



# A Fan Design That Meets the NASA Aeronautics Noise Goals

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## **Summary**

A fan concept was previously identified that would meet the NASA aeronautics goal of a 20 EPNdB reduction in aircraft noise. This was a 2-stage fan with a pressure ratio of 1.15 and a 460 ft/sec tip speed. The 2 stages were identical so that, with the proper synchrophasing, noise from one stage could be used to cancel noise from the other stage. This paper documents the aerodynamic design of the 2-stage fan concept in a 22-in. diameter size for testing in the NASA Glenn 9- by 15-ft wind tunnel. A set of rotor and stator coordinates are listed in the report. Stress and flutter analyses were done on these blades and showed that the design was structurally viable. A noise prediction code, using the blade coordinates and fan flows, indicated that the 2-stage fan would meet the goal of a 20 dB reduction in fan noise.

## **Introduction**

In 1997 NASA published its goals for aeronautics research. Among these goals was the reduction of aircraft noise. Specifically, the goal was to “reduce the perceived noise levels of future aircraft by a factor of two from today’s aircraft within 10 years and by a factor of four within 20 years.” A factor of two reduction is about 10 Effective Perceived Noise Decibels and four is 20 Effective Perceived Noise Decibels. Part of the technology needed to reduce aircraft noise is the reduction of engine noise. This requires both the reduction of the jet noise from the engine and the reduction of the noise generated by the engines fan stage.

A fan concept to achieve the 20 dB Effective Perceived Noise Level reduction was identified in reference 1. This fan concept built upon noise reduction technology from the Advanced Subsonic Technology (AST) program, which indicated a 10 dB reduction potential. The AST technology fan combined the basic characteristics of the Pratt & Whitney ADP Fan 1 (ref. 2) with the swept exit guide vanes of an Allison Engine Company fan (ref. 3). The new fan concept used the AST fan as a base fan and was configured to provide an additional 10 dB noise reduction beyond the AST fan resulting in the 20 dB total reduction goal.

The new fan concept had a pressure ratio of 1.15 to enable the necessary jet noise reduction and required a tip speed at or below 530 ft/sec to obtain the fan noise reduction. This low tip speed would not

support the 1.15 pressure ratio so the fan concept developed into a two-stage fan. This two-stage fan concept from reference 1 is illustrated in figure 1. The fan concept consists of two fan stages with 460 ft/sec tip speed. The tip speed was lowered to account for the extra noise of two stages as opposed to a single stage fan at 530 ft/sec. The pressure ratio of each stage is 1.072 for an overall pressure ratio of 1.15 at the exit from the two stages. For further noise reduction the concept includes large spacing between fans and between the blade rows in each fan. The concept has the fans being driven from different spools of the engine giving the ability to synchrophase the rotors such that the noise from one stage can be used to cancel the noise from the other stage. The stators are swept for noise reduction and acoustic treatment is applied to the inner and outer flow path walls.

Since both the Pratt & Whitney ADP Fan 1 (ref. 2) and the Allison Fan (ref. 3) were both acoustically and aerodynamically tested in 22-in. diameter size in the NASA Glenn 9- by 15-ft wind tunnel, it was decided to proceed with a design of the fan concept in this size for possible future testing in the same facility. This paper documents the aerodynamic design of this fan concept and presents the results of acoustic predictions using the aerodynamic design parameters.

## **Internal Fan Flow**

The internal flow through the fan was modeled using a 2-D strip-wise method (ref. 4). The model has 11 streamlines from hub to tip. The inner and outer flow path walls in the fan duct were constant radius so the two fan stages could be identical for noise cancellation purposes. The inner radius was 5.5 in. and the outer radius was 11 in. yielding a hub to tip ratio of 0.5. Since each of the fans was to be identical only one fan design was calculated. The results of the calculation for the one fan stage are included in appendix A.

In this design, each of the rotors has 22 blades and each of the stators has 12 long-chord vanes. A sketch of the two stages in the duct is shown in figure 2. This sketch is a side view of the passage, so the twist of the rotor blades makes them appear as trapezoids despite the fact that they have a constant chord from hub to tip. The basic parameters of the fan design are shown in table 1. A 3-D sketch of the 2-stage fan gives a better illustration of the design and is included in figure 3. Figure 4 shows span wise variations of some of the rotor parameters. Figure 4(a) shows the rotor inlet relative Mach number, figure 4(b) the maximum thickness to chord ratio (the chord is a constant 3.2986 in. from hub to tip) and figure 4(c) the diffusion factor.

A 3-D analysis (refs. 5, 6, and 7) was also performed on the finalized fan stage. Some hub to tip contours of the total temperature, total pressure and adiabatic efficiency are shown in figure 5. These contours show how well the design met the objectives and how well the 2- and 3-D analysis compare. Based on these analyses, the 2-stage fan should meet the objective of a 1.15 pressure ratio at 460 ft/sec tip speed.

## **Blade Coordinates**

To accomplish the flow parameters indicated in the previous section, blade coordinates were calculated for the rotor and stator blades. These coordinates are specified as in figure 6. A list of the blade coordinates, in plot 3-D format, is found in appendix B. These coordinates specify the “hot running” shape of the rotor blades. The actual cold, manufacturing coordinates have not been calculated. However, with the low tip speed of the blades, the amount of untwist during operation is very small, probably less than one degree (based on the preliminary analysis). If this is the case, then it may be possible that no corrections to these “hot running” coordinates are necessary.

## Stress and Flutter Analysis

A preliminary analysis of the stress for the 2-stage fan was performed using MSC/NASTRAN. This analysis included: the zero speed frequencies and mode shapes for both the rotor and stator—at speed frequencies for the rotor; Campbell diagrams for the rotor and stator—stresses and deflections for the rotor at operating and maximum speed. In addition, reduced frequency flutter parameters were calculated. The detailed analysis, done for one stage since the stages are identical, is included in appendix C. The rotor was modeled as being constructed of Ti-6Al-4V titanium and the stator of carbon steel.

The blades were shown to be acceptable for the intended use with the rotor having a factor of safety on yield of 15 at operating conditions and 10 at maximum speed. In addition all the calculated reduced frequency flutter parameters were above the generally accepted limits.

## Nacelle

A nacelle, designed to be similar to the one used for the Pratt & Whitney ADP Fan 1 (ref. 2), was designed for the 2-stage fan. The coordinates for this design are included in appendix D. A sketch of the nacelle is shown in figure 7 with the x-axis starting at the stacking line of the first rotor and the r-axis measured from the centerline of the fan. The nacelle inlet and spinner bring the airflow to the internal flow path of the fan design (appendix A) with an inner radius of 5.5 in. and an outer flow path radius of 11 in. These radii are then constant through the two fan stages.

The nacelle inlet exterior starts at the inlet lip and continues to a constant radius of about 13.3 in. The length of this nacelle as shown in appendix D was a nominal number. Since the internal and external radii are constant over the fan stage, this nacelle can be shortened or lengthened with the substitution of cylindrical sections.

A CFD analysis was performed on the nacelle and the design was judged to be acceptable. The nacelle inlet was calculated as having an inlet pressure recovery of 0.9989 while flowing an inlet mass flow of 42.65 lbm/sec. This nacelle design would then be used for the 2-stage fan when mounted in the 9- by 15-ft wind tunnel.

## Acoustic Prediction

The VO72 code (ref. 8) was used to predict the tone and broadband noise for the ADP Fan 1 and for one stage of the 2-stage fan. These predictions gave fore and aft power levels for the two fans. Since the aft power levels were greater than the inlet power levels for both fans, the aft powers were used to estimate the noise reduction of the 2-stage fan. To arrive at comparable spectra, corrections were applied to the single stage numbers for the 2-stage fan. Since the prediction was made for only one stage a 3 dB addition was added to account for the second stage. In addition, no prediction was made for the interaction of the first stage stator wakes and turbulence with the second stage rotor. Since this noise would have to propagate out through blade rows in each direction it was felt that it would be conservative to say this source would produce less noise in the far field than that produced by a single stage. Therefore it would be conservative to model this interaction as another stage so this added another 1.8 dB to the 2-stage fan level (3 stages, add 4.8 dB). In addition, because of the lower thrust of the 1.15 pressure ratio 2-stage fan, calculated to be approximately 40 percent of the ADP thrust with both at the same diameter, another 4.2 dB was added to the 2-stage value. For purposes of computing a perceived noise level comparison of the two fans, a 6-ft diameter size was chosen. Figure 8 shows a comparison of the predicted aft power spectra for a 6-ft diameter fan after the previously mentioned corrections were

applied. The ADP fan blade passing tone is cutoff and therefore does not appear on the plot. When a PNdB comparison of the two predictions was made, the 2-stage fan was 13 PNdB quieter than the ADP fan. This prediction is without any benefit of the noise cancellation possible by synchrophasing the two fan stages. This more detailed prediction corroborates the rule of thumb philosophy used in reference 1 and indicates that the 2-stage fan would be at least 10 dB below the AST fan. With the 2-stage fan being at least 10 dB below the AST fan, its total reduction would meet the 20 dB reduction desired by the aeronautics noise goals.

## Concluding Remarks

A fan concept was previously identified that would meet the NASA Aeronautics goal of a 20 EPNdB reduction in aircraft noise. This was a 2-stage fan with a pressure ratio of 1.15 and a 460 ft/sec tip speed. The 2 stages were identical so that, with the proper synchrophasing, noise from one stage could be used to cancel the noise from the other stage.

Previous fans in the AST noise program have been tested in 22-in. diameter size in the NASA Glenn 9- by 15-ft wind tunnel. This paper documents the aerodynamic design of the 2-stage fan concept in the 22-in. diameter size for testing in this facility. The internal flow through the fan, designed with a 2-D strip code and checked with a 3-D viscous code, is presented in this paper. A set of rotor and stator blade coordinates to provide these flows were calculated and are listed in the report. Stress and flutter analyses were done on these blades and showed that the design was structurally viable. A fan nacelle, based on a previously tested nacelle, was designed for the 2-stage fan and the flows checked with a CFD code.

The blade coordinates and fan flows were used in a noise prediction code to predict the levels of this 2-stage fan. The results of this code indicate that the 2-stage fan would meet the goal of a 20 dB reduction in fan noise.

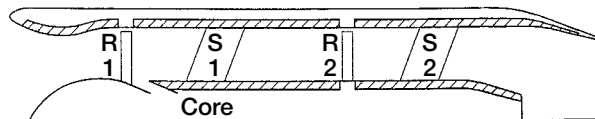
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Table 1.—Fan parameters.

|                  |   |
|------------------|---|
| Outer radius     | 11 in.  |
| Inner radius     | 5.5 in.                                       |
| Tip speed        | 460 ft/sec                                    |
| Pressure ratio   | 1.15 overall<br>1.072 per stage               |
| Fan flow         | 42.6 lbm/sec<br>21.52 lbm/sec/ft <sup>2</sup> |
| Rotor blade no.  | 22  |
| Stator blade no. | 12  |
| Rotor chord      | 3.3 in.                                       |
| Stator chord     | 5.5 in.                                       |



1. Two fan stages with 460 ft/sec tip speeds
2. Pressure ratio equal 1.072 per stage
3. Overall pressure ratio equal 1.15
4. Large spacing between fans and between blade rows inside each fan
5. Fan stages driven from opposite ends of engine on different spools
6. Rotors synchrophased
7. 22 rotor blades
8. 12 long chord, swept stator vanes
9. No pylon
10. Acoustic treatment on inner and outer path walls including area between exit guide vanes

Figure 1.—New fan concept characteristics.

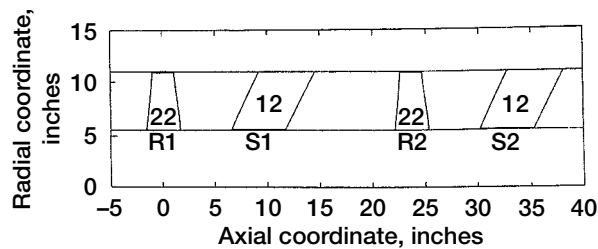


Figure 2.—Cross section layout.

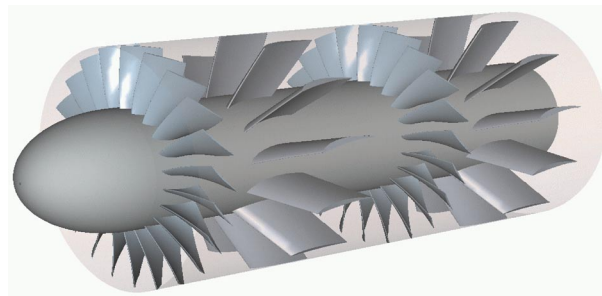


Figure 3.— Fan sketch.

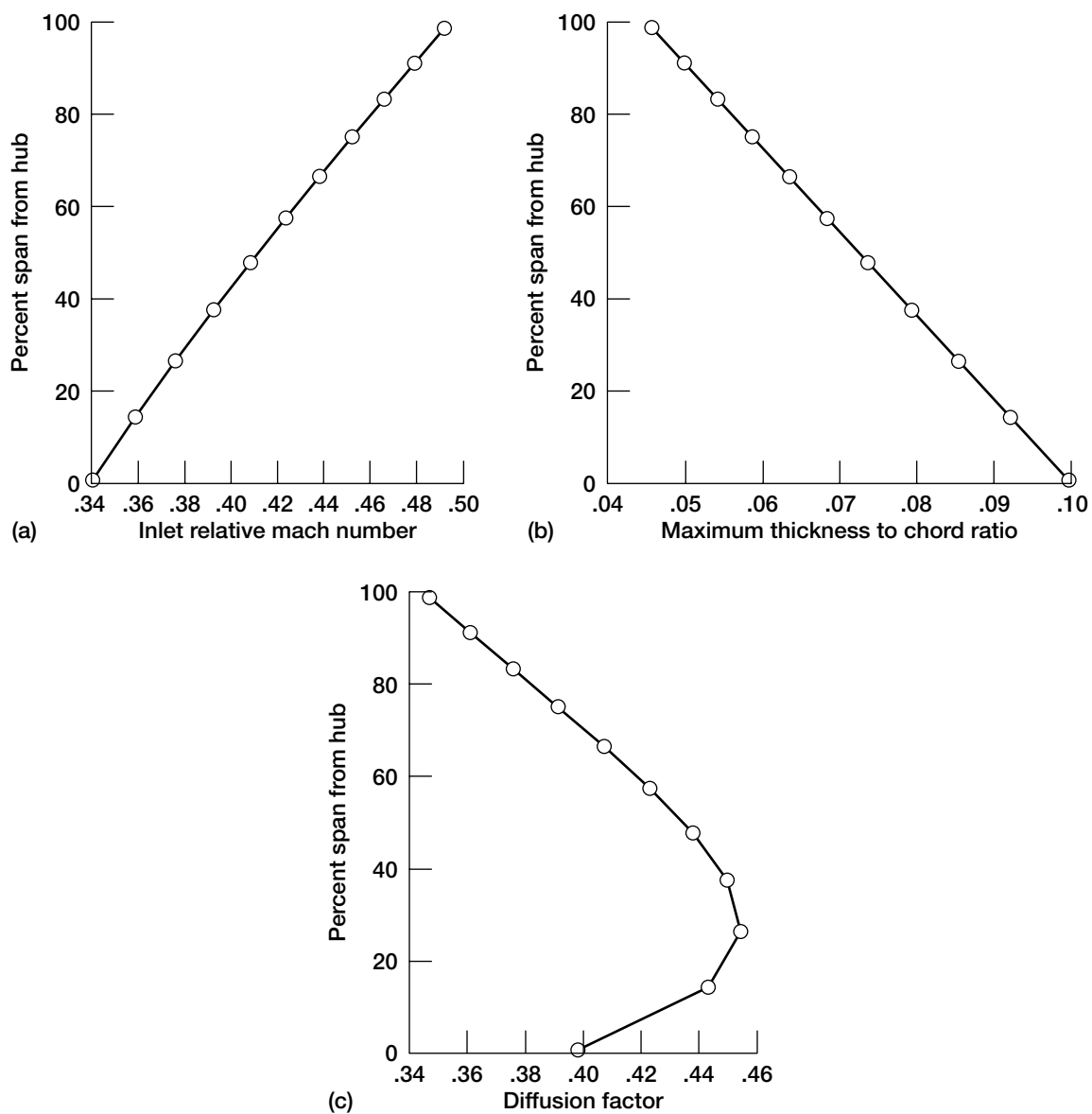


Figure 4.—Rotor parameters. (a) Inlet relative mach number. (b) Maximum thickness to chord ratio. (c) Diffusion factor.

