9962079
002	39983,97639,3154868	
		802955,2088698
003	39975,94684,1066170	
		804142,3367624
004	39967,90541,7698546	
		805332,3904082
005	39959,85209,3794464	
		806525,3803810
006	39951,78683,9990654	
		807721,3173074
007	39943,70962,6817580	
		808920,2118663
008	39935,62042,4698917	
		810122,0747897
009	39927,51920,3951020	
		811326,9168624
010	39919,40593,4782396	
		812534,7489231
011	39911,28058,7293165	
		813745,5818642
012	39903,14313,1474523	
		814959,4266321
013	39894,99353,7208202	
		816176,2942283
014	39886,83177,4265919	
		817396,1957089
015	39878,65781,2308830	
		818619,1421853
016	39870,47162,0886977	
		819845,1448249
017	39862,27316,9438728	
		821074,2148504
018	39854,06242,7290224	
		822306,3635418
019	39845,83936,3654806	
		823541,6022350
020	39837,60394,7632456	
		824779,9423237
021	39829,35614,8209219	
		826021,3952585
022	39821,09593,4256634	
		827265,9725486
023	39812,82327,4531148	
		828513,6857607
024	39804,53813,7673541	
		829764,5465208
025	39796,24049,2208333	
		831018,5665135
026	39787,93030,6542198	
		832275,7574829
027	39779,60754,8968369	
		833536,1312332
028	39771,27218,7656037	
		834799,6996285
029	39762,92419,0659752	
		836066,4745936
030	39754,56352,5913816	
		837336,4681145
031	39746,19016,1232671	
		838609,6922385
032	39737,80406,4310286	
		839886,1590745
033	39729,40520,2719541	
		841165,8807943
034	39720,99354,3911598	
		842448,8696316
035	39712,56905,5215282	
		843735,1378839
036	39704,13170,3836443	
		845024,6979117
037	39695,68145,6857325	
		846317,5621398
038	39687,21828,1235927	
		847613,7430572
039	39678,74214,3805355	
		848913,2532179
040	39670,25301,1273176	
		850216,1052409
041	39661,75085,0220767	
		851522,3118110
042	39653,23562,7102657	
		852831,8856794
043	39644,70730,8245863	
		854144,8396637
044	39636,16585,9849226	
		855461,1866485
045	39627,61124,7982741	
		856780,9395859
046	39619,04343,8586882	
		858104,1114364
047	39610,46239,7471917	
		859430,7154685
048	39601,86809,0317232	
		860760,7646596
049	39593,26048,2670636	
		862094,2722969
050	39584,63953,9947667	

Versed Sine.		*Difference.*
		863431,2516773
051	39576,00522,7430894	
		864771,7161678
052	39567,35751,0269216	
		866115,6792065
053	39558,69635,3477151	
		867463,1543029
054	39550,02172,1934122	
		868814,1550384
055	39541,33358,0383738	
		870168,6950663
056	39532,63189,3433075	
		871526,7881132
057	39523,91662,5551943	
		872888,4479789
058	39515,18774,1072154	
		874253,6885371
059	39506,44520,4186783	
		875622,5237359
060	39497,68897,8949424	
		876994,9675981
061	39488,91902,9273443	
		878371,0342222
062	39480,13531,8931221	
		879750,7377828
063	39471,33781,1553393	
		881134,0925306
064	39462,52647,0628087	
		882521,1127936
065	39453,70125,9500151	
		883911,8129774
066	39444,86214,1371376	
		885306,2075657
067	39436,00907,9294719	
		886704,3111211
068	39427,14203,6183508	
		888106,1382850
069	39418,26097,4800658	
		889511,7037793
070	39409,36585,7762865	
		890921,0224058
071	39400,45664,7538807	
		892334,1090475
072	39391,53330,6448332	
		893750,9786689
073	39382,59579,6661643	
		895171,6463167
074	39373,64408,0198476	
		896596,1271205
075	39364,67811,8927271	
		898024,4362930
076	39355,69787,4564341	
		899456,5891310
077	39346,70330,8673031	
		900892,6010159
078	39337,69438,2662871	
		902332,4874142
079	39328,67105,7788729	
		903776,2638783
080	39319,63329,5149946	
		905223,9460470
081	39310,58105,5689476	
		906675,5496460
082	39301,51430,0193016	
		908131,0904891
083	39292,43298,9288125	
		909590,5844780
084	39283,33708,3443345	
		911054,0476038
085	39274,22654,2967307	
		912521,4959470
086	39265,10132,8007837	
		913992,9456784
087	39255,96139,8551053	
		915468,4130602
088	39246,80671,4420451	
		916947,9144455
089	39237,63723,5275996	
		918431,4662807
090	39228,45292,0613189	
		919919,0851044
091	39219,25372,9762145	
		921410,7875495
092	39210,03962,1886650	
		922906,5903429
093	39200,81055,5983221	
		924406,5103071
094	39191,56649,0880150	
		925910,5643601
095	39182,30738,5236549	
		927418,7695165
096	39173,03319,7541384	
		928931,1428885
097	39163,74388,6112499	
		930447,7016860
098	39154,43940,9095639	
		931968,4632179
099	39145,11972,4463460	
		933493,4448925
100	39135,78479,0014535	935022,6642186

Versed Sine.		Difference.
101	39126,43456,3372349	935022,6642186
102	39117,06900,1984292	936556,1388057
103	39107,68806,3120636	938093,8863656
104	39098,29170,3873514	939635,9247122
105	39088,87988,1155882	941182,2717632
106	39079,45255,1700479	942732,9455403
107	39070,00967,2058777	944287,9641702
108	39060,55119,8599921	945847,3458855
109	39051,07708,7509668	947411,1090253
110	39041,58729,4789307	948979,2720361
111	39032,08177,6254578	950551,8534729
112	39022,56048,7534582	952128,8719996
113	39013,02338,4070680	953710,3463902
114	39003,47042,1115385	955296,2955295
115	38993,90155,3731245	956886,7384139
116	38984,31673,6789719	958481,6941526
117	38974,71592,4970039	960081,1819680
118	38965,09907,2758067	961685,2211972
119	38955,46613,4445147	963293,8312920
120	38945,81706,4126938	964907,0318209
121	38936,15181,5702244	966524,8424694
122	38926,47034,2871837	968147,2830407
123	38916,77259,9137264	969774,3734573
124	38907,05853,7799649	971406,1337615
125	38897,32811,1958485	973042,5841164
126	38887,58127,4510412	974683,7448073
127	38877,81797,8147997	976329,6362415
128	38868,03817,5358488	977980,2789509
129	38858,24181,8422567	979635,6935920
130	38848,42885,9413097	981295,9009470
131	38838,59925,0193847	982960,9219250
132	38828,75294,2418217	984630,7775630
133	38818,88988,7527950	986305,4890267
134	38809,01003,6751829	987985,0776121
135	38799,11334,1104370	989669,5647459
136	38789,19975,1384499	991358,9719871
137	38779,26921,8174219	993053,3210280
138	38769,32169,1837272	994752,6336947
139	38759,35712,2517780	996456,9319492
140	38749,37546,0138883	998166,2378897
141	38739,37665,4401360	999880,5737523
142	38729,36065,4782246	1001599,9619114
143	38719,32741,0533426	1003324,4248820
144	38709,27687,0680228	1005053,9853198
145	38699,20898,4020002	1006788,6660226
146	38689,12369,9120680	1008528,4899322
147	38679,02096,4319333	1010273,4801347
148	38668,90072,7720710	1012023,6598623
149	38658,76293,7195768	1013779,0524942
150	38648,60754,0380187	1015539,6815581

Versed Sine.		Difference.
151	38638,43448,4672874	1017305,5707313
152	38628,24371,7234455	1019076,7438419
153	38618,03518,4985749	1020853,2248706
154	38607,80883,4606240	1022634,0379509
155	38597,56461,2532522	1024422,2073718
156	38587,30246,4956740	1026214,7575782
157	38577,02233,7825015	1028012,7131725
158	38566,72417,6835858	1029816,0989157
159	38556,40792,7438562	1031624,9397296
160	38546,07353,4831593	1033439,2606969
161	38535,72094,3960953	1035259,0870640
162	38525,35009,9518540	1037084,4442413
163	38514,96094,5940488	1038915,3578052
164	38504,55342,7405493	1040751,8534995
165	38494,12748,7833127	1042593,9572366
166	38483,68307,0882131	1044441,6950996
167	38473,22011,9948702	1046295,0933429
168	38462,73857,8164758	1048154,1783944
169	38452,23838,8396190	1050018,9768568
170	38441,71949,3241095	1051889,5155095
171	38431,18183,5028001	1053765,8213094
172	38420,62535,5814069	1055647,9213932
173	38410,04999,7383280	1057535,8430788
174	38399,45570,1244612	1059429,6138668
175	38388,84240,8630190	1061329,2614422
176	38378,21006,0493427	1063234,8136763
177	38367,55859,7507148	1065146,2986279
178	38356,88796,0061694	1067063,7445454
179	38346,19808,8263007	1068987,1798637
180	38335,48892,1930706	1070916,6332301
181	38324,76040,0596135	1072852,1334571
182	38314,01246,3500402	1074793,7095733
183	38303,24504,9592390	1076741,3908012
184	38292,45809,7526764	1078695,2065626
185	38281,65154,5661943	1080655,1864821
186	38270,82533,2058067	1082621,3603876
187	38259,97939,4474937	1084593,7583130
188	38249,11367,0369939	1086572,4104998
189	38238,22809,6895948	1088557,3473991
190	38227,32261,0899212	1090548,5996736
191	38216,39714,8917218	1092546,1981994
192	38205,45164,7176534	1094550,1740684
193	38194,48604,1590635	1096560,5585899
194	38183,50026,7757706	1098577,3832929
195	38172,49426,0958424	1100600,6799282
196	38161,46795,6153719	1102630,4804705
197	38150,42128,7982518	1104666,8171201
198	38139,35419,0759458	1106709,7223060
199	38128,26659,8472586	1108759,2286872
200	38117,15844,4781034	1110815,3691552

Versed Sine.		Difference.
201	38106,02966,3012669	1112878,1768365
202	38094,88018,6161724	1114947,6850945
203	38083,70994,6886403	1117023,9275321
204	38072,51887,7506466	1119106,9379937
205	38061,30691,0000786	1121196,7505680
206	38050,07397,6004886	1123293,3995900
207	38038,82000,6808452	1125396,9196434
208	38027,54493,3352817	1127507,3455635
209	38016,24868,6228425	1129624,7124392
210	38004,93119,5672266	1131749,0556159
211	37993,59239,1565291	1133880,4106975
212	37982,23220,3429796	1136018,8135495
213	37970,85056,0426781	1138164,3003015
214	37959,44739,1353283	1140316,9073498
215	37948,02262,4639686	1142476,6713597
216	37936,57618,8346995	1144643,6292691
217	37925,10801,0164094	1146817,8182901
218	37913,61801,7404954	1148999,2759130
219	37902,10613,7005883	1151188,0329081
220	37890,57229,5522593	1153384,1483290
221	37879,01641,9127435	1155587,6395158
222	37867,43843,3606462	1157798,5520973
223	37855,83826,4356517	1160016,9249945
224	37844,21583,6382279	1162242,7974238
225	37832,57107,4293288	1164476,2088991
226	37820,90390,2300925	1166717,1992363
227	37809,21424,4215375	1168965,8085550
228	37797,50202,3442548	1171222,0772827
229	37785,76716,2980971	1173486,0461577
230	37774,00958,5418648	1175757,7562323
231	37762,22921,2929889	1178037,2488759
232	37750,42596,7272099	1180324,5657790
233	37738,59976,9782540	1182619,7489559
234	37726,75054,1375053	1184922,8407487
235	37714,87820,2536749	1187233,8838304
236	37702,98267,3324664	1189552,9212085
237	37691,06387,3362374	1191879,9962290
238	37679,12172,1836579	1194215,1525795
239	37667,15613,7493647	1196558,4342932
240	37655,16703,8636120	1198909,8857527
241	37643,15434,3119186	1201269,5516934
242	37631,11796,8347106	1203637,4772080
243	37619,05783,1269609	1206013,7077497
244	37606,97384,8378240	1208398,2891369
245	37594,86593,5702676	1210791,2675564
246	37582,73400,8806992	1213192,6895684
247	37570,57798,2785893	1215602,6021098
248	37558,39777,2260904	1218021,0524989
249	37546,19329,1376507	1220448,0884397
250	37533,96445,3796251	1222883,7580256

Versed Sine.		Difference.
251	37521,71117,2698805	1225328,1097446
252	37509,43336,0773972	1227781,1924833
253	37497,13093,0218656	1230243,0555316
254	37484,80379,2732787	1232713,7485869
255	37472,45185,9515194	1235193,3217593
256	37460,07504,1259433	1237681,8255761
257	37447,67324,8149570	1240179,3109863
258	37435,24638,9855911	1242685,8293659
259	37422,79437,5530685	1245201,4325226
260	37410,31711,3803675	1247726,1727010
261	37397,81451,2777802	1250260,1025873
262	37385,28648,0024652	1252803,2753150
263	37372,73292,2579956	1255355,7444696
264	37360,15374,6939012	1257917,5640944
265	37347,54885,9052056	1260488,7886956
266	37334,91816,4319575	1263069,4732481
267	37322,26156,7587570	1265659,6732005
268	37309,57897,3142756	1268259,4444814
269	37296,87028,4707707	1270868,8435049
270	37284,13540,5435943	1273487,9271764
271	37271,37423,7906959	1276116,7528984
272	37258,58668,4121189	1278755,3785770
273	37245,77264,5494913	1281403,8626276
274	37232,93202,2855102	1284062,2639811
275	37220,06471,6434196	1286730,6420906
276	37207,17062,5864820	1289409,0569376
277	37194,24965,0174437	1292097,5690383
278	37181,30168,7779929	1294796,2394508
279	37168,32663,6482116	1297505,1297813
280	37155,32439,3460203	1300224,3021913
281	37142,29485,5266161	1302953,8194042
282	37129,23791,7819030	1305693,7447131
283	37116,15347,6399161	1308444,1419869
284	37103,04142,5642373	1311205,0756788
285	37089,90165,9534043	1313976,6108330
286	37076,73407,1403120	1316758,8130923
287	37063,53855,3916058	1319551,7487062
288	37050,31499,9070674	1322355,4845384
289	37037,06329,8189926	1325170,0880748
290	37023,78334,1915610	1327995,6274316
291	37010,47502,0201973	1330832,1713637
292	36997,13822,2309243	1333679,7892730
293	36983,77283,6797076	1336538,5512167
294	36970,37875,1517916	1339408,5279160
295	36956,95585,3610259	1342289,7907657
296	36943,50402,9491841	1345182,4118418
297	36930,02316,4852723	1348086,4639118
298	36916,51314,4648287	1351002,0204436
299	36902,97385,3092142	1353929,1556145
300	36889,40517,3648922	1356867,9443220
		1359818,4621921

Ver. Sine		Difference.
301	36875,80698,9027001	1359818,4621921
302	36862,17918,1171097	1362780,7855905
303	36848,52163,1254775	1365754,9916322
304	36834,83421,9672855	1368741,1581920
305	36821,11682,6033705	1371739,3639149
306	36807,36932,9151435	1374749,6882270
307	36793,59160,7037973	1377772,2113463
308	36779,78353,6895034	1380807,0142939
309	36765,94499,5105982	1383854,1789052
310	36752,07585,7227565	1386913,7878417
311	36738,17599,7981539	1389985,9246026
312	36724,24529,1246171	1393070,6735368
313	36710,28361,0047620	1396168,1198551
314	36696,29082,6551195	1399278,3496425
315	36682,26681,2052480	1402401,4498715
316	36668,21143,6968337	1405537,5084143
317	36654,12457,0827776	1408686,6140561
318	36640,00608,2262686	1411848,8565090
319	36625,85583,8998431	1415024,3264255
320	36611,67370,7844311	1418213,1154120
321	36597,45955,4683873	1421415,3160438
322	36583,21324,4465083	1424631,0218790
323	36568,93464,1190346	1427860,3274737
324	36554,62360,7906375	1431103,3283971
325	36540,28000,6693910	1434360,1212465
326	36525,90369,8657273	1437630,8036637
327	36511,49454,3913768	1440915,4743505
328	36497,05240,1582914	1444214,2330854
329	36482,57712,9775514	1447527,1807400
330	36468,06858,5582547	1450854,4192967
331	36453,52662,5063895	1454196,0518652
332	36438,95110,3236882	1457552,1827013
333	36424,34187,4064644	1460922,9172238
334	36409,69879,0444295	1464308,3620349
335	36395,02170,4194924	1467708,6249371
336	36380,31046,6045386	1471123,8149538
337	36365,56492,5621898	1474554,0423488
338	36350,78493,1435435	1477999,4186463
339	36335,97033,0868914	1481460,0566521
340	36321,12097,0164179	1484936,0704735
341	36306,23669,4408756	1488427,5755423
342	36291,31734,7522400	1491934,6886356
343	36276,36277,2243407	1495457,5278993
344	36261,37281,0114705	1498996,2128702
345	36246,34730,1469703	1502550,8645002
346	36231,28608,5417900	1506121,6051803
347	36216,18899,9830254	1509708,5587646
348	36201,05588,1324290	1513311,8505964
349	36185,88656,5248957	1516931,6075333
350	36170,68088,5669219	1520567,9579738

Versed Sine.		Difference.
351	36155,43867,5350377	1524221,0318842
352	36140,15976,5742115	1527890,9608262
353	36124,84398,6962259	1531577,8779855
354	36109,49116,7780257	1535281,9182002
355	36094,10113,5600352	1539003,2179905
356	36078,67371,6444455	1542741,9155897
357	36063,20873,4934711	1546498,1509744
358	36047,70601,4275743	1550272,0658968
359	36032,16537,6236569	1554063,8039173
360	36016,58664,1132190	1557873,5104379
361	36000,96962,7804827	1561701,3327363
362	35985,31415,3604814	1565547,4200013
363	35969,62003,4371131	1569411,9233683
364	35953,88708,4411561	1573294,9959570
365	35938,11511,6482478	1577196,7929083
366	35922,30394,1768237	1581117,4714241
367	35906,45336,9860173	1585057,1908064
368	35890,56320,8735190	1589016,1124983
369	35874,63326,4733927	1592994,4001263
370	35858,66334,2538497	1596992,2195430
371	35842,65324,5149780	1601009,7388717
372	35826,60277,3864270	1605047,1285510
373	35810,51172,8250444	1609104,5613826
374	35794,37990,6124666	1613182,2125778
375	35778,20710,3526585	1617280,2598081
376	35761,99311,4694039	1621398,8832546
377	35745,73773,2037434	1625538,2656605
378	35729,44074,6113587	1629698,5923847
379	35713,10194,5599023	1633880,0514564
380	35696,72111,7262709	1638082,8336314
381	35680,29804,5938201	1642307,1324508
382	35663,83251,4495199	1646553,1443002
383	35647,32430,3810480	1650821,0684719
384	35630,77319,2738205	1655111,1072275
385	35614,17895,8079570	1659423,4658635
386	35597,54137,4551786	1663758,3527784
387	35580,86021,4756367	1668115,9795419
388	35564,13524,9146704	1672496,5609663
389	35547,36624,5994909	1676900,3151795
390	35530,55297,1357895	1681327,4637014
391	35513,69518,9042684	1685778,2315211
392	35496,79266,0570901	1690252,8471783
393	35479,84514,5142442	1694751,5428459
394	35462,85239,9598287	1699274,5544155
395	35445,81417,8382425	1703822,1215862
396	35428,73023,3502866	1708394,4879559
397	35411,60031,4491709	1712991,9011157
398	35394,42416,8364242	1717614,6127467
399	35377,20153,9577024	1722262,8787217
400	35359,93216,9984940	1726936,9592084

Versed Sine.		Difference.
401	35342,61579,8797166	1731637,1187774
402	35325,25216,2532031	1736363,6265135
403	35307,84099,4970728	1741116,7561303
404	35290,38202,7109826	1745896,7860902
405	35272,87498,7112553	1750703,9997273
406	35255,31960,0258806	1755538,6853747
407	35237,71558,8893830	1760401,1364976
408	35220,06267,2375531	1765291,6518299
409	35202,36056,7020366	1770210,5355165
410	35184,60898,6047758	1775158,0972608
411	35166,80763,9522984	1780134,6524774
412	35148,95623,4298476	1785140,5224508
413	35131,05447,3953469	1790176,9345006
414	35113,10205,8731948	1795241,5221521
415	35095,09868,5478807	1800337,3253141
416	35077,04404,7574166	1805463,7904641
417	35058,93783,4865765	1810621,2708401
418	35040,77973,3599357	1815810,1266408
419	35022,56942,6347025	1821030,7252332
420	35004,30659,1933327	1826283,4413698
421	34985,99070,5359187	1831568,6574140
422	34967,62183,7723435	1836886,7635752
423	34949,19965,6141893	1842238,1581542
424	34930,72342,3663903	1847623,2477990
425	34912,19299,9186184	1853042,4477719
426	34893,60803,7363305	1858496,1822279
427	34874,96818,8518837	1863984,8845068
428	34856,27309,8544464	1869508,9974373
429	34837,52240,8807912	1875068,9736552
430	34818,71575,6048532	1880665,2759380
431	34799,85277,2273005	1886298,3775527
432	34780,93308,4646779	1891967,6262226
433	34761,95631,5381677	1897676,9265102
434	34742,92208,1619473	1903423,3762204
435	34723,82999,5311249	1909208,6308224
436	34704,67966,3092316	1915033,2218933
437	34685,47068,6152453	1920897,6939863
438	34666,20266,0101259	1926802,6051194
439	34646,87517,4828325	1932748,5272934
440	34627,48781,4357958	1938736,0470367
441	34608,04015,6698168	1944765,7659790
442	34588,53177,3683598	1950838,3014572
443	34568,96223,0812040	1956954,2871558
444	34549,33108,7074211	1963114,3737829
445	34529,63789,4776346	1969319,2297865
446	34509,88219,9355227	1975569,5421119
447	34490,06353,9185164	1981866,0170063
448	34470,18144,5376464	1988209,3808790
449	34450,23544,1564825	1994600,3811639
450	34430,22504,3691121	2001039,7873704

Versed Sine.		Difference.
451	34410,14975,9770918	2007528,3920203
452	34390,00908,9653075	2014067,0117843
453	34369,80252,4766687	2020656,4886388
454	34349,52954,7855577	2027297,6911110
455	34329,18963,2699461	2033991,5156116
456	34308,78224,3820857	2040738,8878604
457	34288,30683,6176675	2047540,7644182
458	34267,76285,4833406	2054398,1343259
459	34247,14973,4624575	2061312,0208831
460	34226,46689,9789156	2068283,4835419
461	34205,71376,3589435	2075313,6199721
462	34184,88972,7906642	2082403,5682793
463	34163,99418,2812464	2089554,5094178
464	34143,02650,6114424	2096767,6698040
465	34121,98606,2872838	2104044,3241586
466	34106,87220,4886791	2111385,7986047
467	34079,68427,0146248	2118793,4740543
468	34058,42158,2247138	2126268,7899110
469	34037,08344,9765745	2133813,2481393
470	34015,66916,5588355	2141428,4177390
471	33994,17800,6191494	2149115,9396861
472	33972,60923,0867486	2156877,5324008
473	33950,96208,0889288	2164714,9978198
474	33929,23577,8607650	2172630,2281638
475	33907,42952,6472610	2180625,2135004
476	33885,54250,5970009	2188702,0502601
477	33863,57387,6462213	2196862,9507796
478	33841,52277,3920327	2205110,2541886
479	33819,38830,9532894	2213446,4387433
480	33797,16956,8173293	2221874,1359601
481	33774,86560,6704440	2230396,1468853
482	33752,47545,2095120	2239015,4609320
483	33729,99809,9316533	2247735,2778587
484	33707,43250,8980541	2256559,0335992
485	33684,77760,4671695	2265490,4308846
486	33662,03226,9912756	2274532,1758939
487	33639,19534,4686855	2283692,5225961
488	33616,26562,1416779	2292972,3270076
489	33593,24184,0270254	2302378,1146525
490	33570,12268,3615044	2311915,6655210
491	33546,90676,9381464	2321591,4233580
492	33523,59264,2989708	2331412,6391756
493	33500,17876,7341613	2341387,5648095
494	33476,66351,0116522	2351525,7225091
495	33453,04512,7157035	2361838,2959487
496	33429,32173,9878175	2372338,7278860
497	33405,49130,2867677	2383043,7010498
498	33381,55155,3641742	2393974,9225935
499	33357,49992,4041153	2405162,9600589
500	33333,33333,3333333	2416659,0707820

A Table of the Common or Brigg's Logarithms, *for all Numbers to* 100; *and all Primes, to* 1100, *true to sixty one Figures.*

Numbers	*Logarithms.*
1	0.00000
2	0.30102.99956.63981.19521.37388.94724.49302.67681.89881.46210.85413.104275
3	0.47712.12547.19662.43729.50279.03255.11530.92001.28864.19069.58648.298656
4	0.60205.99913.27962.39042.74777.89448.98605.35363.79762.92421.70826.208549
5	0.69897.00043.36018.80478.62611.05275.50697.32318.10118.53789.14586.895725
6	0.77815.12503.83643.63250.87667.97979.60833.59683.18745.65280.44061.402931
7	0.84509.80400.14256.83071.22162.58592.63619.34835.72396.32396.54065.036350
8	0.90308.99869.91943.58564.12166.84173.47908.03045.69644.38632.56239.312824
9	0.95424.25094.39324.87459.00558.06510.23061.84002.57728.38139.17296.597313
10	1.00000.00000. &c.
11	1.04139.26851.58225.04075.01999.71243.02424.17067.02190.46645.30945.965390
12	1.07918.12460.47624.82772.25056.92704.10136.27365.08627.11491.29474.507206
13	1.11394.33523.06836.76920.65051.57942.32843.08297.29188.38706.82718.011910
14	1.14612.80356.78238.02592.59551.53317.12922.02517.62277.78607.39478.140624
15	1.17609.12590.55681.24208.12890.08530.62228.24319.38982.72858.73235.194382
16	1.20411.99826.55924.78085.49555.78897.97210.70727.59525.84843.41652.417098
17	1.23044.89213.78273.92854.01698.94328.33703.00075.67378.42564.63973.803685
18	1.25527.25051.03306.06980.37947.01234.72364.51684.47609.84350.02709.701587
19	1.27875.36009.52828.96153.63334.75756.92931.79511.29337.39449.75989.068189
20	1.30102.99956.63981.19521.37388.94724.49302.67681.89881.46210.85413.104275
21	1.32221.92947.33919.26800.72441.61847.75150.26837.01260.51466.12713.335006
22	1.34242.26808.22206.23596.39388.65967.51726.84748.92071.92856.16359.069665
23	1.36172.78360.17592.87886.77771.12251.18954.96975.11034.33609.61882.756055
24	1.38021.12417.11606.02293.62445.87428.59438.95046.98508.57702.14887.611480
25	1.39794.00086.72037.60957.25222.10551.01394.64636.20237.07578.29173.791451
26	1.41497.33479.70817.96442.02440.52666.82145.75979.19069.84917.68131.116184
27	1.43136.37641.58987.31188.50837.09765.34592.76003.86592.57208.75944.895969
28	1.44715.80313.42219.22113.96940.48041.62224.70199.52159.24818.24891.244899
29	1.46239.79978.98956.08733.28467.62969.25499.12542.94417.88715.38410.653969
30	1.47712.12547.19662.43729.50279.03255.11530.92001.28864.19069.58648.298656
31	1.49136.16938.34272.67966.67041.00118.41572.23037.01558.30418.46559.383498
32	1.50514.99783.19905.97606.86944.73622.46513.38409.49407.31054.27065.521373
33	1.51851.39398.77887.47804.52278.74498.13955.09068.31054.65714.89594.264047
34	1.53147.89170.42255.12375.39087.89052.83005.67757.57259.88715.49386.907959
35	1.54406.80443.50275.63549.84773.63868.14316.67153.82514.86185.68651.932075
36	1.55630.25007.67287.26501.75335.95959.21667.19366.37491.30560.88122.805862
37	1.56820.17240.66994.99680.84506.89539.12944.79829.72690.16631.25466.176799
38	1.57978.35966.16810.15675.00723.70481.42234.47193.19218.85660.61402.172463
39	1.59106.46070.26499.20650.15330.61197.44374.00298.58052.57776.41366.310566
40	1.60205.99913.27962.39042.74777.89448.98605.35363.79762.92421.70826.208549
41	1.61278.38567.19735.49450.94118.49968.18079.95305.13633.83368.70890.073567
42	1.62324.92903.97900.46322.09830.56572.24452.94518.91141.97676.98126.439281
43	1.63346.84555.79586.52640.50881.53229.22215.88087.74884.38009.34145.247493
44	1.64345.26764.86187.43117.76777.60692.01029.52430.81953.39067.01772.173939
45	1.65321.25137.75343.67937.63169.11785.73759.16320.67846.91928.31883.493038
46	1.66275.78316.81574.07408.15160.06975.68257.64657.00915.79820.47295.860329
47	1.67209.78579.35717.46441.42193.99449.20064.01598.03098.42994.78270.373294
48	1.68124.12373.75587.21814.99834.82153.08741.62728.88390.03913.00300.715755
49	1.69019.60800.28513.66142.44325.17185.27238.69671.44792.64793.08130.072699
50	1.69897.00043.36018.80478.62611.05275.50697.32318.10118.53789.14586.895725

Numbers	Logarithms.
51	1.70757.01760.97936.36583.51977.97583.45233.92076.96242.61574.22622.102341
52	1.71600.33436.34799.15963.39829.47391.31448.43661.08951.31128.53544.220459
53	1.72427.58696.00789.04563.29922.91627.25659.26955.02401.29493.77805.941030
54	1.73239.37598.22968.50709.88226.04489.83895.43685.76474.03419.61358.000244
55	1.74036.26894.94243.84553.64610.76518.53121.49385.12309.00434.45532.861116
56	1.74818.80270.06200.41635.34329.42766.11527.37881.42040.71029.10304.349173
57	1.75587.48556.72491.39883.13613.79012.04462.71512.58201.58519.34637.366845
58	1.76342.79935.62937.28254.65856.57693.74801.80224.84299.34926.23823.758244
59	1.77085.20116.42144.19026.06563.84535.14423.89267.44474.93076.52155.272857
60	1.77815.12503.83643.63250.87667.97979.60833.59683.18745.65280.44061.402931
61	1.78532.98350.10767.03388.57485.13757.32134.92633.78757.11340.42120.703489
62	1.79239.16894.98253.87488.04429.94842.90874.90718.91439.76629.31972.487773
63	1.79934.05494.53581.70530.22720.65102.86681.18838.30124.70535.71361.633662
64	1.80617.99739.83887.17128.24333.683469.5816.06091.39288.77265.12478.625648
65	1.81291.33566.42855.57399.27662.63217.83540.40615.39306.92495.97304.907635
66	1.81954.39355.41868.67325.89667.69222.63257.76750.20936.11925.75007.368321
67	1.82607.48027.00826.43414.91316.29226.06858.09496.26080.56861.38691.179160
68	1.83250.89127.06236.31896.76476.83777.32308.35439.47141.34926.34800.012234
69	1.83884.90907.37255.31616.28050.15506.30485.88976.39898.52679.20531.054711
70	1.84509.80400.14256.83071.22162.58592.63619.34835.72396.32396.54065.036350
71	1.85125.83487.19075.28609.28294.35035.42913.52704.19901.60039.19762.766499
72	1.85733.24964.31268.46023.12724.90683.70969.87048.27372.76771.73535.910137
73	1.86332.28601.20455.90107.43869.20470.30853.44528.68255.31165.74851.100020
74	1.86923.17197.30976.19202.21895.84263.62247.47511.62571.62842.10879.281074
75	1.87506.12633.91700.04686.75501.13806.12925.56637.49101.26647.87822.090107
76	1.88081.35922.80791.35196.38112.65205.91537.14875.09100.31871.46815.276738
77	1.88649.07251.72481.87146.24162.29835.66043.51902.74586.79041.85011.001740
78	1.89209.46026.90480.40171.52719.55921.93676.67980.47934.03987.26779.414841
79	1.89762.70912.90441.42799.48213.86478.24968.64828.62019.02515.03156.163513
80	1.90308.99869.91943.58564.12166.84173.47908.03045.69644.38632.56239.312824
81	1.90848.50188.78649.74918.01116.13020.46123.68005.15456.76278.34593.194626
82	1.91381.38523.83716.68972.31507.44692.67382.62987.03515.29579.56303.177842
83	1.91907.80923.76073.90383.27603.52027.26124.70016.37658.08063.04535.293708
84	1.92427.92860.61881.65843.47219.51296.73755.62200.81023.43887.83539.543555
85	1.92941.89257.14292.73332.64309.99603.84400.32393.77496.96293.78560.699410
86	1.93449.84512.43567.72161.88270.47953.71518.55769.64765.84220.19558.351768
87	1.93951.92526.18618.52462.78746.66224.37030.04544.23282.07784.97058.952625
88	1.94448.26721.50168.62639.14166.55416.50332.20112.71834.85277.87185.278214
89	1.94939.00066.44912.78472.35433.69702.44112.46651.61858.10024.45836.328694
90	1.95424.25094.39324.87459.00558.06510.23061.84002.57728.38139.17296.597313
91	1.95904.13923.21093.59991.87214.16534.96462.43133.01584.71103.36783.048259
92	1.96378.78273.45555.26929.52549.01700.17560.32338.90797.26031.32708.964604
93	1.96848.29485.53935.11696.17320.03373.53103.15038.30422.49488.05207.682155
94	1.97312.78535.99698.65962.79582.94173.69366.69279.92979.89205.63683.477569
95	1.97772.36052.88847.76632.25945.81032.43629.11829.39455.93238.90575.963914
96	1.98227.12330.39568.41336.37223.76877.58044.30410.78271.50123.85713.820029
97	1.98677.17342.66244.85178.43618.11665.57744.94258.41584.63886.69747.187207
98	1.99122.60756.92494.85663.81714.11909.76541.37353.34674.11003.93543.176974
99	1.99563.51945.97549.91534.02557.77753.25486.01069.59918.84784.48242.562703
100	2.00000.00 &c.