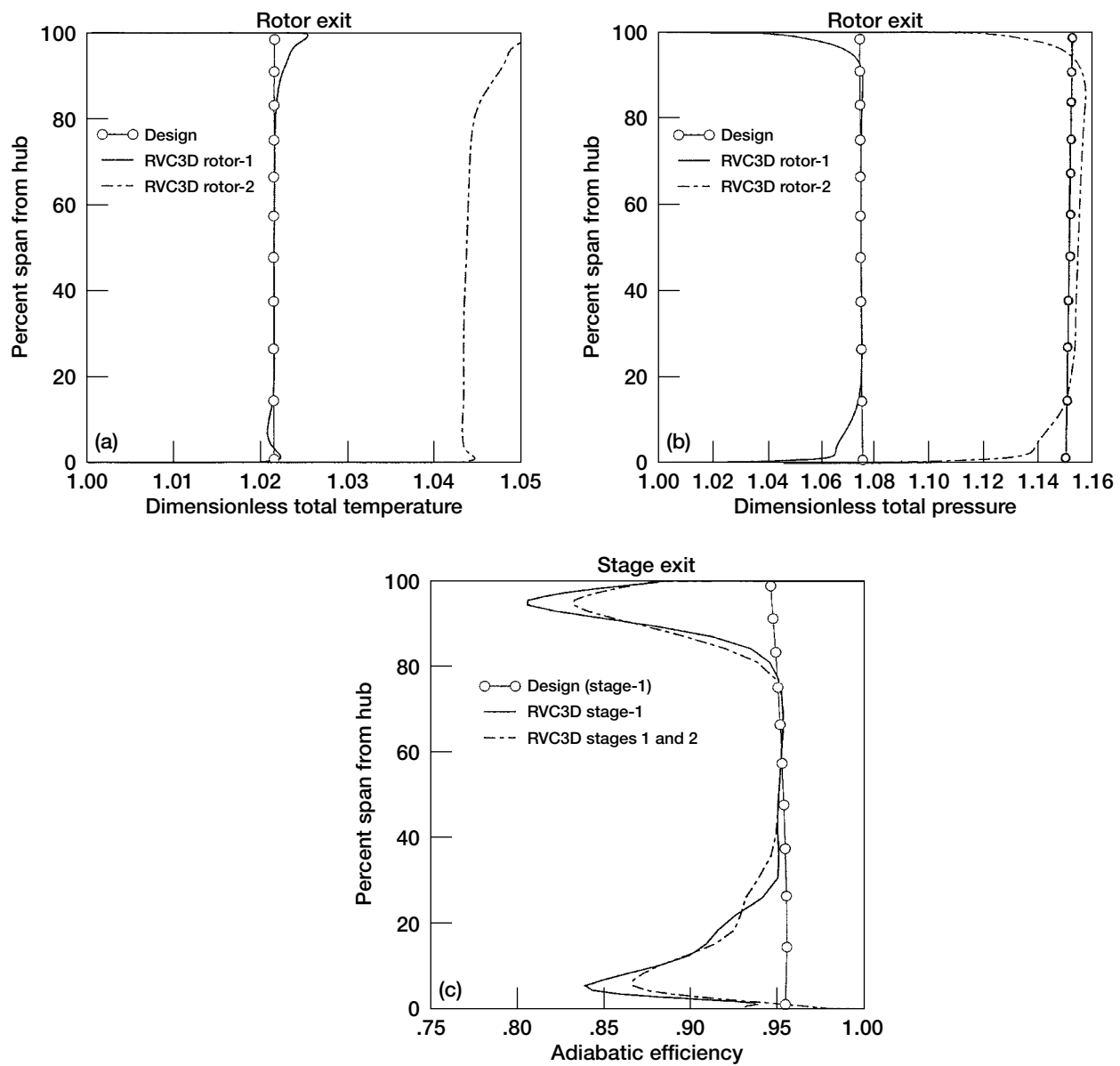
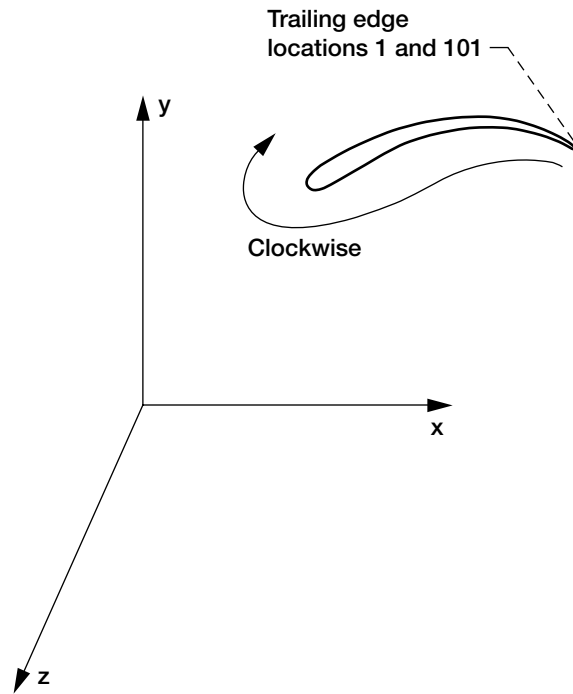


Figure 5.—Hub to tip contours. (a) Total temperature. (b) Total pressure. (c) Adiabatic efficiency.



Coordinates start at the blade trailing edge with coordinate number 1 and proceed clockwise around the blade ending at the trailing edge which is coordinate number 101.

Figure 6.—Blade coordinates.

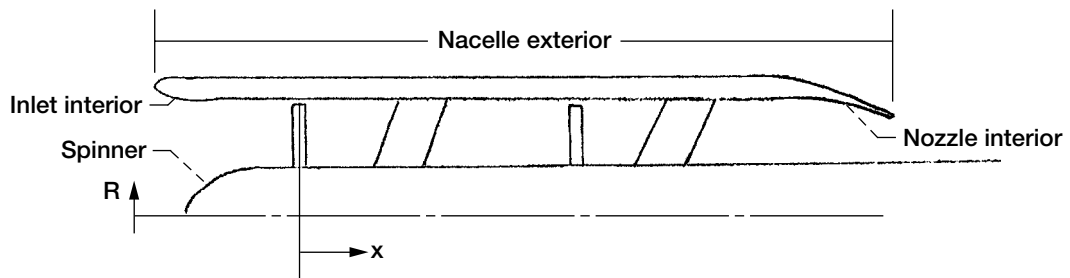


Figure 7.—Nacelle coordinates.

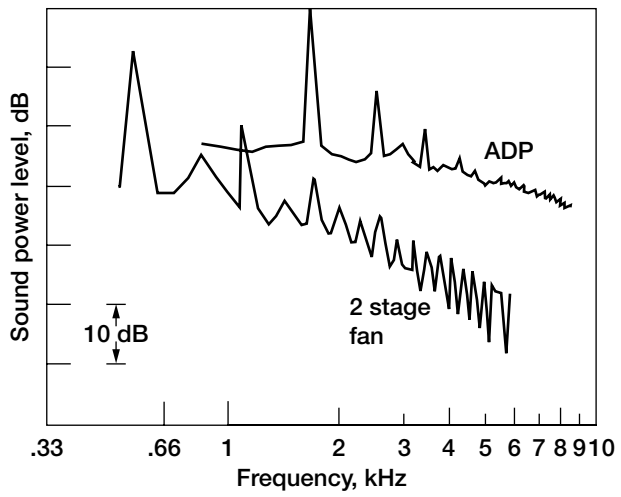


Figure 8.—Aft power comparison for 6 ft diameter fan without synchrophasing (no active control).



\*\*\* input data for compressor design program [ncdp version 2.01] \*\*\*

TWO-STAGE SYNCHROPHASED LOW NOISE FAN DESIGN

scale factor is 1.0000

the compressor rotational speed is 4792.0 rpm.  
 the desired compressor pressure ratio is 1.072 .  
 calculations will be performed on 11 streamlines.

the inlet flow rate is 42.600 (lb/sec).  
 the molecular weight is 28.97 .  
 the compressor has 2 blade rows.

calculations will be made at the blade edges and at 9 annular stations.

the specific heat polynomial is in the following form

$$cp = 0.23747E+00 + 0.21962E-04*t + -0.87791E-07*t**2 + 0.13991E-09*t**3 + -0.78056E-13*t**4 + 0.15043E-16*t**5$$

input distributions by streamline or streamtube

| streamline no. | inlet total temperature (deg. r.) | inlet total pressure (psia) | inlet whirl velocity (ft/sec) | streamtube no. | streamtube flow fraction |
|----------------|-----------------------------------|-----------------------------|-------------------------------|----------------|--------------------------|
| 1              | 518.670                           | 14.696                      | 0.000                         | 1              | 0.1000                   |
| 2              | 518.670                           | 14.696                      | 0.000                         | 2              | 0.2000                   |
| 3              | 518.670                           | 14.696                      | 0.000                         | 3              | 0.3000                   |
| 4              | 518.670                           | 14.696                      | 0.000                         | 4              | 0.4000                   |
| 5              | 518.670                           | 14.696                      | 0.000                         | 5              | 0.5000                   |
| 6              | 518.670                           | 14.696                      | 0.000                         | 6              | 0.6000                   |
| 7              | 518.670                           | 14.696                      | 0.000                         | 7              | 0.7000                   |
| 8              | 518.670                           | 14.696                      | 0.000                         | 8              | 0.8000                   |
| 9              | 518.670                           | 14.696                      | 0.000                         | 9              | 0.9000                   |
| 10             | 518.670                           | 14.696                      | 0.000                         | 10             | 1.0000                   |
| 11             | 518.670                           | 14.696                      | 0.000                         |                |                          |

# Appendix A

## Internal Fan Flow

input data points for tip and hub contours.

| tip axial<br>coordinate<br>(inches) | tip<br>radius<br>(inches) | hub axial<br>coordinate<br>(inches) | hub<br>radius<br>(inches) |
|-------------------------------------|---------------------------|-------------------------------------|---------------------------|
| -30.600                             | 11.000                    | -30.600                             | 5.500                     |
| -15.000                             | 11.000                    | -15.000                             | 5.500                     |
| 0.000                               | 11.000                    | 0.000                               | 5.500                     |
| 15.000                              | 11.000                    | 15.000                              | 5.500                     |
| 30.000                              | 11.000                    | 30.000                              | 5.500                     |
| 45.000                              | 11.000                    | 45.000                              | 5.500                     |
| 60.000                              | 11.000                    | 60.000                              | 5.500                     |

\*\*\* printout of input station data \*\*\*

| tip axial location<br>(inches) | tip blockage factor | hub axial location<br>(inches) | hub blockage factor | mass bleed fraction |
|--------------------------------|---------------------|--------------------------------|---------------------|---------------------|
| -10.0000                       | 0.0150              | -10.0000                       | 0.0050              | 0.0000              |

\*\* input set no. 1 is an annular station \*\*

| tip axial location<br>(inches) | tip blockage factor | hub axial location<br>(inches) | hub blockage factor | mass bleed fraction |
|--------------------------------|---------------------|--------------------------------|---------------------|---------------------|
| -7.5000                        | 0.0150              | -7.5000                        | 0.0050              | 0.0000              |

\*\* input set no. 2 is an annular station \*\*

| tip axial location<br>(inches) | tip blockage factor | hub axial location<br>(inches) | hub blockage factor | mass bleed fraction |
|--------------------------------|---------------------|--------------------------------|---------------------|---------------------|
| -5.0000                        | 0.0150              | -5.0000                        | 0.0050              | 0.0000              |

\*\* input set no. 3 is an annular station \*\*

| tip axial location<br>(inches) | tip blockage factor | hub axial location<br>(inches) | hub blockage factor | mass bleed fraction |
|--------------------------------|---------------------|--------------------------------|---------------------|---------------------|
| -2.5000                        | 0.0150              | -2.5000                        | 0.0050              | 0.0000              |

\*\* input set no. 4 is an annular station \*\*



\*\*\* printout of input station data \*\*\*

\*\* input set no. 5 is rotor no. 1 \*\*

\* for this blade row the input options are coord., element graph, and off-design punch \*

|                                     |                                     |                     |                     |                      |
|-------------------------------------|-------------------------------------|---------------------|---------------------|----------------------|
| tip c.g. axial location<br>(inches) | hub c.g. axial location<br>(inches) | inlet tip blockage  | inlet hub blockage  | inlet mass bleed     |
| 0.0000                              | 0.0000                              | 0.0150              | 0.0050              | 0.0000               |
| loss set used                       | blade tilt angle<br>(degrees)       | outlet tip blockage | outlet hub blockage | outlet mass bleed    |
| -1                                  | 0.0000                              | 0.0200              | 0.0050              | 0.0000               |
| tip d factor limit                  | hub flow angle limit<br>(degrees)   | tip solidity        | number of blades    | cum energy add fract |
| 0.9000                              | -90.0000                            | 1.0500              | 22                  | 1.0000               |

\* polynomial coefs. for radial profiles of a blade aero. parameter and basic blade element geometry parameters \*

| coef.                 | rotor outlet pressure                    | i.e. radius/chord | t.e. radius/chord | max. thickness/chord | chord/tip chord |
|-----------------------|--|-------------------|-------------------|----------------------|-----------------|
| constant              |  | 0.0040            | 0.0060            | 0.0450               |                 |
| linear                | 0.0030                                   | 0.0050            | 0.0075            | 0.0550               | 0.0000          |
| quadratic             | 0.0000                                   | 0.0000            | 0.0000            | 0.0000               | 0.0000          |
| cubic                 | 0.0000                                   | 0.0000            | 0.0000            | 0.0000               | 0.0000          |
| quartic               | 0.0000                                   |                   |                   |                      |                 |
| quintic               | 0.0000                                   |                   |                   |                      |                 |
| radial function coef. | ellipse major/minor axis ratio minus 1.0 |                   |                   |                      |                 |
|                       | *****                                    |                   |                   |                      |                 |
|                       | lead.edge trail.edge                     |                   |                   |                      |                 |
| constant              | 0.50000                                  | 0.00000           |                   |                      |                 |
| linear                | 0.00000                                  | 0.00000           |                   |                      |                 |
| quadratic             | 0.00000                                  | 0.00000           |                   |                      |                 |
| cubic                 | 0.00000                                  | 0.00000           |                   |                      |                 |