Prime Num.	Logarithms.
101	2.00432.13737.82642.57427.51881.78222.93791.32192.89355.20645.25914.058186
103	2.01283.72247.05172.20517.10711.94580.23942.43905.23496.97603.05647.528079
107	2.02938.37776.85209.64083.45412.39461.43564.61268.16891.63401.93519.816620
109	2.03742.64979.40623.63520.05133.07613.87528.66422.04522.82798.36821.104005
113	2.05307.84434.83419.72279.52270.28609.44818.47783.83623.62269.73395.157054
127	2.10380.37209.55956.86424.69874.21827.28625.85765.63239.79239.38677.687822
131	2.11727.12956.55764.26081.00542.70697.73859.47801.63117.12162.69689.770335
137	2.13672.05671.56406.76856.29266.27114.78973.36782.29707.46423.50456.632444
139	2.14301.48002.54095.08045.64332.02319.84731.44797.32967.91785.93396.574308
149	2.17318.62684.12274.03825.73635.42628.33705.39346.71326.37222.11012.048653
151	2.17897.69472.93169.43686.90730.55337.30278.84460.93428.77687.74510.971401
157	2.19589.96524.09233.73676.14811.29897.28370.50651.90992.78552.95873.594477
163	2.21218.76044.03957.80764.00914.35925.99475.49930.97247.35985.06185.303704
167	2.22271.64711.47583.27998.40759.09920.46753.44613.38401.33125.82289.069635
173	2.23804.61031 28795.41456.05302.58758.46588.77816.83269.13492.66453.988743
179	2.25285.30309.79893.16957.03826.91773.05861.94310.72090.67852.86239.477285
181	2.25767.85748.69184.51028.97436.76412.29249.22479.59232.72291.88769.574799
191	2.28103.33672.47727.53763.50435.98270.61031.84957.36134.17824.30405.891262
193	2.28555.73090.07773.76059.72385.46353.31082.10979.21601.94604.88412.889733
197	2.29446.62261.61592.92737.17443.17717.15501.75120.64672.00453.36906.180720
199	2.29885.30764.09706.65010.00217.84419.80284.14948.88771.49827.32431.907065
211	2.32428.24552.97692.66508.15581.29927.88565.15502.58502.90193.86869.014730
223	2.34830.48630.48160.67347.51762.16240.35284.44534.24237.98021.08177.231582
227	2.35602.58571.93122.72010.30489.64753.67294.74838.78261.56058.48416.494656
229	2.35983.54823.39887.99412.79298.65526.65867.03358.93242.54328.14002.593934
233	2.36735.59210.26018.97218.91388.35476.85936.08884.54098.32289.45750.381402
239	2.37839.79009.48137.68500.16611.60147.89212.27092.22421.69429.85262.599734
241	2.38201.70425.74868.38407.68839.66454.63294.43845.75422.87941.37116.090780
251	2.39967.37214.81038.13934.05493.16706.90408.18574.66685.39315.23086.557977
257	2.40993.31233.31294.53716.28954.65919.63183.09299.89891.62261.22190.657085
263	2.41995.57484.89757.36897.22335.83870.11811.42207.55733.87652.55581.847682
269	2.42975.22800.02407.98008.72285.15871.27175.37709.54680.10337.16358.202492
271	2.43296.92908.74405.72952.11801.94875.18026.90280.28099.71147.47195.959683
277	2.44247.97690.64448.55377.77563.19599.75831.09223.84739.72572.00838.275546
281	2.44870.63199.05079.89286.39179.15275.08871.55000.84994.87733.11091.225526
283	2.45178.64355.24290.23555.89519.10570.23772.98828.25398.13326.05411.834686
293	2.46686.76203.54109.45624.37585.12602.18133,14970.80293.87633.91801.387293
307	2.48713.83754.77186.48475.46084.36539.33504.93281.89817.26663.11352.567959
311	2.49276.03890.26837.50555.30231.83253.64155.85949.18519.90441.42367.782324
313	2.49554.43375.46448.48480.81265.04861.24315.15792.98693.98571.52993-196813
317	2.50105.92622.17751.49455.32290.16378.22488.04877.22158.71549.07278.111979
331	2.51982.79937.75718.73860.81406.07340.85663.50827.13549.69614.46087.295510
337	2.52762.99008.71338.62619.00147.90194.51019.87041.58106.86338.94145.590771
347	2.54032.94747.90873.71853.53573.03206.97397.86865.56176.91243.65052.250367
349	2.54282.54269.59179.89654.01719.77159.63066.31783.00866.75487.04181.990296
353	2.54777.47053.87822.56549.70693.15968.56119.79362.71500.87293.47356.171765
359	2.55509.44485.78319.14781.65293.94413.89970.02357.64461.12862.45018.194841
367	2.56466.60642.52089.33798.75290.93006.90914.75947.52157.57773.73388.529180
373	2.57170.88318.08687.60550.68969.38701.43991.49308.33032.45651.82236.328475
379	2.57863.92099.68072.34193.14620.59454.44405.29413.87210.96923.21381.081258
383	2.58319.87739.68622.74037.90461.29502.11234.47857.39787.51936.81090.658846
389	2.58994.96013.25707.73624.49469.11731.95270.14076.41221.24688.95645.064384
397	2.59879.05067.63115.06587.68482.40668.63112.25522.37562.91876.18078.588386

Prime Num.	Logarithms.
401	2,60314,43726,20182,30654,46411,48149,42549,75189,88963,37359,82761,562011
409	2,61172,33080,07341,80360,95027,17736,46679,00320,51595,65255,67279,407052
419	2,62221,40229,66295,30985,07395,99373,73621,25514,08166,99180,26223,814797
421	2,62428,20958,35668,30744,40669,23421,44371,09437,88488,01681,56998,058298
431	2,63447,72701,60731,60075,02803,26184,67878,49873,63233,16232,39160,168424
433	2,63648,78963,53365,44269,80664,49685,26766,08604,17833,53839,54652,633209
439	2,64245,45202,42121,37063,37411,50613,31363,46233,64482,93197,78492,698498
443	2,64640,37262,23069,56023,01044,89684,53902,83230,69450,39547,31960,218878
449	2,65224,63410,03323,17491,90263,53743,43105,35027,59942,01108,72112,409383
457	2,65991,62000,69850,22235,35461,45220,47714,05940,16155,52489,85626,587883
461	2,66370,09253,89648,14507,46818,18487,42133,71937,47244,04839,02463,622776
463	2,66558,09910,17953,13567,41931,08438,70855,40157,65450,46974,53874,838090
467	2,66931,68805,66112,16308,80510,89779,99674,10010,61401,55968,77553,654228
479	2,68033,55134,14563,22009,69639,66962,31078,27266,76340,01805,94696,676822
487	2,68752,89612,14034,33246,32050,64435,75372,38433,54413,59009,69060,272887
491	2,69108,14921,22968,47275,36909,83546,39435,54324,95219,43164,65484,935064
499	2,69810,05456,23389,91416,59050,36033,38846,73162,68889,76585,04407,216866
503	2,70156,79850,55927,39709,82240,90279,52805,50061,79311,53264,13100,626989
509	2,70671,77823,36758,74656,80767,11564,25501,75116,31022,82795,59327,732505
521	2,71683,77232,99524,47423,63411,86589,82340,55592,48804,35659,10389,037518
523	2,71850,16888,67274,23926,01265,78891,07882,05229,27624,54022,80340,618542
541	2,73319,72651,06569,43687,93482,43895,35766,02744,51126,54918,07249,958843
547	2,73798,73263,33430,77381,26473,72542,06411,41123,32573,38734,83672,544294
557	2,74585,51951,73728,90044,34334,98899,38696,26667,22982,65562,88916,047639
563	2,75050,83948,51346,22909,45827,07761,08389,89309,27510,02997,46276,527041
569	2,75511,22663,95071,17228,70555,24030,20058,87808,40566,56954,49337,662164
571	2,75663,61082,45848,05004,02841,30031,39578,08074,83371,59899,19622,253745
577	2,76117,58131,55731,42848,88336,67563,87165,18349,94631,00807,86067,506949
587	2,76863,81012,47614,47606,35592,98596,71376,19981,12599,05673,24995,758554
593	2,77305,46933,64262,60639,66715,59821,78133,09249,84055,79640,65224,216122
599	2,77742,68223,89311,37982,81725,69101,74684,25198,87827,14494,37552,485037
601	2,77887,44720,02739,52088,58506,99987,83983,48917,52297,24032,80181,145090
607	2,78318,86910,75257,58096,01956,30455,95072,14062,42317,98498,79486,868541
613	2,78746,04745,18415,03774,22662,81456,45078,29528,38564,77870,60511,887769
617	2,79028,51640,33241,68204,54661,67275,45331,98845,73431,10231,76836,317560
619	2,79169,06490,20117,97679,79674,34394,50849,41105,79264,06695,48506,134085
631	2,80002,93592,44134,81301,69298,49975,36836,15526,21483,45926,22618,819406
641	2,80685,80295,18817,42224,83770,09638,02810,30784,64091,37064,08860,016375
643	2,80821,09729,24222,07249,19385,05465,83232,48443,16034,72535,33279,475692
647	2,81090,42806,68700,38445,84305,62795,35772,33374,52752,88620,55534,785384
653	2,81491,31812,75073,92142,93105,65465,57968,44420,93073,59911,14836,790768
659	2,81888,54145,94009,86128,04846,07065,03884,71245,58914,63114,16630,487450
661	2,82020,14594,85640,23664,65718,97680,09240,24475,29555,41077,27411,001763
673	2,82801,50642,23976,84647,61709,94824,66587,84392,73852,95599,07219,527629
677	2,83058,86686,85144,31600,60170,60287,15791,96987,21869,42085,75219,422835
683	2,83442,07036,81532,56339,98239,41016,94314,12519,92074,22395,15101,356100
691	2,83947,80473,74198,40758,33677,24326,62643,33706,67025,71535,20888,200815
701	2,84571,80179,66658,65706,40223,37250,30440,16828,60606,06710,99378,642626
709	2,85064,62351,83066,54285,38844,79778,89914,12079,23464,57372,91344,715434
719	2,85672,88903,82882,60776,76506,51400,88113,55319,50785,66409,97910,273675
727	2,86153,44108,59037,83621,34642,48678,39613,39988,70242,96505,05660,709999
733	2,86510,39746,41127,94317,28131,02559,86776,12051,12268,36141,01539,967269
739	2,86864,44383,94825,73669,35855,14263,03827,78685,62960,06015,93030,162646

Prime Num.	Logarithms.
743	2,87098,88137,60575,29242,26723,41223,78639,86402,35201,25826,22906,426196
751	2,87563,99370,04168,38974,59851,09251,08913,79777,69486,72300,09449,287788
757	2,87909,58795,00072,75709,02275,46289,28831,29598,55610,77568,18424,909661
761	2,88138,46567,70572,82636,87243,35559,42944,66262,26115,19329,16113,770466
769	2,88592,63398,01431,03963,42922,39990,68928,55438,24266,73676,32539,540297
773	2,88817,94939,18324,90897,46881,27193,74602,82128,27448,51788,65363,250475
787	2,89597,47323,59064,55847,49105,93093,84403,00557,33235,30892,05759,509372
797	2,90145,83213,96112,34726,66008,27220,37150,60763,80048,04080,90214,871170
809	2,90794,85216,12272,30432,36285,45880,42151,46893,16537,70803,38111,022662
811	2,90902,08542,11156,03069,03308,48322,97484,96977,10258,36812,36616,489430
821	2,91434,31571,19440,77180,40593,41703,71406,12897,21030,05294,12843,731072
823	2,91539,98352,12269,83976,77077,56599,55165,51291,17431,03959,46095,528115
827	2,91750,55095,52546,67071,16671,84496,53756,13593,71081,63043,50219,579982
829	2,91855,45305,50273,55311,51367,88077,88199,00092,68851,27047,81176,310395
839	2,92376,19608,28700,27499,86012,26886,40032,82838,28125,42235,16955,539741
853	2,93094,90311,67523,02999,84110,76276,53284,29746,89789,10727,91914,383863
857	2,93298,08219,23198,16429,25296,94730,29838,44651,50336,92985,47521,566946
859	2,93399,31638,31242,30262,85442,12269,31107,61700,39788,21370,78414,600967
863	2,93601,07957,15209,59266,36308,69754,18427,13577,12652,84446,77410,023962
877	2,94299,95933,66040,51822,80278,38057,14352,55114,87250,72879,32288,432978
881	2,94497,59084,12047,91274,23677,89471,82528,26645,36543,68702,11333,796990
883	2,94596,07035,77568,58561,59053,73327,89211,59413,79689,03497,15640,730610
887	2,94792,36198,31726,39219,65090,14904,07473,08873,98971,35988,60988,634764
907	2,95760,72870,60095,25584,72139,01553,62348,76134,78601,27524,63755,591947
911	2,95951,83769,72998,24763,28008,17777,19688,55416,00035,05336,77914,276734
919	2,96331,55113,86111,26519,69202,08586,23523,20678,28235,45128,04319,378878
929	2,96801,57139,93641,76318,47673,87869,08415,56826,51327,04702,61455,402055
937	2,97173,95908,87778,26302,75767,32122,15899,55792,61709,53802,51627,468099
941	2,97358,96234,27256,90834,22975,10551,79624,82320,81816,02752,59675,858750
947	2,97634,99790,03273,41875,01137,75925,22039,01622,95145,98964,50857,664310
953	2,97909,29006,38326,40853,29398,47717,31227,47302,58220,10598,20494,365710
967	2,98542,64740,83001,67359,77060,21186,62711,98227,26427,50112,13308,635787
971	2,98721,92299,08004,86280,31389,06536,25140,40531,99480,84889,06195,031834
977	2,98989,45637,18773,07091,48028,11052,34926,25914,08310,84838,41813,133125
983	2,99255,35178,32135,62274,96349,24741,43755,19748,99290,01915,16629,651606
991	2,99607,36544,85275,32836,44343,78815,42086,41325,12663,22812,08187,848418
997	2,99869,51583,11655,71988,13717,02813,27239,27091,29009,56252,34578,237114
1009	3,00389,11662,36910,52171,52813,16509,55886,55201,95652,55260,09846,382385
1013	3,00560,94453,60280,42845,01617,20070,22165,08630,76662,06266,67962,258954
1019	3,00817,41840,06426,39490,49899,22311,83296,76922,24936,36781,15542,425256
1021	3,00902,57420,86910,24724,81480,36966,37851,03031,35315,99655,45437,518936
1031	3,01325,86652,83516,54690,96644,09013,44583,24998,28006,59445,12546,301730
1033	3,01410,03215,19620,57904,40100,62744,77060,74356,51400,55338,40683,272162
1039	3,01661,55475,57177,41240,21010,01361,62758,71828,97066,20300,27455,551333
1049	3,02077,54881,93557,85990,72007,63899,91741,19141,56191,40400,29271,212173
1051	3,02160,27160,28242,22008,37688,89097,91687,94575,69660,00863,13290,071509
1061	3,02571,53839,01340,66612,28844,73990,78253,18778,56167,59546,12209,837461
1063	3,02653,32645,23296,75697,14741,94622,85093,72551,33664,50701,42150,299662
1069	3,02897,77052,08778,01749,01456,79857,36936,27594,48925,00824,96999,029598
1087	3,03622,95440,86294,53992,62573,76344,44115,71246,06239,23536,42216,494710
1091	3,03782,47505,88341,87761,10634,29318,59826,96526,11482,20421,01725,763338
1093	3.03862.01619.49702.79226.92555.27640.43892.49476.76830.67575.50087.010561
1097	3.04020.66275.74711.13221.54832.40551.60744.80236.80562.48547.77531.009417

Natural Numb.	*Logarithms.*
999990	5.99999.56570,33466,09862,06478,513,5359168,69587,99461,92655,35383,63056,279
999991	5.99999.60913,32073,83868,21979,816,7675366,16434,40862,91833,50707,31365,465
999992	5.99999.65256,30247,27644,44384,339,3315373,47431,18952,82774,39761,69852,283
999993	5.99999.69599,27986,41277,59803,213,2571421,63230,77571,23772,83500,25737,458
999994	5.99999.73942,25291,24854,54321,512,0707978,00083,69792,55691,81504,39606,186
999995	5.99999.78285,22161,78462,13998,250,9004092,14234,29447,56631,11169,33723,822
999996	5,99999,82628,18598,02187,24866,38657,95736,45141,15918,21202,16170,79370,691
999997	5,99999,86971,14599,96116,72932,81775,18141,57525,44911,89892,50191,89388,043
999998	5,99999,91314,10167,60337,44178,38497,48126,62250,17519,35108,09327,86341,732
999999	5,99999,95657,05300,94936,24557,87082,46424,16033,63057,91588,69140,08641,779
1000000	6,00000,00000,&c.
1000001	6,00000,04342,94264,75615,56407,43942,64367,77070,41684,136166,7145,12161,201
1000002	6,00000,08685,88095,21869,79656,79836,05898,28197,45503,991222,9762,83894,583
1000003	6,00000,13028,81491,38849,55598,62849,44123,67446,26668,436663,6420,81280,998
1000004	6,00000,17371,74453,26641,70057,42405,94036,35925,46423,614337,2274,41930,236
1000005	6,00000,21714,66980,85333,08831,62193,08382,74570,87825,740994,6699,90513,787
1000006	6,00000,26057,59074,15010,57693,60173,19951,75785,31751,20661,18325,46207,304
1000007	6,00000,30400,50733,15761,02389,68593,83858,13937,45828,33261,37859,44029,710
1000008	6,00000,34743,41957,87671,28640,13998,19820,54722,98972,96735,47644,02950,414
1000009	6,00000,39086,32748,30828,22139,17235,54434,43391,14207,90745,10492,25622,035
1000010	6,00000,43429,23104,45318,68554,93471,63439,71839,72443,94482,49094,54144,389

The First Differences.

999990	4342,98607,74006,15501,30323,16197,46846,41400,99178,15323,68309,186
999991	4342,98173,43776,22404,52256,40007,30996,78089,90940,89054,38486,818
999992	4342,97739,13633,15418,87392,56048,15799,58618,47998,43738,55885,175
999993	4342,97304,83576,94518,29881,36556,36852,92221,31918,98004,13768,728
999994	4342,96870,53607,59676,73882,96114,14150,59655,00939,29664,94217,636
999995	4342,96436,23725,10868,13567,91644,30906,86470,64571,05001,45646,869
999996	4342,96001,93929,48066,43117,22405,12384,28993,68690,34021,10017,352
999997	4342,95567,64220,71245,56722,29985,04724,73007,45215,59135,96953,689
999998	4342,95133,34598,80379,48584,98297,53783,45138,56480,59812,22300,047
999999	4342,94699,05063,75442,12917,53575,83966,36942,08411,30859,91358,221
1000000	
1000001	4342,94264,75615,56407,43942,64367,77070,41684,13616,67145,12161,201
1000002	4342,93830,46254,23249,35893,41530,51127,03819,85505,62617,71643,382
1000003	4342,93396,16979,75941,83013,38225,39248,81164,44544,06657,97476,415
1000004	4342,92961,87792,14458,79556,49912,68479,19755,17767,35853,60649,238
1000005	4342,92527,58691,38774,19787,14346,38645,41402,12665,74425,48583,551
1000006	4342,92093,29677,48861,97980,11569,01214,43925,46561,71625,55693,517
1000007	4342,91659,00750,44696,08420,63906,38152,14077,12600,19533,97822,406
1000008	4342,91224,71910,26250,45404,35962,40785,53144,63474,09784,58920,704
1000009	4342,90790,43156,93439,03237,34613,88668,15234,94009,62848,22671,621
1000010	4342,90356,14490,46415,76236,09005,28448,58236,03737,38602,28522,354

Nat. Num.	Second Differences.
999991	434.30229.93096.78066-76190.15849.63311.08237.26269.2982.2368
999992	434.30143.06985.64863.83959.15197.19471.49942.45315.8260.1643
999993	434.30056.20900.57511.19491.78946.66397.09079.45734.4211.6447
999994	434.29969.34841.55998.40442.22702.32566.30979.68339.1955.1092
999995	434.29882.48808.60315.04469.83243.73184.36368.24663.4857.0767
999996	434.29795.62801.70450.69239.18522.57476.95880.70980.3567.0517
999997	434.29708.76820.86394.92420.07659.55986.23474.74885.1306.3663
999998	434.29621.90866.08137.31687.50941.27868.88734.99323.7465.3642
999999	434.29535.04937.35667.44721.69317.08196.48069.28952.3094.1826
1000000	434.29448.19034.68974.89208.06895.95257.94794.63714.7919.7020
1000001	434.29361.33158.08049.22837.25943.37864.28111.04527.4051.7819
1000002	434.29274.47307.52880.03305.11878.22655.40961.55959.7416.6967
1000003	434.29187.61483.03456.88312.70769.61409.26776.70804.3682.7177
1000004	434.29100.75684.59769.35566.29833.78353.05101.61428.1206.5687
1000005	434.29013.89912.21807.02777.37430.97476.66104.02799.9289.0034
1000006	434.28927.04165.89559.47662.63062.29848.33961.52091.5787.1111
1000007	434.28840.18445.63016.27943.97366.60932.49126.09749.3890.1702
1000008	434.28753.32751.42167.01348.52117.37909.69464.46936.3624.9083
1000009	434.28666.47083.27001.25608.60219.56998.90272.24245.9414.9267

	Third Differences.
999991	8686137,19063,62345,70628,45561,50168,85889,956,53458
999992	8686111,13202,92231,00652,43839,58294,80953,472,20725
999993	8686085,07353,64467,36250,53074,40862,99581,404,85196
999994	8686059,01512,79049,56244,33830,78099,77395,225,65355
999995	8686032,95683,35972,39458,59381,94611,43675,709,80325
999996	8686006,89864,35230,64721,15707,40487,53683,129,41250
999997	8685980,84055,76819,10863,91490,72405,96095,225,65854
999998	8685954,78257,60732,56718,28117,34739,75561,384,10021
999999	8685928,72469,86965,81124,19672,40665,70371,437,11816
1000000	8685902,66692,55513,62921,12938,53274,65237,517,44806
1000001	8685876,60925,66370,80952,57393,66683,59187,386,79201
1000002	8685850,55169,19532,14065,15208,87149,48567,663,50852
1000003	8685824,49423,14992,41108,61246,14184,85155,373,39790
1000004	8685798,43687,52746,40935,83056,21675,09376,247,61496
1000005	8685772,37962,32788,92402,80876,38997,58628 191,75653
1000006	8685746,32247,55114,74368,67628,32142,50708,350,18923
1000007	8685720,26543,19718,65695,68915,84835,42342,189,69409
1000008	8685694,20849,26595,45249,23022,79661,62813,026,52619
1000009	8685568,15165,75739,91987,80910,79192,22690,420,99816
1000010	8685642,09492,67146,84513,96217,07111,97655,863,71381

	Fourth Differences.
999991	2605871.12470.96731.64824.49368.2933789.652619
999992	2605860.70114.69976.01721.91874.0493648.482733
999993	2605850.27763.64401.90765.17431.8137206.735529
999994	2605839.85417.80006.19243.62763.2218617.919841
999995	2605829.43077.16785.74448.83488.3371951.585030
999996	2605808.58411.53858.14216.68081.5758790.375396
999997	2605798.16086.54144.73373.37666.2053384.155833
999998	2605787.73766.75594.08444.94074.0518994.698205
999999	2605777.31452.18203.06733.87391.0513391.967010
1000000	2605766.89142.81968.55544.86591.0605013.065605
1000001	2605756.46838.66887.42184.79534.1061972.328349
1000002	2605746.04539.72956.53962.72964.6341229.011062
1000003	2605735.62246.00172.78189.92509.7577912.578300
1000004	2605725.19957.48533.02179.82677.5074805.585837
1000005	2605714.77674.18034.13248.06855.0791984.156732
1000006	2605704.35396.08672.98712.47307.0836616.049514
1000007	2605693.93123.20446.45893.05173.7952916.316790
1000008	2605683.50855.53351.42112.00469.4012260.552803
1000009	2605673.08593.07384.74693.72080.2503455.72843
1000010	2605662.66335.82543.30964.77763.1023168.612028

Natural Numbers	Fifth Differences.	Sixth Differences.
999991	1042356.26755.63102.57494.244014.1219.886	521181.52145.83052.00836.99522.682
999992	1042351.05574.10956.74442.235644.1697.204	521178.39435.19773.64378.52881.516
999993	1042345.84395.71521.54668.591858.8815.688	521173.26726.75393.70719.22480.877
999994	1042340.63220.44794.79274.884666.6334.811	521172.14020.49910.44739.72888.856
999995	1042335.42048.30774.29364.437269.3545.955	521169.01316.43322.11322.25882.275
999996	1042330.20879.29457.86042.324046.7663.679	525165.88614.55626.95350.61444.116
999997	1042324.99713.40843.30415.370540.6219.563	521162.75914.86823.21710.16761.935
999998	1042319.78550.64928.43592.153438.9457.628	521159.63217.36909.15287.86726.433
999999	1042314.57391.01711.06683.000560.2731.195	521156.50522.05883.00972.23829.790
1000000	1042309.36234.51189.00799.990837.8901.405	521153.37828.93743.03653.38164.149
1000001	1042304.15081.13360.07056.954304.0737.256	521150.25138.00487.48222.97419.969
1000002	1042298.93930.88222.06569.472074.3317.287	521147.12449.26114.59574.26884.525
1000003	1042293.72783.75772.80454.876331.6432.762	521143.99762.70622.62602.09440.299
1000004	1042288.51639.76010.09832.250310.6992.463	521140.87078.34009.82202.85563.356
1000005	1042283.30498.88931.75822.428282.1429.107	521137.74396.16274.43274.53321.891
1000006	1042278.09361.14535.59547.995536.8107.216	521134.61716.17414.70716.68374.492
1000007	1042272.88226.52819.42133.288369.9732.724	521131.49038.37428.89430.43968.737
1000008	1042267.67095.03781.04704.394065.5763.987	521128.36362.76315.24318.50939.619
1000009	1042262.45966.67418.28389.150880.4824.368	521125.23689.34072.00285.17707.961
1000010	1042257.24841.43728.94317.148028.7116.407	

	Seventh Differences.	Eighth Differences.	Ninth Differences.	Tenth Differences
999991	312712.82178.5437.856022.910	218900.179.20093.81744		00015.76108.84
999992	312710.63278.3645.846641.166	218898.427.99162.40527	175.12093.141217	00015.76093.08
999993	312708.44379.9365.930400.639	218896.676.79807.08618	175.11935.531909	00015.76077.32
999994	312706.25483.2597.949692.021	218894.925.62027.85441	175.11777.923177	00015.76061.56
999995	312704.06588.3341.746906.580	218893.174.45824.68420	175.11620.317021	00015.76045.80
999996	312701.87695.1597.164438 160	218891.423.31197.55979	175.11462.712441	00015.76031.41
999997	312699.68803.7364.044682.181	218889.672.18146.46679	175.11305.109300	00015.76014.80
999998	312697.49914.0642.230035.502	218887.921.06671.38855	175.11147.507820	00015.75999.63
999999	312695.31026.1431.562896.643	218886.169.96772.31002	175.10989.907857	00015.75983.16
1000000	312693.12139.9731.885665.641	218884.418.88849.21461	175.10832.309541	00015.75968.16
1000001	312690.93255.5543.040744.180	218882.667.81702.08736	175.10674.712725	00015.75952.07
1000002	312688.74372.8864.870535.444	218880.916.76530.91218	175.10517.117518	00015.75935.83
1000003	312686.55491.9697.217444.226	218879.165.72935.67283	175.10359.523935	00015.75921.30
1000004	312684.36612.8039.923876.943	218877.414.70916.35478	175.10201.931805	00015.75903.93
1000005	312682.17735.3892.832241.465	218875.663.70472.94066	175.10044.341412	00015.75889.90
1000006	312679.98859.7255.784947.399	218873.912.71605.41644	175.09886.752422	00015.75874.15
1000007	312677.79985.8128.624405.755	218872.161.74313.76637	175.09729.165007	00015.75858.30
1000008	312675.61113.6511.193029.118	218870.410.78597.97460	175.09571.579177	00015.75842.54
1000009	312673.42243.2403.333231.658	218868.659.84458.02537	175.09413.994923	00015.75826.79
1000010	312671.23374.5804.887429.121	218866.908.91893.90293	175.09256.412244	

Second Differences.	Third Differences.	Fourth Differences.	Fifth Differences.	Sixth Differences.	Seventh Differences.	Eighth Differences.	Ninth Differences.	Tenth Difference
434.30229.93096.78066-76190.15849.63311.08237.26269.2982.2368	86,86137,19063,62345,70628,45561,50168,85889,956,53458	26.05871.12470.96731.64824.49368.2933789.652619	1042356.26755.63102.57494.244014.1219.886	521181.52145.83052.00836.99522.682	312712.82178.5437.856022.910	218900.179.20093.81744		00015.76108.84
434.30143.06985.64863.83959.15197.19471.49942.45315.8260.1643	86,86111,13202,92231,00652,43839,58234,80953,472,20725	26.05860.70114.69976.01721.91874.0493648.482733	1042351.05574.10956.74442.235644.1697.204	521178.39435.19773.64378.52881.516	312710.63278.3645.846641.166	218898.427.99162.40527	175.12093.141217	00015.76093.08
434.30056.20900.57511.19491.78946.66397.09079.45734.4211.6447	86,86085,07352,64467,36253,53074,40862,99581,404,85196	26.05850.27763.64401.90765.17431.8137206.735529	1042345.84395.71521.54668.591858.8815.688	521175.26726.75393.70719.22480.877	312708.44379.9365.930400.639	218896.676.79807.08618	175.11935.531909	00015.76077.32
434.29969.34841.55998.40442.22702.32566.30979.68339.1955.1092	86,86059,01512,79049,56244,33830,78099,77395,225,65355	26.05839.85417.80006.19243.62763.2218617.919841	1042340.63220.44794.79274.884666.6334.811	521172.14020.49910.44739.72788.856	312706.25483.2597.949692.021	218894.925.62027.85441	175.11777.923177	00015.76061.56
434.29882.48808.60315.04469.83243.73184.36368.24663.4857.0767	86,86032,95683,35972,39458,59381,94611,43675,709,80325	26.05829.43077.16785.74448.83488.3371951.585030	1042335.42048.30774.29364.437269.3545.955	521169.01316.43322.11322.25882.275	312704.06588.3341.746906.580	218893.174.45824.68420	175.11620.317021	00015.76045.80
434.29795.62801.70450.69239.18522.57476.95880.70980.3562.9517	86,86006,89864,35230,64721,15707,40487,53683,129,41250	26.05819.00741.74737.43674.54123.8999258.039075	1042330.20879.29457.86042.324046.7663.679	525165.88614.55626.95350.61444.116	312701.87695.1597.164438 160	218891.423.31197.55979	175.11462.712441	00015.76031.41
434.29708.76820.86394.92420.07659.55986.23474.74885.1306.3663	86,85980,84055,76819,10863,21490,72405,96095,225,65854	26.05808.58411.53858.14216.68081.5758790.375396	1042324.99713.40843.30415.370540.6219.563	521162.75914.86823.21710.16761.935	312699.68803.7364.044682.181	218889.672.18146.46679	175.11305.109300	00015.76014.80
434.29621.90866.08137.31687.50941.27858.88734.99323.7465.3642	86,85954,78257,60732,56718,28117,34739,75561,384,10021	26.05798.16081.54144.73373.37666.2053384.155833	1042319.78550.64928.43592.153438.9457.628	521159.63217.36909.15287.86726.433	312697.49914.0642.230035.502	218887.921.06671.38859	175.11147.507820	00015.75999.63
434.29535.04937.35667.44721.69317.08196.48069.28952.3094.1826	86,85928,72469,86965,81124,19672,40665,70371,437,11816	26.05787.73766.75594.08444.94074.0518994.698205	1042314.57391.01711.06683.000560.2731.195	521156.50522.05883.00972.23829.790	312695.31026.1431.562896.643	218886.169.96772.31002	175.10989.907857	00015.75983.16
434.29448.19034.68974.89208.06895.95257.94794.63714.7919.7020	86,85902,66692,55513,62921,12938,53274,65237,517,44806	26.05777.31452.18203.06733.87391.0513391.967010	1042309.36234.51189.00799.990837.8901.405	521153.37828.93743.03653.38164.149	312693.12139.9731.885665.641	218884.418.88449.21461	175.10832.309541	00015.75968.16
434.29361.33158.08049.22837.25943.37864.28111.04527.4051.7819	86,85876,60925,66370,80952,57393,66683,59187,386,79201	26.05766.89142.81968.55544.86591.0605013.065605	1042304.15081.13360.07056.954304.0737.256	521150.25138.00487.48222.97419.969	312690.93255.5543.040744.180	218882.667.81702.08736	175.10674.712725	00015.75952.07
434.29274.47307.52880.03305.11878.22655.40961.55959.7416.6967	86,85850,55169,19532,14365,15208,87149,48567,663,50852	26.05756.46838.66887.42184.79534.1061972.328349	1042298.93930.88222.06569.472074.3317.287	521147.12449.26114.59574.26884.525	312688.74372.8864.870535.444	218880.916.76530.91218	175.10517.117518	00015.75935.83
434.29187.61483.03456.88312.70769.61409.26776.70804.3682.7177	86,85824,49423,14992,41108,51246,14184,85155,373,39790	26.05746.04539.72956.53962.72964.5341229.011062	1042293.72783.75772.80454.876331.6432.762	521143.99762.70622.62602.09440.299	312686.55491.9697.217444.226	218879.165.72935.67283	175.10359.523935	00015.75921.30
434.29100.75684.59769.35566.29833.78353.75101.61428.1206.5687	86,85798,43687,52746,40935,83056,21675,09376,247,61490	26.05735.62246.00172.78189.92509.7577912.578300	1042288.51639.76010.09832.250310.6992.463	521140.87078.34009.82202.85563.356	312684.36612.8039.923876.943	218877.414.70916.35478	175.10201.931805	00015.75903.93
434.29013.89912.21807.02777.37430.97476.56104.02799.9289.0034	86,85772,37962,32788,92402,80876,38997,58628,191,75653	26.05725.19957.48733.02179.82677.5074805.585837	1042283.30498.88931.75822.428282.1429.107	521137.74396.16274.43274.53321.891	312682.17735.3892.832241.465	218875.663.70472.94066	175.10044.341412	00015.75889.90
434.28927.04165.89559.47662.63062.29848.33961.52091.5787.1111	86,85746,32247,55114,74368,67628,32142,50708,350,18923	26.05714.77674.18034.13248.06855.0791984.156730	1042278.09361.14535.59547.995536.8107.216	521134.61716.17414.70716.68374.492	312679.98859.7255.784947.399	218873.912.71605.41644	175.09886.752422	00015.75874.15
434.28842.18445.63016.27943.97366.60932.49126.09749.3890.1702	86,85720,26543,19718,85695,68915,84835,42342,189,69409	26.05704.35796.08672.98712.47307.0836616.049514	1042272.88226.52819.42133.288369.9732.724	521131.49038.37428.89430.43968.737	312677.79985.8128.624405.755	218872.161.74313.76637	175.09729.165007	00015.75858.30
434.28753.32751.42167.01348.52117.37909.69464.46936.3624.9083	86,85694,20849,26595,45249,23022,79661,62813,026,52619	26.05693.93123.20446.45893.05173.7912916.316790	1042267.67095.03781.04704.3940665.5763.987	521128.36362.76315.24318.50939.619	312675.61113.6511.193029.118	218870.410.78597.97460	175.09571.579177	00015.75842.54
434.28666.47083.27001.25608.60219.56998.90272.24245.9414.9267	86,85668,15165,75739,91897,80910,79192,22690,420,99816	26.05683.50855.5335 1.42113.00469.4012260.552803	1042262.45966.67418.28389.150880.4824.368	521125.23689.34072.00285.17707.961	312673.42243.2403.333231.658	218868.659.84458.02537	175.09413.994923	00015.75826.79
	86,85642,09492,67146,84513,76217,07111,97655,863,71381	26.05662.66335.82543.30964.77763.1023168.612028	1042257.24841.43728.94317.148028.7116.407		312671.23374.5804.887429.121	218866.908.91893.90293	175.09256.412244	

on such Matters as are treated of by others; that Part being only premis'd, as an Introduction to some other *Solids* that may seem of a superior Degree, whereof *Twelve* (I presume) *New Geometrical Bodies* are herein to be exhibited to publick Notice; some of which may possibly be as Elegant and Beautiful (if truly form'd according to the Rules herein prescrib'd) as any of that Nature hitherto known.

The Method design'd is, *First*, after a short Description, to lay down certain Rules accurately to form or cut every of the Bodies out of a *Cube* or *Parallelepipedon* (or both) as may be most proper, easie and expeditious; and some of them also whose Bases are most numerous from the Sphere, and other more simple Bodies, (with Figures adapted to every of them) all the requisite Parts or Distances being express'd in Surd Numbers or Species equivalent, for the greater Accuracy, and likewise by a sufficient Number of Decimal Figures.

POLYEDRA:

OR

The Conſtruction and Dimenſions

OF

SOLID BODIES,

Which have ſeveral BASES.

ALthough a Diſcourſe of *Solid Bodies* be an uncommon and neglected Part of *Geometry*, yet that it is no inconſiderable or unprofitable Improvement of the Science will (no doubt) be readily granted by ſuch, whoſe Genius tends as well to the Practical as Speculative Parts of it, for whom this is chiefly intended.

Though enough may ſeem to have been writ concerning the *Five Regular Bodies*, by *Euclid* and others, yet I purpoſe not to be confin'd to the uſual Methods, nor to inſiſt at all, or very little, upon ſuch Matters as are treated of by others; that Part being only premis'd, as an Introduction to ſome other *Solids* that may ſeem of a ſuperior Degree, whereof *Twelve* (I preſume) *New Geometrical Bodies* are herein to be exhibited to publick Notice; ſome of which may poſſibly be as Elegant and Beautiful (if truly form'd according to the Rules herein preſcrib'd) as any of that Nature hitherto known.

The Method deſign'd is, *Firſt*, after a ſhort Deſcription, to lay down certain Rules accurately to form or cut every of the Bodies out of a *Cube* or *Parallelepipedon* (or both) as may be moſt proper, eaſie and expeditious; and ſome of them alſo whoſe Baſes are moſt numerous from the Sphere, and other more ſimple Bodies, (with Figures adapted to every of them) all the requiſite Parts or Diſtances being expreſs'd in Surd Numbers or Species equivalent, for the greater Accuracy, and likewiſe by a ſufficient Number of Decimal Figures.

2*dly*, To give the exact Dimenſions of the Perpendiculars, or Diagonals and Sides of each of the Baſes in Surds alſo, or in Species and Decimal Figures.

3*dly*, The *Radii* or Semidiameters of the ſeveral Circumſcribing and Inſcrib'd Spheres.

4*thly*, The *Area* of the Baſes diſtinct, and the whole Superficies.

5*thly*, The total *Solidity* of every Body: All in Surds or Species, and in Decimal Numbers.

Beſides (in diſtinct Papers) there will be ſmall but exact Draughts of every Body truly delineated, according to the ſtricteſt Rules of Perſpective, of moſt of them in ſeveral Poſtures, ſuch as may give the trueſt *Idea* and moſt juſt Repreſentation of their Forms; together with Figures of the ſeveral Solids out of which they are to be cut, and all the Lines neceſſary, in order thereto, drawn upon them, diſtinguiſh'd by Letters, *viz.* upon the inclining Baſes (to avoid Confuſion) only ſo many as ſerve for one or two Sections of every Kind, but upon the erect Front of every Cube all the Lines that muſt be, are drawn (tho' ſome without Letters) more clearly to ſhew how every Baſe ought to appear after the Delineation is finiſh'd, before any Section is cut.

The Semidiameter of the Inſcrib'd Sphere, in all (except the *Tetraedron*) is propos'd to be $= b = 1,0000$, &c. that the Altitude or neareſt Diſtance of the Parallel Baſes of every of the Bodies may be rendred equal, whereby their Proportion to each other, and to the *Cube* and *Sphere* will be the more evident. I have propos'd, and endeavour'd to expreſs the ſeveral Quantities in Surd Numbers, ſince in every of the *Solids* (except two) it is moſt proper and natural, and in all (where attainable) 'tis moſt perfect and unlimited, conſequently will be moſt ſatisfactory to the Judicious. And every of the Quantities requiſite for the other two Bodies, are expreſs'd in *Species* equivalent to *Surds*; yet for the Eaſe of ſuch as may account their Reduction too great a Labour, I have rendred all into ſuch a competent Number of Decimal Figures as will anſwer any Deſign that may be propos'd. And here it may not improperly be obſerv'd, That the Computations neceſſarily requir'd about theſe *Solid Bodies*, afford ſuch an Exerciſe and Improvement of the Doctrine of *Surds*, as can ſcarce be ſuppoſed to occurr in any other Part of *Geometry*.

Although the *Cube* and *Sphere* are *Solids* ſo common and well known, as to need no Deſcription, yet being the Original Generative Bodies, all the reſt having ſome Relation to, or Dependance upon them; and beſides, to render their mutual Compariſon more eaſie and obvious, I ſhall give ſome Account of their conſtituent Parts.

The *Cube* AGDHLNP, *Fig.* 1. is a *Solid* comprehended under ſix equal Quadrangles or Squares: The *Side* AG=HL=PN, &c. $= b = 1,000$, &c. The *Diagonal* AH=HN=NA $= b\sqrt{2} = 1,41421536237309504880169$: The Diameter of the circumſcribing *Sphere*, or internal Diagonal $= b\sqrt{3} = 1,73205080756887729353$: The Diameter of the inſcrib'd *Sphere* = BE $= b = 1$: The *Area* of each *Square Baſe* $= bb = 1$: The whole *Superficies* $= 6bb = 6$. The *Solidity* $= bbb = 1$.

The Diameter of the *Sphere* ABDE, *Fig.* 3. $= b = 1,000$, &c. The Superficies of the *Sphere* $= 3,14159265358979323846$: Its Solidity $= ,52359877559829887307711$.

The Tetraedron, *Fig.* 4.

Is a ſolid Pyramidal Body comprehended under four equal Equilateral triangular Baſes, like BHA, *Fig.* 2. The eaſieſt and leaſt waſtful way of cutting it, is from the Cube, *Fig.* 1. Make the Side of the Cube AG = AD, &c. $= \frac{1}{2}b\sqrt{3} = ,86602540378443864$. Upon every Baſe draw a Diagonal ſo as to join to each other, as, AH, HN, NA; and by theſe Diagonals cut off four Pyramidal Segments, like AHDNA, which will per-

perfect the Body, so that its perpendicular Height from the Center of each Base to the Angle opposite or Vertex, shall be $= b = 1,000$, &c. But the common way of cutting the *Tetraedron*, is from a *Parallelepipedon*, *Fig.* 2. whose Sides BA, CD, NM, must be $\frac{1}{2}b\sqrt{6} = 1,224744871391589049 1$, CN, DM, AL $= b = 1,000$, &c. and CB, DA, ML, $= \frac{1}{4}b\sqrt{2} = 1,060660171779821286 6$. Bisect all the Sides with the Lines EH, IF, HG, OP, FN, PZ; join BH and HA and draw the like Lines on the opposite Side, which will form one triangular Base; set off $\frac{1}{4}b\sqrt{2} = \frac{1}{3}$CB $= ,353553390593273762 2$ from B to R, and from A to K draw the Parallel RK, join KL, the Point X shall be the *Vertex*: Cut off the Prism RBAKL: Make BS $=$ AT $=$ HW $=$ HV $= \frac{1}{3}$BA $= \frac{1}{6}b\sqrt{6} = ,408248290463863016 4$. Draw the Lines WT, VS intersecting each other in the *Vertex* X. Join WG, VG, TL and S with the opposite Angle; cut off the two Segments GWTADML, GVSBCN, whereby the Body will be finish'd at three Sections. Always observing to draw all the Lines upon the Cube or Parallelepipedon before any Segment is cut off; and new Lines must be drawn upon the Plane made by every Section, from the Termination of the Lines which are cut off on every side: *Ex. gr.* After the Prism RBKAL is cut off, new Lines must be drawn upon the Plane thereby made, from X to L and to the opposite Angle; tho' no Notice need be taken hereof in the former Method of cutting this Body from the Cube (which will certainly be the more expeditious, as well as the more plain and easie way, tho' it require one Section more, there being so little Trouble in the Preparation;) But the Neglect hereof, where there are more Bases, will involve the Work in an inextricable Confusion; so that 'tis of absolute Necessity it should be observed in the cutting of all the other Bodies, where the Lines and Sections will be more numerous: Wherefore this Caution is to be taken along through the whole.

The Side of the Triangle or Base BH $=$ HA $=$ AB $= \frac{1}{2}b\sqrt{6} = 1,224744871391589049 1013575$.

The Perpendicular of the Triangle HE $= \frac{1}{4}b\sqrt{2} = 1,060660171779821286 6$. Radius of Circle circumscribing the Base $= \frac{1}{2}b\sqrt{2} = ,707106781$, &c. Radius Circle inscrib'd $= \frac{1}{4}b\sqrt{2} = ,353553390593273762 20042$.

Radius of the circumscribing Sphere $= \frac{3}{4}b = 75$. Radius of inscrib'd Sphere $= \frac{1}{4}b = ,25$.

Radius of Sphere passing through the middle of every Side $= \frac{1}{4}b\sqrt{3} = ,433012701892 219323381 86$.

The Area of the Base or Triangle $= \frac{3}{8}bb\sqrt{3} = ,649519052838328985 073$.

The Superficies $= \frac{1}{2}b^2\sqrt{3} = 2,598076211353315940 291$. The Solidity $= \frac{1}{4}b^3\sqrt{3} = = ,216506350946109661 6909$.

The Octaedron, Fig. 5.

Is a Solid comprehended under Eight equal equilateral triangular Bases, consisting of two square Pyramids, whose Bases are join'd together.

The easiest and most simple way of cutting it, is out of the Parallelepipedon, *Fig.* 6. whose Length EG, CA, QM, $= b\sqrt{3} = 1,732050 8$, &c. Breadth and Heighth CE, AG, MK, GK, AM, CQ, $= \frac{1}{2}b\sqrt{6} = 1,224744871 39$, &c. Bisect all the Sides by the Lines DH, BF, BP, RN, NI, HL, &c. Draw Diagonally BD, DF, FH, HB, and BR, RP, PN, NB, and the like on the two opposite Sides. Cut off the Prisms BHLMP, BNIGF, FHGKL, PNMKI, DCBPQ, RBCEF, DEF and RQP, in all Eight, finishing the *Octaedron*, whose Altitude or nearest Distance betwixt the opposite parallel Bases will be $= b = 1,0000$, &c.

But a nearer way, and less expensive of Materials, will be from the Parallelepipedon, *Fig.* 7. whose Length DE, BA, LK $= b\sqrt{2} = 1,41421356$, &c. Height BL, AK, EG $=$ $b = 1$.

$b = 1$. Breadth BD, EA, GK $= \frac{1}{2}b\sqrt{6} = 1{,}22474487$, &c. Biſect the Sides BD, AE, KG, with the Lines CP, PN: Set off EH $=$ AF $=$ LM $= \frac{1}{4}b\sqrt{2} = ,35355339059327376220$: Draw the Parallel FH, and join FC and CH compleating one triangular Baſe CFH: Draw the like on the oppoſite Side, join MB, MF, FK; make PR $=$ PQ $= \frac{1}{3}$AE $= \frac{1}{6}b\sqrt{6} = ,40824829046386301636$7: Join RN, QN, QG, FR, HQ: Cut off the Priſm FHEAKG and its oppoſite BMLD; continue the Lines on thoſe Planes; then cut off the four Segments MFRNK, HQNGE, CFMLB, and the like under the Triangle CHD, whereby the Body is form'd at ſix Sections.

It may alſo be cut out of the Cube, *Fig.* 1. making all its Sides $= b\sqrt{3} = 1{,}73205080756888$, croſſing every Side with two Diagonals AH, GD, &c. then cutting off Eight ſuch Pyramidal Segments, as in the Tetraedron; but this being ſo eaſie and waſtful, needs not further be inſiſted on.

The Side of the Triangle or Baſe FH $=$ CH $= \frac{1}{2}b\sqrt{6} = 1{,}22474487$, &c. The Perpendicular CO $= \frac{1}{4}b\sqrt{2} = 1{,}06066$, &c. The Radius of the Circumſcribing Sphere $= \frac{1}{4}b\sqrt{3} =$ $=$ 866025403784438646764. Radius of the Sphere Inſcrib'd $= \frac{1}{2}b = 5$. Radius of the Sphere paſſing through the middle of each Side $= \frac{1}{4}b\sqrt{6} = ,61237243569579452455$. The Area of the Triangle or Baſe $= \frac{1}{4}bb\sqrt{3} = ,64951905$, &c. The Superficies $= 3b^2\sqrt{3}$ $= 5{,}19615242270$66 &c. The Solidity of the *Octaedron* $= \frac{1}{3}b^3\sqrt{3} = ,86602540$ &c. approaching neareſt to the Cube.

The Dodecaedron, Fig. 9.

Is a Solid comprehended under Twelve equal equilateral Pentagonal Baſes. The common and moſt ſimple Method of cutting it, is from the Cube, *Fig.* 8. whoſe Sides AD, DC, &c. muſt be $= b\sqrt{\frac{5}{2} - \frac{1}{2}\sqrt{5}} = 1{,}17557050458494625833$74, that its Altitude may be $= b = 1$,; Biſect every Baſe with the entire Lines EG, NL, OH, and the prickt Lines NP, RO, GQ, in contrary Poſitions upon the contiguous Baſes: From either end of the prickt Lines ſet off both ways $\frac{1}{2}b\sqrt{\frac{25}{2} - \frac{11}{2}\sqrt{5}} = ,22451398828979268622 =$ NS, NW, PV, PT, GX, GF, QY, QZ, Ob, Oe, Rq, Rd. Draw the Parallels WV, ST, XY, FZ, ed, bq, and join NX, PF, SO, WR: Cut off the Priſmes NBXYKL, SBOHCT, GBedAE, RAWVD, PCFZI, &c. *viz.* one off every Edge of the Cube, in all Twelve.

But a more expeditious and leſs waſtful way of cutting this Body, will be from the Parallelepipedon, *Fig.* 10. whoſe Length DC, AB, EG $= b\sqrt{5} - b = 1{,}23606797749978969640$9; its Breadth DA, BC, FG $= b\sqrt{\frac{5}{2} - \frac{1}{2}\sqrt{5}} = 1{,}17557050$, &c. its Height AE, BG, CF $= b = 1$: Biſect every ſide with the Lines HI, LK, KM, RO, OP, IN, ſince from theſe middle Points the ſeveral Diſtances may much more commodiouſly be ſet off than from the Angles.

1. Make K Q $=$ L S $=$ Mq $= \frac{1}{4}b\sqrt{5} - \frac{1}{4}b = ,30901699437494742410$, and OT $=$ PV $=$ RM $= \frac{1}{2}b\sqrt{5} - b = ,11803398874989484820$46. Draw the Parallels QS, TV, join QT, qm, whereby the Priſm QBTVCS, and another like it under the Triangle qEm, may be cut off, in all Two.

2*dly*, Make IW $=$ IX $= b\sqrt{\frac{13}{2} - \frac{29}{10}\sqrt{5}} = ,12410828034667904628$60723, and HZ $=$ HY $=$ Nt $=$ Ny $=$ Il $=$ Io $= b\sqrt{\frac{1}{2} - \frac{1}{10}\sqrt{5}} = ,52573111211913360602$6, and Oh $=$ Ru $=$ Pg $= \frac{1}{4}b - \frac{1}{20}b\sqrt{5} = ,38196601125010515179$5. Draw the Lines VX, ZW, Wh, uh, Xg, ht, yg, whereby the Segments WBhuAZ, YXgCD may be cut off, and two more like theſe off the oppoſite Angles, in all Four.

3*dly*, Set off Ld $=$ Ke $=$ Mr $= \frac{5}{4}b\sqrt{5} - \frac{11}{4}b = ,04508497187473712051$1467, and Hb $=$ Ha $=$ Np $=$ Nk $= b\sqrt{1 - \frac{2}{5}\sqrt{5}} = ,32491969623290632615$587, and Kn $=$

Mf

Mf $= \frac{9}{4}b - \frac{3}{4}b\sqrt{5} =$,572949016875157727693 1: Draw the Lines a d, b e (compleating the Pentagon $\alpha\beta\gamma\delta\varepsilon$) and e f, Br, l k, p o, o x, whereby the Segments beAEf, klBnrGk, may be cut off; and two more like these off the opposite Edges, in all Four, which will finish the Body by ten Sections, so as its Altitude shall be $= b = 1$,.

The Radius of the Circle circumscribing the Pentagonal Base $= \frac{3}{4}b - \frac{1}{2}b\sqrt{5} =$,38196-601125010515179541 3. Radius of the Circle inscrib'd in it, $n\varkappa = \frac{1}{4}b\sqrt{5} - \frac{1}{4}b =$,30-901699 &c. The Side of it $= b\sqrt{\frac{25}{2} - \frac{11}{2}\sqrt{5}} =$,44902797657958537244 2. The Radius of the Circumscribing Sphere $= \frac{1}{2}b\sqrt{15 - 6\sqrt{5}} =$,62920428618240948485 2878. Radius of the Sphere passing through the middle of every Side $= \frac{1}{2}b\sqrt{\frac{5}{2} - \frac{1}{2}\sqrt{5}} =$,5877-852522924731291687. Radius of the inscrib'd Sphere $= \frac{1}{2}b =$,5.

The Area of one Pentagon or Base $= \frac{5}{4}bb\sqrt{\frac{65}{2} - \frac{29}{2}\sqrt{5}} =$,34689318928221939 1817.

The Superficies $= 15b^2\sqrt{\frac{65}{2} - \frac{29}{2}\sqrt{5}} =$ 4,16271827138663270 18.

The Solidity of the *Dodecaedron* $= \frac{5}{2}b^3\sqrt{\frac{65}{2} - \frac{29}{2}\sqrt{5}} =$,69378637856443878 3635.

The Icosaedron, Fig. 11.

Is a Solid contained within twenty equal equilateral triangular Bases. To cut this Body after the common Method, so that its Altitude shall be $= b = 1$.

The Side of the Cube, *Fig.* 12 must be $\frac{1}{2}b\sqrt{15} - \frac{1}{2}b\sqrt{3} =$ 1,07046626931926979566. Bisect every Side with the Lines EG, NP, NL, RO, OH, GQ, alternately prickt and entire, as in the *Dodecaedron*. Then *1st*. From every of the middle prickt Points set off both ways to S, W, T V, X, Y Z, a, b, d, f, e, *&c.* $\frac{1}{4}b\sqrt{3} - \frac{1}{4}b\sqrt{15} =$,33079226912 4-8037489 36. Draw the Parallels WV, ST, XZ, Ya, b e, d f; and the like on the opposite Sides. Join NX, Gb, SO, WR, YP, Pα, Nβ, &c. by which the Prisms SBOHCT, XBNLKZ, bBGEAe may be cut off, and one like these off every other Edge of the Cube, in all Twelve.

2dly, From every middle Point set off on both Sides $\frac{1}{2}b\sqrt{15} - b\sqrt{3} =$,20444086553-48311488923 $=$ Pm $=$ Pl $=$ Ng $=$ Nh $=$ Ei $=$ Ek, &c. Join h n, g k, i m, l o, o q, n t, r w, p f, t h, &c. Cut off the Pyramids hBnt, kAgx, lCoq, and the like off every other Angle, in all Eight, forming the Body by twenty Sections. But from the Parallelepipedon, *Fig.* 13. it may with less Waste and more Expedition be form'd, making the Length DC $=$ AB $=$ GF $= b\sqrt{5} - b =$ 1,23606797749978969 64; the Breadth BC $=$ AD, $=$ GE $= \frac{1}{2}b\sqrt{15} - \frac{1}{2}b\sqrt{3} =$ 1,07046626931926979566, and the height $=$ ED $=$ AG $=$ FB $= b = 1$. Bisect every Side by the Lines, Hl, Mk, lK, LM, LN, pm.

1. Make lO $=$ HR $=$ Kϑ $= \frac{3}{4}b - \frac{1}{4}b\sqrt{5} =$,19098300562505257 58977, and LP $=$ NQ $=$ M$\varkappa$ $= \frac{1}{2}b\sqrt{5} - b =$,11803398874989484 82: Draw the Parallels OR, PQ, and the like on the opposite Sides from ϑ and $\varkappa$: Join PO, $\vartheta\varkappa$: Cut off the Prism OAPQDR, and another like it under ϑF$\varkappa$, in all Two.