\* blade element polynomial coefficients specified for each blade element \*

| streamline<br>no. | acf          | bcf          | ccf          | dcf         | acf         | bcr          | ccr          | dcr         |
|-------------------|--------------|--------------|--------------|-------------|-------------|--------------|--------------|-------------|
| 1                 | -0.41731E+00 | -0.17755E-01 | -0.27414E+00 | 0.40188E-05 | 0.37689E+00 | -0.86092E-01 | -0.67113E-05 | 0.33138E-05 |
| 2                 | -0.41731E+00 | -0.17755E-01 | -0.27414E+00 | 0.40188E-05 | 0.37689E+00 | -0.86092E-01 | -0.67113E-05 | 0.33138E-05 |
| 3                 | -0.41731E+00 | -0.17755E-01 | -0.27414E+00 | 0.40188E-05 | 0.37689E+00 | -0.86092E-01 | -0.67113E-05 | 0.33138E-05 |
| 4                 | -0.41731E+00 | -0.17755E-01 | -0.27414E+00 | 0.40188E-05 | 0.37689E+00 | -0.86092E-01 | -0.67113E-05 | 0.33138E-05 |
| 5                 | -0.41731E+00 | -0.17755E-01 | -0.27414E+00 | 0.40188E-05 | 0.37689E+00 | -0.86092E-01 | -0.67113E-05 | 0.33138E-05 |
| 6                 | -0.41731E+00 | -0.17755E-01 | -0.27414E+00 | 0.40188E-05 | 0.37689E+00 | -0.86092E-01 | -0.67113E-05 | 0.33138E-05 |
| 7                 | -0.41731E+00 | -0.17755E-01 | -0.27414E+00 | 0.40188E-05 | 0.37689E+00 | -0.86092E-01 | -0.67113E-05 | 0.33138E-05 |
| 8                 | -0.41731E+00 | -0.17755E-01 | -0.27414E+00 | 0.40188E-05 | 0.37689E+00 | -0.86092E-01 | -0.67113E-05 | 0.33138E-05 |
| 9                 | -0.41731E+00 | -0.17755E-01 | -0.27414E+00 | 0.40188E-05 | 0.37689E+00 | -0.86092E-01 | -0.67113E-05 | 0.33138E-05 |
| 10                | -0.41731E+00 | -0.17755E-01 | -0.27414E+00 | 0.40188E-05 | 0.37689E+00 | -0.86092E-01 | -0.67113E-05 | 0.33138E-05 |
| 11                | -0.41731E+00 | -0.17755E-01 | -0.27414E+00 | 0.40188E-05 | 0.37689E+00 | -0.86092E-01 | -0.67113E-05 | 0.33138E-05 |

|    | atf         | btf         | ctf          | dtf         | atr         | btr         | ctr          | dtr         |
|----|-------------|-------------|--------------|-------------|-------------|-------------|--------------|-------------|
| 1  | 0.16050E-01 | 0.13886E-01 | -0.64904E-02 | 0.14035E-01 | 0.25028E-03 | 0.59174E-01 | -0.37498E-01 | 0.34522E-02 |
| 2  | 0.16050E-01 | 0.13886E-01 | -0.64904E-02 | 0.14035E-01 | 0.25028E-03 | 0.59174E-01 | -0.37498E-01 | 0.34522E-02 |
| 3  | 0.16050E-01 | 0.13886E-01 | -0.64904E-02 | 0.14035E-01 | 0.25028E-03 | 0.59174E-01 | -0.37498E-01 | 0.34522E-02 |
| 4  | 0.16050E-01 | 0.13886E-01 | -0.64904E-02 | 0.14035E-01 | 0.25028E-03 | 0.59174E-01 | -0.37498E-01 | 0.34522E-02 |
| 5  | 0.16050E-01 | 0.13886E-01 | -0.64904E-02 | 0.14035E-01 | 0.25028E-03 | 0.59174E-01 | -0.37498E-01 | 0.34522E-02 |
| 6  | 0.16050E-01 | 0.13886E-01 | -0.64904E-02 | 0.14035E-01 | 0.25028E-03 | 0.59174E-01 | -0.37498E-01 | 0.34522E-02 |
| 7  | 0.16050E-01 | 0.13886E-01 | -0.64904E-02 | 0.14035E-01 | 0.25028E-03 | 0.59174E-01 | -0.37498E-01 | 0.34522E-02 |
| 8  | 0.16050E-01 | 0.13886E-01 | -0.64904E-02 | 0.14035E-01 | 0.25028E-03 | 0.59174E-01 | -0.37498E-01 | 0.34522E-02 |
| 9  | 0.16050E-01 | 0.13886E-01 | -0.64904E-02 | 0.14035E-01 | 0.25028E-03 | 0.59174E-01 | -0.37498E-01 | 0.34522E-02 |
| 10 | 0.16050E-01 | 0.13886E-01 | -0.64904E-02 | 0.14035E-01 | 0.25028E-03 | 0.59174E-01 | -0.37498E-01 | 0.34522E-02 |
| 11 | 0.16050E-01 | 0.13886E-01 | -0.64904E-02 | 0.14035E-01 | 0.25028E-03 | 0.59174E-01 | -0.37498E-01 | 0.34522E-02 |

```

* input blade element definition options *
incidence angle      deviation angle      turning rate      transition point      max. thickness point      choke margin      blade material density
table               table               table             table (l.e.ref.)      table (l.e.ref.)      none              lb/(in)**3
0.00000

```

\* table of blade section design variables input \*

(variables controlled by other options will appear as zeros in the table.)

| streamline number | incidence angle (degrees) | deviation angle (degrees) | inlet/outlet turning rate ratio | transition/chord location | max. thickness location/chord |
|-------------------|---------------------------|---------------------------|---------------------------------|---------------------------|-------------------------------|
| 1                 | -4.5000                   | 4.0000                    | 0.0000                          | 0.3500                    | 0.3500                        |
| 2                 | -4.4439                   | 4.2719                    | 0.0000                          | 0.3500                    | 0.3500                        |
| 3                 | -4.3520                   | 4.5260                    | 0.0000                          | 0.3500                    | 0.3500                        |
| 4                 | -4.1880                   | 4.7440                    | 0.0000                          | 0.3500                    | 0.3500                        |
| 5                 | -3.9159                   | 4.9079                    | 0.0000                          | 0.3500                    | 0.3500                        |
| 6                 | -3.5000                   | 5.0000                    | 0.0000                          | 0.3500                    | 0.3500                        |
| 7                 | -2.9159                   | 5.0079                    | 0.0000                          | 0.3500                    | 0.3500                        |
| 8                 | -2.1880                   | 4.9440                    | 0.0000                          | 0.3500                    | 0.3500                        |
| 9                 | -1.3520                   | 4.8260                    | 0.0000                          | 0.3500                    | 0.3500                        |
| 10                | -0.4439                   | 4.6719                    | 0.0000                          | 0.3500                    | 0.3500                        |
| 11                | 0.5000                    | 4.5000                    | 0.0000                          | 0.3500                    | 0.3500                        |

\*\*\* printout of input station data \*\*\*

\*\* input set no. 6 is an extra annular station \*\*

|                                |        |                     |        |                     |        |                     |        |
|--------------------------------|--------|---------------------|--------|---------------------|--------|---------------------|--------|
| tip axial location<br>(inches) | 4.5000 | tip blockage factor | 0.0200 | hub blockage factor | 0.0050 | mass bleed fraction | 0.0000 |
| hub axial location<br>(inches) | 4.5000 |                     |        |                     |        |                     |        |

\*\*\* printout of input station data \*\*\*

\*\* input set no. 7 is a guide vane or stator \*\*

\* for this blade row the input options are coord., element graph, and off-design punch \*

|                                     |                                     |                     |                     |                   |
|-------------------------------------|-------------------------------------|---------------------|---------------------|-------------------|
| tip c.g. axial location<br>(inches) | hub c.g. axial location<br>(inches) | inlet tip blockage  | inlet hub blockage  | inlet mass bleed  |
| 11.7000                             | 9.0000                              | 0.0200              | 0.0050              | 0.0000            |
| loss set used                       | blade tilt angle<br>(degrees)       | outlet tip blockage | outlet hub blockage | outlet mass bleed |
| -2                                  | 0.0000                              | 0.0200              | 0.0125              | 0.0000            |
| hub d factor limit                  | inlet hub mach limit                | tip solidity        | number of blades    |                   |
| 0.9000                              | 1.5000                              | 0.9500              | 12                  |                   |

\* polynomial coefs. for radial profiles of a blade aero. parameter and basic blade element geometry parameters \*

| coef.     | stator outlet v(-) | l.e. radius/chord | t.e. radius/chord | max. thickness/chord | chord/tip chord |
|-----------|--------------------|-------------------|-------------------|----------------------|-----------------|
| inv.sq.   | 0.00               |                   |                   |                      |                 |
| inverse   | 0.00               |                   |                   |                      |                 |
| constant  | 0.00               | 0.0075            | 0.0100            | 0.1000               |                 |
| linear    | 0.00               | 0.0000            | 0.0000            | -0.0200              | 0.0000          |
| quadratic | 0.00               | 0.0000            | 0.0000            | 0.0000               | 0.0000          |
| cubic     |                    | 0.0000            | 0.0000            | 0.0000               | 0.0000          |

```

radial      ellipse major/minor
function    axis ratio minus 1.0
coef.      *****
           lead.edge trail.edge      idef(irow)
constant   0.50000 0.00000          11
linear     0.00000 0.00000
quadratic  0.00000 0.00000
cubic      0.00000 0.00000
    
```

\* blade element polynomial coefficients specified for each blade element \*

| streamline |              |              |              |             |             |              |              |             |             |              |             |             |             |             |              |             |
|------------|--------------|--------------|--------------|-------------|-------------|--------------|--------------|-------------|-------------|--------------|-------------|-------------|-------------|-------------|--------------|-------------|
| no.        | acf          | bcf          | ccf          | dcf         | acf         | bcr          | ccr          | dcr         | atf         | btf          | ctf         | dtf         | atr         | btr         | ctr          | dtr         |
| 1          | -0.36605E+00 | -0.12503E-01 | -0.36120E+00 | 0.17194E-05 | 0.33630E+00 | -0.76054E-01 | -0.44856E-06 | 0.18690E-06 | 0.48114E-01 | -0.10393E-01 | 0.25214E-01 | 0.53309E-02 | 0.53654E-03 | 0.11258E+00 | -0.10200E+00 | 0.25282E-01 |
| 2          | -0.36605E+00 | -0.12503E-01 | -0.36120E+00 | 0.17194E-05 | 0.33630E+00 | -0.76054E-01 | -0.44856E-06 | 0.18690E-06 | 0.48114E-01 | -0.10393E-01 | 0.25214E-01 | 0.53309E-02 | 0.53654E-03 | 0.11258E+00 | -0.10200E+00 | 0.25282E-01 |
| 3          | -0.36605E+00 | -0.12503E-01 | -0.36120E+00 | 0.17194E-05 | 0.33630E+00 | -0.76054E-01 | -0.44856E-06 | 0.18690E-06 | 0.48114E-01 | -0.10393E-01 | 0.25214E-01 | 0.53309E-02 | 0.53654E-03 | 0.11258E+00 | -0.10200E+00 | 0.25282E-01 |
| 4          | -0.36605E+00 | -0.12503E-01 | -0.36120E+00 | 0.17194E-05 | 0.33630E+00 | -0.76054E-01 | -0.44856E-06 | 0.18690E-06 | 0.48114E-01 | -0.10393E-01 | 0.25214E-01 | 0.53309E-02 | 0.53654E-03 | 0.11258E+00 | -0.10200E+00 | 0.25282E-01 |
| 5          | -0.36605E+00 | -0.12503E-01 | -0.36120E+00 | 0.17194E-05 | 0.33630E+00 | -0.76054E-01 | -0.44856E-06 | 0.18690E-06 | 0.48114E-01 | -0.10393E-01 | 0.25214E-01 | 0.53309E-02 | 0.53654E-03 | 0.11258E+00 | -0.10200E+00 | 0.25282E-01 |
| 6          | -0.36605E+00 | -0.12503E-01 | -0.36120E+00 | 0.17194E-05 | 0.33630E+00 | -0.76054E-01 | -0.44856E-06 | 0.18690E-06 | 0.48114E-01 | -0.10393E-01 | 0.25214E-01 | 0.53309E-02 | 0.53654E-03 | 0.11258E+00 | -0.10200E+00 | 0.25282E-01 |
| 7          | -0.36605E+00 | -0.12503E-01 | -0.36120E+00 | 0.17194E-05 | 0.33630E+00 | -0.76054E-01 | -0.44856E-06 | 0.18690E-06 | 0.48114E-01 | -0.10393E-01 | 0.25214E-01 | 0.53309E-02 | 0.53654E-03 | 0.11258E+00 | -0.10200E+00 | 0.25282E-01 |
| 8          | -0.36605E+00 | -0.12503E-01 | -0.36120E+00 | 0.17194E-05 | 0.33630E+00 | -0.76054E-01 | -0.44856E-06 | 0.18690E-06 | 0.48114E-01 | -0.10393E-01 | 0.25214E-01 | 0.53309E-02 | 0.53654E-03 | 0.11258E+00 | -0.10200E+00 | 0.25282E-01 |
| 9          | -0.36605E+00 | -0.12503E-01 | -0.36120E+00 | 0.17194E-05 | 0.33630E+00 | -0.76054E-01 | -0.44856E-06 | 0.18690E-06 | 0.48114E-01 | -0.10393E-01 | 0.25214E-01 | 0.53309E-02 | 0.53654E-03 | 0.11258E+00 | -0.10200E+00 | 0.25282E-01 |
| 10         | -0.36605E+00 | -0.12503E-01 | -0.36120E+00 | 0.17194E-05 | 0.33630E+00 | -0.76054E-01 | -0.44856E-06 | 0.18690E-06 | 0.48114E-01 | -0.10393E-01 | 0.25214E-01 | 0.53309E-02 | 0.53654E-03 | 0.11258E+00 | -0.10200E+00 | 0.25282E-01 |
| 11         | -0.36605E+00 | -0.12503E-01 | -0.36120E+00 | 0.17194E-05 | 0.33630E+00 | -0.76054E-01 | -0.44856E-06 | 0.18690E-06 | 0.48114E-01 | -0.10393E-01 | 0.25214E-01 | 0.53309E-02 | 0.53654E-03 | 0.11258E+00 | -0.10200E+00 | 0.25282E-01 |

\* input blade element definition options \*

| incidence angle | deviation angle | turning rate ratio | transition point | max. thickness point | choke margin |
|-----------------|-----------------|--------------------|------------------|----------------------|--------------|
| table           | table           | table              | table (l.e.ref.) | table (l.e.ref.)     | none         |

\* table of blade section design variables input \*  
 (variables controlled by other options will appear as zeros in the table.)

| streamline number | incidence angle (degrees) | deviation angle (degrees) | inlet/outlet turning rate ratio | transition location | max. thickness location/chord |
|-------------------|---------------------------|---------------------------|---------------------------------|---------------------|-------------------------------|
| 1                 | -10.0000                  | 7.0000                    | 0.0000                          | 0.3500              | 0.3500                        |
| 2                 | -9.8000                   | 6.8149                    | 0.0000                          | 0.3500              | 0.3500                        |
| 3                 | -9.6000                   | 6.6538                    | 0.0000                          | 0.3500              | 0.3500                        |
| 4                 | -9.4000                   | 6.5409                    | 0.0000                          | 0.3500              | 0.3500                        |
| 5                 | -9.2000                   | 6.5000                    | 0.0000                          | 0.3500              | 0.3500                        |
| 6                 | -9.0000                   | 6.5578                    | 0.0000                          | 0.3500              | 0.3500                        |
| 7                 | -8.8000                   | 6.7510                    | 0.0000                          | 0.3500              | 0.3500                        |
| 8                 | -8.6000                   | 7.1187                    | 0.0000                          | 0.3500              | 0.3500                        |
| 9                 | -8.4000                   | 7.7000                    | 0.0000                          | 0.3500              | 0.3500                        |
| 10                | -8.2000                   | 8.6000                    | 0.0000                          | 0.3500              | 0.3500                        |
| 11                | -8.0000                   | 10.0000                   | 0.0000                          | 0.3500              | 0.3500                        |

## \*\*\* printout of input station data \*\*\*

\*\* input set no. 8 is an annular station \*\*

|                                |         |                                |         |                     |        |                     |        |                     |        |
|--------------------------------|---------|--------------------------------|---------|---------------------|--------|---------------------|--------|---------------------|--------|
| tip axial location<br>(inches) | 18.0000 | hub axial location<br>(inches) | 18.0000 | tip blockage factor | 0.0200 | hub blockage factor | 0.0125 | mass bleed fraction | 0.0000 |
|--------------------------------|---------|--------------------------------|---------|---------------------|--------|---------------------|--------|---------------------|--------|

\*\* input set no. 9 is an annular station \*\*

|                                |         |                                |         |                     |        |                     |        |                     |        |
|--------------------------------|---------|--------------------------------|---------|---------------------|--------|---------------------|--------|---------------------|--------|
| tip axial location<br>(inches) | 22.0000 | hub axial location<br>(inches) | 22.0000 | tip blockage factor | 0.0200 | hub blockage factor | 0.0125 | mass bleed fraction | 0.0000 |
|--------------------------------|---------|--------------------------------|---------|---------------------|--------|---------------------|--------|---------------------|--------|

\*\* input set no. 10 is an annular station \*\*

|                                |         |                                |         |                     |        |                     |        |                     |        |
|--------------------------------|---------|--------------------------------|---------|---------------------|--------|---------------------|--------|---------------------|--------|
| tip axial location<br>(inches) | 26.0000 | hub axial location<br>(inches) | 26.0000 | tip blockage factor | 0.0200 | hub blockage factor | 0.0125 | mass bleed fraction | 0.0000 |
|--------------------------------|---------|--------------------------------|---------|---------------------|--------|---------------------|--------|---------------------|--------|

\*\* input set no. 11 is an annular station \*\*

|                                |         |                                |         |                     |        |                     |        |                     |        |
|--------------------------------|---------|--------------------------------|---------|---------------------|--------|---------------------|--------|---------------------|--------|
| tip axial location<br>(inches) | 30.0000 | hub axial location<br>(inches) | 30.0000 | tip blockage factor | 0.0200 | hub blockage factor | 0.0125 | mass bleed fraction | 0.0000 |
|--------------------------------|---------|--------------------------------|---------|---------------------|--------|---------------------|--------|---------------------|--------|



\*\*\* computed compressor design parameters for a rotational speed of, 4792.0, rpm \*\*\*