2dly, Make HW $=$ lS $=$ Ky $= \frac{5}{4}b\sqrt{5} - \frac{9}{4}b =$,54508497187473712051, and kX $=$ kT $=$ pμ $=$ pλ $= \frac{1}{4}b\sqrt{15} - \frac{3}{4}b\sqrt{3} =$,12629391035655409926 &c. and FV $=$ Aν $=$ Dξ $= \frac{11}{20}b\sqrt{5} - \frac{3}{4}b =$,47983738762488433025: Draw the Lines ST, WX, (limiting the Triangle) and SV, yν, $\nu\mu$, $\lambda\xi$, whereby the Pyramids STBV, y$\nu\mu$G may be cut off; and two more like them off the opposite Angles under the Triangles WCX and λEξ, in all Four.

3dly, Make Af $=$ Do $=$ Fδ $= \frac{3}{20}b\sqrt{5} + \frac{1}{4}b =$,58541019662496845446 1, and m n $=$ m i $= \frac{1}{2}b\sqrt{3} - \frac{1}{20}b\sqrt{15} =$,22052817941653583262, and lβ $=$ Kh $= \frac{11}{20}b\sqrt{5} - \frac{3}{4}b =$,47-98373876 &c. and pq $=$ pg $= \frac{1}{8}b\sqrt{15} - \frac{1}{8}b\sqrt{3} =$,35682208978977308 99319: Join

fi, no, ig, nq, fh, ℓℓ; by which the Segments giAfhG, noDEq, and two more like theſe from the oppoſite Angles, may be cut off, in all Four.

4*thly*, Make Ix = Hz = Kt = $\frac{7}{4}b\sqrt{5}-\frac{15}{4}b$ = ,163118960624631968716, and Iα = Hw = $\frac{21}{4}b-\frac{11}{4}b\sqrt{5}$ = ,600813061875578334875, and mr = mζ = $\frac{1}{8}b\sqrt{15}-\frac{1}{8}b\sqrt{3}$ = ,356822089 &c. and Lε = Nſ = $\frac{13}{4}b-\frac{5}{4}b\sqrt{5}$ = ,454915028125262879 49: Join xw, αζ, xy, tS, Sr, rſ, εζ; hence four Segments may be cut off, *viz.* tSrfEGt, εζDEGε, yxwCBFy, αzCBα exactly alike, in all Four.

5*thly*, Make mc = mZ = $\frac{3}{8}b\sqrt{15}-\frac{3}{8}b\sqrt{3}$ = ,272587820713108199 52, and kY = kd = pu = pπ = $b\sqrt{3}-\frac{1}{2}b\sqrt{15}$ = ,441056358833071665 24; and La = Mb = Ne = = $b\sqrt{5}-2b$ = ,236067977499789696409. Draw the Lines ZY, cd, ce, Za, ab, au, eπ: Cut off the Segments YZAabBY, auGFba, and two more exactly like and directly oppoſite to theſe, in all Four; finiſhing the *Icoſaedron* by eighteen Sections.

The Side of the Triangle or Baſe = $\frac{3}{2}b\sqrt{3}-\frac{1}{2}b\sqrt{15}$ = ,661584538249607497872: Its Perpendicular = $\frac{9}{4}b-\frac{3}{4}b\sqrt{5}$ = ,572949016875157727693 1: The Radius of the Circle circumſcribing it = $\frac{3}{2}b-\frac{1}{2}b\sqrt{5}$ = ,381966011250105151795 4: Radius of the Circle Inſcrib'd = $\frac{1}{4}b-\frac{1}{4}b\sqrt{5}$ = ,190983005625052575897 7: The Radius of the Circumſcribing Sphere = $\frac{1}{2}b\sqrt{15-6\sqrt{5}}$ = ,629204286182409484 85: Radius of the Sphere paſſing through the middle of every Side = $\frac{1}{4}b\sqrt{15}-\frac{1}{4}b\sqrt{3}$ = ,535233134659634897 91: Of the Inſcrib'd Sphere = $\frac{1}{2}b$ = ,5: The Area of the Baſe = $\frac{21}{8}b^2\sqrt{3}-\frac{9}{8}b^2\sqrt{15}$ = ,1895-271053849589000 64: The whole Superficies = $\frac{105}{8}b^2\sqrt{3}-\frac{45}{8}b^2\sqrt{15}$ = 3,790542107-699178001 28: The Solidity = $\frac{35}{4}b^3\sqrt{3}-\frac{15}{4}b^3\sqrt{15}$ = ,631757017949806300021.

Beſides theſe Five Regular Bodies, there are two others no leſs known, which well deſerve Notice.

1. *The Body of Twelve Rhombs*, *Fig.* 14. 1, 2.

Is a Geometrical Solid apparently deriv'd either from the *Cube* or *Octaedron*, by fixing Planes upon every Edge perpendicular to that Axis which paſſeth from the Center of the Body through the middle of each Edge or Side. Theſe Planes coinciding directly over the Centers of every Baſe, in the Cube terminate in that ſolid Angle which is compos'd of four of the Acute Angles of the *Rhombs*; in the *Octaedron* of three of their Obtuſe Angles: So that the Side of the Cube becomes the ſhorter Diagonal of the Rhomb, and the Side of the *Octaedron* the longer. The Dimenſions of both being reduc'd to the Proportion ſo choſen that the Altitude may be = b = 1, it is cut out of a *Parallelepipedon*, *Fig.* 15. whoſe length GH, FA, MK = $b\sqrt{2}$ = 1,414213562373 &c. breadth and height FM, AK, HI, FG, AH, IK, = b = 1,: Biſect the longeſt Sides round about with the Lines BE, BL, &c. Draw the tranſverſe Lines, FE, EG, BH, AE, FL, BM, BK, LA, &c. forming the Rhombs BCDE, BNLP; and the like on the oppoſite Sides. Croſs the two other Sides with Diagonals, as AI, HK, &c. Cut off the triangular Pyramids BHAKB, BGFMB, AEHIA, IKLAI, and the like off the other four oppoſite Angles; finiſhing the Body at eight Sections. The Side of the Rhomb BD = $\frac{1}{2}b\sqrt{6}$ = ,612372435695794524 55. The longer Diagonal BE = b = 1,: The ſhorter CD = $\frac{1}{2}b\sqrt{2}$ = ,707106781186547 5-244: The Radius of the Circumſcribing Sphere = $\frac{1}{2}b\sqrt{2}$ = ,7071 &c. Of the Inſcrib'd = $\frac{1}{2}b$ = ,5. Radius of the Sphere which paſſeth through the Obtuſe Angles of the Rhombs = $\frac{1}{4}b\sqrt{6}$ = ,61237 &c. The Area of the Rhomb = $\frac{1}{4}b^2\sqrt{2}$ = ,353553390593273762 2: The Superficies = $3b^2\sqrt{2}$ = 4,242640687119285146 4: Laſtly, the Solidity = $\frac{1}{3}b^3\sqrt{2}$ = = ,707106781186547524 40.

2. *The*

2. *The Body of Thirty Rhombs, Fig.* 16. 1, 2.

Is a very elegant Geometrical Solid, evidently deduc'd either from the *Dodecaedron* or *Icosaedron*, by placing Planes upon all the Edges of either of them, every way perpendicular to that Axis which passeth through the middle of each Side or Edge; so that the Side of the *Dodecaedron* becomes the shorter Diagonal of the Rhomb, and the Side of the *Icosaedron* the longer: Consequently 'tis easily reduc'd back to a *Dodecaedron*, if the acuter Solid Angles be cut off through the five adjacent shorter Diagonals of the Rhombs; or to an *Icosaedron*, if the obtuser solid Angles be cut off through the three neareſt longer Diagonals.

This Body is so commodiously cut from the Cube as to exclude all other Methods, *Fig.* 17. Make the Sides of the Cube AB, BC, AE, &c $= b = 1$: From every Angle set off upon all the three adjoining Sides $\frac{1}{2}b - \frac{1}{2}b\sqrt{5} = ,381966011250105151795 =$ = AK, AL, AY, BI, BR, BQ, CP, CO, CX, DM, DN, &c. or if it be thought more convenient to set it off from the middle Points, the Sides may be bisected by the Lines kl, hi, &c. and kL, kM, Ni, iO, lP, lQ, hI, hK, &c. made $= \frac{1}{2}b\sqrt{5} - b = ,118033988749894848205$: Join KD, AN, AR, IC, BO, YB, SE, ZG, BT, QG, PH, VC; and the like on the oppoſite Sides. Draw the transverse Lines KQ, AP, LC, MO, IL, BM, QD, PN and the like on all the other Sides; by which the triangular Pyramids APBRA, IBCSI, KBQGK, and three exactly like these, must be cut off every of the other Angles: Always taking care to continue the Lines upon the remaining Plane after any Section is made. They will amount in all to Twenty-four, by which the Body will be perfected.

The Side of the Rhomb d e = d g, &c. $= \frac{1}{2}b\sqrt{5-2\sqrt{5}} = ,363271264002684429477 3$: its Perpendicular gm $= b\sqrt{1-\frac{2}{5}\sqrt{5}} = ,324919696232906326155 87$: The longer Diagonal df $= \frac{1}{2}b\sqrt{5} - \frac{1}{2}b = ,618033988749894848 2$; The shorter eg $= \frac{3}{2}b - \frac{1}{2}b\sqrt{5} =$ $= ,381966011250105151 8$: The Radius of the inscrib'd Sphere $= \frac{1}{2}b = ,5$.

The Radius of the Circumscribing Sphere $= \frac{1}{2}b\sqrt{\frac{5}{2}-\frac{1}{2}\sqrt{5}} = ,587785252292473129 1687$.

The Radius of the Sphere passing through the Obtuse Angles of the Rhomb $= \frac{1}{4}b\sqrt{15} - \frac{1}{4}b\sqrt{3} = ,535233134659634897912998$.

The Area of the Rhomb $= \frac{1}{2}b^2\sqrt{5} - b^2 =$, 118033988 &c.

The Superficies $= 15b^2\sqrt{5} - 30b^2 = 3,541019662496845446 14$.

The Solidity of this Body $= \frac{1}{4}b^3\sqrt{5} - 5b^3 = ,590169943749474241 02$.

There remains another Geometrical Solid, comprehended under six equal Squares and thirty-two equal equilateral Triangles, *Fig.* 19. not so common and well known as any of the former, yet nothing less elegant, though of a far more intricate and difficult Derivation: The Notion hereof was imparted by a Friend, who understood so much of it as enabled him to draw the several Parts upon Paper or Past-board, and fold them up into a due Form: At his Request I undertook to give a more full and exact Account of all its Parts and Dimensions, and to lay down a regular and certain Method of forming or cutting it, as follows.

Let the Sides of the Cube, *Fig.* 18. BC, GE, FD, &c. be $= b = 1$. The first thing to be found upon which all the rest depends, is the Space AX = BP = CH = DN, &c. which being put $= x$ is discovered, by the Cubick affected Equation $xxx + bxx = \frac{1}{4}bbb$, to be $= \frac{1}{6}b\sqrt[3]{19+3\sqrt{33}} + \frac{1}{6}b\sqrt[3]{19-3\sqrt{33}} - \frac{1}{3}b =$ AI = ER = Gb = BS = Ga =

$Ff = Dk = C\xi = Bx = Ai = x =$,419643377607080566275926282326. Or if it be judg'd more convenient to ſet it off from the middle Points, $\eta, \zeta, \varepsilon, \vartheta, \mu, \lambda, \varkappa, \nu, \rho$, then will ζH, ζx, εP, εI, ϑN, $\vartheta\xi$, ηX, ηK, $\varkappa b$, $\varkappa i$, λS, λd, μR, ρa, νf, &c. be $= \frac{1}{6}b -$ $- \frac{1}{6}b\sqrt[3]{19 + 3\sqrt{33}} - \frac{1}{6}b\sqrt[3]{19 - 3\sqrt{33}} =$,080356622392919433724073717674$= \frac{1}{2}b - x$. The Square of $x =$,176100564369478807254750851786 6, and $xxx =$,073899435630521192745249148213 4 $= \frac{1}{4} - xx$, and $x^4 = \frac{1}{4}x - x^3$, and $x^5 = \frac{1}{4}xx - x^4$, &c. Make $A\tau$, Bp, CO, DM, Ag, $D\pi$, Fy, Gc, GV, ET, BW, AY $= \frac{xx}{1+x} = 4x^4 =$,124045635084995795294929689 5, or $\varepsilon\tau$, ζp, ϑO, ηM, ηg, $\nu\pi$, ϱy, $\varkappa c$, μV, λT, εW, $\varkappa Y = \frac{1}{3} - 4x^4 =$,375954364915 &c. Make alſo Bh, Ao, $D\sigma$, Cm, Dz, Aq, Gw, &c. $= \frac{\frac{1}{2} - x^2}{1+x-2x^2} = \frac{1+x-2x^2}{1+6x}$ $= \frac{1}{4-4x^2} =$,303435090726427970756418527, or ζh, ηo, $\eta\sigma$, ϑm, νz, $\varkappa Q$, μw, &c. $= \frac{\frac{1}{2}x}{1+x-2x^2} = \frac{1-2x^2}{4-4x^2} =$,19656490927357 &c. Laſtly, make Bk, Bſ, $D\upsilon$, Ce, At, Aq, AL, GZ $= \frac{x+x^2-\frac{1}{2}}{1+x-2x^2} = \frac{x}{3+4x} =$,089694727820716087730744419, or εk, $\lambda\phi$, $\vartheta\upsilon$, ζe, $t\eta$, $\varkappa q$, εL, $\varrho Z = \frac{1-\frac{1}{2}x-2x^3}{1+x-2x^2} = \frac{\frac{3}{2}+x}{3+4x} =$,410305272179 &c. Draw the Lines LN, PO, HM, Xp, Ky, ga, $i\pi$, cf, VI, RW, bT, SY, forming the Squares $\alpha\beta\gamma\delta$, &c. Join th, σe, km, $u\upsilon$, qz, Zo, $Q\phi$, wL, and XQ, oI, Lg, tq, &c. Cut off the Segments pXAQ, Bp, ZoAIVGZ, and wLAgaGw, htAqSBh; and two like theſe off every other Edge, in all Twenty-four: Continuing the Lines upon the Planes made by every Section.

2*dly*, Join $X\xi$, Kp, $N\varkappa$, Hl, Kh, bP, Id, Xf, &c. round every Angle: Cut off the triangular Pyramids $K\varepsilon AbK$, $\xi Xf D\xi$, dIHBd; and one like theſe off every other Angle: in all Eight, compleating the Body by Thirty-two Sections.

The Side of the Squares and Triangles α, β, &c. $= \sqrt{2bx + 2xx - bb} =$,437593286000096088204305006742 $= a$.

The Perpendicular of the Triangle $= \sqrt{\frac{3}{4}bx + \frac{3}{8}xx - \frac{3}{4}bb} =$,378966902202341491362052538 88.

The Radius of the Circumſcribing Sphere $= \sqrt{bx + xx - \frac{1}{4}b^2} =$,587999950660337533273: Radius of the Sphere Inſcrib'd in the Squares $= \frac{1}{2}b =$,5. Radius of the Sphere inſcrib'd in the Triangles $= \sqrt{3} \times \overline{\frac{1}{6}b + \frac{1}{3}x} =$,530956351619904619798.

Radius of the Sphere paſſing through the middle of every Side $= \sqrt{\frac{1}{2}bx + \frac{1}{2}xx} =$,545776484458866812.

The Area of the Square $= 2bx + 2xx - bb =$,191487883953118747061354268225 $= aa$.

The Area of the Triangle $= \sqrt{3} \times \overline{\frac{1}{2}bx + \frac{1}{2}xx - \frac{1}{4}bb} =$,082916686010163696295248864 $= \frac{1}{4}aa\sqrt{3}$.

The whole Superficies $= 6aa + 8aa\sqrt{3} =$ 3,802261256043950763816.

The Solidity $= \frac{1}{3}x^3 + 2bbx + 10bx^2 - \frac{7}{3}b^3 =$,661089388938395566407356539557 $= 2x + \frac{1}{3}x^2 - 1$.

Becauſe this Body ſeems as advantagiouſly compos'd for a Set of Dials as can well be contriv'd, I have calculated the Declination and $\left.\begin{matrix}\text{Re-}\\ \text{In-}\end{matrix}\right\}$clination of all the Triangular Planes. Making one of the Six Squares the Baſe, placing another exactly *South*, and a third *Horizontal*, the other three will be *Eaſt*, *Weſt* and *North*; and thoſe Eight Triangles, each

each of which connect three different Squares, will then decline from the Meridian 45^d 0′ 00″ and Re-/In- cline from/to the Zenith 35^d 15′ 51″80287.

2 South / 2 North decline { West / East ; East / West } $12^d\ 03'\ 53''56513$ { Re-/In- cline ; Re-/In- cline } $35^d\ 52'\ 11''574$

2 South / 2 North decline { East / West ; West / East } $77\ 56\ 06433487$ { Re-/In- cline ; Re-/In- cline } $35\ 52\ 11^{574}$

2 South / 2 North decline { West / East ; East / West } $54\ 07\ 48^{4260}$ { Re-/In- cline ; Re-/In- cline } $09\ 49\ 35^{0219}$

2 South / 2 North decline { East / West ; West / East } $16\ 28\ 03^{2176}$ { Re-/In- cline ; Re-/In- cline } $54\ 07\ 48^{4260}$

2 South / 2 North decline { West / East ; East / West } $73\ 31\ 56^{7824}$ { Re-/In- cline ; Re-/In- cline } $54\ 07\ 48^{4260}$

2 South / 2 North decline { East / West ; West / East } $35\ 52\ 11^{5740}$ { Re-/In- cline ; Re-/In- cline } $9\ 49\ 35^{0219}$

All the Solid Bodies hitherto mentioned being already known, as an Addition to the Geometrical Store, I ſhall ſubjoin Twelve more; none of which (I preſume) have yet been expos'd to publick View, and ſome of them perhaps being more beautiful and elegant than any of the former. I ſhall begin with thoſe that have feweſt Baſes, and aſcend gradually to thoſe that are more numerous.

1. *A Solid of Eighteen Baſes, Fig.* 20. 1, 2.

Is a Body contained under Six Rhombs and Twelve Quadrilateral Baſes, which (becauſe they conſiſt of two different Iſoſceles Triangles, or unequal half Rhombs joyned together) for Diſtinction I ſhall call *double Semi-rhombs*, or rather for brevity, *Semi-rhombs*. This Body (being repreſented in two different Views) bears ſome Reſemblance to a Pyramid.

It is with the greateſt Facility and Convenience cut out of the Cube, *Fig.* 1. making its Side AD = AG = NP = NL, &c. = *b* = 1. Biſect every Side by the Lines IF, BE, BQ, RO, OK, IM: Draw the tranſverſe Lines AI, AE, HF, HB, HO, HM, NK,

NI, NB, NR, AQ, AO, forming a Rhomb upon every Baſe like ATSH; all ſix connected together in the acute Angles: Join BI, BO, IO, &c. Cut off the Triangular Pyramids BODHB, IDOAI, BDINB, and one like theſe off every other Edge; in all Twelve.

The longer Diagonal AH $= b\sqrt{2} = 1{,}41421356$ &c. The ſhorter TS $= \frac{1}{3}b\sqrt{2} = {,}4714045207910316829 3$.

The Side of the Rhomb AT = the longer Side of the Semi-rhomb $= \frac{1}{4}b\sqrt{5} = {,}7453559924999298988$.

The longer Diagonal of the Semi-rhomb $= \frac{1}{5}b\sqrt{2} = {,}848528137423857029 28$. The ſhorter $= \frac{1}{5}b\sqrt{2} = {,}4714045$ &c.

The ſhorter Side of the Semi-rhomb $= \frac{1}{15}b\sqrt{17} = {,}2748737083745107033214$.

Radius of the Circumſcribing Sphere $= \frac{1}{2}b\sqrt{3} = {,}8660254$ &c. Radius of the inſcrib'd Sphere $= \frac{1}{2}b = {,}5$.

Radius of the Sphere paſſing through the obtuſe Angles of the Rhomb and Semi-rhomb $= \frac{1}{8}b\sqrt{11} = {,}5527707983925666415 1915$.

Radius of the Sphere paſſing through the other obtuſe Angle of the Semi-rhomb $= \frac{3}{10}b\sqrt{3} = {,}5196152422706631880 5823$.

$\frac{1}{3}b^2$ The Area of the Rhomb $= \frac{1}{3}b^2 = {,}333333$ &c. The Area of the Semi-rhomb $= \frac{1}{5}b^2 = {,}2$.

The Superficies $= \frac{2}{5}b^2 = 4{,}4$. The Solidity $= \frac{1}{15}bbb = {,}7333333$ &c.

2. *A Solid of Twenty-four Quadrilateral Baſes, Fig.* 21.

Comprehended under Twenty-four equal oblate Semi-rhombs like ΔΓΘΞ, *Fig.* 23. ſo diſpos'd, that the Circumſcribing Sphere paſſes through all the three Angles ΓΔΞ.

The eaſieſt Method of cutting it is from the Cube, *Fig.* 22. whoſe Sides AB, AD, AE, &c. muſt be $= b\sqrt{7 - 4\sqrt{2}} = 1{,}158941651036677430 53264$. From every Angle ſet off BS, BT, BX, AQ, AW, AY, CV, Cb, Cd, &c. $= b\sqrt{37 - 26\sqrt{2}} = {,}4800493498584575014 39$: Or if the ſides be biſected, ſet off from the middle both ways $= b\sqrt{\frac{21}{4} - 38\sqrt{2}} = {,}0994214756598812138 27$. Join AT, BW, Bd, SC, TG, GS, YB, AX, Bb, CX, Ba, GT, &c. Draw the Diagonals AC, BD, BF, GC, AG, EB. Cut off the triangular Pyramids ACBXA, GABTG, CGSBC, and three like theſe off every other Angle; in all Twenty-four.

But it may be cut with leſs Waſte and fewer Sections out of the Parallelepipedon, *Fig.* 23. whoſe Length ED, AB, KL $= b\sqrt{7 - 4\sqrt{2}} = 1{,}15894165 1$ &c. Height DM, BL, AK $= b = 1$. Breadth AE, BD, LM $= \frac{3}{7}b + \frac{4}{7}b\sqrt{2} = 1{,}093836321356 0543136$. Biſect every Side by the Lines GF, IH, PN, SI, NT, RF.

1. Make Gd, Fb, Rχ $= b - \frac{1}{4}b\sqrt{2} = {,}2928932188134524756$, and Be, Af, M$\downarrow$ $= \frac{6}{7}b - \frac{3}{7}b\sqrt{2} = {,}4530818393219 78432$. Draw the Parallels d b, f e: Join e b, $\downarrow\chi$: Cut off the Priſm d b B e f A d, and another like it (under the Triangle $\downarrow\chi$M) off the oppoſite Edge, *viz.* Two.

2. Make IV = IQ $= \frac{1}{14}b\sqrt{\frac{190}{49} - \frac{304}{49}\sqrt{2}} =$, 219186998445822 07; and Fa, GW $= \frac{5}{6}b - \frac{3}{5}b\sqrt{2} = {,}3786796564403574268$; and Ll, Kq $= \frac{71}{14}b\sqrt{2} - \frac{47}{5}b = {,}4577973520349 82033$. Draw the Lines QW, Va, a l, Vl, Qq. Cut off the triangular Pyramids VaBlV, QWAqQ, and two more like theſe, off the oppoſite Angles; in all Four.

3. Make FX, GO, Rm $= \frac{6}{7}b\sqrt{2} - \frac{15}{14}b = {,}1407544820340814 71$, and HZ, HY, Sg, Sh $= b\sqrt{\frac{10}{49} - \frac{4}{49}\sqrt{2}} = {,}5054494651244 24$. Draw the Lines XY, OZ, which compleat the Semi-rhomb ΔΓΘΞ. Set off Di, Kr, Lo $= \frac{8}{7}b - \frac{15}{14}b\sqrt{2} = {,}4862579888 98$

205-

2058702: Join Xi, gr, ho, om: Cut off the Pyramids YXDi, homLh, and two more like these, off the oppofite Angles under the Triangles OEZ, gKr; in all Four.

4. Make Ik, It $= \frac{1}{7}b\sqrt{\frac{343}{49} - \frac{238}{49}\sqrt{2}} =$,377052654130470613, and Hn, Hu, $= \frac{1}{7}b\sqrt{\frac{735}{49} - \frac{408}{49}\sqrt{2}} =$,215111818902066 8; and Np, Pw, Tf $= \frac{1}{7}b =$,14285714-285714 &c. Join kn, tu, pf, kp, tw. Cut off the Segments kpBfDnk, and tuEAwt, and two more like these, off the oppofite Edges; in all Four.

5. Make Iε, Iυ, $= \frac{1}{14}b\sqrt{\frac{116}{49} + \frac{8}{49}\sqrt{2}} =$,195472239226491 4829, and Fκ, Gλ, Rμ, $= \frac{1}{7}b\sqrt{2} - \frac{1}{14}b =$,130601937481870 7212, and Sθ, Sy $= \frac{1}{7}b\sqrt{\frac{1423}{49} - \frac{936}{49}\sqrt{2}} =$ $=$,343514960014322 90325. Draw the Lines εκ, κμ, εθ, υλ, νy. Cut off the Segments εBκμLθε, υλAKyν, and two more like these, off the oppofite Edges; in all Four.

6. Make Iτ, Iν $= \frac{2}{7}b\sqrt{\frac{79}{49} - \frac{52}{49}\sqrt{2}} =$,161934505110101773057; and Fυ, Gρ, Rz $= \frac{4}{7}b\sqrt{2} - \frac{3}{7}b =$,385618083164126731735, and Sσ, Sπ, Hc, Hx $= \frac{1}{7}b\sqrt{\frac{29}{49} + \frac{2}{49}\sqrt{2}} =$,195472239 &c. and Rφ, Fω, Gξ $= b\sqrt{2} - \frac{7}{5}b =$,247546895706428 3821. Draw the Lines τυ, τσ, νφ, νρ, νπ, cω, ωz, ξx. Cut off the Segments σBνφLστ, ρAνπKA, and two like these, off the oppofite Edges; in all Four: So the Body will be form'd by 22 Sections, obferving after each to continue the Lines.

The longer Diagonal of the Semi-rhomb rπ $= \frac{1}{2}b\sqrt{7 - 4\sqrt{2}} =$,579470825518338 71-52663206185.

The fhorter Δθ $= \frac{10}{7}b - \frac{9}{14}b\sqrt{2} =$,519434138474438 8972: The longer Part of it extending from the acuter Angle to the other Diagonal $= \frac{7}{4}b - b\sqrt{2} =$,335786437 6-269049511983 11. The fhorter Part of it $= \frac{5}{14}b\sqrt{2} - \frac{9}{28}b =$,183647700847533 9460.

Radius of the Circle circumfcribing the three Angles of the Semi-rhomb $= b - \frac{1}{2}b\sqrt{2}$ $=$,292893218813452 4756. The remaining Part of the Diagonal $= \frac{1}{7}b - \frac{1}{14}b\sqrt{2} =$,226540919660986 4216.

The longer Side Δr $= b\sqrt{\frac{11}{2} - \frac{15}{4}\sqrt{2}} =$,443507768929632.

The fhorter rΘ $= \frac{1}{7}b\sqrt{39 - \frac{47}{2}\sqrt{5}} =$,343035111079 4807.

Radius of the circumfcribing Sphere $= \frac{1}{2}b\sqrt{7 - 4\sqrt{2}} =$,57947 &c.

Radius of the infcrib'd Sphere $= \frac{1}{2}b =$,5.

Radius of the Sphere paffing thro' the obtufe Angle of the Semi-rhomb $= \frac{1}{14}b\sqrt{93 - 24\sqrt{2}}$ $=$,548926942524982 13939834.

The Area of the Semi-rhomb $= \frac{1}{28}b^2\sqrt{\frac{3407}{2} - 1192\sqrt{2}} =$,150498464512086 57.

The whole Superficies $= \frac{6}{7}bb\sqrt{\frac{3407}{2} - 1192\sqrt{2}} =$ 3,61196314829007 8.

The Solidity of the Body $= \frac{1}{7}b^3\sqrt{\frac{3407}{2} - 1192\sqrt{2}} =$,601993858048346 27.

3. *A Solid of Twenty-four Iſoſceles Triangles, Fig.* 24. 1, 2.

Is compounded of fix fquare Pyramids, each of whofe Sides are four Iſoſceles Triangles, and a Cube whofe Bafes are the fame with the Bafes of the Pyramids.

It may be cut out of the Cube, *Fig.* 25. whofe Sides DC, FM, GE, &c. $= \frac{1}{4}b\sqrt{6}$ $=$ 1,224744871391589 &c. Bifect every Side by the Lines IH, OP, IK, LN, LM, RO. Set off Ob, Oq, Pe, Pd, HT, HS, IV, IW, Kl, Km, Ng, Nf, IZ, La, MY, MX, Rh, Rk $= \frac{1}{4}b\sqrt{6} - \frac{1}{4}b\sqrt{3} =$,179359733803575 20116 0817. Draw the Parallels dq, eb, VS, WT, Vm, Wl, gz, fa, ZY, aX, hb, kq. Join Ib, Ie, VO, OS, Va, Qa, &c. Cut off the Prifms OAVmGR, IAbhGK, OAafBP, bALNBe, and two like these off every other Edge, finifhing the Body by Twenty-four Sections.

But

But it may alſo be cut by four Sections fewer, and with leſs Waſte, out of the Parallelepipedon, *Fig.* 26. whoſe Breadth and Height NE, KC, MN, CD $= b = 1$; the Length ED, AC, MK $= b\sqrt{5 - 2\sqrt{3}} = 1{,}239313674927475902315$. Biſect all the Sides with the Lines, HF, BG, IP, OH, BQ, LI.

1. Make HS, FR, IV, LT, Pz, Od $= \frac{1}{3}b\sqrt{3} - \frac{1}{2}b = ,077350269189625764509$, and HX, FW, IZ, LY, Og, Pe $= \frac{1}{3}b\sqrt{3} - \frac{1}{2}b = ,366025403784438646763 7$. Draw the Parallels SR, XW, VT, ZY. Join XV, Zd, gz, Se. Cut off the Priſms XAVTCWX, ZdMKYZ, SRDEeS, and another like theſe, whoſe end is the Triangle gNz; in all Four.