\*\* the corrected weightflow per unit of casing annular area at the inlet face of the first blade row is 21.52 lbs/sec/ft sq \*\*

\*\* mass averaged rotor and stage aerodynamic parameters \*\*

| stage blade no. type | flow coef. | head coef. | id. head coef. | total press. ratio | total temp. ratio | adia. eff. | poly. eff. | aspect ratio | for. ax. thrust (lbs) | gas bending moments for each blade for. ax. tang. (ft-lbs) | torque (ft-lbs) | power (hp) |
|----------------------|------------|------------|----------------|--------------------|-------------------|------------|------------|--------------|-----------------------|--|-----------------|------------|
| 1 rotor              | 0.6466     | 0.3031     | 0.3130         | 1.0739             | 1.0213            | 0.9683     | 0.9686     | 1.67         | 202.81                | 2.478  | 174.74          | 159.43     |
| 1 stator             | 0.6285     | 0.2974     | 0.3130         | 1.0725             | 1.0213            | 0.9502     | 0.9507     | 1.01         | -37.58                | 1.729  | 174.74          | 159.43     |

\*\* cumulative sums of mass averaged rotor and stage aerodynamic parameters \*\*

| stage blade no. type | weight flow (lbs/sec) | total press. (psia) | total temp. (deg. r.) | total press. ratio | total temp. ratio | head coef. | ideal head coef. | adia. eff. | poly. eff. | for. ax. shaft thrust (lbs) | torque (ft-lbs) | power (hp) | fract energy |
|----------------------|-----------------------|---------------------|-----------------------|--------------------|-------------------|------------|------------------|------------|------------|-----------------------------|-----------------|------------|--------------|
| 1 inlet              | 42.60                 | 14.696              | 518.67                | 1.0739             | 1.0213            | 0.3031     | 0.3130           | 0.9683     | 0.9686     | 202.81                      | 174.74          | 159.43     | 1.0000       |
| 1 rotor              | 42.60                 | 15.782              | 529.70                | 1.0725             | 1.0213            | 0.2974     | 0.3130           | 0.9502     | 0.9507     | 165.24                      | 174.74          | 159.43     | 1.0000       |
| 1 stator             | 42.60                 | 15.761              | 529.70                | 1.0725             | 1.0213            | 0.2974     | 0.3130           | 0.9502     | 0.9507     | 165.24                      | 174.74          | 159.43     | 1.0000       |

\*\* values of parameters on streamlines at station, 1, which is an annulus \*\*

| streamline no. | radius (in.) | axial coord. (in.) | axial vel. (ft/sec) | merid. vel. (ft/sec) | tang. vel. (ft/sec) | abs. vel. (ft/sec) | abs. mach no. | abs.flow angle (deg) | stream. slope (deg) | stream. curv. (1./in.) | total press. (psia) | total temp. (deg.r.) | static press. (psia) | static temp. (deg.r.) |
|----------------|--------------|--------------------|---------------------|----------------------|---------------------|--------------------|---------------|----------------------|---------------------|------------------------|---------------------|----------------------|----------------------|-----------------------|
| tip            | 11.000       | -10.000            | 297.50              | 297.50               | 0.00                | 297.50             | 0.2683        | 0.00                 | -0.01               | 0.000                  | 14.696              | 518.67               | 13.978               | 511.30                |
| 1              | 10.938       | -10.000            | 297.49              | 297.49               | 0.00                | 297.49             | 0.2683        | 0.00                 | 0.00                | 0.000                  | 14.696              | 518.67               | 13.978               | 511.29                |
| 2              | 10.524       | -10.000            | 297.49              | 297.49               | 0.00                | 297.49             | 0.2683        | 0.00                 | 0.00                | 0.000                  | 14.696              | 518.67               | 13.978               | 511.29                |
| 3              | 10.092       | -10.000            | 297.49              | 297.49               | 0.00                | 297.49             | 0.2683        | 0.00                 | 0.00                | 0.000                  | 14.696              | 518.67               | 13.978               | 511.29                |
| 4              | 9.641        | -10.000            | 297.49              | 297.49               | 0.00                | 297.49             | 0.2683        | 0.00                 | 0.00                | 0.000                  | 14.696              | 518.67               | 13.978               | 511.29                |
| 5              | 9.169        | -10.000            | 297.49              | 297.49               | 0.00                | 297.49             | 0.2683        | 0.00                 | 0.00                | 0.000                  | 14.696              | 518.67               | 13.978               | 511.29                |
| 6              | 8.670        | -10.000            | 297.49              | 297.49               | 0.00                | 297.49             | 0.2683        | 0.00                 | 0.00                | 0.000                  | 14.696              | 518.67               | 13.978               | 511.29                |
| 7              | 8.141        | -10.000            | 297.49              | 297.49               | 0.00                | 297.49             | 0.2683        | 0.00                 | 0.00                | 0.000                  | 14.696              | 518.67               | 13.978               | 511.29                |
| 8              | 7.575        | -10.000            | 297.49              | 297.49               | 0.00                | 297.49             | 0.2683        | 0.00                 | 0.00                | 0.000                  | 14.696              | 518.67               | 13.978               | 511.29                |
| 9              | 6.964        | -10.000            | 297.49              | 297.49               | 0.00                | 297.49             | 0.2683        | 0.00                 | 0.00                | 0.000                  | 14.696              | 518.67               | 13.978               | 511.29                |
| 10             | 6.293        | -10.000            | 297.49              | 297.49               | 0.00                | 297.49             | 0.2683        | 0.00                 | 0.00                | 0.000                  | 14.696              | 518.67               | 13.978               | 511.29                |
| 11             | 5.541        | -10.000            | 297.49              | 297.49               | 0.00                | 297.49             | 0.2683        | 0.00                 | 0.00                | 0.000                  | 14.696              | 518.67               | 13.978               | 511.29                |
| hub            | 5.500        | -10.000            | 297.49              | 297.49               | 0.00                | 297.49             | 0.2683        | 0.00                 | 0.00                | 0.000                  | 14.696              | 518.67               | 13.978               | 511.29                |

\*\* values of parameters on streamlines at station, 2, which is an annulus \*\*

| streamline no. | radius (in.) | axial coord. (in.) | axial vel. (ft/sec) | merid. vel. (ft/sec) | tang. vel. (ft/sec) | abs. vel. (ft/sec) | abs. mach no. | abs.flow angle (deg) | stream. slope (deg) | stream. curv. (1./in.) | total press. (psia) | total temp. (deg.r.) | static press. (psia) | static temp. (deg.r.) |
|----------------|--------------|--------------------|---------------------|----------------------|---------------------|--------------------|---------------|----------------------|---------------------|------------------------|---------------------|----------------------|----------------------|-----------------------|
| tip            | 11.000       | -7.500             | 297.49              | 297.49               | 0.00                | 297.49             | 0.2683        | 0.00                 | 0.01                | 0.000                  | 14.696              | 518.67               | 13.978               | 511.29                |
| 1              | 10.938       | -7.500             | 297.48              | 297.48               | 0.00                | 297.48             | 0.2683        | 0.00                 | 0.00                | 0.000                  | 14.696              | 518.67               | 13.978               | 511.29                |
| 2              | 10.524       | -7.500             | 297.48              | 297.48               | 0.00                | 297.48             | 0.2683        | 0.00                 | 0.00                | 0.000                  | 14.696              | 518.67               | 13.978               | 511.30                |
| 3              | 10.092       | -7.500             | 297.48              | 297.48               | 0.00                | 297.48             | 0.2683        | 0.00                 | 0.00                | 0.000                  | 14.696              | 518.67               | 13.978               | 511.30                |
| 4              | 9.641        | -7.500             | 297.48              | 297.48               | 0.00                | 297.48             | 0.2683        | 0.00                 | 0.00                | 0.000                  | 14.696              | 518.67               | 13.978               | 511.29                |
| 5              | 9.169        | -7.500             | 297.49              | 297.49               | 0.00                | 297.49             | 0.2683        | 0.00                 | 0.00                | 0.000                  | 14.696              | 518.67               | 13.978               | 511.29                |
| 6              | 8.670        | -7.500             | 297.49              | 297.49               | 0.00                | 297.49             | 0.2683        | 0.00                 | 0.00                | 0.000                  | 14.696              | 518.67               | 13.978               | 511.29                |
| 7              | 8.141        | -7.500             | 297.49              | 297.49               | 0.00                | 297.49             | 0.2683        | 0.00                 | 0.00                | 0.000                  | 14.696              | 518.67               | 13.978               | 511.29                |
| 8              | 7.575        | -7.500             | 297.50              | 297.50               | 0.00                | 297.50             | 0.2683        | 0.00                 | 0.00                | 0.000                  | 14.696              | 518.67               | 13.978               | 511.29                |
| 9              | 6.964        | -7.500             | 297.50              | 297.50               | 0.00                | 297.50             | 0.2683        | 0.00                 | 0.00                | 0.000                  | 14.696              | 518.67               | 13.978               | 511.29                |
| 10             | 6.293        | -7.500             | 297.50              | 297.50               | 0.00                | 297.50             | 0.2683        | 0.00                 | 0.00                | 0.000                  | 14.696              | 518.67               | 13.978               | 511.29                |
| 11             | 5.541        | -7.500             | 297.50              | 297.50               | 0.00                | 297.50             | 0.2683        | 0.00                 | 0.00                | 0.000                  | 14.696              | 518.67               | 13.978               | 511.29                |
| hub            | 5.500        | -7.500             | 297.50              | 297.50               | 0.00                | 297.50             | 0.2683        | 0.00                 | 0.00                | 0.000                  | 14.696              | 518.67               | 13.978               | 511.29                |

\*\* values of parameters on streamlines at station, 3, which is an annulus \*\*

| streamline<br>no. radius<br>(in.) | axial<br>coord.<br>(in.) | axial<br>vel.<br>(ft/sec) | merd.<br>vel.<br>(ft/sec) | tang.<br>vel.<br>(ft/sec) | abs.<br>vel.<br>(ft/sec) | abs.<br>mach no. | abs.flow<br>angle<br>(deg) | stream.<br>slope<br>(deg) | stream.<br>curv.<br>(1./in.) | total<br>press.<br>(psia) | total<br>temp.<br>(deg.r.) | static<br>press.<br>(psia) | static<br>temp.<br>(deg.r.) |
|-----------------------------------|--------------------------|---------------------------|---------------------------|---------------------------|--------------------------|------------------|----------------------------|---------------------------|------------------------------|---------------------------|----------------------------|----------------------------|-----------------------------|
| tip                               | 11.000                   | -5.000                    | 297.41                    | 297.41                    | 0.00                     | 297.41           | 0.2683                     | 0.00                      | 0.000                        | 14.696                    | 518.67                     | 13.979                     | 511.30                      |
| 1                                 | 10.938                   | -5.000                    | 297.45                    | 297.45                    | 0.00                     | 297.45           | 0.2683                     | 0.00                      | 0.000                        | 14.696                    | 518.67                     | 13.978                     | 511.30                      |
| 2                                 | 10.523                   | -5.000                    | 297.46                    | 297.46                    | 0.00                     | 297.46           | 0.2683                     | 0.00                      | 0.000                        | 14.696                    | 518.67                     | 13.978                     | 511.30                      |
| 3                                 | 10.092                   | -5.000                    | 297.46                    | 297.46                    | 0.00                     | 297.46           | 0.2683                     | 0.00                      | 0.000                        | 14.696                    | 518.67                     | 13.978                     | 511.30                      |
| 4                                 | 9.641                    | -5.000                    | 297.47                    | 297.47                    | 0.00                     | 297.47           | 0.2683                     | 0.00                      | 0.000                        | 14.696                    | 518.67                     | 13.978                     | 511.30                      |
| 5                                 | 9.168                    | -5.000                    | 297.47                    | 297.47                    | 0.00                     | 297.47           | 0.2683                     | 0.00                      | 0.000                        | 14.696                    | 518.67                     | 13.978                     | 511.30                      |
| 6                                 | 8.670                    | -5.000                    | 297.48                    | 297.48                    | 0.00                     | 297.48           | 0.2683                     | 0.00                      | 0.000                        | 14.696                    | 518.67                     | 13.978                     | 511.30                      |
| 7                                 | 8.141                    | -5.000                    | 297.49                    | 297.49                    | 0.00                     | 297.49           | 0.2683                     | 0.00                      | 0.000                        | 14.696                    | 518.67                     | 13.978                     | 511.29                      |
| 8                                 | 7.575                    | -5.000                    | 297.51                    | 297.51                    | 0.00                     | 297.51           | 0.2684                     | 0.00                      | 0.000                        | 14.696                    | 518.67                     | 13.978                     | 511.29                      |
| 9                                 | 6.963                    | -5.000                    | 297.53                    | 297.53                    | 0.00                     | 297.53           | 0.2684                     | 0.00                      | 0.000                        | 14.696                    | 518.67                     | 13.978                     | 511.29                      |
| 10                                | 6.292                    | -5.000                    | 297.55                    | 297.55                    | 0.00                     | 297.55           | 0.2684                     | 0.00                      | 0.000                        | 14.696                    | 518.67                     | 13.978                     | 511.29                      |
| 11                                | 5.541                    | -5.000                    | 297.57                    | 297.57                    | 0.00                     | 297.57           | 0.2684                     | 0.00                      | 0.000                        | 14.696                    | 518.67                     | 13.978                     | 511.29                      |
| hub                               | 5.500                    | -5.000                    | 297.57                    | 297.57                    | 0.00                     | 297.57           | 0.2684                     | 0.00                      | 0.000                        | 14.696                    | 518.67                     | 13.978                     | 511.29                      |

\*\* values of parameters on streamlines at station, 4, which is an annulus \*\*

| streamline<br>no. radius<br>(in.) | axial<br>coord.<br>(in.) | axial<br>vel.<br>(ft/sec) | merd.<br>vel.<br>(ft/sec) | tang.<br>vel.<br>(ft/sec) | abs.<br>vel.<br>(ft/sec) | abs.<br>mach no. | abs.flow<br>angle<br>(deg) | stream.<br>slope<br>(deg) | stream.<br>curv.<br>(1./in.) | total<br>press.<br>(psia) | total<br>temp.<br>(deg.r.) | static<br>press.<br>(psia) | static<br>temp.<br>(deg.r.) |
|-----------------------------------|--------------------------|---------------------------|---------------------------|---------------------------|--------------------------|------------------|----------------------------|---------------------------|------------------------------|---------------------------|----------------------------|----------------------------|-----------------------------|
| tip                               | 11.000                   | -2.500                    | 297.26                    | 297.26                    | 0.00                     | 297.26           | 0.2681                     | 0.00                      | 0.002                        | 14.696                    | 518.67                     | 13.979                     | 511.31                      |
| 1                                 | 10.938                   | -2.500                    | 297.14                    | 297.14                    | 0.00                     | 297.14           | 0.2680                     | 0.00                      | 0.000                        | 14.696                    | 518.67                     | 13.980                     | 511.31                      |
| 2                                 | 10.523                   | -2.500                    | 297.16                    | 297.16                    | 0.00                     | 297.16           | 0.2680                     | 0.00                      | 0.000                        | 14.696                    | 518.67                     | 13.980                     | 511.31                      |
| 3                                 | 10.091                   | -2.500                    | 297.25                    | 297.25                    | 0.00                     | 297.25           | 0.2681                     | 0.00                      | 0.000                        | 14.696                    | 518.67                     | 13.979                     | 511.31                      |
| 4                                 | 9.640                    | -2.500                    | 297.36                    | 297.36                    | 0.00                     | 297.36           | 0.2682                     | 0.00                      | -0.001                       | 14.696                    | 518.67                     | 13.979                     | 511.30                      |
| 5                                 | 9.167                    | -2.500                    | 297.49                    | 297.49                    | 0.00                     | 297.49           | 0.2683                     | 0.00                      | -0.001                       | 14.696                    | 518.67                     | 13.978                     | 511.29                      |
| 6                                 | 8.668                    | -2.500                    | 297.62                    | 297.62                    | 0.00                     | 297.62           | 0.2685                     | 0.00                      | -0.001                       | 14.696                    | 518.67                     | 13.977                     | 511.29                      |
| 7                                 | 8.139                    | -2.500                    | 297.72                    | 297.72                    | 0.00                     | 297.72           | 0.2686                     | 0.00                      | -0.001                       | 14.696                    | 518.67                     | 13.978                     | 511.28                      |
| 8                                 | 7.574                    | -2.500                    | 297.80                    | 297.80                    | 0.00                     | 297.80           | 0.2686                     | 0.00                      | -0.001                       | 14.696                    | 518.67                     | 13.977                     | 511.28                      |
| 9                                 | 6.962                    | -2.500                    | 297.84                    | 297.84                    | 0.00                     | 297.84           | 0.2687                     | 0.00                      | 0.000                        | 14.696                    | 518.67                     | 13.977                     | 511.28                      |
| 10                                | 6.292                    | -2.500                    | 297.84                    | 297.84                    | 0.00                     | 297.84           | 0.2687                     | 0.00                      | 0.000                        | 14.696                    | 518.67                     | 13.977                     | 511.28                      |
| 11                                | 5.541                    | -2.500                    | 297.84                    | 297.84                    | 0.00                     | 297.84           | 0.2687                     | 0.00                      | 0.000                        | 14.696                    | 518.67                     | 13.977                     | 511.28                      |
| hub                               | 5.500                    | -2.500                    | 297.84                    | 297.84                    | 0.00                     | 297.84           | 0.2687                     | 0.00                      | 0.000                        | 14.696                    | 518.67                     | 13.977                     | 511.28                      |

\*\* values of parameters on streamlines at station, 5, which is the inlet of rotor number, 1 \*\*

Table with columns: streamline no., radius (in.), tip, axial coord. (in.), axial vel. (ft/sec), merid. vel. (ft/sec), tang. vel. (ft/sec), abs. vel. (ft/sec), abs. mach no., abs. flow angle (deg), stream. curv. (1./in.), total press. (psia), total temp. (deg.f.), static press. (psia), static temp. (deg.f.)