2*dly*, Make Bm $=$ Bk $=$ Qp $=$ Qf $=$ Gb $=$ Ga $= \frac{1}{2}b\sqrt{\frac{11}{13} - \frac{6}{13}\sqrt{3}} = ,108103863391377 3-875$; and Hn $=$ Fh $=$ Iq $=$ Lw $= 3b - \frac{3}{2}b\sqrt{3} = ,401923788646684059 7$, and Ir $=$ Lu $=$ Ox $= 5b\sqrt{3} - 8b = ,160254037844386467 6$. Draw nk, nr, rk, mh, mu, pq, qx, ſw. Cut off the Pyramids nkArn, hmuCh, pqxMp, *ſwkſ*, and Four more like theſe, off the oppoſite Angles; in all Eight.

3*dly*, Make Gt $=$ Gγ $=$ By $=$ Bζ $= \frac{5}{13}\sqrt{\frac{11}{13} - \frac{6}{13}\sqrt{3}} = ,540519316956886937 5$. Draw mt, ky, py, $\int\zeta$, and mZ, Ze, gX. Cut off the Segments tmAZet, γkYCDγ, $\cdot\zeta\int$MgXζ, ypKCWγ, and Four more like theſe off the oppoſite Angles; in all Eight: By theſe Twenty Sections the Body may be compleatly form'd.

The Baſe of the Triangle $\beta\gamma = b\sqrt{\frac{5}{4} - \frac{1}{2}\sqrt{3}} = ,7155180838297625 71$.

The Side of the Triangle $\alpha\beta = \alpha\gamma = b\sqrt{\frac{7}{12} - \frac{1}{12}\sqrt{3}} = ,569713541577746153 55$.

Radius of the Circle circumſcribing the Triangle $= \alpha\theta = \frac{1}{2}b\sqrt{3} - \frac{1}{2}b = ,366025403-7844386467637$.

The Perpendicular $\alpha x = \frac{5}{6}b\sqrt{3} - b = ,443375672974064411 2737$.

Radius of the inſcrib'd Sphere $= \frac{1}{3}b = ,5$.

Radius of the circumſcribing Sphere $= b\sqrt{\frac{5}{12} - \frac{1}{12}\sqrt{3}} = ,619656837463737951 1575$.

The Area of the Triangle $= \frac{1}{12}b^2\sqrt{305 - 174\sqrt{3}} = ,158621655971567007247367 255$.

The whole Superficies $= 2bb\sqrt{305 - 174\sqrt{3}} = 3{,}806919743317608173936814 112$.

The Solidity of the Body $= \frac{1}{3}bbb\sqrt{305 - 174\sqrt{3}} = ,634486623886268028989469-019$.

4. *A Solid of Thirty-two Triangles, Fig.* 27. 1, 2.

Conſiſting of ſix ſquare Pyramids, the exterior Surface of each of which, being four Iſoſceles Triangles, whoſe Baſes compoſe Eight equilateral Triangles.

It may be cut out of the Cube, *Fig.* 28. whoſe Sides DC $=$ BC $=$ BF, &c. are $= \frac{1}{2}b\sqrt{6} = 1{,}224744871391589049 1$. Croſs every Baſe with Diagonals, as BD, AC, AE, GD, GB, AF, &c.

1. From every Angle ſet off twice upon all the Sides $\frac{1}{2}b\sqrt{3} - \frac{1}{4}\sqrt{6} = ,253652968088-64412221$, *viz.* AY and YK, AV and VH, Ae and eI, BL and LO, BX and XP, Bw and wa, &c. Draw the Lines AP, AR, Ar, Am, Ah, Aa, BS, BH, BI, Bg, CQ, CO, DT, DK, DI, Dn, EQ, Ec, Gq, GH, GK, Gb, FO, FC. Cut off the Pyramids GDAKG, BDIAB, GBHAG, and three more like theſe off every of the other Angles; in all Twenty four.

2*dly*, Draw the Lines LM, LN, MN, YW, YZ, Vu, Vp, X*ſ*, tl, de, *ef*, kw. Cut off the triangular Pyramids NLMAN, ZYWBZ, pVuDp, de*f*Gd, and Four more off the oppoſite Angles; in all Eight.

But

But it may be cut with fewer Sections and leſs Waſte out of the Parallelepipedon, *Fig.* 29. whoſe Length CE, AD, MP $= \frac{1}{2}b\sqrt{6} =$ 1,22474487 &c. Breadth DE, AC, ML, $= \frac{1}{4}b\sqrt{2} =$ 1,06066017177982128666: Height LC, MA, PD $= b =$ 1. Biſect every Side with the Lines BH, FG, FW, OK, OQ, BN.

1. Make FR, GS, Wx $= \frac{1}{4}b\sqrt{2} =$,35355339059327376220. Draw the Parallel RS: Join RO, xK: Cut off the Priſm ARSDQO, and another like it, whoſe end is the Triangle xLK, *i. e.* Two.

2. Make FZ $=$ Gw $=$ w$\zeta = \frac{1}{8}b\sqrt{2} =$,17677669529663688110, and Kl $=$ O$\gamma =$ Qλ $= \frac{9}{14}b - \frac{1}{14}b\sqrt{2} =$,33981137949147963240. Draw the Parallels WZ, $\gamma\lambda$: Join Zl, $\gamma\zeta$: Cut off the Priſms wECIZ, $\gamma\lambda$PM$\zeta\gamma$, *viz.* Two.

3. Make BY, BX; CT, EV, Hd, Hm, Nσ, Nτ, A$\int$, D$\kappa = \frac{1}{14}b\sqrt{6} =$,10206207261596575409. Draw Rd, Sm, Rx, R$\int$, $\int\tau$, Sκ, $\kappa\sigma$. Cut off the Segments RdCLx, xM$\tau\int$ARx, σPDS$\kappa\sigma$, SmES, *viz.* Four exactly alike.

4. Make Oμ, Q$\xi = \frac{1}{4}b - \frac{3}{8}b\sqrt{2} =$,21966991411008335670; and K$\varepsilon = \frac{1}{14}b$ $- \frac{3}{56}b\sqrt{2} =$,45995284487286990810 1. Draw XV, YT, compleating the Triangle $\chi\varphi\downarrow$. Join Yμ, $\mu\varepsilon$, Xξ. Cut off the Segments TYA$\mu\varepsilon$CT, ξDXVED, and two more like theſe, off the oppoſite Edges; in all Four.

5. Make Fα, Gβ, W$\delta = \frac{7}{8}b\sqrt{2} - \frac{1}{2}b =$,48743686707645816 77. Draw the Parallel $\alpha\beta$: Join αK, Oδ. Cut off the thin Priſm KαCE$\beta\alpha$, and another like it, whoſe end is the Triangle OMδ, *i. e.* Two.

6 Make H$\int$, Hb, Nτ, N$\Theta = \frac{1}{6}b\sqrt{3} - \frac{1}{14}b\sqrt{6} =$,18661306197884712816; and Fi, Ga, W$\Xi = \frac{3}{14}b - \frac{1}{14}b\sqrt{2} =$,04289321881345247 56; and OΛ, QΔ, Ky $= \frac{1}{14}b\sqrt{2} - \frac{1}{14}b$ $=$,31066017177982128660 1. Draw ib, iy, $\int$a, $\Theta\Lambda$, $\Lambda\Xi$, $\Gamma\Delta$. Cut off the two triangular Pyramids biyCb, $\int$aE$\int$, and two more like theſe, off the oppoſite Angles, *viz.* ΘM$\Lambda\Xi$, ΓPΔ; in all Four.

7. Make Bυ $=$ Bt $=$ P$\rho =$ M$\vartheta = \frac{11}{14}b\sqrt{6} - \frac{1}{3}b\sqrt{3} =$,25665739499118464823; and Fq $=$ Gu $=$ W$\varphi = \frac{1}{4}b - b\sqrt{2} =$,08578643762690492 12. Draw the Lines tu, tς, vφ, qφ, $\vartheta\upsilon$. Cut off the two Segments $\vartheta\upsilon$AqλMϑ, ςtuDPς, and two more like theſe, off the oppoſite Edges; in all Four.

8. Make Br, Bn $= \frac{1}{6}b\sqrt{3} + \frac{1}{14}b\sqrt{6} =$,39073720721077863634; and Ge, Fo $= \frac{5}{14}b\sqrt{2}$ $- \frac{3}{7}b =$,07650484370467680312; and Oπ, Q$\pi = \frac{3}{4}b - \frac{3}{8}b\sqrt{2} =$,21966991411008335670. Draw re, rπ, no, nπ, πo. Cut off the Pyramids nπoAn, erπDe, and two more like theſe, from the oppoſite Angles; in all Four.

9. Make Bc $=$ Bp $= \frac{1}{4}b\sqrt{6} - \frac{1}{3}b\sqrt{3} =$,37623055086023478 24; and H$\omega =$ Hh $= \frac{1}{3}b\sqrt{3} - \frac{1}{8}b\sqrt{6} =$,27116405134172850223 4; and Kz $=$ O$\theta =$ Q$\upsilon = \frac{9}{8}b\sqrt{2} - \frac{1}{2}b$ $=$,09099025766973192 99. Draw ch, cυ, pω, pκ, κz. Cut off the Segments ωpAκzCω, hcυDEh, and two more like theſe, off the oppoſite Edges; in all Four: So the Work will be diſpatch'd at thirty Sections.

The Side of the equilateral and Baſe of the Iſoſceles Triangle $=$ $\chi\varphi = \varphi\downarrow \frac{1}{4}b\sqrt{6}$ $=$,61237243569579452455.

The Perpendicular of the Equilateral Triangle $= \frac{1}{2}b\sqrt{2} =$,53033008588991064334.

The Side of the Iſoſceles $\Delta \frac{3}{2}b\sqrt{\frac{1}{3}} - \frac{1}{6}\sqrt{2} =$,46868957115567373876 5. Its Perpendicular $= \frac{1}{4}b\sqrt{\frac{7}{5}} - \frac{2}{3}\sqrt{2} =$,35485196083731784375.

Radius of the circumſcribing Sphere $= \frac{1}{4}b\sqrt{6} =$,61237 &c.

Radius of the Sphere inſcrib'd in the Equilateral Triangles $= \frac{1}{4}b =$,5.

Radius of the Sphere inſcrib'd in the Iſoſceles Triangles $= \frac{1}{2}b\sqrt{\frac{21}{34}} + \frac{6}{17}\sqrt{2} =$,52838935864288353250 5.

The Area of the Equilateral Triangle $= \frac{1}{12}b^2\sqrt{3}$. Of all the Eight $= \frac{1}{4}b^2\sqrt{3} = 1{,}29903810567665797014553$.

The Area of the Hoſceles Triangle $= \frac{1}{32}b\sqrt{7-4\sqrt{2}} = ,10865077978468850911243 5$.

The whole Superficies $= \frac{1}{4}b^2\sqrt{3} + \frac{2}{4}b^2\sqrt{7-4\sqrt{2}} = 3{,}90665682050918218884 4$.

The Solidity of the Body $= \frac{1}{8}bbb\sqrt{3} + \frac{3}{16}bbb\sqrt{6} = ,675785677717955555103$.

5. *A Solid of Thirty-ſix Baſes, Fig.* 30.

Comprehended under twelve Rhombs and twenty-four double Semi-rhombs. For the forming it prepare a Parallelepipedon, *Fig.* 31. whoſe Length DE, AB, HG $= \frac{1}{4}b\sqrt{2} = = 1{,}06066017177982128 66$. Breadth and Height GF, AD, FE, HA $= b = 1$. Biſect every Side with the Lines MI, LK, OM, NP, NR, QL.

1. Make Kd, KZ LY, Lζ, Qμ, Qξ, $= \frac{1}{4}b\sqrt{2} = ,3535533905932737622$. Draw the Parallels YZ ζd, Yξ, ζμ. Join YM, YN, ζI, ζR. Cut off the Priſms YZEPNBY, ζdDARζ, ξYBMOGξ, μζIAHζ, and Four more like theſe, off the oppoſite Edges; in all Eight.

2. Make Mk, Mβ, IX, If, Nu, Nz, Rθ, Rm, Pπ, Pψ, Oϱ, Oχ, $= \frac{1}{4}b = ,25$. Join β K, βψ, Lk, Lz, zk, Lf, Lθ, Qu, uχ, Qm, XK, ϱπ. Cut off the triangular Pyramids kLzBk, Kβψ EK, θLfAθ, QμχGQ, and Four more like theſe, off the oppoſite Angles; in all Eight.

3. Make MS, Mγ, IW Ih, No, Nx, Rη, Rc $= \frac{1}{12}b = ,0833333$ &c. and MT, Ml, Ie, In, Nτ, Nq, Rν, Rt $= \frac{5}{12}b = ,4166666$ &c. and MV, Mε, Ib, Iv, Np, Nσ, Rr, Rλ $= \frac{9}{20}b = ,45$; and Mα, Mϑ, Ia, Ig, Nſ, Ny, Ri, Rκ $= \frac{3}{20}b = ,15$. Draw the Lines γn, Se, Th, Wl, cτ, ηq, xt, oν forming the Rhombs ΔΓΞΘ, &c. Join αb, aV, pi, ſr, ſs, qV, pT, &c. Cut off the Segments ſBSeArſ, xBαbAtx, qηAaVq, piAhTp, and Four more like theſe, off every of the other three longer Edges; In all Sixteen: Forming the Body by Thirty-two Sections.

The longer Diagonal of the Rhomb ΔΞ $= \frac{1}{2}b\sqrt{2} = ,7071067811865475244$.

The ſhorter Diagonal of the Rhomb and of the Semi-rhomb $= \Gamma\Theta = \frac{1}{3}b = ,33333333$ &c.

The Side of the Rhomb, and longer Side of the Semi-rhomb $= \Delta\Gamma = \frac{1}{12}b\sqrt{22} = = ,3908679799852857962 13$.

The longer Diagonal of the Semi-rhomb $= \frac{1}{4}b\sqrt{2} = ,5303300858899106433$. The ſhorter Part of it $= \frac{1}{8}b\sqrt{2} = ,176776695$ &c. The ſhorter Side of the Semi-rhomb $= \frac{1}{24}b\sqrt{34} = ,2429563289518875196197$.

The Radius of the Circumſcribing Sphere $\frac{1}{4}b\sqrt{6} = ,61237243569$ &c.

The Radius of the inſcrib'd Sphere $= \frac{1}{2}b = ,5$.

The Radius of the Sphere paſſing through the obtuſe Angles of the Rhomb and Semi-rhomb $= \frac{1}{8}b\sqrt{10} = ,5270462766947298886665$.

The Radius of the Sphere paſſing through the other obtuſe Angle of the Semi-rhomb $= \frac{1}{8}b\sqrt{2} = ,5303300858899106433$.

The Area of the Rhomb $= \frac{1}{12}b^2\sqrt{2} = ,1178511301977579207 3$.

The Area of the Semi-rhomb $= \frac{1}{16}b^2\sqrt{2} = ,0883883476483184405 5$.

The Superficies $= \frac{3}{3}b^2\sqrt{2} = 3{,}535533905932737622$.

The Solidity $= \frac{1}{12}b^3\sqrt{2} = ,5892556509887896036 65$.

6. *A Solid*

6. A Solid of Forty-eight Baſes, Fig. 32.

Comprehended under Twenty-four Rhombs, and Twenty-four Semi-rhombs, which compoſe Six Octangular Figures like a b h c d e f g, Sch. 32.

It may moſt commodiouſly be cut out of a Cube, *Fig.* 33, whoſe Sides DC, LB, KE, &c. are $= \frac{4}{5}b\sqrt{6} =$ 1,088662107903634710 3. Biſect every Side with the Lines FG, HI, IQ, OP, ON, MF.

1. Set off from every middle Point on both ſides it $\frac{1}{4}b\sqrt{6} =$,4082482904638630 1637 $=$ GR $=$ GX $=$ IS $=$ IW $=$ FT $=$ FY $=$ HV $=$ HZ $=$ Ow $=$ Oy $=$ Pα $=$ Pz $=$ Qk, $=$ Ql $=$ Mζ $=$ Mβ $=$ Nγ $=$ Nε: In like manner ſet off $\frac{1}{15}b\sqrt{6} =$,0680413817439 77-169395 $=$ Iη $=$ Iκ $=$ Fr $=$ Fλ $=$ Oo, &c. Draw the Lines YZ, WX, ST, RV, lα, Sy, $\zeta\varepsilon$, kw, zW, Ty, wβ, Yγ, &c. Join Sr, So, oT, yr, &c. Cut off the triangular Pyramids rASyr, SoATS, ηATyη, and three more ſuch off every Angle; in all twenty-four, making the Planes of the Rhombs.

2. Set off from every middle Point both ways $\frac{4}{17}b\sqrt{6} =$,3628873693012115701 $=$ Gp, Gδ, Fu, Fq, Ht, Ha, Ie, In, Pδ, Ph, Qμ, Qm, Ox, Oc, Mg, Mb, Nf, Nd. Draw the Parallels qp, uδ, nt, ea, xδ, ch, μn, me, xd, cf, gq, bu. Join qI, Oe, Ix, eF, Oq, xF, &c. Cut off the Priſms eAONDae, xAIHDdx, qAOPBpq, xAFGBδx, and two more ſuch off every Edge; in all twenty-four, being the Planes of the Semi-rhombs.

The longer Diagonal of the Rhomb $= \frac{1}{2}b\sqrt{3} =$,5773502691896257645.

The ſhorter Diagonal $= \frac{1}{2}b\sqrt{2} =$,3535533905932737622.

The longer Diagonal of the Semi-rhomb $= \frac{1}{2}b\sqrt{15} =$,4303314829119352094 6438.

Its longer Part extending to the ſhorter Diagonal $= \frac{1}{15}b\sqrt{15} =$,3227486121839514-070982. The ſhorter Part $= \frac{1}{3}\frac{1}{4}b\sqrt{15} =$,1075828707279838 0237.

Its longer Part extending to the Perpendicular from the Center $= \frac{1}{15}b\sqrt{15} =$,2581988-897471611256 7862 The ſhorter Part $= \frac{2}{45}\sqrt{15} =$,1721325931647740 83786.

The ſhorter Diagonal of the Semi-rhomb $= \frac{1}{12}b\sqrt{6} =$,2041241452319315 08187.

The Side of the Rhomb, and longer Side of the Semi-rhomb $= \frac{1}{24}b\sqrt{66} =$,3385016-0019316501501915. The ſhorter Side of the Semi-rhomb $= \frac{1}{72}b\sqrt{114} = \frac{1}{12}b\sqrt{\frac{19}{6}}$ $=$,1489417402050501153446.

Radius of the Sphere inſcrib'd in the Rhombs $= \frac{1}{2}b =$,5.

Radius of the circumſcribing Sphere $= \frac{1}{4}b\sqrt{3} =$,5773502691896257645 0914878.

Radius of the Sphere inſcrib'd in the Semi-rhombs $= \frac{2}{15}b\sqrt{15} =$,5163977794943 22-251357.

Radius of the Sphere paſſing through the obtuſe Angles of the Rhombs and Semi-rhombs $= \frac{1}{4}b\sqrt{2} =$,5303300858899106433.

Radius of the Sphere paſſing through the other obtuſe Angle of the Semi-rhomb $= \frac{1}{2}b\sqrt{6} =$,5443310539518173555 56.

The Area of the Rhomb $= \frac{1}{24}b^2\sqrt{6} =$,1020620726159657540 94.

The Area of the Semi-rhomb $= \frac{1}{72}b^2\sqrt{10} =$,0439205230578941573 88875.

The Superficies $= b^2\sqrt{6} + \frac{1}{3}b^2\sqrt{10} =$ 3,5035822961726378755 35678.

The Solidity $= \frac{13}{54}b^3\sqrt{6} =$,5896919751144688014 26.

The remaining ſix ſolid Bodies, being much more elegant and beautiful than the former, and neceſſarily requiring a far more intricate and difficult Calculation, though the Proſecution thereof in Surds, in ſeveral of them, prov'd almoſt inſupportably tedious where they amount to Quadrinomials, as they do in all the three firſt (ſo that it might have been

been carried on in Numbers with greater Facility and Expedition to 25 or 30 Figures) yet have I at length, with Labour and Difficulty enough, wreſtled through it. To evidence the Truth of this Aſſertion, and illuſtrate the Method of theſe uncommon Operations, a Specimen hereof ſhall at the latter end be ſubjoin'd in an Example or two.

7. *A Solid of Sixty Iſoſceles Triangles, Fig.* 34.

Comprehended under Twelve Pentagonal Figures like that a b c d e, each conſiſting of Five Iſoſceles Triangles whoſe Baſes are ab, bc, cd, de, ea. This Body approaches the neareſt of any to the Regular, differing only in one ſmall Circumſtance ſcarce diſcoverable by a critical Eye. The moſt convenient Method of cutting this Body is from the Cube, *Fig.* 35. whoſe Sides EG, CP, NL, &c. are $= b\sqrt{\frac{15}{8} + \frac{7}{8}\sqrt{5} - \sqrt{\frac{50}{3} + \frac{22}{3}\sqrt{5}}} =$ $=$,101254079438261742158200 92. Biſect every Baſe with the entire Lines DF, BO, IK, and the prickt Lines BH, FM, Ql, alternately plac'd.

Firſt, From the Angles ſet off upon every Side AS, AR, AT, GX, Cα, Nx, &c. $=$ $= \frac{1}{2}b\sqrt{\frac{110}{3} + \frac{143}{2}\sqrt{5} - \frac{1}{3}\sqrt{\frac{7033}{3} + \frac{3143}{3}\sqrt{5}}} =$,0804298768457112745949 5; or rather from the middle prickt Lines ſet off both ways BT, HX, FS, IR, Mx, Qα, &c. $= \frac{1}{6}b\sqrt{\frac{1095}{2} + \frac{487}{2}\sqrt{5} - 3\sqrt{\frac{19637}{2} + \frac{8781}{3}\sqrt{5}}} =$,4258405203475974361960 5. Draw the Parallels TX, Sx, Rα, &c. Join TI, SB, RF: Cut off the Priſms TAIKGXT, RAFDCαR, SABONxS, and one like theſe off every Edge; in all Twelve.

Secondly, From every of the prickt middle Lines ſet off both Ways $\frac{1}{4}b\sqrt{\frac{155}{3} - \frac{69}{3}\sqrt{5} - \sqrt{4470 - 1986\sqrt{5}}} =$,3783046182465253619980 9 $=$ BV $=$ HZ $=$ Ie $=$ Qβ, &c. and $\frac{1}{4}b\sqrt{\frac{755}{4} - \frac{283}{3}\sqrt{5} - \frac{1}{3}\sqrt{627510 - 273954\sqrt{5}}} =$ BW, Hε, Ib, Qλ, &c. $=$,0084515502118158913408 06; or rather becauſe this Diſtance is too ſmall, make AW, Ab, Cλ, Gε, &c. $= \frac{1}{4}b\sqrt{185 - 81\sqrt{5} + \sqrt{47910 - 21426\sqrt{5}}} =$,4978188469794928149501 99. Draw the tranſverſe Lines Vε, WZ, eλ, bβ, &c. From the entire middle Lines ſet off $\frac{1}{4}b\sqrt{\frac{325}{3} + \frac{125}{3}\sqrt{5} - \frac{1}{4}\sqrt{178350 + 79530\sqrt{5}}} =$ Fc $=$ Dγ $=$ If $=$ $=$ Kζ $=$ Bh, &c. $=$,4004310629586828534566 87; and Fo $=$ Dμ $=$ Id $=$ Kδ, &c. $= \frac{1}{4}b\sqrt{\frac{425}{3} - \frac{175}{3}\sqrt{5} - \frac{1}{3}\sqrt{83550 - 36870\sqrt{5}}} =$,0945289513968154287567976. Draw the Lines oγ, cμ, fδ, dζ, &c. Join ob, Wd, ce, fv. Cut off the Segments WAdζGZW, VA$f\delta$GεV, oAbβCγo, cAeλCμc, and two ſuch off every other Edge; in all Twenty-four.

Thirdly, Make Fr, Bt, Iu $= \frac{1}{4}b\sqrt{\frac{215}{3} - \frac{25}{3}\sqrt{5} - \frac{1}{3}\sqrt{43350 - 8670\sqrt{5}}} =$,2992174174617947182148 9, and Fm, Bf, Iw $= \frac{1}{4}b\sqrt{\frac{128}{3} - \frac{34}{3}\sqrt{5} - \frac{1}{3}\sqrt{1212 + \frac{2136}{5}\sqrt{5}}} =$,3360299860135163420149 2; and Bk, Fq, Il, $= \frac{1}{4}b\sqrt{\frac{50}{3} + \frac{20}{3}\sqrt{5} - \frac{1}{3}\sqrt{461100 + 205656\sqrt{5}}} =$,1416406744451270695675 4. Join $f\iota$, rl, lf, mu, uk, km, qw, wt, tq. Cut off the triangular Pyramids $f\iota$Alf, muAkm, wAqtw, and three ſuch off every other Angle; in all Twenty-four.

The Baſe of the Triangles $= b\sqrt{\frac{3}{8} - \frac{1}{8}\sqrt{5} - \sqrt{\frac{20}{4} - \frac{8}{3}\sqrt{5}}} =$,3867561684603406 1582810246.

The Perpendicular of the Triangles $= \frac{1}{4}b\sqrt{\frac{170}{4} + \frac{3}{3}\sqrt{5}} - \frac{1}{2}b\sqrt{5} - \frac{1}{2}b =$,2884906 41494665591582986963 5.

The Side of the Triangles $= b\sqrt{\frac{13}{2} - \frac{1}{2}\sqrt{\frac{305}{4} + \frac{83}{3}\sqrt{5}}} =$,3473066853519346732368 2.

Radius of the circumſcribing Sphere $= b\sqrt{\frac{5}{4} - \frac{1}{4}\sqrt{5} - \frac{1}{4}\sqrt{30 + 6\sqrt{5}}} =$,5419453 83348164267894171913147.

Radius

Radius of the Sphere passing through the middle of the Base of each Triangle $= \frac{1}{2}b\sqrt{\frac{25}{6} + \frac{7}{6}\sqrt{5} - \frac{1}{3}\sqrt{150 + 66\sqrt{5}}} = ,5062703971913087107910046.$

Radius of the inscrib'd Sphere $= \frac{1}{2}b = ,5.$

The Area of the Triangle $= \frac{1}{12}b^2\sqrt{\frac{2175}{2} - \frac{607}{2}\sqrt{5} - 3\sqrt{113910 - 42654\sqrt{5}}} =$
$= ,05578776757028281746269919344 5.$

The whole Superficies $= 5b^2\sqrt{\frac{2175}{2} - \frac{607}{2}\sqrt{5} - 3\sqrt{113910 - 42654\sqrt{5}}}$ equal to 3,34726605421696904776195160 67.

The Solidity of the Body $= \frac{5}{6}b^3\sqrt{\frac{2175}{2} - \frac{607}{2}\sqrt{5} - 3\sqrt{113910 - 42654\sqrt{5}}} =$
$,5578776757028281746269919344 5.$

8. *A Solid of Sixty double Semi-rhombs, Fig.* 36. 1, 2.

This Body, though contain'd under the same Number of Bases with the former, yet differs vastly from it, both in the Form, and in the Method of Calculation; agreeing only in the Difficulty and Intricacy thereof: Yet this much exceeds, though not in the Nature or Degree of the Surds (which here also are Quadrinomials under double radical Signs) but in the Length and Greatness of the Numbers of which they are compos'd. This render'd the Operation intolerably tedious, since ere it could be accomplish'd, the Figures would oft unavoidably arise to fifty Places or more, and could not be reduc'd to a moderate Length, except by several successive Divisions and Extractions of Roots: yet after all, several of them are not reducible so low as the former. This Body consists of twelve such Decagonal Figures as that a b c d e f g h i k in the middle of Sch. 36, or twenty like ⊙ k l m n b a ⊙.

It is most commodiously cut out of the Cube, *Fig.* 37. whose Sides AD, DC, AE, CF, GF, &c. are $= b\sqrt{15 - 2\sqrt{5} - 4\sqrt{10 - 2\sqrt{5}}} = 1,059858485044513166730095 86.$

Bisect the sides with the Lines IH, PO, OR, HM, LN, NA.

1*st*, Make PQ, OS, NT, Ad, HY, MZ, &c. $= \frac{1}{12}b\sqrt{140 - 55\sqrt{5} - 2\sqrt{7025 - 3110\sqrt{5}}}$
$= ,2146605525113440877140 9$, and HY, Ib, NV, LX, OW, RU $=$
$= \frac{1}{38}b\sqrt{2300 - 249\sqrt{5} - 2\sqrt{1188365 - 202598\sqrt{5}}} = ,1396901662925889743697.$
Draw the Parallels QS, ZY, Td, ba, XV, WU, &c. Join VS, YW, aT, &c. Cut off the Prisms QSBVXAQ, baBTdCb, and one such off every Edge; in all Twelve.

2. Make Of, Oh, Pk, Pg, Hz, Hε, Mα, Mβ, Nr, Ny, Aχ, Aw $= \frac{1}{12}b\sqrt{95 - 40\sqrt{5} - 4\sqrt{650 - 290\sqrt{5}}}$
$= ,3850161315260764566 97$, and Nm, Ln, Hν, Iλ $= \frac{1}{12}b\sqrt{455 + 20\sqrt{5} - 4\sqrt{11930 + 1618\sqrt{5}}}$
$= ,4887624645105250914140 9$, and Hκ, Iξ, Ll, No $= \frac{1}{12}b\sqrt{365 - 146\sqrt{5} - 2\sqrt{59930 - 26638\sqrt{5}}}$
$= ,2700124354964034676984.$ Draw the Lines fg, kh, αz, εβ, rw, yχ, lm, no, κλ, νξ, oh, κy, fm, &c. Cut off the Segments khBonAk, lmBfgAl, and two more like these off every of the other Edges; in all Twenty-four.