Table with columns: streamline no., r/rtip, tip, rel.flow angle (deg), rel. tang.vel. (ft/sec), rel. vel. (ft/sec), rel.mach number, wheel speed (ft/sec), flow coef., l.e.rad./chord, max.th. pt.loc./chord, tran.pt. location /chord, segment in/out cone ang. turn.rate (deg)

Table with columns: streamline no., pct. pass., inc. angle (deg), s.s.inc. angle (deg), in.blade angle (deg), in.blade angle (deg), tran.pt. angle (deg), bid.set angle (deg), 1st seg. location (deg), s.s.cam. location (deg), sh.loc. as fract of s.s., cov.chan. as fract of s.s., min.chk. area margin, min.chk. pt.loc.in circ. r\*d/dr, l.e.edge cent.

\*\* values of parameters on streamlines at station, 6, which is the outlet of rotor number, 1 \*\*

| streamline no. | radius (in.) | axial coord. (in.) | axial vel. (ft/sec) | merid. vel. (ft/sec) | tang. vel. (ft/sec) | abs. vel. (ft/sec) | abs. mach no. | abs. flow angle (deg) | stream. slope (deg) | stream. curv. (1./in.) | total press. (psia) | total temp. (deg.r.) | static press. (psia) | static temp. (deg.r.) |
|----------------|--------------|--------------------|---------------------|----------------------|---------------------|--------------------|---------------|-----------------------|---------------------|------------------------|---------------------|----------------------|----------------------|-----------------------|
| tip            | 11.000       | 1.230              |                     |                      |                     |                    |               |                       |                     |                        |                     |                      |                      |                       |
| 1              | 10.917       | 1.240              | 285.78              | 285.79               | 143.93              | 319.99             | 0.2859        | 26.73                 | -0.59               | 0.004                  | 15.762              | 529.62               | 14.891               | 521.09                |
| 2              | 10.503       | 1.290              | 286.10              | 286.11               | 149.78              | 322.94             | 0.2886        | 27.63                 | -0.48               | 0.003                  | 15.765              | 529.63               | 14.879               | 520.94                |
| 3              | 10.072       | 1.345              | 286.52              | 286.53               | 156.38              | 326.42             | 0.2918        | 28.62                 | -0.39               | 0.002                  | 15.769              | 529.64               | 14.864               | 520.77                |
| 4              | 9.623        | 1.405              | 286.98              | 286.98               | 163.91              | 330.49             | 0.2955        | 29.73                 | -0.31               | 0.002                  | 15.773              | 529.66               | 14.845               | 520.56                |
| 5              | 9.152        | 1.469              | 287.48              | 287.48               | 172.60              | 335.31             | 0.2998        | 30.98                 | -0.24               | 0.001                  | 15.777              | 529.68               | 14.822               | 520.31                |
| 6              | 8.656        | 1.538              | 288.00              | 288.00               | 182.79              | 341.12             | 0.3051        | 32.40                 | -0.18               | 0.001                  | 15.781              | 529.70               | 14.794               | 520.00                |
| 7              | 8.130        | 1.611              | 288.56              | 288.56               | 194.98              | 348.26             | 0.3116        | 34.05                 | -0.12               | 0.001                  | 15.786              | 529.72               | 14.757               | 519.61                |
| 8              | 7.568        | 1.687              | 289.15              | 289.15               | 209.91              | 357.31             | 0.3199        | 35.98                 | -0.07               | 0.001                  | 15.790              | 529.74               | 14.709               | 519.10                |
| 9              | 6.959        | 1.759              | 289.75              | 289.75               | 228.80              | 369.19             | 0.3307        | 38.30                 | -0.03               | 0.000                  | 15.796              | 529.77               | 14.643               | 518.41                |
| 10             | 6.292        | 1.816              | 290.34              | 290.34               | 253.79              | 385.63             | 0.3458        | 41.16                 | -0.02               | 0.000                  | 15.801              | 529.80               | 14.546               | 517.41                |
| 11             | 5.541        | 1.830              | 290.93              | 290.93               | 289.15              | 410.18             | 0.3684        | 44.82                 | -0.07               | -0.001                 | 15.808              | 529.83               | 14.393               | 515.81                |
| hub            | 5.500        | 1.831              |                     |                      |                     |                    |               |                       |                     |                        |                     |                      |                      |                       |

| streamline no. | r/rtip | rel. flow angle (deg) | rel. vel. (ft/sec) | rel. mach number | wheel speed (ft/sec) | flow coef. | head coef. | ideal head coef. | adiab. eff. | diffusion factor | loss coef. | shock loss coef. | degree reaction |  |
|----------------|--------|-----------------------|--------------------|------------------|----------------------|------------|------------|------------------|-------------|------------------|------------|------------------|-----------------|--|
| tip            | 1.0000 |                       |                    |                  |                      |            |            |                  |             |                  |            |                  |                 |  |
| 1              | 0.9924 | 47.56                 | 312.58             | 423.54           | 0.3784               | 0.6213     | 0.2974     | 0.3105           | 0.9579      | 0.3469           | 0.0200     | 0.0000           | 0.8463          |  |
| 2              | 0.9548 | 45.33                 | 289.42             | 406.97           | 0.3637               | 0.6220     | 0.2984     | 0.3109           | 0.9599      | 0.3610           | 0.0200     | 0.0000           | 0.8362          |  |
| 3              | 0.9157 | 42.75                 | 264.82             | 390.16           | 0.3487               | 0.6229     | 0.2994     | 0.3113           | 0.9619      | 0.3757           | 0.0200     | 0.0000           | 0.8219          |  |
| 4              | 0.8748 | 39.73                 | 238.51             | 373.16           | 0.3336               | 0.6239     | 0.3005     | 0.3117           | 0.9639      | 0.3911           | 0.0200     | 0.0000           | 0.8039          |  |
| 5              | 0.8320 | 36.16                 | 210.12             | 356.08           | 0.3184               | 0.6249     | 0.3016     | 0.3122           | 0.9660      | 0.4070           | 0.0200     | 0.0000           | 0.7814          |  |
| 6              | 0.7869 | 31.89                 | 179.18             | 339.19           | 0.3034               | 0.6261     | 0.3027     | 0.3127           | 0.9681      | 0.4229           | 0.0200     | 0.0000           | 0.7532          |  |
| 7              | 0.7391 | 26.68                 | 144.99             | 322.94           | 0.2890               | 0.6273     | 0.3040     | 0.3133           | 0.9703      | 0.4378           | 0.0200     | 0.0000           | 0.7173          |  |
| 8              | 0.6880 | 20.23                 | 106.54             | 308.15           | 0.2759               | 0.6286     | 0.3053     | 0.3139           | 0.9724      | 0.4496           | 0.0200     | 0.0000           | 0.6704          |  |
| 9              | 0.6327 | 12.12                 | 62.23              | 296.35           | 0.2655               | 0.6299     | 0.3067     | 0.3147           | 0.9746      | 0.4542           | 0.0200     | 0.0000           | 0.6070          |  |
| 10             | 0.5720 | 1.84                  | 9.32               | 290.49           | 0.2605               | 0.6312     | 0.3083     | 0.3156           | 0.9768      | 0.4432           | 0.0200     | 0.0000           | 0.5163          |  |
| 11             | 0.5037 | -11.17                | -57.43             | 296.55           | 0.2663               | 0.6325     | 0.3100     | 0.3166           | 0.9791      | 0.3981           | 0.0200     | 0.0000           | 0.3748          |  |
| hub            | 0.5000 |                       |                    |                  |                      |            |            |                  |             |                  |            |                  |                 |  |

| streamline no. | pct. span | press. ratio | temp. ratio | aero. chord (in.) | element solidity | local blade radius (in.) | local blade forces for axial tang. (lbs/in) | outlet streamline t.e.rad./chord (deg) | dev. angle (deg) | out. blade angle (deg) | max. camb. pt.loc. /chord | t.e.edge circ.cent r*d-/dr |
|----------------|-----------|--------------|-------------|-------------------|------------------|--------------------------|---|--|------------------|------------------------|---------------------------|----------------------------|
| 1              | 1.52      | 1.0725       | 1.0211      | 3.2986            | 1.0570           | 10.927                   | 2.6802                                      | 0.0061                                 | 4.00             | 43.56                  | 0.4392                    | 0.1019                     |
| 2              | 9.04      | 1.0727       | 1.0211      | 3.2987            | 1.0988           | 10.512                   | 2.5434                                      | 0.0067                                 | 4.27             | 41.06                  | 0.4391                    | 0.1124                     |
| 3              | 16.87     | 1.0730       | 1.0212      | 3.2986            | 1.1458           | 10.080                   | 2.4004                                      | 0.0073                                 | 4.53             | 38.22                  | 0.4389                    | 0.1232                     |
| 4              | 25.04     | 1.0733       | 1.0212      | 3.2986            | 1.1994           | 9.630                    | 2.2479                                      | 0.0079                                 | 4.74             | 34.99                  | 0.4387                    | 0.1370                     |
| 5              | 33.60     | 1.0735       | 1.0212      | 3.2986            | 1.2612           | 9.158                    | 2.0841                                      | 0.0085                                 | 4.91             | 31.26                  | 0.4385                    | 0.1553                     |
| 6              | 42.62     | 1.0738       | 1.0213      | 3.2986            | 1.3336           | 8.661                    | 1.9064                                      | 0.0092                                 | 5.00             | 26.89                  | 0.4383                    | 0.1799                     |
| 7              | 52.18     | 1.0741       | 1.0213      | 3.2986            | 1.4200           | 8.133                    | 1.7116                                      | 0.0099                                 | 5.01             | 21.67                  | 0.4380                    | 0.2139                     |
| 8              | 62.41     | 1.0745       | 1.0213      | 3.2986            | 1.5258           | 7.570                    | 1.4946                                      | 0.0107                                 | 4.94             | 15.28                  | 0.4376                    | 0.2588                     |
| 9              | 73.46     | 1.0748       | 1.0214      | 3.2986            | 1.6593           | 6.960                    | 1.2482                                      | 0.0115                                 | 4.83             | 7.29                   | 0.4370                    | 0.3201                     |
| 10             | 85.60     | 1.0752       | 1.0215      | 3.2986            | 1.8357           | 6.292                    | 0.9599                                      | 0.0124                                 | 4.67             | -2.83                  | 0.4361                    | 0.4027                     |
| 11             | 99.25     | 1.0757       | 1.0215      | 3.2986            | 2.0844           | 5.541                    | 0.6033                                      | 0.0134                                 | 4.50             | -15.63                 | 0.4348                    | 0.5027                     |

\*\* values of parameters on streamlines at station, 7, which is an annulus \*\*

| streamline<br>no. radius<br>(in.) | axial<br>coord.<br>(in.) | axial<br>vel.<br>(ft/sec) | merd.<br>vel.<br>(ft/sec) | tang.<br>vel.<br>(ft/sec) | abs.<br>vel.<br>(ft/sec) | abs.<br>mach no. | abs.flow<br>angle<br>(deg) | stream.<br>slope<br>(deg) | stream.<br>curv.<br>(1./in.) | total<br>press.<br>(psia) | total<br>temp.<br>(deg.r.) | static<br>press.<br>(psia) | static<br>temp.<br>(deg.r.) |
|-----------------------------------|--------------------------|---------------------------|---------------------------|---------------------------|--------------------------|------------------|----------------------------|---------------------------|------------------------------|---------------------------|----------------------------|----------------------------|-----------------------------|
| tip 11.000                        | 4.500                    | 285.54                    | 285.54                    | 143.92                    | 319.76                   | 0.2857           | 26.75                      | -0.03                     | 0.002                        | 15.762                    | 529.62                     | 14.893                     | 521.10                      |
| 1 10.917                          | 4.500                    | 285.95                    | 285.95                    | 149.77                    | 322.80                   | 0.2885           | 27.64                      | -0.03                     | 0.002                        | 15.765                    | 529.63                     | 14.880                     | 520.95                      |
| 2 10.504                          | 4.500                    | 286.41                    | 286.41                    | 156.36                    | 326.31                   | 0.2917           | 28.63                      | -0.02                     | 0.001                        | 15.769                    | 529.64                     | 14.864                     | 520.77                      |
| 3 10.073                          | 4.500                    | 286.90                    | 286.90                    | 163.88                    | 330.41                   | 0.2954           | 29.73                      | -0.02                     | 0.001                        | 15.773                    | 529.66                     | 14.846                     | 520.56                      |
| 4 9.624                           | 4.500                    | 287.41                    | 287.41                    | 172.56                    | 335.24                   | 0.2998           | 30.98                      | 0.00                      | 0.001                        | 15.777                    | 529.68                     | 14.823                     | 520.31                      |
| 5 9.154                           | 4.500                    | 287.95                    | 287.95                    | 182.75                    | 341.04                   | 0.3050           | 32.40                      | 0.01                      | 0.001                        | 15.781                    | 529.70                     | 14.794                     | 520.00                      |
| 6 8.658                           | 4.500                    | 288.49                    | 288.49                    | 194.92                    | 348.17                   | 0.3115           | 34.05                      | 0.02                      | 0.001                        | 15.786                    | 529.72                     | 14.758                     | 519.62                      |
| 7 8.132                           | 4.500                    | 289.01                    | 289.01                    | 209.84                    | 357.16                   | 0.3197           | 35.98                      | 0.03                      | 0.001                        | 15.790                    | 529.74                     | 14.710                     | 519.11                      |
| 8 7.570                           | 4.500                    | 289.50                    | 289.50                    | 228.72                    | 368.95                   | 0.3305           | 38.31                      | 0.04                      | 0.001                        | 15.796                    | 529.77                     | 14.644                     | 518.42                      |
| 9 6.962                           | 4.500                    | 289.84                    | 289.84                    | 253.72                    | 385.21                   | 0.3454           | 41.20                      | 0.03                      | 0.001                        | 15.801                    | 529.80                     | 14.549                     | 517.43                      |
| 10 6.293                          | 4.500                    | 289.87                    | 289.87                    | 289.15                    | 409.43                   | 0.3677           | 44.93                      | -0.01                     | 0.002                        | 15.808                    | 529.83                     | 14.398                     | 515.87                      |
| 11 5.541                          | 4.500                    |                           |                           |                           |                          |                  |                            |                           |                              |                           |                            |                            |                             |
| hub 5.500                         | 4.500                    |                           |                           |                           |                          |                  |                            |                           |                              |                           |                            |                            |                             |