3. Make Hi, Mq $= \frac{1}{12}b\sqrt{600 + 255\sqrt{5} - 2\sqrt{171025 + 76390\sqrt{5}}} = ,4633199964 919487926247$; and Hu, MK $= \frac{1}{12}b\sqrt{300 - 105\sqrt{5} - 2\sqrt{34625 - 15010\sqrt{5}}} = ,1093 7501450700640086494 53$; and Oc, Rp $= \frac{1}{12}b\sqrt{\frac{95}{2} + \frac{33}{2}\sqrt{5} - \sqrt{3520 + 1528\sqrt{5}}} =$
$= ,4780560760300373329721$; and Ot, Rf $= \frac{1}{12}b\sqrt{\frac{145}{2} - \frac{13}{2}\sqrt{5} - 4\sqrt{125 + 38\sqrt{5}}}$
$= ,0320592799962726971 1098$: Or because this Extent is too small, make Bt, Gf
Ki, cf, qu, tp, tu, ci. $= \frac{1}{12}b\sqrt{\frac{195}{2} - \frac{69}{2}\sqrt{5} - \sqrt{290 + 38\sqrt{5}}} = ,4978698625259838862 5407.$ Draw the Lines Cut off the Segments ptBuqGp, KiBcfGK, and two like these

off every other of the Edges; in all Twenty-four; perfecting the Body by Sixty Sections.

The ſhorter Diagonal of the Semi-rhomb $= b\sqrt{\frac{55}{8} - \frac{21}{8}\sqrt{5} - \sqrt{50 - 22\sqrt{5}}} =$ $= ,327514283511240623860835.$

The longer Diagonal $= \frac{4}{181}b\sqrt{7765 - 482\sqrt{5} - \frac{449b - 37b\sqrt{5}}{362}} = ,338311174575652-622255017291 2.$

The longer Part of it, extending from the acute Angle to its Interſection with the ſhorter Diagonal $= \frac{1}{4}b\sqrt{\frac{185}{2} - \frac{21}{2}\sqrt{5}} - 2b = ,238884015024996173506263421 8.$

The ſhorter Part $= \frac{275b - 37b\sqrt{5}}{362} - \frac{b}{1448}\sqrt{438050 - 21158\sqrt{5}} = ,099427159550 65-644874875386 94.$

The Radius of the Circle paſſing through the three acuter Angles of the Semi-rhomb, which are equidiſtant from the Center of the Body $= b\sqrt{\frac{5}{2} - \frac{1}{2}\sqrt{5}} - b = ,175570504-584946258337411 9.$

The remaining Part of the longer Diagonal extending from the Center to the obtuſe Angle $= \frac{3}{181}b\sqrt{\frac{165}{2} + \frac{59}{2}\sqrt{5}} - \frac{87b - 37b\sqrt{5}}{362} = ,16274066999070 66.$

The longer Side $= b\sqrt{\frac{23}{2} - \sqrt{5} - \frac{1}{4}\sqrt{1970 - 278\sqrt{5}}} = ,289623849346756963335 59.$

The ſhorter Side $= \frac{1}{181}b\sqrt{83770 - \frac{5385}{2}\sqrt{5} - \frac{1}{4}\sqrt{105661319210 - 43669848002\sqrt{5}}}$ $= ,191578082076948549132 6.$

The Radius of the Circumſcribing Sphere $= \frac{1}{2}b\sqrt{15 - 2\sqrt{5} - 4\sqrt{10 - 2\sqrt{5}}} =$ $= ,529929242522256508336504793.$

The Radius of the Sphere paſſing through all the obtuſe Angles of the Semi-rhombs $= \frac{1}{181}b\sqrt{\frac{75}{4}\frac{345}{4} - 4305\sqrt{5} - 6\sqrt{5229965 + 2338682\sqrt{5}}} = ,525817958678689477 5-859 57.$

Area of the Semi-rhomb $= \frac{1}{724}b^2\sqrt{7875095 - 2922894\sqrt{5} - 8\sqrt{1544326256345 - 678139662118\sqrt{5}}}$ $= ,055400870972495556892035 2234.$

The Superficies $= \frac{15}{181}b^2\sqrt{7875095 - 2922894\sqrt{5} - 8\sqrt{1544326256345 - 678139662118\sqrt{5}}}$ $= 3,324052258349733413522113402.$

The Solidity $= \frac{5}{3624}b^3\sqrt{7875095 - 2922894\sqrt{5} - 8\sqrt{1544326256345 - 678139662118\sqrt{5}}}$ $= ,554008709724955568920352234.$

The Radius of the inſcrib'd Sphere $= \frac{7}{2}b = ,5.$

9. *A Solid of Eighty Triangular Baſes, Fig.* 38. 1, 2.

Conſiſting of Twelve Pentagonal Pyramidal Figures like a b c d e ⊙, each of them contain'd under five Iſoſceles Triangles, whoſe Baſes ab, bc, cd, de, ea, &c. are the Sides of Twenty equilateral Triangles, ſuch as a *f* b, intercepted betwixt the Pyramids.

It may be moſt commodiouſly cut out of the Cube, *Fig.* 39. whoſe Sides AF, AB, BD, EG, &c. are $= \frac{1}{2}b\sqrt{15} - \frac{1}{2}b\sqrt{3} = 1,070466269319269795826.$ Biſect every Side with the Lines LI, KH, KM, PN, &c.

1. Make IR, LS, NV, QW, Kν, Mξ, $= \frac{3}{4}b\sqrt{3} - \frac{1}{4}b\sqrt{15} = ,330792269124803748 8-507252.$ Draw the Parallels SR, VW, νξ, &c. Join KV, RN, νI. Cut off the Priſms SRCNPBS, WVCKHFW, and one ſuch off every other Edge; in all Twelve.

2dly, Make IY, LZ, Ne, Qd, &c. $= \frac{5}{2}b\sqrt{3} - b\sqrt{15} - \frac{1}{4}b\sqrt{390 - 174\sqrt{5}} = ,21680-902126013032825973;$ and Kf, Hg, Na, Pb $= \frac{9}{76}b\sqrt{3} + \frac{1}{76}b\sqrt{15} - \frac{1}{76}b\sqrt{435 - 186\sqrt{5}}$ $= ,141-$

$= ,14108828044674206475 93$. Draw the Parallels *fg*, ed, YZ, ab. Joyn aY, *ef*: Cut off the Prisms baCYZBb, deC*f*gFd, and one like these off every other Edge; in all Twelve.

3*dly*, Make Ik, Kl, Nm $= \frac{1}{2}b\sqrt{15} - b\sqrt{3} = 2044408655348311489 12$. Join kl, km, lm. Cut off the triangular Pyramid klCmk, and one like this off every other Angle; in all Eight.

4*thly*, Make Lh, Ln, I*f*, Ip, Kδ, Kζ, Mγ, Mθ, N$\varkappa$, Nλ, Qη, Qμ $= \frac{1}{2}b\sqrt{\frac{7}{2} - \frac{3}{2}\sqrt{5}} =$ $= ,3888696347278488204 91$; and Pu, K$\tau$, H$\sigma$, Nx, &c. $= \frac{3}{8}b\sqrt{3} - \frac{1}{8}b\sqrt{15} -$ $- \frac{1}{4}b\sqrt{150 - 66\sqrt{5}} = ,2727149035217626158 22$; and Pt, Ni, K$\varrho$, H$\upsilon$, &c. $= b\sqrt{15}$ $- b\sqrt{3} - \frac{1}{4}b\sqrt{30} + 6\sqrt{5} = 4936543315458757395 58$. Draw the Lines np, h*f*, $\gamma\delta$, $\theta\zeta$, $\varkappa\mu$, $\eta\lambda$, xt, iu, $\rho\sigma$, $\tau\upsilon$, &c. Join xp, i*f*, &c. Cut off the two Segments npCxtBn, h*f*CiuBh, and two like these off every other Edge; in all Twenty four.

5*thly*, Make Iq, Lβ, &c. $= \frac{3}{4}b\sqrt{15} - \frac{5}{4}b\sqrt{3} - \frac{1}{2}b\sqrt{15 - 6\sqrt{5}} = ,1104697140119 9-$ 65621224; and Lr, Io $= \frac{5}{4}b\sqrt{3} + \frac{1}{4}b\sqrt{15} - \frac{1}{2}b\sqrt{15 + 6\sqrt{5}} = ,4679572180100326214 15$; and P$\alpha$, Nz $= \frac{1}{4}b\sqrt{30 - 6\sqrt{5}} + \frac{1}{4}b\sqrt{3} - \frac{1}{4}b\sqrt{15} = ,4828407862506194689889$; and Ny, P$\varepsilon$ $= \frac{3}{8}b\sqrt{3} - \frac{1}{8}b\sqrt{15} - \frac{1}{2}b\sqrt{15 - 6\sqrt{5}} = ,0323802520671380128487$; or since this distance is so small, rather make Cy, Bε $= \frac{3}{4}b\sqrt{15} - \frac{7}{4}b\sqrt{3} + \frac{1}{2}b\sqrt{15 - 6\sqrt{5}} =$ $= ,5028528825924368850644262$. Draw the Lines rq, αy, yq, βo, ui, oi. Cut off the Segments $\varepsilon\zeta$CoβBε, npCyαBn, and two such off every other Edge; in all Twenty-four.

Observing always to place the Lines of the same kind in different Positions upon the adjacent Bases (as pn, sh and $\lambda\pi$, $\varkappa\mu$ and $\zeta\theta$, $\delta\gamma$) *viz.* those Lines whose Intersections are in the Sides BA, CF, upon the Base ABCF, must upon the Base BECD, be in the Sides BC and DE, and on the Base CEGF in the Sides FG and CE, and *vice versâ*.

The Perpendicular of the Equilateral Triangle $= \frac{9}{8}b - \frac{3}{8}b\sqrt{5} = ,2864745084375 7-$ 886384655.

The Side of it, and Base of the Isosceles Triangle $= \frac{3}{4}b\sqrt{3} - \frac{1}{4}b\sqrt{15} = ,3307922 69-$ 1248037488507.

The Side of the Isosceles Triangle $= \frac{1}{2}b\sqrt{9 - 3\sqrt{5} - 6\sqrt{1 - \frac{2}{5}\sqrt{5}}} = ,2925226017 3-$ $4974042089 9$.

The Perpendicular of it $= b\sqrt{\frac{5}{3}\frac{1}{2} - \frac{1}{3}\frac{5}{2}\sqrt{5} - \frac{3}{2}\sqrt{1 - \frac{2}{5}\sqrt{5}}} = ,2412749286552875 3-$ $6018 8$.

The Radius of the Circle circumscribing the Equilateral Triangles $= \frac{1}{4}b - \frac{1}{4}b\sqrt{5}$ $= ,1909830056250525758 97$.

The Radius of the Circle which circumscribes the Isosceles Triangles is equal to $\frac{3b\sqrt{409 - 153\sqrt{5} - 4\sqrt{\frac{673}{2} - \frac{719}{10}\sqrt{5}}}}{3966} = ,1773277335583681767 319$.

The Radius of the circumscribing Sphere $= \frac{1}{4}b\sqrt{15} - \frac{1}{4}b\sqrt{3} = ,5352331346596348-$ 97912998.

The Radius of the Sphere inscrib'd in the Equilateral Triangles $= \frac{1}{2}b = ,5$.

The Radius of the Sphere inscrib'd in, or touching all the Isosceles Triangles $= \frac{1}{4}b\sqrt{\frac{2082 - 294\sqrt{5} + 48\sqrt{1346 - \frac{1438}{5}\sqrt{5}}}{661}} = ,5050043399304913385611 7$.

The Area of the Equilateral Triangle $= \frac{21}{32}bb\sqrt{3} - \frac{9}{32}bb\sqrt{15} = ,0473817763462397-$ 2492066956.

The Area of the Isosceles Triangle $= \frac{3}{8}b^2\sqrt{\frac{97}{8} - \frac{43}{8}\sqrt{5} - \sqrt{178 - \frac{398}{5}\sqrt{5}}} = ,0399059-$ 4056640384925375.

The

The Superficies $= b^2 \times {}^{1}\frac{0}{2}{}^{5}\sqrt{3} - {}^{4}\frac{5}{8}\sqrt{15} + {}^{4}\frac{5}{2}\sqrt{{}^{9}\frac{7}{6} - {}^{4}\frac{3}{8}\sqrt{5} - \sqrt{178} - {}^{3}\frac{9}{5}{}^{8}\sqrt{5}} =$
$= 3{,}341991960909025453638.$

The Solidity $= (b^3x)\ {}^{3}\frac{5}{1}{}^{5}\sqrt{3} - {}^{1}\frac{5}{1}{}^{5}\sqrt{15} + {}^{1}\frac{5}{8}\sqrt{39 - {}^{8}\frac{7}{1}{}^{5}\sqrt{5}} = {,}560992717988309620$-
$94557.$

10. *A Solid of Eighty-four Quadrangular Baſes, Fig.* 40. 1, 2.

This Body is comprehended under Sixty Rhombs and twenty-four double Semi-rhombs, diſpoſed into Six Aſtral Figures, like that in the middle of *Sch.* 40. which, by reaſon they do not point directly towards each other, ſeem near the Circumference ſomewhat diſtorted; though as truly and regularly drawn as ſo narrow a Compaſs would admit. This may juſtly be accounted as elegant and beautiful a Body as any of the reſt, but is of a far more intricate and difficult Derivation: Therefore the ſeveral Parts could not be expreſt in Surds, but I have endeavoured to lay them down in ſuch analytical Terms as are equivalent, and render it poſſible at leaſt, if not eaſie to continue them in Numbers to any Degree of accuracy required. That particular Term by which (or its Powers) all the reſt are expreſt, is truly repreſented by $x = \frac{1}{6}\sqrt[3]{19 + 3\sqrt{33}} - \frac{1}{6}\sqrt[3]{19 - 3\sqrt{33}} - \frac{1}{3} = {,}419643377607080566275926282326$, and $xx = {,}176100564369478807254750851786$6, and the Powers may eaſily from theſe be continued to any Degree; for $\frac{1}{4} - xx = x^3$, and $\frac{1}{4}x - x^3 = x^4$, and $\frac{1}{4}x^2 - x^4 = x^5$, &c. But I have ordinarily us'd none but thoſe above, except Brevity rendred the others more eligible, ſince they may at pleaſure be varied, and others either of a lower or higher Degree ſubſtituted.

To cut this Body from the Cube, *Fig.* 41. whoſe Sides ED, FC, AG, DC, &c. are $= \sqrt{2x \times 1 + 2x - 4x^2} = 4x^2\sqrt{4x + \frac{1}{2}} = 1{,}039697137978998084902646$. Biſect every Side with the Lines IK, HM, NL, HP, IU.

1ſt, From the middle of every Side ſet off both ways $\sqrt{2x \times 4x^2 - \frac{1}{2}} = {,}187258212197048481954417 =$ IV, KX, HQ, MS, LR, NT, OW. Draw the Parallels VX, QS, RW, RT, &c. Cut off the Priſms SQBRTCS, XVBRWEX, and one like theſe off every other Edge; in all Twelve.

2dly, Make IZ, OD, Kα, Hβ, Mγ, &c. $= \sqrt{2x \times 2x + 10x^2 - \frac{1}{2}} = {,}091880469170807484949458$9; and KY, Lc, I$\delta$, H$\varepsilon$, M$\zeta$ $= \sqrt{2x \times 4x + 6x^2 - \frac{1}{2}} = {,}215451657722456834541450$; and La, K$f$ $= \sqrt{2x \times 3x + 3x^2 - \frac{1}{2}} = {,}263140529235577333043929$; and Ob, Ig $= \sqrt{2x \times \frac{5}{2} - 2x - 7x^2} = {,}392110421012234652257849$. Joyn ZY, Za, ab, cd, cg, gf. Cut off the Segments YZBabEY, dcBgfEd, and two like theſe off every other Edge; in all twenty-four.

3dly, Make Hk, Iq, Lm $= \frac{1}{2}\sqrt{2x} = {,}458062974713674367655327$; and Hl, Ih, Lp $= \sqrt{2x \times x + 4x^2 - 1} = {,}113641425214560213899957$5; and Hi, In, Le $= \sqrt{2x \times \frac{1}{2} + 2x^2 - 2x} = {,}011831192706662593258463$87; or becauſe this Extent is too ſmall, let Ei, Cn, Ae, be $= \sqrt{2x \times 3x - 4x^2} = {,}508017376282835449192859$14. Draw the Lines kh, ke, eh, iq, qp, pi, ml, ln, mn. Cut off the Pyramids khBpk, iqBpi, lnBml, and three like theſe off every other Angle; in all twenty-four.

4thly, Make It, Kx, Lu, Oy $= \sqrt{2x \times \frac{3}{2} - 2x - 2x^2} = {,}282635955223289478959374$; and Ow, Ir $= \sqrt{2x \times 3 - 2x - 10x^2} = {,}366182505542866882705868$37; and Ks, Lo $= \sqrt{2x \times 6x - 2} = {,}474425227532419126983897$08. Join x t, t o, o w, y u, u r, r s. Cut off the Segments woBtxEw, srBuyEs, and two ſuch off every other Edge; in all twenty-four.

Or

Or, to avoid the Confuſion which the Multiplicity of Lines may occaſion, after the former Sixty Sections are made, there will remain a little Square like that ΓΔΘΛ, in the middle of every Baſe of the Cube (in all Six.) From the Angles of each of them draw Diagonals, from the Extremities of which draw Lines on the contiguous Planes meeting in the neareſt Acute Angles of the Rhombs before form'd, whereby four ſmall triangular Pyramids may be cut from every of the Squares; in all twenty-four; forming the Semi-rhombs, and finiſhing the Body.

It may alſo be otherwiſe cut out of the Parallelepipedon, *Fig.* 42. whoſe Length DE, BA, HG $= \sqrt{2x \times 1 + 2x - 4x^2} = 4x\sqrt{1 - \frac{7}{2}x^2} = 1{,}039697137978998080849026$; its Breadth BH, EF, and Height BD, GF $= 1$,. Biſect every Side with the Lines NK, IM, KP, OQ, LO, RI.

1ſt. Make Ic, $Rf = \sqrt{2x \times \overline{x + 2x^2} - \frac{1}{2}} = ,249043806472873156750 4$, and Md, Ie $= \frac{1}{2}\sqrt{2x} = ,458062974713674367655327$, and OX, PW $= 4x^2 - \frac{1}{2} = ,204402257-477915229019003$; and KT, Qa $= 2x - \frac{1}{2} = ,339286755214161132551852 6$. Draw the Lines cd, cX, Xa, *fe*, eT, TW. Cut off the Segments dcAXaEd, *fe*ATWG*f*, and one like theſe off every of the other ſhorter Edges; in all Eight.

2dly, Make MV, Iy, $I_\sigma = \sqrt{2x \times \overline{1 - x - 2x^2}} = ,209019168240801210904915$; and Oo, $Pz = \frac{1}{2} + 2x - 6x^2 = ,282683368997288289023347$; and QY, $Kx = 6x + 2x^2 - \frac{5}{2} = ,370061394381441012165059$. Join IV, yR, Io, Yo, zx, xy. Cut off the Segments VIAoYEV, zxAyKGz, and one like off every ſhorter Edge; in all Eight.

3dly, Make Kg, Lp, $N_\rho = \sqrt{x \times \frac{9 - 12x - 22x^2}{2 - 2x}} = ,050266795235983097984 68$; and Ni, Ok, $K_\nu = \sqrt{x \times \frac{\overline{52x \times + 20x^2 - 25}}{10 - 52x^2}} = ,264007158141694981011833 7$; and Ol, Nm, $= \frac{9 - 14x - 12x^2}{2 + 4x} = 27504844967725465138278 5$; and Kn, Lb $= \frac{18x + 28x^2 - 11}{2 + 4x} = = ,403525060751067613720 92$. Join ig, gl, lb; pk, kn, nm. Cut off the Segments igAlbBi, mnAkpBm, and two like theſe off every longer Edge; in all Eight.

4thly, Make Kq, $O\int = 4x + 6x^2 - \frac{1}{2} = ,235176896645195108632 21$. Join Iq, $q\int$, $I\int$. Cut off the Pyramid Iq$A\int$I, and one like it off every other Angle; in all Eight.

5thly, Make Oγ, $P\zeta = \sqrt{x \times \frac{\overline{10x^2 + x - 2}}{4x + 4x^2 - 1}} = ,084617702500262803901865$; and Kw, $Q\alpha = \sqrt{x \times \frac{\overline{6x^2 - x}}{3x + 4x^2}} = ,298358065405974688576257$; and Iu, $R\delta = 4x^4\sqrt{2x} = = ,113641425214560213899 96$; and It, $M\beta = 2x^2\sqrt{2x} = ,322660593455361424804 87$. Draw the Lines βu, uγ, γα, δt, tw, wζ. Cut off the Segments βuAγαEβ, δtAwζGδ, and one like theſe off every ſhorter Edge; in all Eight.

6thly, Make $O\lambda = \sqrt{x \times \frac{\overline{8 - 9x - 23x^2}}{7x + 6x^2 - 3}} = ,112666174399298896007295$; and $K\varepsilon = = \sqrt{x \times \frac{\overline{7x + 29x^2 - 8}}{5 - 3x - 14x^2}} = ,022557098262062613706 95$: Or, becauſe this Extent is ſo ſmall, let $E\varepsilon$ be $= \sqrt{x \times \frac{\overline{10 - 9x - 30x^2}}{5 - 3x - 14x^2}} = ,477442901737937386293047$; and $I\vartheta = = x\sqrt{2x} = ,384446187731186099600868$. Join $\varepsilon\vartheta$, $\vartheta\lambda$, $\lambda\varepsilon$. Cut off the triangular Pyramid $\varepsilon\vartheta A\lambda\varepsilon$, and one like it off every other Angle; in all Eight.

7thly, Make Oϖ, $P\mu = \sqrt{x \times \frac{\overline{8 - 19x + 4x^2}}{10x - 3}} = ,395890141431033976082 55$; and KS, $Q\pi = \sqrt{x \times \frac{\overline{24 - 45x - 28x^2}}{10x - 3}} = ,100292398908949205100 05$; and Iκ, $R\xi = x\sqrt{2x} = ,384-$

,38444618773118609960087. Draw the Lines Mκ, κπ, nπ; Iξ, IS, Sμ. Cut off the Segments MκAnπEM, μSAIξGμ, and one like theſe off every other ſhorter Edge; in all Eight.

8*thly*, After all theſe 56 Sections are diſpatch'd, there will remain in the middle of the Baſe AGFE, a little Square, and another in the Baſe oppoſite, upon which Diagonals muſt be drawn, *&c.* and four ſmall Segments cut off either, as is directed in the 4th § of the former Method, amounting to Eight more, being Semi-rhombs.

9*thly*, There will ſtill remain Sixteen Quadrilateral Planes like ADBE, *Fig.* 45. upon every of which, from the Angles B and A ſet off AI = BK = $2x^3\sqrt{2}$ = ,2090191624-08012109034. Draw the tranſverſe Lines AK, BI, and the like on every of the Planes, by which Sixteen ſmall triangular Pyramids may be cut off, forming ſo many more of the Semi-rhombs, and finiſhing the Body by Eighty Sections.

The longer Diagonal of the Rhomb = $\sqrt{1-2x}$ = ,4008905646006636424.

The ſhorter = $\sqrt{6x^2-1}$ = ,2379146616265438 23.

The Side of the Rhomb = $\sqrt{\frac{3}{2}x^2-\frac{1}{2}x}$ = ,2330861595004686804; which is alſo the longer Side of the Semi-rhomb.

Its longer Diagonal = $\sqrt{5-5x-16x^2}$ = ,2901276995616520 8116.

The greater Part of it = $\sqrt{3x^2-\frac{1}{2}+\sqrt{\frac{1}{16}-2x^4}}$ = ,2239334710454750 2859.

The ſhorter Part = $\sqrt{3x-7x^2-\sqrt{\frac{1}{16}-2x^4}}$ = ,0661942285161770 5256.

The ſhorter Side of the Semi-rhomb = $\sqrt{\frac{1}{2}+\frac{5}{2}x-\frac{17}{2}x^2+\sqrt{\frac{1}{4}-8x^4}}$ = ,092545-3088225178085 5.

Its ſhorter Diagonal = $\sqrt{\frac{1}{2}-x-x\sqrt{2x-4x^3}}$ = ,1293515874847050 3803.

Radius of the Sphere inſcrib'd in the Rhombs = $\frac{1}{2}b$ = ,5.

Radius of the Sphere inſcrib'd in the Semi-rhombs = $\frac{1}{2}\sqrt{\frac{17-21x-46x^2}{5-5x-16x^2}}$ = ,5079237-20525049176094.

Radius of the circumſcribing Sphere = $\sqrt{\frac{1}{2}-\frac{1}{2}x}$ = ,5386820130619359 3715.

Radius of the Sphere circumſcribing the obtuſe Angles of the Rhomb = $\frac{1}{2}x\sqrt{6}$ = = ,5139560745377159280 2902.

Radius of the Sphere paſſing through the other obtuſe Angle of the Semi-rhomb = $\sqrt{\frac{7}{2}-10x^2}-\frac{7}{2}x$ = ,5198485689894990435.

The Area of the Rhomb = $\sqrt{\frac{9}{2}x^2+\frac{1}{2}x-1}$ = ,0476888715131204988975.

The Area of the Semi-rhomb = $\sqrt{\frac{3}{8}+x-\frac{9}{4}x^2-\frac{1}{4}\sqrt{889x^2+430x-337}}$ = = ,0187642392557926292446.

The Superficies = $60\sqrt{\frac{9}{2}x^2+\frac{1}{2}x-1}+24\sqrt{\frac{3}{8}+x-\frac{9}{4}x^2-\frac{1}{4}\sqrt{889x^2+430x-337}}$ = 3,3116740329262530 2812.

The Solidity = $10\sqrt{\frac{9}{2}x^2+\frac{1}{2}x-1}+2\sqrt{\frac{\frac{487}{2}x+175x^2-133-\sqrt{186384x^3-\frac{107431}{2}x-15257}}{5-5x-16x^2}}$ = ,5531351328561999666 28.

The greater Part of the longer Diagonal of the Semi-rhomb extending from the acute Angle to the Perpendicular from the Center = $\frac{1}{2}\sqrt{\frac{1+x-8x^2}{5-5x-16x^2}}$ = ,1794207494 25-62094284. The leſs = $\frac{1}{2}\sqrt{\frac{41x-92x^2-1}{5-5x-16x^2}}$ = ,1107069501360311 3832.

11. *A Solid*

11. *A Solid of Ninety Quadrilateral Baſes, Fig.* 43. 1, 2, 3.

This Body is contained under twelve Decagonal Figures, like a b c d e f g h i k in the middle of *Sch.* 43. (1.) each of them compos'd of the Five Semi-rhombs b d f h k ⊙, and Five Rhombs intercepted, a, c, e, g, i: Every of theſe appertains alſo to another of the ſame Figures, ſo that there are only Thirty Rhombs, but Sixty Semi-rhombs very little differing from the Rhombs in Size or Form. This Body may be moſt commodiouſly cut out of the Cube, *Fig.* 44. whoſe Sides BA, FH, GE, &c. are all $= b = 1$. Biſect every Side with the Lines IK, LM, RP, OL, IT, PQ.

1. Make KW, IS, QX, Pb $= \frac{1}{4}b - \frac{1}{4}b\sqrt{5} =$,190983005625052575897; and RZ, PV, LY, Md $=$,223606797749978969 64 $= \frac{1}{10}b\sqrt{5}$. Draw the Parallels WS, ZV, Yd, Xb. Join SV, XY. Cut off the Priſms ZVDSWBZ, dYDXbHd, and one more like theſe off every other Edge; in all Twelve.

2. Make Kh, If, Rg, Pa $= \frac{1}{2}b\sqrt{5} - b =$,118033988749894848 2056. Join Bf, Dh, Dg, Ba, af. Cut off the triangular Pyramids BaDfB, DgBhD, and two like theſe off every other Edge; in all Twenty-four.

3. Make Lk, Ll, Mm, Mq, Pγ, Pε, Rδ, Rα, IΔ, IΠ, TΛ, TΞ $= \frac{1}{8}b =$,16666, &c. and Lf, Lt, Mw, Mp, Pη, Pβ, Rξ, Rζ, IΘ, IΣ, TΠ, TΦ $= \frac{1}{8}b\sqrt{5} =$,372677996249964 9494. Draw the Lines kp, fq, wi, tm, forming the Rhomb ABCD: Draw alſo ζε, δη, αβ, ξγ, and ΘΛ, ΛΦ, ΓΠ, ΣΞ, forming Rhombs on the other two viſible Baſes of the Cube (theſe being drawn chiefly to ſhew how they, and likewiſe all the other Lines, muſt be differently placed upon the contiguous Baſes.) Make Pi, Qz $= \frac{3}{8}b - \frac{1}{12}b\sqrt{5} =$,279982-111184265869; and Pu, Qy $= \frac{3}{12}b - \frac{1}{38}b\sqrt{5} =$,457980322302692445. Join iy, ik, uz, ut. Cut off the Segments yiDkpEy, zuDtmEz, and two like theſe off every other Edge; in all Twenty-four.

4. Make Lε, Mκ $= \frac{4}{12}b - \frac{3}{38}b\sqrt{5} =$,033994633355279760 8098, and Lx, Mϑ $= \frac{3}{38}b + \frac{3}{12}b\sqrt{5} =$,432010733289440 4784; and Pn, Qλ $= \frac{22}{58}b - \frac{6}{11}b\sqrt{5} =$,098508375909205620140 45; and Po, Qr $= \frac{11}{11}b - \frac{9}{22}b\sqrt{5} =$,448881281931904215105338. Draw xκ, εϑ, oλ, ox, nr, nε. Cut off the Segments rnDεϑEr, λoDxκEλ, and two like theſe off every other Edge; in all Twenty-four: So that the Body will be perfected by Eighty-four Sections.

The longer Diagonal of the Rhomb $= \frac{1}{2}b - \frac{1}{2}b\sqrt{5} =$,381966011250105151795413.

The ſhorter Diagonal of the Rhomb and Semi-rhomb $= \frac{1}{2}b\sqrt{5} - \frac{1}{2}b =$,206011329583329827348.

The Side of the Rhomb, and longer Side of the Semi-rhomb $= \frac{1}{2}b\sqrt{33 - 14\sqrt{5}} =$ $=$,216990035293670 68895747.

The longer Diagonal of the Semi-rhomb $= \frac{33}{58}b - \frac{9}{58}b\sqrt{5} =$,338826005328997 1771662.

The longer Part of it $= \frac{1}{2}b - \frac{1}{4}b\sqrt{5} =$,190983005625052575 8977.

The ſhorter $= \frac{9}{76}b + \frac{1}{76}b\sqrt{5} =$,147842999703944601 2685.

The ſhorter Side of the Semi-rhomb $= \frac{1}{11}\frac{1}{4}b\sqrt{735 - 140\sqrt{5}} =$,180188011645142 8935302.

The Radius of the Circumſcribing Sphere $= \frac{1}{4}b\sqrt{15} - \frac{1}{4}b\sqrt{3} =$,535233134659634-897913.

The Radius of the inſcrib'd Sphere $= \frac{1}{2}b =$,5.

Radius of the Sphere circumſcribing the obtuſe Angles of the Rhombs $= \frac{1}{8}b\sqrt{\frac{11}{2} - \frac{1}{2}\sqrt{5}}$ $=$,510499918686741406174 1914217.

The Radius of the Sphere circumſcribing the other obtuſe Angle of the Semi-rhombs $=$ $= \frac{1}{38}b\sqrt{\frac{765}{2} + \frac{9}{2}\sqrt{5}} =$,521399609283954645598 62.

The

The Area of the Rhomb $= \frac{1}{8}bb\sqrt{5} - \frac{1}{8}bb =$,039344662916631616068195611 4.
The Area of the Semi-rhomb $= \frac{7}{76}b^2\sqrt{5} - \frac{3}{76}b^2 =$,034900997927612208879792312.
The Superficies $= \frac{300}{19}b^2\sqrt{5} - \frac{385}{19}b^2 =$ 3,274399763 155681014833407 04.
The Solidity $= \frac{100}{57}b^3\sqrt{5} - \frac{385}{114}b^3 =$,545733293859280169138901173.

12. *A Solid of One hundred and twenty Quadrilateral Baſes, Fig.* 47. 1, 2, 3.

This Body comprehended under Sixty Rhombs and Sixty Semi-rhombs, conſiſts of Twelve Decagonal Figures, like a b c d e f g h i k ⊙ repreſented in the middle of the Draught (1) (compos'd of Five Semi-rhombs and Five Rhombs) evidently diſtinguiſh'd, and not at all interfering with each other, being ſurrounded with ſeveral Rings or Chains, each conſiſting of Ten Rhombs connected in the acute Angles, which apparently diſtinguiſh this Body from that of Ninety Baſes, to which it bears a near Reſemblance.

It ſcarce need be ſuggeſted, that it cannot, without great Inconvenience and Confuſion, be cut immediately out of the Cube, ſince the Lines muſt unavoidably be ſo numerous, as with the utmoſt Care and Caution ſcarce to be diſtinguiſhable: I have therefore rather choſen to perform it at twice.

Let the Sides of the Cube, *Fig.* 46. AE, BF, HG, &c. be $= b\sqrt{2 - \frac{2}{5}\sqrt{5}} =$ 1,051462-224238267212052. Biſect every Side with the Lines IK, MN, NP, LO, OR, IQ.

1. Make NV, MW, Oa, Lb $= \frac{1}{2}b\sqrt{\frac{1}{2} - \frac{1}{10}\sqrt{5}} =$,262865556059566803013; and IS, KX, Rw, Ou $= \frac{1}{2}b\sqrt{\frac{5}{2} - \frac{11}{10}\sqrt{5}} =$,100405707943113639 9. Draw the Parallels VW, uw, XS, ba. Join Vu, Sa. Cut off the Priſms WVDuwEW, XSDabBX, and one more like theſe off every other Edge; in all Twelve.

2*dly*, Make IT, IU, KY, KZ, Nk, Nc, Pm, Pq $= b\sqrt{1 - \frac{2}{5}\sqrt{5}} =$,324919696232-906326155 87, and Oe, Id, Lh, Qp $= \frac{1}{5}b\sqrt{5 - 2\sqrt{5}} =$,290617011202136874 56; and Og, In, Lf, Qo $= \frac{1}{2}b\sqrt{\frac{5}{2} - \frac{1}{2}\sqrt{5}} =$,470228201839 7850333496. Draw the Lines ZT, YU, gh, fe, cq, km, np, do. Join Ue, Tg, cd, kn. Cut off the Segments YUDefBY, ZTDghBZ, and two more like theſe off every of the other Edges; in all Twenty-four.

3*dly*, Make Ix, Iε, Kϱ, Kλ, Nβ, Oy $= 2b\sqrt{\frac{1}{2} - \frac{11}{10}\sqrt{5}} =$,401622831772454559 7; and Iz, Oſ, Nα, Nγ, Mζ, Mθ $= \frac{1}{5}b\sqrt{5 - 2\sqrt{5}} =$,145308505601068437 28; and Ot, Nν, Ir $= b\sqrt{\frac{89}{2} - \frac{197}{10}\sqrt{5}} =$,047405144807130812 7023. Join xα, αt, tx, and zν, νy, yz, and rβ, βſ, ſr. Cut off the three triangular Pyramids αDtxα, zνDyz, rβDſr, and three more like theſe off every of the other Angles; in all Twenty-four.

By theſe Sixty Sections will be form'd a Body of Sixty Quadrilateral Baſes like ACGB, *Fig.* 48. upon every one of which from the Angles B and C ſet off $\frac{1}{10}b\sqrt{\frac{115}{2} - \frac{49}{2}\sqrt{5}}$ $=$,164813062323808316 4636 $=$ CE$=$BF. Draw the Lines BE, CF on every Baſe, whereby Sixty ſmall Pyramidal Segments may be cut off, which will perfect the Body.

The longer Diagonal of the Rhomb $= b\sqrt{1 - \frac{2}{5}\sqrt{5}} =$,324919696232906326155 87.
The ſhorter $= \frac{3}{4}b - \frac{1}{4}b\sqrt{5} =$,190983005625025758977.

The Side of the Rhomb, and the longer Side of the Semi rhomb $= \frac{1}{4}b\sqrt{\frac{15}{2} - \frac{3}{10}\sqrt{5}}$ $=$,188445826059946857929 25.

The longer Diagonal of the Semi-rhomb $= \frac{1}{11}b\sqrt{\frac{81}{2} - \frac{137}{10}\sqrt{5}} =$,285545276667087097807.

The longer Part of it terminating in the ſhorter Diagonal $= \frac{1}{4}b\sqrt{\frac{13}{2} - \frac{27}{10}\sqrt{5}} =$,170039785923502293499.

The ſhorter Part thereof $= \frac{1}{44}b\sqrt{\frac{53}{2} - \frac{3}{10}\sqrt{5}} =$,115505490743584804278557

The

The longer Part of it that terminates in a Perpendicular from the Center $= b\sqrt{\frac{7}{5\,5} - \frac{1\,7}{5\,5\,0}\sqrt{5}}$ $= ,1552178045077922904881527.$

The ſhorter Part $= \frac{2}{1\,1}b\sqrt{\frac{3\,1}{2\,2\,0} - \frac{3\,6}{1\,4\,5}\sqrt{5}} = ,1303274721592948073216.$

The ſhorter Diagonal of the Semi-rhomb $= b\sqrt{\frac{1}{4} - \frac{1}{1\,0}\sqrt{5}} = ,1624598481164531$-63077935.

The ſhorter Side $= \frac{1}{4\,4}b\sqrt{\frac{2\,9\,5}{2} - \frac{4\,8\,7}{1\,0}\sqrt{5}} = ,1412084238082898951139.$

The Radius of the circumſcribing Sphere $= b\sqrt{\frac{1}{2} - \frac{1}{1\,0}\sqrt{5}} = ,5257311121191336$0-602569.

The Radius of the Sphere circumſcribing the obtuſe Angles of the Rhombs equal to $\frac{1}{4}b\sqrt{\frac{1\,5}{2} - \frac{3}{2}\sqrt{5}} = ,5090369604551272180$92.

The Radius of the Sphere circumſcribing the other Angles of the Semi-rhombs $= \frac{3}{1\,1}b\sqrt{5} - \frac{1}{1\,1}b = ,5189276302272153717479$56.

The Radius of the Sphere inſcrib'd in the Rhombs $= \frac{1}{2}b = ,5.$

The Radius of the Sphere inſcrib'd in the Semi-rhombs $= b\sqrt{\frac{1\,0}{2\,2\,9} - \frac{6}{1\,4\,5}\sqrt{5}} = ,502295$-3667054891376084$4.$

The Area of the Rhomb $= \frac{1}{4}bb\sqrt{\frac{1\,3}{2} - \frac{2\,9}{1\,0}\sqrt{5}} = ,0310270700866697615715180$7.

The Area of the Semi-rhomb $= \frac{1}{4\,4}b^2\sqrt{67,9 - 29,9\sqrt{5}} = ,0231948211388527835913$-3882.

The Superficies $= 15b^2\sqrt{\frac{1\,3}{2} - \frac{2\,9}{1\,0}\sqrt{5}} + \frac{1\,5}{1\,1}b^2\sqrt{67,9 - 29,9\sqrt{5}} = 3,2533135203330$-2395839413.

The Solidity of the Body $= \frac{5}{2}b^3\sqrt{6,5 - 2,9\sqrt{5}} + \frac{2}{1\,1}b^3\sqrt{185 - 82\sqrt{5}} = ,5432837$3-2459141959479535 $= \frac{1}{2\,2}b^3\sqrt{\frac{14885}{2} - \frac{6529\sqrt{5}}{2}}$

These Six laſt Bodies, the Number of whoſe Baſes amount to Sixty or upwards, may very commodiouſly, and with much leſs Intricacy and Labour of Calculation and Delineation, be cut out of a Sphere (provided it be truly form'd, and rightly prepar'd.) In order hereto, in the Sphere, *Fig.* 49. *Plate* III. Firſt fix the Poles A, B. with as much Accuracy as poſſible, ſince the Truth of all the reſt depends thereupon. Next draw the Equator DE, or the great Circle, which biſects the Sphere, whoſe viſible Center is either of thoſe Poles A or B: Divide this Circle into ten equal Parts, of which Six Points only, *i. e.* D, a, d, *f*, g, E, appear in the Scheme: Through each of theſe ten Points draw Meridians or great Circles coinciding in the Poles A and B. Hereby the Sphere will be prepar'd for the drawing and forming Five of the Six Bodies, *viz.* all except that of Eighty four Baſes.

The Five Meridians or great Circles laſt drawn, are to be thus divided (*viz.* every Semicircle alternately alike, beginning the next always at the Pole oppoſite to that where the former was begun.) Suppoſing the Equator DE divided into 360 Degrees and their proper Parts, take from thence, or from a Line of Chords of the ſame Length with the Radius of the Sphere, $63^{d}, 26', 05''^{8}$; and ſet off AR = BY = AX = BZ = AW = BV. Set a Mark upon every of thoſe Points (which will be preciſely Ten) as here ⊙. Make BI = AP = BL = AO = BS = AF = $37^{d}, 22', 38''^{5}$ = RH = YM = XK = ZN = WQ = VG: Whereby every Circle will be divided into Eight unequal Parts, or ſix Points will be found in each beſides the two Poles.

Fig. 49. The Diameter of the Sphere to render the Altitude of the Body of Sixty Triangles = 1, muſt be $= \sqrt{10 - \sqrt{5} - \sqrt{30 + 6\sqrt{5}}} = 1,0838907666963285357$88.

The Chords ſuited thereto muſt be, for $37^d, 22', 38'' = ,34730662298$; for $63^d, 26', 05'' = ,56983497326$. The thirty-two Points found as above, repreſent all the ſolid Angles of this Body, ſo that leſſer Circles drawn through every three next adjacent Points, as PRM, PMX, PAO, PXO, OXN, XNK, KNZ, (whoſe Centers and Semidiameters are eaſily obtain'd from thoſe three Points in the Circumference) ſhall circumſcribe the ſixty Triangles, by which the Segments may be cut off, obſerving to continue the Lines or Chords on each Plane after every Section.

The Body of *Sixty Semi rhombs* may be thus delineated upon the Sphere. Biſect the Arches of thoſe great Circles which connect every two mark'd Points that are neareſt to each other, as the Point b biſects the Arch AR, and *f*, q, r, C, t, γ, α, the Arches RX, RY, XY, XZ, YZ, BY, XA, &c. Theſe middle Points b, *f*, q, r, C, t, γ, α, δ, &c. ſhall be the Centers, and the Diſtance from thence to either of the next mark'd Points the Semidiameters, whereby all the ſixty little Circles may be drawn, and the Segments cut by them, continuing the Chords on every Plane: The Diameter of the Sphere to render the Altitude of this Body = 1, muſt be $= \sqrt{15 - 2\sqrt{5} - 4\sqrt{10 - 2\sqrt{5}}} = 1,0598584,8504451316673$: The Chords for $37^d, 22', 38''$, is ,33960605802; for $63^d, 26', 05''$, ,55720045791 5.

For the Solid of Eighty Triangles, the Diameter of the Sphere to make its Altitude = 1, muſt be $\frac{1}{4}\sqrt{15} - \frac{1}{4}\sqrt{3} = 1,0704662693192697 96$: The Chord for $63^d, 26', 05''$, is ,56277729891 5. To delineate it upon the Sphere, the Arches of thoſe great Circles which connect the mark'd Points being biſected as in the preceding, thoſe middle Points b, *f*, q, r, C, t, γ, &c. and the mar'kd Points will repreſent all the ſolid Angles of this Body; therefore if ſmall Circles be drawn through every three of theſe Points that are neareſt each other (whoſe Centers and Semidiameters are eaſily found) all the Eighty Triangles will be circumſcrib'd, and Segments may thereby be cut, which will perfect the Body.

For the Body of Ninety Baſes, the Sphere muſt be of the ſame Diameter, and the Chords the ſame with the preceding of Eighty Triangles, and the Delineation the ſame; for having found the thirty middle Points, *viz.* b, *f*, q, r, C, t, γ, α, &c. as above, upon every of them as a Center with the Semidiameter $20^d, 54', 18\frac{2}{3}''$ taken from the Equator (or ,1992-06027792, ſuch Parts as the Diameter is 1,070466 &c.) draw thirty ſmall Circles, and cut off thereby thirty Segments, forming ſo many circular Planes: Through the Centers of every of theſe Planes draw Diameters, as k e, perpendicular to thoſe Arches of great Circles which connect the mark'd Points; and upon the Circumference of every one of thoſe Circles, from the Extremities of the Diameter ſet off eh = en = kq = km = $= 19^d, 30', 14''$, taken from the Equator, or ,18132013695182457 ſuch Parts as the Spheres Diameter is 1,070466 &c. Draw the tranſverſe Lines em, eq, kn, kh upon every of theſe circular Planes, whereby four Segments may be cut off from each, which will perfect the Body.

The Solid of One hundred and twenty Baſes, to render its Altitude = 1, will require a Sphere whoſe Diameter is $\sqrt{2 - 2\sqrt{\frac{3}{5}}} = 1,0514622242382672 12$. The Chords anſwerable thereto, are for $63^d, 26', 05'' = ,55278628360$; for $18^d, 00', 00'' = ,16448493056$. To delineate it on the Sphere, the Arches of the great Circles connecting the mark'd Points being biſected, as in that of 80 Triangles, and thoſe middle Points again connected by others

other Arches, and these bisected, upon the middle of every of those less Arches, as a Center, with the Extent $18^{d}, 00', 00''$, as the Radius (taken from the Equator, or a Line of Chords of the same Radius with the Sphere) = ,16448493056, draw small Circles which will be 60 in all: And having thereby cut off sixty Segments, there will appear twenty Figures like that *Fig.* 51, consisting of three double Semi-rhombs obtruncated, coinciding in the obtuse solid Angle at C, *viz.* AEGBC, BHIDC, DFKAC. Make AE, BG, BH, ID, DF, AK = ,16481306233238, or in Degrees of the Equator = $17^{d}, 42', 48''^{28}$. Draw the Lines AG, BE, BI, DH, DK, AF, compleating the Rhombs AMBC, BCDN, DCAL. By these Lines the other sixty Segments may be cut off, finishing the Body of 120 Bases.

For the Solid of Eighty four Bases a different and somewhat more intricate Delineation is requir'd. The Diameter of the Sphere, to render the Altitude of the Body = 1, must be = 1,077364026123871874 3 (in *Fig.* 50.) Having found the Poles A, B, and drawn the Equator MF, and divided it into four equal Parts, and subdivided each Quarter into 90 Degrees and their Parts, as the Capacity will admit, upon every of the six Cardinal Points A, B, F, M and C and its opposite Point as Centers, with the Radius $31^{d}, 45', 04''^{71}$ taken from the Equator, or a Line of Chords of the same Radius with the Sphere (or 2947135079091 5 Parts suited to the Diameter above) describe the small Circles SRVT, EPD, GZH, IQK, NOL, and another opposite to the first. Having drawn the two great Circles AFBM, ACB, passing through the Poles at right Angles and dividing the Sphere into Four equal Parts, upon both of them, from the Equator and Poles, set off $28^{d}, 31', 56''^{78}$, or ,26549229733918 7 Parts of the same Diameter = Fu = Aq = Mr = B*s*, *viz.* all four Points the same way for dividing the same Circle, *i. e. f* b d h: But all the contrary way for the opposite Circle. *Ex, gr.* from the four Points last found through C draw the Semicircles uCr, q*C*s, dividing the little Circle in R, S, T, V, its four proper equal Parts: But for dividing its opposite Circle, the Chord $28^{d}, 31', 56''^{78}$ must be set off on the contrary Side, *i. e.* from F to w, from B to x, from M to y and from A to z: And Semicircles drawn through these Points w, y, x, z and the opposite Center will divide that little Circle also into its Four proper Parts. The like may be done for dividing the other Four small Circles: Yet if these Four Semicircles be truly drawn, two Points will be found in every of the Four other little Circles, one of which in each is visible in this Scheme, *viz.* a, e, g, k, from which the rest may easily be obtain'd.

But since there is no small Trouble and Difficulty in drawing these Semicircles truly, 'twill be much more easie and expeditious, from the Intersections of the Equator FM and the two Colures or Meridians AFBM and ACB with the little Circles, to set off the Chord $14^{d}, 54', 07''^{284}$, taken from the Equator or a Line of Chords of the same Radius (or ,13971089926579 56 such Parts as the Diameter above) = bR = dV = hT = *f*S = = Ga = De = Lg = Ik, &c. observing to set off all these Four Arches the same way upon the same Circle, but the contrary way upon every of the Four next it on all Sides. Hereby the Six small Circles being divided each into Four equal Parts, every two nearest of these Twenty-four Points must be connected together with an Arch of a great Circle: Bisect every of these Arches, and upon the middle as a Center, with half the length as a Radius, which will be = $21^{d}, 50', 43''^{38}$ = ,20414360030 8, draw Sixty small Circles, thereby cut

cut off Sixty Segments, forming thirty-six Rhombs and Twenty-four Figures like ADBGF

Fig. 52. Therein make AI = BC = 22^{d}, 22$'$, 25$''$ taken from the Equator or Line of Chords, or in Parts of the Diameter above ,209019168240801 2. Draw the Lines AC, BI on every of the Twenty-four Planes, which complete the Rhomb ADBH, and direct the cutting off Twenty-four Segments more, forming the Twenty four Semi-rhombs, and finishing the Body of Eighty-four Bases.

Besides the two different Methods already exhibited of forming these *Polyedra*, or Solid Bodies, *viz.* out of the Cube and Sphere, Five of them may be cut out of other Solids before prepar'd, *i. e.* both those of Sixty, and that of an Hundred and twenty Bases out of the *Dodecaedron*; that of Eighty out of the *Icosaedron*, and that of Ninety out of the Body of Thirty Rhombs.

1. The Side of the Cube out of which the *Dodecaedron* must be cut, so as to render the Altitude of the Body of Sixty Triangles deduc'd therefrom $= b = 1$, must be $= b\sqrt{\frac{15}{2} - \frac{1}{2}\sqrt{5} - \sqrt{150 - 30\sqrt{5}}} = 1{,}27419001552016720019177$. The Parts to be set off from the middle of every Side of the Cube must be $= \frac{1}{2}b\sqrt{\frac{305}{2} - \frac{135}{2}\sqrt{5} - 10\sqrt{51 - \frac{114}{5}\sqrt{5}}}$ $= ,243348638901473921399106 =$ half the Side of the Dodecaedron, whose Altitude will be $= b\sqrt{10 - \sqrt{5} - \sqrt{30 + 6\sqrt{5}}} = 1{,}083890766696328535788 3438$. The greater Part of the Diagonal of the Pentagon $= b\sqrt{\frac{85}{2} - \frac{37}{2}\sqrt{5} - \sqrt{390 - 174\sqrt{5}}} =$ $= ,414009432785814923894776$. The lesser Part $= \frac{1}{2}b\sqrt{\frac{35}{2} - \frac{13}{2}\sqrt{5} - 4\sqrt{15 - 6\sqrt{5}}}$ $= ,334940666955256805946784$. The whole Diagonal $= \frac{1}{2}b\sqrt{\frac{175}{2} - \frac{65}{2}\sqrt{5} - 10\sqrt{15 - 6\sqrt{5}}}$ $= ,748950099741071729841560131$. The Radius of the Sphere circumscribing the Dodecaedron $= \frac{1}{2}b\sqrt{16 - 75\sqrt{5} - 30\sqrt{\frac{15}{2} - \frac{33}{10}\sqrt{5}}} = ,681988716158867931571999$.

Plate III. *Fig.* 53. By these Numbers the *Fig.* 53. *Plate* III. representing the Dodecaedron *in plano* may be truly drawn.

Through the Center of every Base of the Dodecaedron draw Diameters parallel to all the Sides, as HF. To do this with greater Certainty, from the middle of each Side set off IH = LF $= \frac{1}{2}b\sqrt{\frac{675}{2} - \frac{297}{2}\sqrt{5} - 4\sqrt{51 - \frac{114}{5}\sqrt{5}}} = ,108828819763149087200 15$. From every Angle set off upon the Sides $\frac{1}{2}b\sqrt{675 - 299\sqrt{5} - 2\sqrt{\frac{385815}{2} - \frac{172533}{2}\sqrt{5}}}$ $= ,208144956241766024013539 =$ AN = GM. Draw the Parallels NM, &c. Join FN, HM; whereby the Prism HFNMGAF may be cut off; and two like this must be cut off every Edge, in all Sixty, taking care to continue the Lines.

2. In order to the forming the Body of Sixty Semi-rhombs, so that its Altitude may be $= b = 1$, the Side of the Cube from which the Dodecaedron is to be cut, must be $= b\sqrt{\frac{85}{2} - \frac{25}{2}\sqrt{5} - 40\sqrt{1 - \frac{2}{5}\sqrt{5}}} = 1{,}245938374052415061041474$; and the extent to be set off from the middle of every Side is $\frac{1}{2}b\sqrt{\frac{485}{2} - \frac{215}{2}\sqrt{5} - 4\sqrt{4450 - 1990\sqrt{5}}} =$ $= ,237953055500121245976251 78 =$ half the Side of the Dodecaedron: Its Altitude will be $b\sqrt{15 - 2\sqrt{5} - 4\sqrt{10 - 2\sqrt{5}}} = 1{,}059858485044513166730 09586$. The longer Part of the Diagonal of the Pentagon or Base $= b\sqrt{\frac{135}{2} - \frac{59}{2}\sqrt{5} - 8\sqrt{85 - 38\sqrt{5}}}$ $= ,404829918 0,220 31,918783$. The shorter Part $= \frac{1}{2}b\sqrt{\frac{55}{2} - \frac{21}{2}\sqrt{5} - 4\sqrt{50 - 22\sqrt{5}}}$ $= ,327 51,428 35,112 40,623 85,675 43$. The whole $= \frac{1}{2}b\sqrt{\frac{275}{2} - \frac{105}{2}\sqrt{5} - 20\sqrt{50 - 22\sqrt{5}}}$ $= ,732344201523272542639$. The Radius of the Sphere circumscribing the Dodecaedron $= b\sqrt{\frac{185}{4} - 30\sqrt{5} - 3\sqrt{650 - 290\sqrt{5}}} = ,666867501536802825572239 56$.

To

To delineate it (1.) draw Diameters parallel to all the Sides of the Pentagons; or *Plate III.* the Sides being biſected make IH = LF = $\frac{1}{2}b\sqrt{\frac{77}{2} - \frac{43}{2}\sqrt{5} - 8\sqrt{\frac{89}{2} - \frac{199}{10}\sqrt{5}}}$ *Fig. 53.* = ,1064158415164102646497586 7, and draw FH, &c. (2.) Upon every Side from all the Angles ſet off DO = $b\sqrt{39670 - 17286\sqrt{5} - 4\sqrt{1542518 90 - 689555 42\sqrt{5}}}$ = = ,213427582518576353377517; and BR = EP = $\frac{4}{10}b\sqrt{742095 - 331868\sqrt{5} - 4\sqrt{66755210260 - 29853837592\sqrt{5}}}$ = ,057669238719821977245983 48. Joyn FR, HP, PO, RO; whereby the Segment HFROPHEDBF may be cut off; and Three like this may be cut off every Angle of the Dodecaedron; in all Sixty.

3. To form the Body of Eighty Triangles ſo as its Altitude may be = b = 1. An Icoſaedron may be cut by either of the Methods before directed, and all its Parts muſt be as there expreſt: Then biſect every Side, and connect each two of thoſe Points by Lines pa- *Fig. 54.* rallel to the other Side, which will form Twenty equilateral Triangles in the middle of the greater. Theſe Lines will be the Baſes of the ſixty Iſoſceles Triangles, and comprehend the Baſes of Twelve Pentagonal Pyramids, repreſented, *Fig.* 54, by the Lines BA, BD, DE, EG, GA, whoſe Vertex is C. From the ends of all theſe Lines ſet off upon every Edge both ways $\frac{5}{4}b\sqrt{3} - \frac{1}{4}b\sqrt{15} - \frac{1}{2}b\sqrt{\frac{15}{2} - \frac{3}{2}\sqrt{5}}$ = ,178743751998987943 05 = = BI = GK, and $\frac{5}{4}b\sqrt{3} - b\sqrt{15} - \frac{1}{2}b\sqrt{\frac{195}{2} - \frac{87}{2}\sqrt{5}}$ = ,216809021260211745835 8744 = AH. Draw the Lines DI, EK, KH, HI; whereby the Segment DCEKHID may be cut off, and one like this off either half of every Edge of the Icoſaedron; in all Sixty, finiſhing the Body by 78 or 80 Sections.

4. The Body of Thirty Rhombs being cut as before directed, the Solid of Ninety Baſes may be moſt conveniently form'd therefrom. Suppoſe every Rhomb biſected by occult Lines joining the obtuſe Angles, which will be the ſhorter Diagonals, and ſurround the Baſes of Twelve Pentagonal Pyramids repreſented, *Fig.* 55. whoſe Vertices at C are the acuter ſolid Angles. From the obtuſe Angles or the Extremities of thoſe occult Lines, ſet off upon every Edge $\frac{1}{2}b\sqrt{\frac{5}{4} - \frac{1}{2}\sqrt{5}}$ = ,181635632001342214 7386 = GQ = AV = = BH. Draw the Lines GV, AQ; AH, BV, &c. which will form leſs Rhombs in the middle of all the greater, like GRAW, AOBP. From the ſame Points ſet off $\frac{1}{2}b\sqrt{\frac{1}{2} - \frac{1}{10}\sqrt{5}}$ *Fig. 55.* = ,262865556059566803013 = DL = EK. Join QK, KL, LH: Cut off the Segment AQCKLHA, and one like this both ways off every other Edge; in all Sixty, perfecting the Body by Eighty-four Sections.

5. To form the Body of One hundred and twenty Baſes, ſo that its Altitude or Diſtance betwixt the parallel Rhombs ſhall be = b = 1. The Side of the Cube out of which the Dodecaedron is to be cut, muſt be = $\frac{2}{11}b\sqrt{130 - 38\sqrt{5}}$ = 1,220072032218555 9-69463204. The Extent to be ſet off from the middle of every Side, muſt be = $\frac{2}{11}b\sqrt{185 - 82\sqrt{5}}$ = ,233013023792165802327729, being equal to half the Side of the Dodecaedron. The longer Part of the Diagonal of its Baſe = $\frac{10}{11}b\sqrt{5} - \frac{18}{11}b$ = ,396425434-09071790582652 1517. The ſhorter Part = $\frac{8}{11}b - \frac{2}{11}b\sqrt{5}$ = ,320714913181856 41-883469659. The whole = $\frac{8}{11}b\sqrt{5} - \frac{10}{11}b$ = ,717140347272574324661217213 6. The Altitude of the Dodecaedron = $\frac{6}{11}b\sqrt{5} - \frac{2}{11}b$ = 1,037855260454430743495912. The Radius of its circumſcribing Sphere = $\frac{1}{11}b\sqrt{870 - 366\sqrt{5}}$ = ,653022978314888774-9091376.

To delineate and cut it (1.) Through the Centers of every Baſe of the Dodecaedron, *Fig. 56.* draw Diameters parallel to all the Sides, as HK, *Fig.* 56. Or having biſected the Sides, from thoſe middle Points, ſet off $\frac{2}{11}b\sqrt{37 - \frac{82}{5}\sqrt{5}}$ = ,104206592168411712496003 40 = NK = TH. From the Angles of the parallel Sides ſet off $\frac{4}{33}b\sqrt{\frac{29}{2} - \frac{61}{10}\sqrt{5}}$ = = ,112

$= ,112406538653525838274582\overline{4} = EM = DF$. Draw the Parallel MF: Join HM, KF. Cut off the Priſm HKFMHEDK, and two like this off every Edge; in all Sixty, which Sections give the Plains of the Semi-rhombs.