\*\* values of parameters on streamlines at station, 8, which is the inlet of stator number, 1, of stage number, 1 \*\*

| streamline no. | radius (in.) | axial coord. (in.) | axial vel. (ft/sec) | merd. vel. (ft/sec) | tang. vel. (ft/sec) | abs. vel. (ft/sec) | abs. mach no. | abs. angle (deg) | stream. slope (deg) | stream. curv. (1./in.) | total press. (psia) | total temp. (deg.r.) | static press. (psia) | static temp. (deg.r.) |
|----------------|--------------|--------------------|---------------------|---------------------|---------------------|--------------------|---------------|------------------|---------------------|------------------------|---------------------|----------------------|----------------------|-----------------------|
| tip            | 11.000       | 9.428              | 285.92              | 285.92              | 144.05              | 320.15             | 0.2861        | 26.74            | 0.04                | -0.001                 | 15.762              | 529.62               | 14.890               | 521.08                |
| 1              | 10.908       | 9.383              | 286.72              | 286.72              | 149.89              | 323.54             | 0.2891        | 27.60            | 0.03                | -0.001                 | 15.765              | 529.63               | 14.876               | 520.91                |
| 2              | 10.495       | 9.182              | 287.47              | 287.47              | 156.49              | 327.30             | 0.2926        | 28.56            | 0.03                | -0.001                 | 15.769              | 529.64               | 14.859               | 520.72                |
| 3              | 10.065       | 8.974              | 288.19              | 288.19              | 164.00              | 331.58             | 0.2964        | 29.64            | 0.03                | 0.000                  | 15.773              | 529.66               | 14.839               | 520.50                |
| 4              | 9.618        | 8.757              | 288.88              | 288.88              | 172.66              | 336.55             | 0.3010        | 30.87            | 0.04                | 0.000                  | 15.777              | 529.68               | 14.815               | 520.24                |
| 5              | 9.149        | 8.530              | 289.54              | 289.54              | 182.82              | 342.42             | 0.3063        | 32.27            | 0.06                | 0.000                  | 15.781              | 529.70               | 14.786               | 519.93                |
| 6              | 8.655        | 8.291              | 290.12              | 290.12              | 194.95              | 349.54             | 0.3128        | 33.90            | 0.10                | 0.000                  | 15.786              | 529.72               | 14.750               | 519.54                |
| 7              | 8.131        | 8.038              | 290.60              | 290.60              | 209.81              | 358.43             | 0.3209        | 35.83            | 0.15                | 0.001                  | 15.790              | 529.74               | 14.702               | 519.03                |
| 8              | 7.571        | 7.769              | 290.87              | 290.88              | 228.61              | 369.96             | 0.3314        | 38.17            | 0.22                | 0.001                  | 15.796              | 529.77               | 14.638               | 518.36                |
| 9              | 6.965        | 7.479              | 290.78              | 290.78              | 253.53              | 385.79             | 0.3459        | 41.08            | 0.33                | 0.002                  | 15.801              | 529.80               | 14.545               | 517.40                |
| 10             | 6.298        | 7.161              | 289.87              | 289.88              | 288.93              | 409.28             | 0.3675        | 44.91            | 0.49                | 0.005                  | 15.808              | 529.83               | 14.399               | 515.88                |
| 11             | 5.545        | 6.806              |                     |                     |                     |                    |               |                  |                     |                        |                     |                      |                      |                       |
| hub            | 5.500        | 6.784              |                     |                     |                     |                    |               |                  |                     |                        |                     |                      |                      |                       |

| streamline no. | r/rtip | flow coef. | rel.flow angle (deg) | l.e.rad. /chord | max.th. /chord | max.th. pt.loc. /chord | tran.pt. location /chord | segment in/out | layout cone ang. |
|----------------|--------|------------|----------------------|-----------------|----------------|------------------------|--------------------------|----------------|------------------|
| tip            | 1.0000 |            |                      |                 |                |                        |                          |                |                  |
| 1              | 0.9916 | 0.6216     | 47.51                | 0.0075          | 0.0997         | 0.3500                 | 0.3500                   | 0.0000         | 0.00             |
| 2              | 0.9541 | 0.6233     | 45.22                | 0.0075          | 0.0982         | 0.3500                 | 0.3500                   | 0.0000         | 0.00             |
| 3              | 0.9150 | 0.6249     | 42.61                | 0.0075          | 0.0966         | 0.3500                 | 0.3500                   | 0.0000         | 0.00             |
| 4              | 0.8743 | 0.6265     | 39.57                | 0.0075          | 0.0950         | 0.3500                 | 0.3500                   | 0.0000         | 0.00             |
| 5              | 0.8317 | 0.6280     | 36.00                | 0.0075          | 0.0933         | 0.3500                 | 0.3500                   | 0.0000         | 0.02             |
| 6              | 0.7868 | 0.6294     | 31.74                | 0.0075          | 0.0915         | 0.3500                 | 0.3500                   | 0.0000         | 0.04             |
| 7              | 0.7392 | 0.6307     | 26.57                | 0.0075          | 0.0896         | 0.3500                 | 0.3500                   | 0.0000         | 0.07             |
| 8              | 0.6883 | 0.6317     | 20.18                | 0.0075          | 0.0875         | 0.3500                 | 0.3500                   | 0.0000         | 0.13             |
| 9              | 0.6332 | 0.6332     | 12.16                | 0.0075          | 0.0853         | 0.3500                 | 0.3500                   | 0.0000         | 0.24             |
| 10             | 0.5726 | 0.6321     | 1.94                 | 0.0075          | 0.0829         | 0.3500                 | 0.3500                   | 0.0000         | 0.41             |
| 11             | 0.5041 | 0.6301     | -11.13               | 0.0075          | 0.0802         | 0.3500                 | 0.3500                   | 0.0000         | 0.73             |
| hub            | 0.5000 |            |                      |                 |                |                        |                          |                |                  |

| streamline no. | pt. pass. | inc. angle (deg) | s.s.inc. angle (deg) | in.blade angle (deg) | in.blade angle (deg) | tran.pt. bl.angle (deg) | tran.pt. angle (deg) | 1st seg. s.s.cam. (deg) | sh.loc. as fract of s.s. | cov.chan. as fract of s.s. | min.chk. area margin | min.chk. pt.loc.in cov.chan. | l.e.edge in cir.cent. r*d-/dr |
|----------------|-----------|------------------|----------------------|----------------------|----------------------|-------------------------|----------------------|-------------------------|--------------------------|----------------------------|----------------------|------------------------------|-------------------------------|
| 1              | 1.67      | -10.00           | -54.27               | 36.74                | 36.75                | 10.11                   | 7.38                 | 27.31                   | 0.1721                   | 0.7120                     | 1.0764               | 0.1578                       | -0.2548                       |
| 2              | 9.19      | -9.80            | -52.68               | 37.40                | 37.41                | 10.48                   | 7.72                 | 27.57                   | 0.1792                   | 0.7122                     | 1.0606               | 0.1433                       | -0.2556                       |
| 3              | 17.00     | -9.60            | -51.06               | 38.16                | 38.17                | 10.87                   | 8.08                 | 27.92                   | 0.1863                   | 0.7119                     | 1.0438               | 0.1283                       | -0.2583                       |
| 4              | 25.14     | -9.40            | -49.42               | 39.04                | 39.05                | 11.27                   | 8.45                 | 28.36                   | 0.1934                   | 0.7110                     | 1.0254               | 0.1127                       | -0.2626                       |
| 5              | 33.66     | -9.20            | -47.73               | 40.07                | 40.07                | 11.68                   | 8.81                 | 28.94                   | 0.2004                   | 0.7093                     | 1.0050               | 0.0966                       | -0.2684                       |
| 6              | 42.64     | -9.00            | -46.00               | 41.27                | 41.27                | 12.10                   | 9.17                 | 29.69                   | 0.2071                   | 0.7068                     | 0.9821               | 0.0801                       | -0.2761                       |
| 7              | 52.16     | -8.80            | -44.20               | 42.70                | 42.70                | 12.52                   | 9.51                 | 30.66                   | 0.2134                   | 0.7035                     | 0.9558               | 0.0631                       | -0.2857                       |
| 8              | 62.34     | -8.60            | -42.32               | 44.43                | 44.43                | 12.94                   | 9.83                 | 31.92                   | 0.2189                   | 0.6997                     | 0.9252               | 0.0463                       | -0.2973                       |
| 9              | 73.36     | -8.40            | -40.34               | 46.57                | 46.56                | 13.38                   | 10.14                | 33.57                   | 0.2233                   | 0.6959                     | 0.8881               | 0.0294                       | -0.3122                       |
| 10             | 85.48     | -8.20            | -38.20               | 49.28                | 49.27                | 13.82                   | 10.44                | 35.76                   | 0.2260                   | 0.6927                     | 0.8415               | 0.0128                       | -0.3330                       |
| 11             | 99.17     | -8.00            | -35.83               | 52.91                | 52.87                | 14.27                   | 10.70                | 38.82                   | 0.2256                   | 0.6913                     | 0.7821               | 0.0000                       | -0.3783                       |

\*\* values of parameters on streamlines at station, 9, which is the outlet of stator number, 1, of stage number, 1 \*\*

| streamline no. | radius (in.) | axial coord. (in.) | axial vel. (ft/sec) | merid. vel. (ft/sec) | tang. vel. (ft/sec) | abs. vel. (ft/sec) | abs. mach no. | abs. flow angle (deg) | stream. slope (deg) | stream. curv. (1./in.) | total press. (psia) | total temp. (deg.r.) | static press. (psia) | static temp. (deg.r.) |
|----------------|--------------|--------------------|---------------------|----------------------|---------------------|--------------------|---------------|-----------------------|---------------------|------------------------|---------------------|----------------------|----------------------|-----------------------|
| tip            | 11.000       | 14.854             | 284.05              | 284.05               | 0.00                | 284.05             | 0.2534        | 0.00                  | 0.12                | 0.002                  | 15.744              | 529.62               | 15.056               | 522.89                |
| 1              | 10.908       | 14.808             | 284.57              | 284.57               | 0.00                | 284.57             | 0.2538        | 0.00                  | 0.08                | 0.001                  | 15.747              | 529.63               | 15.057               | 522.88                |
| 2              | 10.494       | 14.603             | 285.15              | 285.15               | 0.00                | 285.15             | 0.2544        | 0.00                  | 0.06                | 0.001                  | 15.751              | 529.64               | 15.057               | 522.87                |
| 3              | 10.065       | 14.390             | 285.77              | 285.77               | 0.00                | 285.77             | 0.2549        | 0.00                  | 0.05                | 0.001                  | 15.754              | 529.66               | 15.058               | 522.86                |
| 4              | 9.618        | 14.168             | 286.43              | 286.43               | 0.00                | 286.43             | 0.2555        | 0.00                  | 0.04                | 0.000                  | 15.758              | 529.68               | 15.058               | 522.84                |
| 5              | 9.150        | 13.936             | 287.15              | 287.15               | 0.00                | 287.15             | 0.2562        | 0.00                  | 0.03                | 0.000                  | 15.761              | 529.70               | 15.058               | 522.83                |
| 6              | 8.658        | 13.692             | 287.92              | 287.92               | 0.00                | 287.92             | 0.2568        | 0.00                  | 0.04                | 0.000                  | 15.765              | 529.72               | 15.058               | 522.81                |
| 7              | 8.138        | 13.434             | 288.77              | 288.77               | 0.00                | 288.77             | 0.2576        | 0.00                  | 0.07                | -0.001                 | 15.769              | 529.74               | 15.057               | 522.79                |
| 8              | 7.584        | 13.159             | 289.72              | 289.72               | 0.00                | 289.72             | 0.2585        | 0.00                  | 0.12                | -0.002                 | 15.772              | 529.77               | 15.056               | 522.77                |
| 9              | 6.987        | 12.864             | 290.80              | 290.80               | 0.00                | 290.80             | 0.2594        | 0.00                  | 0.22                | -0.003                 | 15.776              | 529.80               | 15.055               | 522.75                |
| 10             | 6.337        | 12.541             | 292.29              | 292.29               | 0.00                | 292.29             | 0.2608        | 0.00                  | 0.40                | -0.006                 | 15.780              | 529.83               | 15.051               | 522.72                |
| 11             | 5.614        | 12.181             |                     |                      |                     |                    |               |                       |                     |                        |                     |                      |                      |                       |
| hub            | 5.500        | 12.125             |                     |                      |                     |                    |               |                       |                     |                        |                     |                      |                      |                       |

| streamline no. | r/rtip | flow coef. | head coef. | ideal head coef. | stator po.ratio | stage po.ratio | stage ad.eff. | diffusion factor | stator loss coef. | shock loss coef. | element solidity | aero. chord (in.) | degree reaction |
|----------------|--------|------------|------------|------------------|-----------------|----------------|---------------|------------------|-------------------|------------------|------------------|-------------------|-----------------|
| tip            | 1.0000 | 0.6175     | 0.2927     | 0.3105           | 0.9989          | 1.0713         | 0.9426        | 0.3476           | 0.0200            | 0.0000           | 0.9580           | 5.4716            | 0.1555          |
| 1              | 0.9916 | 0.6186     | 0.2936     | 0.3109           | 0.9989          | 1.0715         | 0.9443        | 0.3531           | 0.0200            | 0.0000           | 0.9958           | 5.4716            | 0.1694          |
| 2              | 0.9540 | 0.6199     | 0.2945     | 0.3113           | 0.9988          | 1.0718         | 0.9460        | 0.3658           | 0.0200            | 0.0000           | 1.0382           | 5.4716            | 0.1849          |
| 3              | 0.9150 | 0.6212     | 0.2954     | 0.3117           | 0.9988          | 1.0720         | 0.9476        | 0.3735           | 0.0200            | 0.0000           | 1.0865           | 5.4716            | 0.2029          |
| 4              | 0.8744 | 0.6227     | 0.2963     | 0.3122           | 0.9988          | 1.0722         | 0.9492        | 0.3825           | 0.0200            | 0.0000           | 1.1422           | 5.4716            | 0.2242          |
| 5              | 0.8318 | 0.6242     | 0.2973     | 0.3127           | 0.9987          | 1.0725         | 0.9508        | 0.3933           | 0.0200            | 0.0000           | 1.2072           | 5.4716            | 0.2501          |
| 6              | 0.7871 | 0.6259     | 0.2983     | 0.3133           | 0.9987          | 1.0727         | 0.9523        | 0.4064           | 0.0200            | 0.0000           | 1.2846           | 5.4716            | 0.2825          |
| 7              | 0.7398 | 0.6278     | 0.2994     | 0.3139           | 0.9986          | 1.0730         | 0.9536        | 0.4228           | 0.0200            | 0.0000           | 1.3791           | 5.4716            | 0.3241          |
| 8              | 0.6894 | 0.6298     | 0.3004     | 0.3147           | 0.9985          | 1.0732         | 0.9546        | 0.4443           | 0.0200            | 0.0000           | 1.4979           | 5.4716            | 0.3803          |
| 9              | 0.6352 | 0.6322     | 0.3014     | 0.3156           | 0.9984          | 1.0735         | 0.9552        | 0.4731           | 0.0200            | 0.0000           | 1.6541           | 5.4717            | 0.4608          |
| 10             | 0.5761 | 0.6354     | 0.3024     | 0.3166           | 0.9982          | 1.0737         | 0.9549        |                  | 0.0200            | 0.0000           | 1.8730           | 5.4720            | 0.5862          |
| 11             | 0.5104 |            |            |                  |                 |                |               |                  |                   |                  |                  |                   |                 |
| hub            | 0.5000 |            |            |                  |                 |                |               |                  |                   |                  |                  |                   |                 |

| streamline no. | pct. span | local blade forces (lbs/in) | tang. (lbs/in) | t.e.rad. /chord (deg) | dev. angle (deg) | out.blade angle (deg) | max.camb. pt.loc. /chord (deg) | t.e.edge circ.cent r*d-/dr |
|----------------|-----------|-----------------------------|----------------|-----------------------|------------------|-----------------------|--------------------------------|----------------------------|
| 1              | 1.68      | 10.908                      | 3.8462         | 0.0100                | 7.00             | -7.00                 | 0.4277                         | 0.0128                     |
| 2              | 9.19      | 10.494                      | 3.9277         | 0.0100                | 6.81             | -6.81                 | 0.4276                         | 0.0108                     |
| 3              | 17.00     | 10.065                      | 3.9405         | 0.0100                | 6.65             | -6.65                 | 0.4275                         | 0.0101                     |
| 4              | 25.13     | 9.618                       | 3.9533         | 0.0100                | 6.54             | -6.54                 | 0.4274                         | 0.0116                     |
| 5              | 33.64     | 9.149                       | 3.9662         | 0.0100                | 6.50             | -6.50                 | 0.4272                         | 0.0154                     |
| 6              | 42.58     | 8.656                       | 3.9790         | 0.0100                | 6.56             | -6.56                 | 0.4270                         | 0.0218                     |
| 7              | 52.04     | 8.135                       | 3.9915         | 0.0100                | 6.75             | -6.75                 | 0.4267                         | 0.0309                     |
| 8              | 62.11     | 7.577                       | 4.0032         | 0.0100                | 7.12             | -7.12                 | 0.4263                         | 0.0423                     |
| 9              | 72.96     | 6.976                       | 4.0130         | 0.0100                | 7.70             | -7.70                 | 0.4257                         | 0.0577                     |
| 10             | 84.78     | 6.318                       | 4.0190         | 0.0100                | 8.60             | -8.60                 | 0.4248                         | 0.0807                     |
| 11             | 97.93     | 5.580                       | 4.3199         | 0.0100                | 10.00            | -10.00                | 0.4232                         | 0.1101                     |



\*\* values of parameters on streamlines at station, 10, which is an annulus \*\*

| streamline<br>no. radius<br>(in.) | axial<br>coord.<br>(in.) | axial<br>vel.<br>(ft/sec) | merid.<br>vel.<br>(ft/sec) | tang.<br>vel.<br>(ft/sec) | abs.<br>vel.<br>(ft/sec) | abs.<br>mach no. | abs.flow<br>angle<br>(deg) | stream.<br>slope<br>(deg) | stream.<br>curv.<br>(1./in.) | total<br>press.<br>(psia) | total<br>temp.<br>(deg.r.) | static<br>press.<br>(psia) | static<br>temp.<br>(deg.r.) |
|-----------------------------------|--------------------------|---------------------------|----------------------------|---------------------------|--------------------------|------------------|----------------------------|---------------------------|------------------------------|---------------------------|----------------------------|----------------------------|-----------------------------|
| tip 11.000                        | 18.000                   | 282.18                    | 282.18                     | 0.00                      | 282.18                   | 0.2517           | 0.00                       | 0.12                      | -0.002                       | 15.744                    | 529.62                     | 15.065                     | 522.98                      |
| 1 10.917                          | 18.000                   | 282.99                    | 282.99                     | 0.00                      | 282.99                   | 0.2524           | 0.00                       | 0.09                      | -0.001                       | 15.747                    | 529.63                     | 15.064                     | 522.96                      |
| 2 10.502                          | 18.000                   | 283.77                    | 283.77                     | 0.00                      | 283.77                   | 0.2531           | 0.00                       | 0.07                      | -0.001                       | 15.751                    | 529.64                     | 15.064                     | 522.94                      |
| 3 10.072                          | 18.000                   | 284.54                    | 284.54                     | 0.00                      | 284.54                   | 0.2538           | 0.00                       | 0.05                      | -0.001                       | 15.754                    | 529.66                     | 15.063                     | 522.91                      |
| 4 9.623                           | 18.000                   | 285.31                    | 285.31                     | 0.00                      | 285.31                   | 0.2545           | 0.00                       | 0.03                      | 0.000                        | 15.758                    | 529.68                     | 15.063                     | 522.89                      |
| 5 9.154                           | 18.000                   | 286.07                    | 286.07                     | 0.00                      | 286.07                   | 0.2552           | 0.00                       | 0.01                      | 0.000                        | 15.761                    | 529.70                     | 15.063                     | 522.88                      |
| 6 8.660                           | 18.000                   | 286.81                    | 286.81                     | 0.00                      | 286.81                   | 0.2558           | 0.00                       | -0.01                     | 0.000                        | 15.765                    | 529.72                     | 15.063                     | 522.86                      |
| 7 8.138                           | 18.000                   | 287.54                    | 287.54                     | 0.00                      | 287.54                   | 0.2565           | 0.00                       | -0.04                     | 0.000                        | 15.769                    | 529.74                     | 15.063                     | 522.85                      |
| 8 7.582                           | 18.000                   | 288.23                    | 288.23                     | 0.00                      | 288.23                   | 0.2571           | 0.00                       | -0.07                     | 0.001                        | 15.772                    | 529.77                     | 15.063                     | 522.84                      |
| 9 6.984                           | 18.000                   | 288.81                    | 288.81                     | 0.00                      | 288.81                   | 0.2576           | 0.00                       | -0.11                     | 0.001                        | 15.776                    | 529.80                     | 15.064                     | 522.85                      |
| 10 6.330                          | 18.000                   | 289.11                    | 289.11                     | 0.00                      | 289.11                   | 0.2579           | 0.00                       | -0.17                     | 0.003                        | 15.780                    | 529.83                     | 15.066                     | 522.87                      |
| hub 5.500                         | 18.000                   |                           |                            |                           |                          |                  |                            |                           |                              |                           |                            |                            |                             |

\*\* values of parameters on streamlines at station, 11, which is an annulus \*\*

| streamline<br>no. radius<br>(in.) | axial<br>coord.<br>(in.) | axial<br>vel.<br>(ft/sec) | merid.<br>vel.<br>(ft/sec) | tang.<br>vel.<br>(ft/sec) | abs.<br>vel.<br>(ft/sec) | abs.<br>mach no. | abs.flow<br>angle<br>(deg) | stream.<br>slope<br>(deg) | stream.<br>curv.<br>(1./in.) | total<br>press.<br>(psia) | total<br>temp.<br>(deg.r.) | static<br>press.<br>(psia) | static<br>temp.<br>(deg.r.) |
|-----------------------------------|--------------------------|---------------------------|----------------------------|---------------------------|--------------------------|------------------|----------------------------|---------------------------|------------------------------|---------------------------|----------------------------|----------------------------|-----------------------------|
| tip 11.000                        | 22.000                   | 282.56                    | 282.56                     | 0.00                      | 282.56                   | 0.2520           | 0.00                       | -0.03                     | 0.000                        | 15.744                    | 529.62                     | 15.063                     | 522.97                      |
| 1 10.917                          | 22.000                   | 283.17                    | 283.17                     | 0.00                      | 283.17                   | 0.2526           | 0.00                       | -0.02                     | 0.000                        | 15.747                    | 529.63                     | 15.064                     | 522.95                      |
| 2 10.503                          | 22.000                   | 283.81                    | 283.81                     | 0.00                      | 283.81                   | 0.2531           | 0.00                       | -0.02                     | 0.000                        | 15.751                    | 529.64                     | 15.064                     | 522.93                      |
| 3 10.072                          | 22.000                   | 284.48                    | 284.48                     | 0.00                      | 284.48                   | 0.2537           | 0.00                       | -0.01                     | 0.000                        | 15.754                    | 529.66                     | 15.064                     | 522.92                      |
| 4 9.624                           | 22.000                   | 285.17                    | 285.17                     | 0.00                      | 285.17                   | 0.2544           | 0.00                       | -0.01                     | 0.000                        | 15.758                    | 529.68                     | 15.064                     | 522.90                      |
| 5 9.154                           | 22.000                   | 285.89                    | 285.89                     | 0.00                      | 285.89                   | 0.2550           | 0.00                       | 0.00                      | 0.000                        | 15.761                    | 529.70                     | 15.064                     | 522.89                      |
| 6 8.660                           | 22.000                   | 286.63                    | 286.63                     | 0.00                      | 286.63                   | 0.2557           | 0.00                       | 0.00                      | 0.000                        | 15.765                    | 529.72                     | 15.064                     | 522.87                      |
| 7 8.138                           | 22.000                   | 287.39                    | 287.39                     | 0.00                      | 287.39                   | 0.2564           | 0.00                       | 0.01                      | 0.000                        | 15.769                    | 529.74                     | 15.064                     | 522.86                      |
| 8 7.582                           | 22.000                   | 288.17                    | 288.17                     | 0.00                      | 288.17                   | 0.2571           | 0.00                       | 0.01                      | 0.000                        | 15.772                    | 529.77                     | 15.064                     | 522.85                      |
| 9 6.983                           | 22.000                   | 288.94                    | 288.94                     | 0.00                      | 288.94                   | 0.2577           | 0.00                       | 0.02                      | 0.000                        | 15.776                    | 529.80                     | 15.064                     | 522.84                      |
| 10 6.329                          | 22.000                   | 289.72                    | 289.72                     | 0.00                      | 289.72                   | 0.2584           | 0.00                       | 0.04                      | -0.001                       | 15.780                    | 529.83                     | 15.063                     | 522.84                      |
| 11 5.602                          | 22.000                   |                           |                            |                           |                          |                  |                            |                           |                              |                           |                            |                            |                             |
| hub 5.500                         | 22.000                   |                           |                            |                           |                          |                  |                            |                           |                              |                           |                            |                            |                             |

\*\* values of parameters on streamlines at station, 12, which is an annulus \*\*

| streamline<br>no. radius<br>(in.) | axial<br>coord.<br>(in.) | axial<br>vel.<br>(ft/sec) | merd.<br>vel.<br>(ft/sec) | tang.<br>vel.<br>(ft/sec) | abs.<br>vel.<br>(ft/sec) | abs.<br>mach no. | abs.flow<br>angle<br>(deg) | stream.<br>slope<br>(deg) | stream.<br>curv.<br>(1./in.) | total<br>press.<br>(psia) | total<br>temp.<br>(deg.r.) | static<br>press.<br>(psia) | static<br>temp.<br>(deg.r.) |
|-----------------------------------|--------------------------|---------------------------|---------------------------|---------------------------|--------------------------|------------------|----------------------------|---------------------------|------------------------------|---------------------------|----------------------------|----------------------------|-----------------------------|
| tip 11.000                        | 26.000                   | 282.48                    | 282.48                    | 0.00                      | 282.48                   | 0.2520           | 0.00                       | 0.01                      | 0.000                        | 15.744                    | 529.62                     | 15.064                     | 522.97                      |
| 1 10.917                          | 26.000                   | 283.13                    | 283.13                    | 0.00                      | 283.13                   | 0.2525           | 0.00                       | 0.01                      | 0.000                        | 15.747                    | 529.63                     | 15.064                     | 522.95                      |
| 2 10.503                          | 26.000                   | 283.81                    | 283.81                    | 0.00                      | 283.81                   | 0.2531           | 0.00                       | 0.00                      | 0.000                        | 15.751                    | 529.64                     | 15.064                     | 522.93                      |
| 3 10.072                          | 26.000                   | 284.49                    | 284.49                    | 0.00                      | 284.49                   | 0.2538           | 0.00                       | 0.00                      | 0.000                        | 15.754                    | 529.66                     | 15.064                     | 522.92                      |
| 4 9.623                           | 26.000                   | 285.20                    | 285.20                    | 0.00                      | 285.20                   | 0.2544           | 0.00                       | 0.00                      | 0.000                        | 15.758                    | 529.68                     | 15.064                     | 522.90                      |
| 5 9.154                           | 26.000                   | 285.92                    | 285.92                    | 0.00                      | 285.92                   | 0.2550           | 0.00                       | 0.00                      | 0.000                        | 15.761                    | 529.70                     | 15.064                     | 522.88                      |
| 6 8.660                           | 26.000                   | 286.66                    | 286.66                    | 0.00                      | 286.66                   | 0.2557           | 0.00                       | 0.00                      | 0.000                        | 15.765                    | 529.72                     | 15.064                     | 522.87                      |
| 7 8.138                           | 26.000                   | 287.42                    | 287.42                    | 0.00                      | 287.42                   | 0.2564           | 0.00                       | 0.00                      | 0.000                        | 15.769                    | 529.74                     | 15.064                     | 522.86                      |
| 8 7.582                           | 26.000                   | 288.18                    | 288.18                    | 0.00                      | 288.18                   | 0.2571           | 0.00                       | 0.00                      | 0.000                        | 15.772                    | 529.77                     | 15.064                     | 522.85                      |
| 9 6.983                           | 26.000                   | 288.92                    | 288.92                    | 0.00                      | 288.92                   | 0.2577           | 0.00                       | -0.01                     | 0.000                        | 15.776                    | 529.80                     | 15.064                     | 522.84                      |
| 10 6.330                          | 26.000                   | 289.59                    | 289.59                    | 0.00                      | 289.59                   | 0.2583           | 0.00                       | -0.01                     | 0.000                        | 15.780                    | 529.83                     | 15.064                     | 522.85                      |
| 11 5.602                          | 26.000                   |                           |                           |                           |                          |                  |                            |                           |                              |                           |                            |                            |                             |
| hub 5.500                         | 26.000                   |                           |                           |                           |                          |                  |                            |                           |                              |                           |                            |                            |                             |

\*\* values of parameters on streamlines at station, 13, which is an annulus \*\*

| streamline<br>no. radius<br>(in.) | axial<br>coord.<br>(in.) | axial<br>vel.<br>(ft/sec) | merd.<br>vel.<br>(ft/sec) | tang.<br>vel.<br>(ft/sec) | abs.<br>vel.<br>(ft/sec) | abs.<br>mach no. | abs.flow<br>angle<br>(deg) | stream.<br>slope<br>(deg) | stream.<br>curv.<br>(1./in.) | total<br>press.<br>(psia) | total<br>temp.<br>(deg.r.) | static<br>press.<br>(psia) | static<br>temp.<br>(deg.r.) |
|-----------------------------------|--------------------------|---------------------------|---------------------------|---------------------------|--------------------------|------------------|----------------------------|---------------------------|------------------------------|---------------------------|----------------------------|----------------------------|-----------------------------|
| tip 11.000                        | 30.000                   | 282.49                    | 282.49                    | 0.00                      | 282.49                   | 0.2520           | 0.00                       | -0.01                     | 0.000                        | 15.744                    | 529.62                     | 15.064                     | 522.97                      |
| 1 10.917                          | 30.000                   | 283.14                    | 283.14                    | 0.00                      | 283.14                   | 0.2525           | 0.00                       | -0.01                     | 0.000                        | 15.747                    | 529.63                     | 15.064                     | 522.95                      |
| 2 10.503                          | 30.000                   | 283.81                    | 283.81                    | 0.00                      | 283.81                   | 0.2531           | 0.00                       | 0.00                      | 0.000                        | 15.751                    | 529.64                     | 15.064                     | 522.93                      |
| 3 10.072                          | 30.000                   | 284.49                    | 284.49                    | 0.00                      | 284.49                   | 0.2538           | 0.00                       | 0.00                      | 0.000                        | 15.754                    | 529.66                     | 15.064                     | 522.92                      |
| 4 9.623                           | 30.000                   | 285.20                    | 285.20                    | 0.00                      | 285.20                   | 0.2544           | 0.00                       | 0.00                      | 0.000                        | 15.758                    | 529.68                     | 15.064                     | 522.90                      |
| 5 9.154                           | 30.000                   | 285.92                    | 285.92                    | 0.00                      | 285.92                   | 0.2550           | 0.00                       | 0.00                      | 0.000                        | 15.761                    | 529.70                     | 15.064                     | 522.88                      |
| 6 8.660                           | 30.000                   | 286.66                    | 286.66                    | 0.00                      | 286.66                   | 0.2557           | 0.00                       | 0.00                      | 0.000                        | 15.765                    | 529.72                     | 15.064                     | 522.87                      |
| 7 8.138                           | 30.000                   | 287.42                    | 287.42                    | 0.00                      | 287.42                   | 0.2564           | 0.00                       | 0.00                      | 0.000                        | 15.769                    | 529.74                     | 15.064                     | 522.86                      |
| 8 7.582                           | 30.000                   | 288.18                    | 288.18                    | 0.00                      | 288.18                   | 0.2571           | 0.00                       | 0.00                      | 0.000                        | 15.772                    | 529.77                     | 15.064                     | 522.85                      |
| 9 6.983                           | 30.000                   | 288.92                    | 288.92                    | 0.00                      | 288.92                   | 0.2577           | 0.00                       | 0.01                      | 0.000                        | 15.776                    | 529.80                     | 15.064                     | 522.84                      |
| 10 6.330                          | 30.000                   | 289.59                    | 289.59                    | 0.00                      | 289.59                   | 0.2583           | 0.00                       | 0.01                      | 0.000                        | 15.780                    | 529.83                     | 15.064                     | 522.85                      |
| 11 5.602                          | 30.000                   |                           |                           |                           |                          |                  |                            |                           |                              |                           |                            |                            |                             |
| hub 5.500                         | 30.000                   |                           |                           |                           |                          |                  |                            |                           |                              |                           |                            |                            |                             |

## Appendix B Blade Coordinates

1. Rotor blade followed by stator vane
2. 21 sections proceeding from hub to tip
3. 101 points per section with both no. 1 and no. 101 at blade trailing edge
4. All x-coordinates listed first, then all y and z (plot 3-D format)