Then from every Angle ſet off upon the Sides $\frac{1}{11}b\sqrt{\frac{25}{2}\frac{5}{5} - \frac{11}{2}\frac{9}{9}\sqrt{5}} = ,044501527633609711125173 = BV = Ge$: Or ſince this Extent is ſo ſmall, from the other Angle ſet off $\frac{1}{11}b\sqrt{\frac{7}{2}\frac{3}{5} - \frac{3}{2}\frac{0}{5}\sqrt{5}} = ,421524519950721893529685 = eE = DV$: Or if it ſeem beſt to ſet it off from the middle, make $Te = NV = \frac{1}{11}b\sqrt{\frac{1}{2}\frac{4}{5} - \frac{6}{2}\frac{1}{5}\sqrt{5}} = ,188511496158556091201\overline{95}$. Draw Lines parallel to every Side, as eV, and from the Angles oppoſite to thoſe Lines (as A) ſet off upon the Sides $AL = \frac{1}{2}\frac{1}{5}b\sqrt{\frac{2}{2}\frac{1}{5}\frac{2}{5} - \frac{9}{2}\frac{1}{5}\frac{9}{5}\sqrt{5}} = ,269015515923966371156101\overline{7}$; and from the adjacent Angles ſet off $\frac{1}{11}b\sqrt{305 - 1478\sqrt{5}} = ,027503456628863478912281 = Gt = Bn$: Or if this Extent be too ſmall, from the other Extremity of the ſame Sides ſet off $\frac{1}{11}b\sqrt{12505 - 5582\sqrt{5}} = ,43852259095546812573\overline{5} = Pt = Sn$: Or from the middle of each Side ſet off $\frac{1}{11}b\sqrt{7165 - 3202\sqrt{5}} = ,205509567163023234154\overline{48}$. Join Te, Vn; Lt, Ln. Cut off the Segment eVnLteGABV: And by Sections altogether like this every ſolid Angle of the Dodecaedron muſt be cut off three Times, amounting in all to Sixty. The Planes hereby made are the Rhombs: And due care muſt be taken in all to continue the Lines upon the Planes after every Section.

I am not ignorant that theſe Bodies may be cut in a different manner out of others, but theſe may be juſtly recommended as the ſhorteſt, eaſieſt and moſt commodious Methods.

Having propos'd to give an Inſtance or two of an Operation in *Quadrinomial Surds*, (which, I ſuppoſe, are no where exemplified, if at all touch'd by any Author) I judg'd it not expedient by ſo large a Digreſſion, to interrupt the deſign'd Method, but rather reſerved it for this Place; theſe Inſtances including and exemplifying all the Difficulties in the Doctrine of Surds.

In the Calculation to obtain the Requiſites for the Body of Eighty Triangles, there was a Neceſſity of working this Proportion, As $\frac{1}{4}\sqrt{\frac{6}{4}\frac{3}{9} - \frac{6}{1}\frac{3}{0}\sqrt{5} - 3\sqrt{26 - \frac{5}{5}\frac{8}{8}\sqrt{5}}}$ is to $\frac{1}{2}\frac{1}{9}\sqrt{1266 - \frac{1}{2}\frac{0}{0}\frac{3}{4}\frac{4}{1}\sqrt{5} + \frac{3}{2}\sqrt{288605 - 128582\sqrt{5}}}$ :: ſo is $\frac{1}{1}\frac{1}{0}\sqrt{15 - \frac{1}{1}\frac{1}{0}\sqrt{3}}$ to a fourth Surd. The firſt Work is to make out the Reciprocal of $\frac{1}{4}\sqrt{\frac{6}{4}\frac{3}{9} - \frac{6}{1}\frac{3}{0}\sqrt{5} - 3\sqrt{26 - \frac{5}{5}\frac{8}{8}\sqrt{5}}}$. The difference of the Squares of $\frac{6}{6}\frac{3}{4} - \frac{6}{1}\frac{3}{6}\sqrt{5}$ and $\frac{3}{1}\frac{1}{6}\sqrt{26 - \frac{5}{5}\frac{8}{8}\sqrt{5}}$ is $\frac{1}{2}\frac{1}{0}\sqrt{85005 - 37620\sqrt{5}}$, and the difference of the Squares of the Parts hereof $\frac{1}{1}\frac{4}{6}\frac{9}{0}\frac{5}{0}\frac{2}{9}\frac{8}{0}\frac{0}{2}\frac{2}{5} = \frac{5}{6}\frac{9}{4}\frac{8}{0}\frac{1}{9}\frac{1}{6}\frac{2}{1}$, whoſe Reciprocal $\sqrt{\frac{6400}{85005 + 37620\sqrt{5}}}$ drawn into $\sqrt{\frac{85005 + 37620\sqrt{5}}{400}}$ produces $\sqrt{\frac{151120 + 66805\sqrt{5}}{664569}}$, by which $\frac{1}{4}\sqrt{\frac{6}{4}\frac{3}{9} - \frac{6}{1}\frac{3}{0}\sqrt{5} + 3\sqrt{26 - \frac{5}{5}\frac{8}{8}\sqrt{5}}}$ being multiply'd, $8\sqrt{\frac{7595 + 2814\sqrt{5} + \frac{4}{3}\sqrt{11129050 + 4752910\sqrt{5}}}{73841}}$ the Product is the Reciprocal deſired: By this 'tis moſt convenient only to multiply the ſecond Term $\frac{1}{1}\frac{1}{9}\sqrt{1266 - \frac{1}{2}\frac{0}{0}\frac{3}{4}\frac{4}{1}\sqrt{5} + \frac{3}{2}\sqrt{288605 - 128582\sqrt{5}}}$ firſt, ſince the Root of the Product may probably be extracted, and thereby the reſt of the Operation much eaſed: $7595 + 2814\sqrt{5} \times 1266 - \frac{10341\sqrt{5}}{20} = \frac{4680753}{2} - \frac{1457883\sqrt{5}}{4}$; and $\frac{4}{3}\sqrt{11129050 + 4752910\sqrt{5}} \times \frac{3}{2}\sqrt{288605 - 128582\sqrt{5}}$ is $= \sqrt{156206107150 - 59281916550\sqrt{5}}$: The ſquare Root hereof $309090\sqrt{5} - 383590$ added to $\frac{4680753}{2} - \frac{1457883\sqrt{5}}{4}$ makes $\frac{3913573}{2} - \frac{221523\sqrt{5}}{4}$ which divided by 73841, the Quotient $\frac{53}{2} - \frac{3}{4}\sqrt{5}$ is that Part of the Quadrinomial Surd reſulting from the Multiplication, which is not under a double Radical Sign. To make

out

out the other Part, which is to be included under another √, one Part is $1266 - \frac{10341\sqrt{5}}{20} \times \sqrt[4]{1112950 + 475291\sqrt{5}}$; the Product whereof is $= aa = 2847185253970 - 1064601874442\sqrt{5}$: The other Part is $7595 + 2814\sqrt{5} \times \sqrt[4]{288605 - 128582\sqrt{5}}$, which produce $ee = \frac{5342946006825 - 1545743318490\sqrt{5}}{4}$. To add these two Surds together (being the greatest Labour) all the Parts thereof, multiplied respectively, produce $\frac{937614530189731678540326 00 - 40356511666942700687887800\sqrt{5}}{16} = aaee$: To extract the square Root hereof, from the Square of the 1st Part Substract the Square of the latter. That is, from 87912,10072,22911,25723,$\frac{73958}{256}$,06915,28960,15860,08186,27600,00

Take 81432,40169,62041,15908,$\frac{67345}{256}$,67892,54686,56548,12694,42000,00

of the Remainder 6479,69902,60870,09815,$\frac{06612}{256}$,39022,74273,59311,95491,85600,00

extract the square Root $= 2545525294\frac{7}{16}2543442943684 00$, which added to $\frac{937614530189731678540326 00}{16}$ the greater Part, makes $\frac{1192167059662275121484010 00}{16}$ The Root of half of this is $= \frac{34527772295 10\sqrt{5}}{4}$. Subtract the former Root from the said greater part, there remains $\frac{6830620007171882355966420 0}{16}$: The Root of half hereof is $\frac{5844065368890.}{4}$. To the Sum of the two square Surds above $aa + ee = \frac{1673168702270 5 - 5804150816258\sqrt{5}}{4}$ add $2ae$ the double of the two last found Roots $= -\frac{1168813073778 0 + 690555445902 0\sqrt{5}}{4}$. The parts of the Sum $\frac{5043556284925 + 1101403642762\sqrt{5}}{4}$ divided severally by 5452493281 the Square of 73841, quote $\frac{1}{2}\sqrt{925 + 202\sqrt{5}}$; so that the second Term in the Proportion $\frac{1}{10}\sqrt{1266}$—&c. divided by the first $\frac{1}{4}\sqrt{\frac{63}{4} - \frac{63}{20}\sqrt{5}}$—&c. yields in the Quotient $\frac{8}{10}\sqrt{\frac{53}{2} - \frac{3}{4}\sqrt{5}} + \frac{1}{2}\sqrt{925 + 202\sqrt{5}}$. To extract the square Root hereof, let the former part $\sqrt{\frac{53}{2} - \frac{3}{4}\sqrt{5}}$ be $= b$, the latter $\frac{1}{2}\sqrt{925 + 202\sqrt{5}} = c$, from the Square of half the former Part, *i. e.* $\frac{1}{4}bb = \frac{11281 - 636\sqrt{5}}{64}$, substract the Square of half the latter $\frac{1}{4}cc = \frac{3700 - 808\sqrt{5}}{64}$: The square Root of the Remainder $\frac{7581 - 1444\sqrt{5}}{64}$. *i. e.* $\sqrt{\frac{1}{4}bb - \frac{1}{4}cc} = \frac{19}{40}\sqrt{5} - \frac{19}{8}$, added to $\frac{1}{2}b$, *i. e.* to $\sqrt{\frac{53}{2} - \frac{3}{8}\sqrt{5}}$, is $\sqrt{\frac{87}{4} + \frac{35}{8}\sqrt{5}} = \frac{1}{2}b + \sqrt{\frac{1}{4}b^2 - \frac{1}{4}c^2}$; the square Root hereof is $\frac{5}{4}\sqrt{5} + \frac{7}{4}$; and $\frac{1}{2}b - \sqrt{\frac{1}{4}b^2 - \frac{1}{4}c^2}$, is $\sqrt{\frac{125}{20} - \frac{41}{20}\sqrt{5}}$, whose square Root is $\frac{1}{2}\sqrt{\frac{125}{2} - \frac{41}{2}\sqrt{5}}$; therefore $\frac{8}{10}\sqrt{\frac{53}{2} - \frac{3}{4}\sqrt{5}} + \frac{1}{2}\sqrt{925 + 202\sqrt{5}}$ is $= \frac{10}{10}\sqrt{5} + \frac{14}{10} + \frac{4}{10}\sqrt{\frac{125}{2} - \frac{41}{2}\sqrt{5}}$. This drawn into $\frac{1}{10}\sqrt{15} - \frac{1}{10}\sqrt{3}$ the third Term, gives the Fourth $= \frac{9}{20}\sqrt{3} + \frac{1}{20}\sqrt{15} + \frac{1}{30}\sqrt{435 - 186\sqrt{5}}$. *Q. E. F.*

Another Example, which occurr'd in the Calculation for cutting the Bodv of 60 Semi-Rhombs out of the Dodecaedron, may be to substract $2\sqrt{510 - 225\sqrt{5}} - 2\sqrt{122365 - 54718\sqrt{5}}$ out of $\sqrt{\frac{55}{2} - \frac{21}{2}\sqrt{5}} - 4\sqrt{50 - 22\sqrt{5}}$: Call the former *e*, the latter *a*. The Sum of the Squares, *viz.* $aa + ee$ is $\frac{413}{2} - \frac{185}{2}\sqrt{5} - 4\sqrt{50 - 22\sqrt{5}} - 8\sqrt{122365 - 54718\sqrt{5}}$; To reduce these two Surd Roots into one, The Sum of their Squares, *viz.* $7831360 - 3501952\sqrt{5} + 800 - 352\sqrt{5}$ is $7832160 - 3502304\sqrt{5}$: The Square of their Rect-

angle

angle is $12428523520 - 5558200320\sqrt{5}$; the double of the Root hereof $157760 - 70464\sqrt{5}$ added to the Sum of the Squares, makes $7989920 - 3572768\sqrt{5}$; therefore $aa + ee = 4135 - 1821\sqrt{5} - 4\sqrt{499370 - 223298\sqrt{5}}$. To make the Square of the double Rectangle, or $4aaee$; $110 - 42\sqrt{5} \times 2040 - 900\sqrt{5} = 413400 - 184680\sqrt{5}$, to which add $315520 - 140928\sqrt{5}$ the Root of the Product of the two Surd Roots, the Sum $728920 - 325608\sqrt{5}$ is the former or greater Part: To compoſe the leſs $2040 - 900\sqrt{5} \times 16\sqrt{50 - 22\sqrt{5}} = 16\sqrt{814500000 - 364255200\sqrt{5}}$; and $110 - 42\sqrt{5} \times 8\sqrt{122365 - 54718\sqrt{5}}$ is $= 16\sqrt{127961850 - 56883829\sqrt{5}}$. To unite theſe two Surd Roots, the Sum of their Squares is $2086461850 - 933093490\sqrt{5}$. The Square of the Rectangle, or the Product of theſe two Surds, is $2072024452283040000 - 926637507526912000\sqrt{5}$. The double of the Root hereof $2035694400 - 910389600\sqrt{5}$, added to the laſt Sum of the Squares, makes the Sum of the two Surds equal to $16\sqrt{4122156250 - 1843483090\sqrt{5}}$; So that $4aaee = 728920 - 325608\sqrt{5} - 16\sqrt{4122156250 - 1843483090\sqrt{5}}$ is the Square of the double Rectangle. To extract its Root, let the former Part $728920 - 325608\sqrt{5}$ be $= b$, the latter $= c$: Then $\frac{1}{4}bb - \frac{1}{4}cc = 1538803680 - 688173205$, and its Root, *i. e.* $\sqrt{\frac{1}{4}b^2 - \frac{1}{4}c^2} = 27740 - 12404\sqrt{5}$, added to and ſubſtracted from $\frac{1}{2}b$, gives $\frac{1}{2}b + \sqrt{\frac{1}{4}b^2 - \frac{1}{4}c^2} = 392200 - 17508\sqrt{5}$, and $\frac{1}{2}b - \sqrt{\frac{1}{4}b^2 - \frac{1}{4}c^2} = 336720 - 150400\sqrt{5}$, whoſe Root is $188\sqrt{5} - 400$; therefore the double Rectangle or $2ae$ is $= \sqrt{392200 - 17508\sqrt{5}} - 188\sqrt{5} + 400$: This ſubſtracted from the Sum of the Squares $4135 - 1821\sqrt{5} - 4\sqrt{499370 - 223298\sqrt{5}}$, leaves $3335 - 1445\sqrt{5} - 4\sqrt{499370 - 223298\sqrt{5}} - \sqrt{392200 - 17508\sqrt{5}}$. To the Sum of the Squares of theſe two Surd Roots $= 8382120 - 3747976\sqrt{5}$, add $1583136\sqrt{5} - 3538720$, the Root of $25054137210840 - 11204550051840\sqrt{5}$ the Square of the double Rectangle: The Root of the Sum is $2\sqrt{1210850 - 541210\sqrt{5}}$: So that $\sqrt{3335 - 1445\sqrt{5}} - 2\sqrt{1210850 - 541210\sqrt{5}}$ is $= \sqrt{55 - 21\sqrt{5}} - 4\sqrt{50 - 22\sqrt{5}} - 2\sqrt{510 - 225\sqrt{5}} - 2\sqrt{122365 - 54718\sqrt{5}}$. *Q. E. F.*

Hereby it appears how operoſe and tedious the Management of theſe Quadrinomial Surds muſt neceſſarily be: And if this Courſe be not taken to contract and keep them within due Bounds, they will quickly excur into ſuch an intolerable Number of Terms as will puzzle and confound the moſt acute and dextrous Artiſt.

F I N I S.

Plate I.

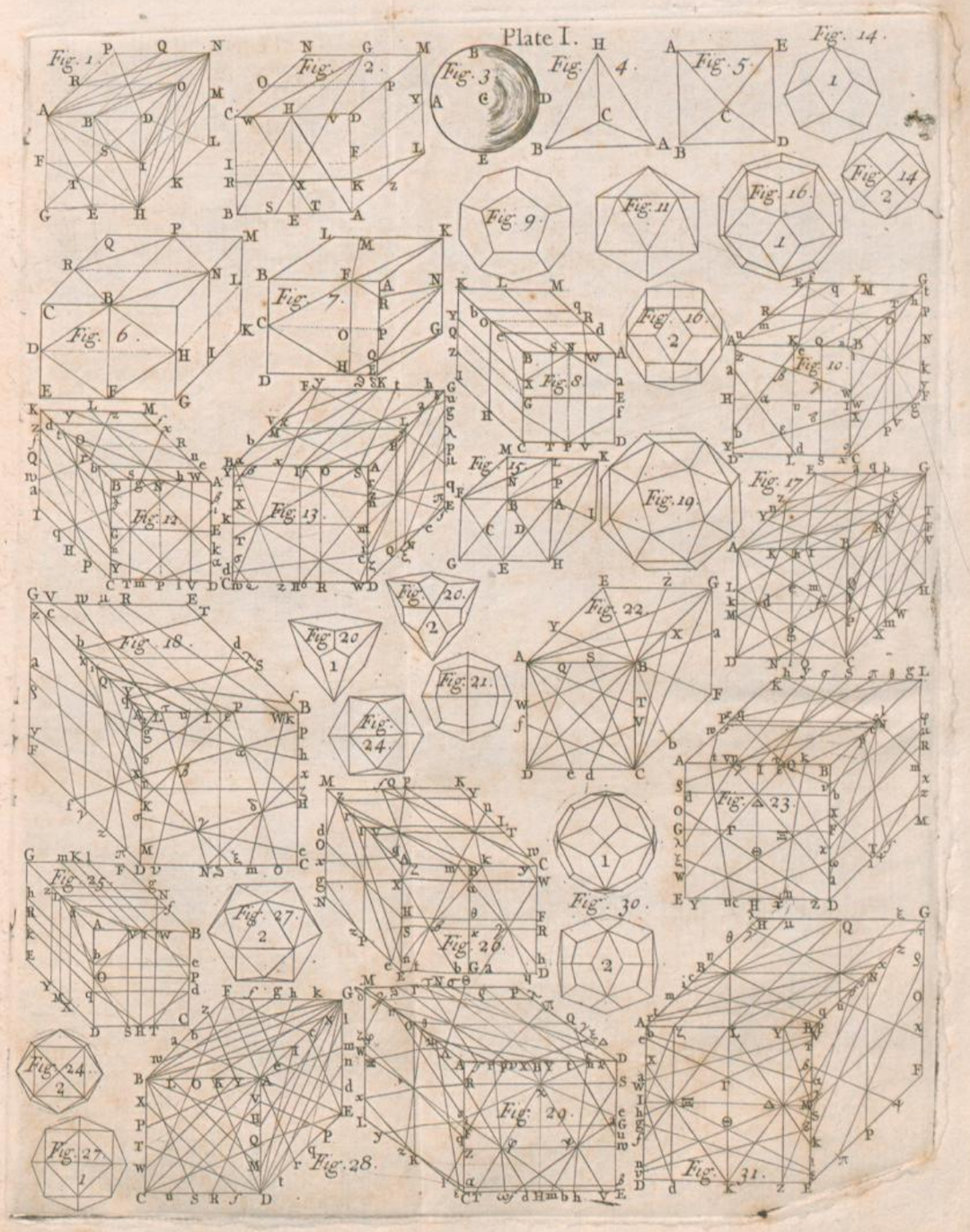
Fig. 1.
Fig. 2.
Fig. 3.
Fig. 4.
Fig. 5.
Fig. 14.
Fig. 9.
Fig. 11.
Fig. 16.
Fig. 6.
Fig. 7.
Fig. 8.
Fig. 10.
Fig. 12.
Fig. 13.
Fig. 15.
Fig. 19.
Fig. 17.
Fig. 20.
Fig. 18.
Fig. 22.
Fig. 21.
Fig. 24.
Fig. 23.
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Fig. 25.
Fig. 27.
Fig. 26.
Fig. 29.
Fig. 28.
Fig. 31.

Plate II.

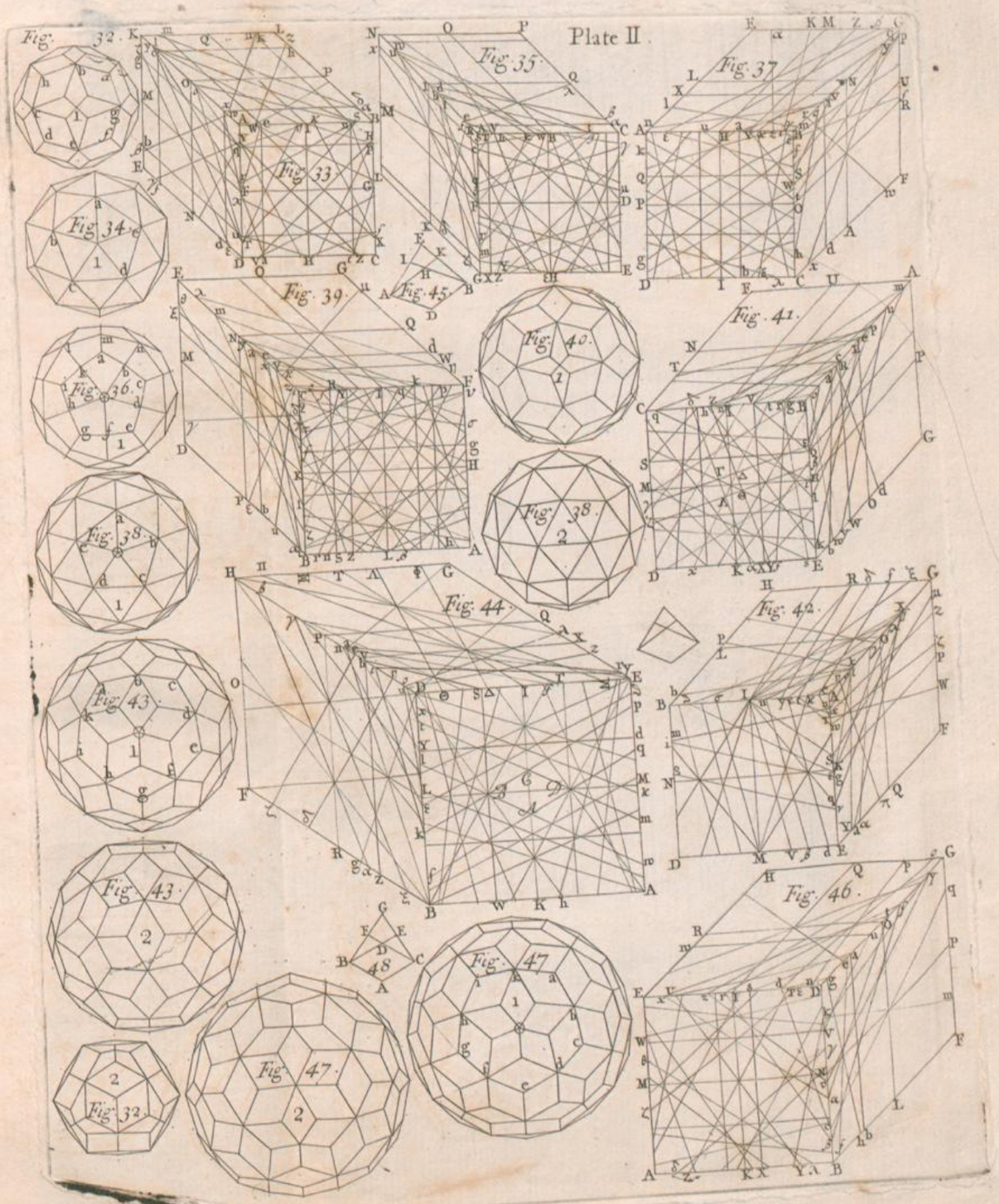
Fig. 32.
Fig. 33.
Fig. 34.
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Fig. 47.
Fig. 48.

Pl. III.

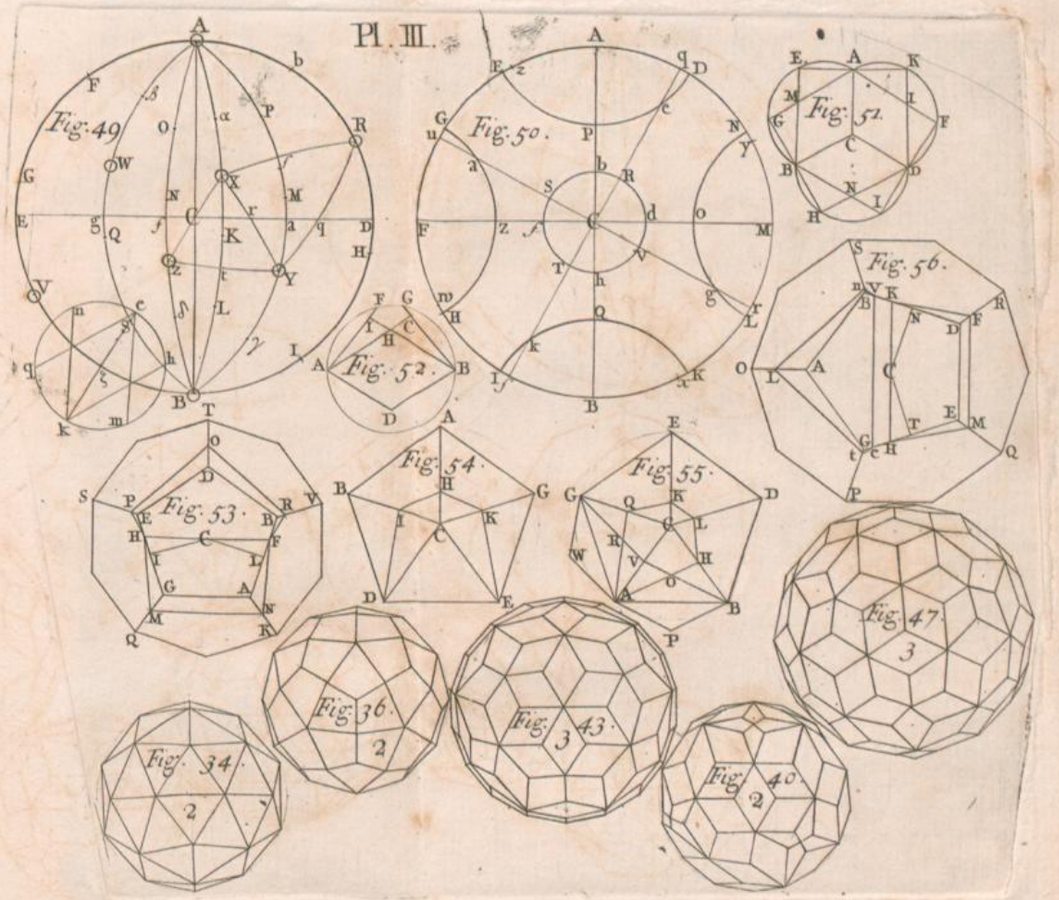
Fig. 49
Fig. 50.
Fig. 51.
Fig. 52.
Fig. 53.
Fig. 54
Fig. 55.
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Fig. 47
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Fig. 36.
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Fig. 3 43
Fig. 34.
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Fig. 40
2

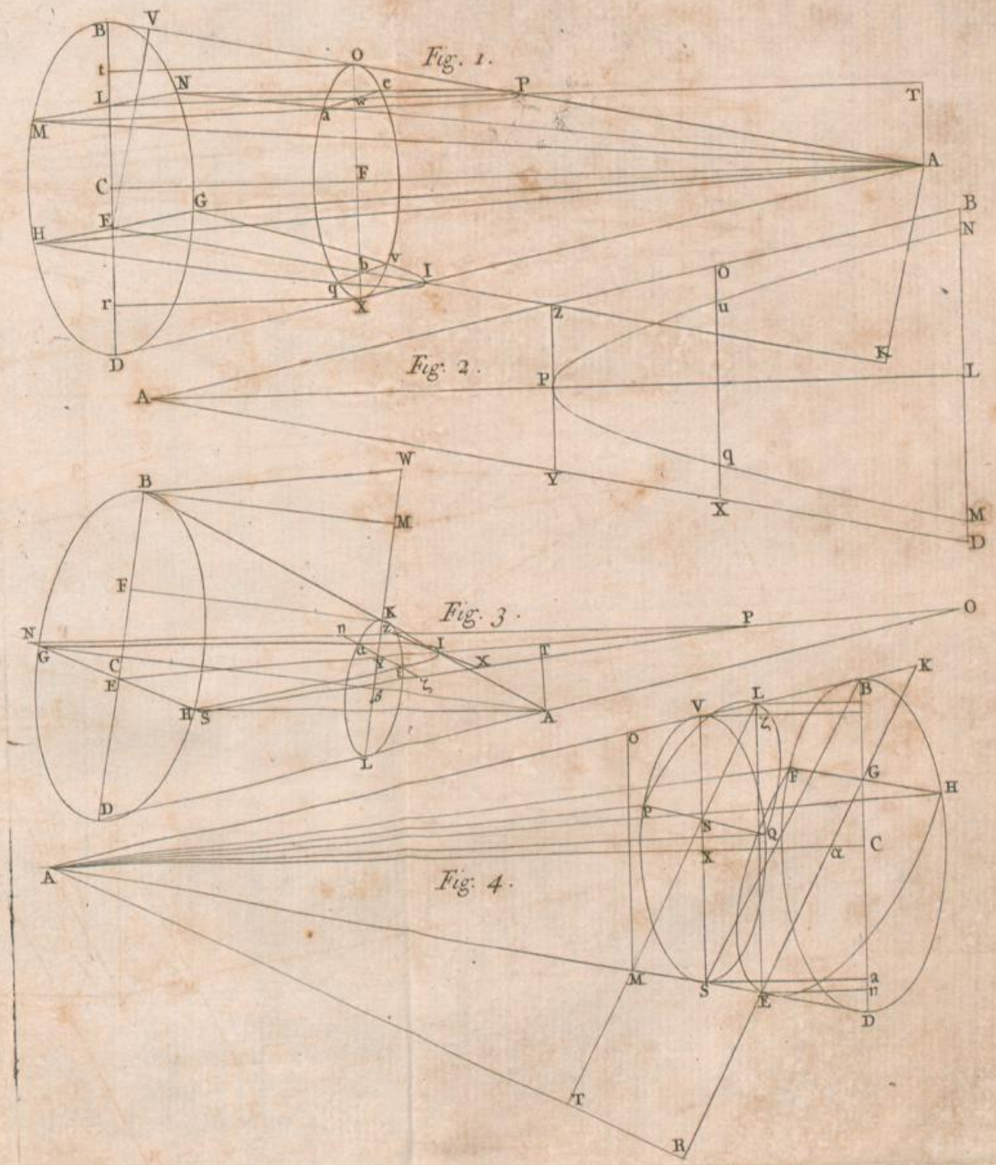
Fig. 1.
Fig. 2.
Fig. 3.
Fig. 4.