### Rotor

|                |                |                |                |                |
|----------------|----------------|----------------|----------------|----------------|
| 0.1829317E+01  | 0.1830559E+01  | 0.1831085E+01  | 0.1830886E+01  | 0.1829964E+01  |
| 0.1828339E+01  | 0.1826040E+01  | 0.1823105E+01  | 0.1819587E+01  | 0.1815549E+01  |
| 0.1811060E+01  | 0.1806200E+01  | 0.1801054E+01  | 0.1795838E+01  | 0.1785358E+01  |
| 0.1769544E+01  | 0.1737652E+01  | 0.1642213E+01  | 0.1514319E+01  | 0.1353299E+01  |
| 0.1158189E+01  | 0.9608561E+00  | 0.7612262E+00  | 0.5593589E+00  | 0.3554678E+00  |
| 0.1499450E+00  | -0.5661393E-01 | -0.2633879E+00 | -0.4698065E+00 | -0.6747294E+00 |
| -0.8767069E+00 | -0.1072860E+01 | -0.1227503E+01 | -0.1340866E+01 | -0.1416149E+01 |
| -0.1444517E+01 | -0.1451932E+01 | -0.1456589E+01 | -0.1458825E+01 | -0.1460944E+01 |
| -0.1462839E+01 | -0.1464457E+01 | -0.1465751E+01 | -0.1466677E+01 | -0.1467201E+01 |
| -0.1467297E+01 | -0.1466942E+01 | -0.1466128E+01 | -0.1464850E+01 | -0.1463114E+01 |
| -0.1460933E+01 | -0.1458327E+01 | -0.1455326E+01 | -0.1451962E+01 | -0.1448279E+01 |
| -0.1444321E+01 | -0.1440138E+01 | -0.1435784E+01 | -0.1431316E+01 | -0.1426791E+01 |
| -0.1422266E+01 | -0.1417799E+01 | -0.1413443E+01 | -0.1409107E+01 | -0.1400458E+01 |
| -0.1387535E+01 | -0.1347987E+01 | -0.1254217E+01 | -0.1131964E+01 | -0.9800526E+00 |
| -0.7964755E+00 | -0.6105265E+00 | -0.4224365E+00 | -0.2326477E+00 | -0.4138494E-01 |
| 0.1509690E+00  | 0.3444400E+00  | 0.5389331E+00  | 0.7342506E+00  | 0.9301142E+00  |
| 0.1126180E+01  | 0.1322062E+01  | 0.1484860E+01  | 0.1614634E+01  | 0.1711618E+01  |
| 0.1743679E+01  | 0.1759852E+01  | 0.1770671E+01  | 0.1776095E+01  | 0.1781585E+01  |
| 0.1787179E+01  | 0.1792783E+01  | 0.1798304E+01  | 0.1803650E+01  | 0.1808728E+01  |
| 0.1813456E+01  | 0.1817753E+01  | 0.1821547E+01  | 0.1824772E+01  | 0.1827377E+01  |
| 0.1829317E+01  | 0.1828164E+01  | 0.1828930E+01  | 0.1828994E+01  | 0.1828356E+01  |
| 0.1827027E+01  | 0.1825031E+01  | 0.1822403E+01  | 0.1819188E+01  | 0.1815443E+01  |
| 0.1811233E+01  | 0.1806631E+01  | 0.1801717E+01  | 0.1796578E+01  | 0.1791384E+01  |
| 0.1780960E+01  | 0.1765258E+01  | 0.1732064E+01  | 0.1635031E+01  | 0.1505156E+01  |
| 0.1341921E+01  | 0.1144601E+01  | 0.9456183E+00  | 0.7449678E+00  | 0.5427683E+00  |
| 0.3392804E+00  | 0.1349268E+00  | -0.6968523E-01 | -0.2737446E+00 | -0.4766584E+00 |
| -0.6773488E+00 | -0.8743899E+00 | -0.1064941E+01 | -0.1214555E+01 | -0.1323876E+01 |
| -0.1396299E+01 | -0.1423613E+01 | -0.1430680E+01 | -0.1435116E+01 | -0.1437243E+01 |
| -0.1439256E+01 | -0.1441042E+01 | -0.1442550E+01 | -0.1443734E+01 | -0.1444552E+01 |
| -0.1444972E+01 | -0.1444972E+01 | -0.1444525E+01 | -0.1443628E+01 | -0.1442279E+01 |
| -0.1440484E+01 | -0.1438255E+01 | -0.1435616E+01 | -0.1432594E+01 | -0.1429224E+01 |
| -0.1425549E+01 | -0.1421614E+01 | -0.1417468E+01 | -0.1413164E+01 | -0.1408758E+01 |
| -0.1404306E+01 | -0.1399863E+01 | -0.1395487E+01 | -0.1391229E+01 | -0.1386993E+01 |
| -0.1378548E+01 | -0.1365942E+01 | -0.1326777E+01 | -0.1234390E+01 | -0.1113828E+01 |
| -0.9639040E+00 | -0.7826249E+00 | -0.5988949E+00 | -0.4129005E+00 | -0.2250526E+00 |
| -0.3562618E-01 | 0.1550663E+00  | 0.3470850E+00  | 0.5403784E+00  | 0.7347987E+00  |
| 0.9301201E+00  | 0.1126054E+01  | 0.1322270E+01  | 0.1485738E+01  | 0.1616327E+01  |
| 0.1714090E+01  | 0.1747200E+01  | 0.1763162E+01  | 0.1773828E+01  | 0.1779169E+01  |
| 0.1784548E+01  | 0.1789972E+01  | 0.1795351E+01  | 0.1800594E+01  | 0.1805614E+01  |
| 0.1810324E+01  | 0.1814646E+01  | 0.1818506E+01  | 0.1821839E+01  | 0.1824588E+01  |
| 0.1826709E+01  | 0.1828164E+01  | 0.1824560E+01  | 0.1824862E+01  | 0.1824479E+01  |
| 0.1823418E+01  | 0.1821697E+01  | 0.1819347E+01  | 0.1816407E+01  | 0.1812929E+01  |
| 0.1808973E+01  | 0.1804608E+01  | 0.1799906E+01  | 0.1794953E+01  | 0.1789832E+01  |
| 0.1784672E+01  | 0.1774328E+01  | 0.1758773E+01  | 0.1724342E+01  | 0.1625917E+01  |

|                |                |                |                |                |
|----------------|----------------|----------------|----------------|----------------|
| 0.1494321E+01  | 0.1329188E+01  | 0.1130020E+01  | 0.9297270E+00  | 0.7283712E+00  |
| 0.5261276E+00  | 0.3233006E+00  | 0.1203423E+00  | -0.8213044E-01 | -0.2833181E+00 |
| -0.4826074E+00 | -0.6789818E+00 | -0.8710417E+00 | -0.1055986E+01 | -0.1200598E+01 |
| -0.1305915E+01 | -0.1375513E+01 | -0.1401790E+01 | -0.1408513E+01 | -0.1412729E+01 |
| -0.1414749E+01 | -0.1416657E+01 | -0.1418335E+01 | -0.1419734E+01 | -0.1420810E+01 |
| -0.1421522E+01 | -0.1421841E+01 | -0.1421742E+01 | -0.1421209E+01 | -0.1420233E+01 |
| -0.1418815E+01 | -0.1416961E+01 | -0.1414688E+01 | -0.1412017E+01 | -0.1408977E+01 |
| -0.1405604E+01 | -0.1401939E+01 | -0.1398030E+01 | -0.1393922E+01 | -0.1389670E+01 |
| -0.1385327E+01 | -0.1380950E+01 | -0.1376592E+01 | -0.1372308E+01 | -0.1368150E+01 |
| -0.1364014E+01 | -0.1355777E+01 | -0.1343490E+01 | -0.1304720E+01 | -0.1213749E+01 |
| -0.1094931E+01 | -0.9470710E+00 | -0.7681965E+00 | -0.5868075E+00 | -0.4030466E+00 |
| -0.2172945E+00 | -0.2987242E-01 | 0.1589751E+00  | 0.3493426E+00  | 0.5412191E+00  |
| 0.7345055E+00  | 0.9290282E+00  | 0.1124553E+01  | 0.1320801E+01  | 0.1484671E+01  |
| 0.1615848E+01  | 0.1714215E+01  | 0.1748322E+01  | 0.1764038E+01  | 0.1774527E+01  |
| 0.1779775E+01  | 0.1785033E+01  | 0.1790280E+01  | 0.1795428E+01  | 0.1800390E+01  |
| 0.1805083E+01  | 0.1809425E+01  | 0.1813343E+01  | 0.1816771E+01  | 0.1819650E+01  |
| 0.1821932E+01  | 0.1823578E+01  | 0.1824560E+01  | 0.1814123E+01  | 0.1813998E+01  |
| 0.1813207E+01  | 0.1811764E+01  | 0.1809696E+01  | 0.1807037E+01  | 0.1803832E+01  |
| 0.1800137E+01  | 0.1796014E+01  | 0.1791537E+01  | 0.1786779E+01  | 0.1781823E+01  |
| 0.1776756E+01  | 0.1771664E+01  | 0.1761469E+01  | 0.1746156E+01  | 0.1710671E+01  |
| 0.1611413E+01  | 0.1478827E+01  | 0.1312679E+01  | 0.1112673E+01  | 0.9120162E+00  |
| 0.7108331E+00  | 0.5093468E+00  | 0.3078990E+00  | 0.1069641E+00  | -0.9283496E-01 |
| -0.2907138E+00 | -0.4860447E+00 | -0.6778701E+00 | -0.8648216E+00 | -0.1044145E+01 |
| -0.1183829E+01 | -0.1285246E+01 | -0.1352115E+01 | -0.1377402E+01 | -0.1383791E+01 |
| -0.1387794E+01 | -0.1389711E+01 | -0.1391517E+01 | -0.1393091E+01 | -0.1394386E+01 |
| -0.1395358E+01 | -0.1395969E+01 | -0.1396192E+01 | -0.1396002E+01 | -0.1395386E+01 |
| -0.1394337E+01 | -0.1392856E+01 | -0.1390951E+01 | -0.1388639E+01 | -0.1385942E+01 |
| -0.1382891E+01 | -0.1379521E+01 | -0.1375873E+01 | -0.1371995E+01 | -0.1367931E+01 |
| -0.1363737E+01 | -0.1359464E+01 | -0.1355167E+01 | -0.1350898E+01 | -0.1346711E+01 |
| -0.1342655E+01 | -0.1338625E+01 | -0.1330602E+01 | -0.1318648E+01 | -0.1280303E+01 |
| -0.1190841E+01 | -0.1073913E+01 | -0.9283307E+00 | -0.7521589E+00 | -0.5734518E+00 |
| -0.3923090E+00 | -0.2090829E+00 | -0.2413225E-01 | 0.1623614E+00  | 0.3505218E+00  |
| 0.5403770E+00  | 0.7318719E+00  | 0.9248808E+00  | 0.1119221E+01  | 0.1314664E+01  |
| 0.1478190E+01  | 0.1609324E+01  | 0.1707802E+01  | 0.1742764E+01  | 0.1758134E+01  |
| 0.1768381E+01  | 0.1773504E+01  | 0.1778616E+01  | 0.1783666E+01  | 0.1788568E+01  |
| 0.1793239E+01  | 0.1797599E+01  | 0.1801574E+01  | 0.1805095E+01  | 0.1808103E+01  |
| 0.1810546E+01  | 0.1812382E+01  | 0.1813583E+01  | 0.1814123E+01  | 0.1794645E+01  |
| 0.1794141E+01  | 0.1792996E+01  | 0.1791231E+01  | 0.1788875E+01  | 0.1785969E+01  |
| 0.1782562E+01  | 0.1778713E+01  | 0.1774486E+01  | 0.1769955E+01  | 0.1765197E+01  |
| 0.1760293E+01  | 0.1755327E+01  | 0.1750349E+01  | 0.1740391E+01  | 0.1725453E+01  |
| 0.1689154E+01  | 0.1589811E+01  | 0.1457210E+01  | 0.1291225E+01  | 0.1091723E+01  |
| 0.8919633E+00  | 0.6921161E+00  | 0.4924455E+00  | 0.2933214E+00  | 0.9523392E-01  |
| -0.1011944E+00 | -0.2951968E+00 | -0.4861389E+00 | -0.6731182E+00 | -0.8548056E+00 |
| -0.1028503E+01 | -0.1163366E+01 | -0.1261030E+01 | -0.1325301E+01 | -0.1349665E+01 |
| -0.1355734E+01 | -0.1359533E+01 | -0.1361351E+01 | -0.1363059E+01 | -0.1364535E+01 |
| -0.1365732E+01 | -0.1366606E+01 | -0.1367124E+01 | -0.1367257E+01 | -0.1366985E+01 |
| -0.1366294E+01 | -0.1365180E+01 | -0.1363644E+01 | -0.1361697E+01 | -0.1359355E+01 |
| -0.1356641E+01 | -0.1353588E+01 | -0.1350230E+01 | -0.1346608E+01 | -0.1342768E+01 |
| -0.1338758E+01 | -0.1334628E+01 | -0.1330432E+01 | -0.1326222E+01 | -0.1322049E+01 |
| -0.1317966E+01 | -0.1314017E+01 | -0.1310098E+01 | -0.1302302E+01 | -0.1290694E+01 |
| -0.1252818E+01 | -0.1164990E+01 | -0.1050146E+01 | -0.9071257E+00 | -0.7340503E+00 |
| -0.5584732E+00 | -0.3804527E+00 | -0.2003167E+00 | -0.1844907E-01 | 0.1650236E+00  |
| 0.3502505E+00  | 0.5372916E+00  | 0.7261313E+00  | 0.9166868E+00  | 0.1108821E+01  |
| 0.1302354E+01  | 0.1464546E+01  | 0.1594800E+01  | 0.1692737E+01  | 0.1728367E+01  |
| 0.1743259E+01  | 0.1753178E+01  | 0.1758134E+01  | 0.1763065E+01  | 0.1767889E+01  |
| 0.1772524E+01  | 0.1776889E+01  | 0.1780910E+01  | 0.1784518E+01  | 0.1787651E+01  |
| 0.1790256E+01  | 0.1792287E+01  | 0.1793710E+01  | 0.1794501E+01  | 0.1794645E+01  |
| 0.1768175E+01  | 0.1767341E+01  | 0.1765895E+01  | 0.1763864E+01  | 0.1761279E+01  |
| 0.1758185E+01  | 0.1754635E+01  | 0.1750689E+01  | 0.1746415E+01  | 0.1741884E+01  |

|                |                |                |                |                |
|----------------|----------------|----------------|----------------|----------------|
| 0.1737176E+01  | 0.1732367E+01  | 0.1727543E+01  | 0.1722717E+01  | 0.1713074E+01  |
| 0.1698623E+01  | 0.1661688E+01  | 0.1562861E+01  | 0.1431025E+01  | 0.1266141E+01  |
| 0.1068212E+01  | 0.8703418E+00  | 0.6727415E+00  | 0.4757066E+00  | 0.2796290E+00  |
| 0.8500815E-01  | -0.1075373E+00 | -0.2972591E+00 | -0.4835230E+00 | -0.6654769E+00 |
| -0.8418353E+00 | -0.1009963E+01 | -0.1140140E+01 | -0.1234205E+01 | -0.1296008E+01 |
| -0.1319509E+01 | -0.1325271E+01 | -0.1328876E+01 | -0.1330599E+01 | -0.1332216E+01 |
| -0.1333598E+01 | -0.1334701E+01 | -0.1335485E+01 | -0.1335915E+01 | -0.1335966E+01 |
| -0.1335618E+01 | -0.1334860E+01 | -0.1333689E+01 | -0.1332106E+01 | -0.1330124E+01 |
| -0.1327760E+01 | -0.1325038E+01 | -0.1321991E+01 | -0.1318653E+01 | -0.1315064E+01 |
| -0.1311271E+01 | -0.1307321E+01 | -0.1303264E+01 | -0.1299152E+01 | -0.1295035E+01 |
| -0.1290964E+01 | -0.1286989E+01 | -0.1283153E+01 | -0.1279350E+01 | -0.1271790E+01 |
| -0.1260542E+01 | -0.1223169E+01 | -0.1137077E+01 | -0.1024473E+01 | -0.8842364E+00 |
| -0.7145571E+00 | -0.5424466E+00 | -0.3679250E+00 | -0.1912988E+00 | -0.1296711E-01 |
| 0.1669901E+00  | 0.3487423E+00  | 0.5323775E+00  | 0.7179134E+00  | 0.9053054E+00  |
| 0.1094457E+01  | 0.1285231E+01  | 0.1445325E+01  | 0.1574051E+01  | 0.1670936E+01  |
| 0.1707098E+01  | 0.1721405E+01  | 0.1730924E+01  | 0.1735677E+01  | 0.1740397E+01  |
| 0.1744971E+01  | 0.1749320E+01  | 0.1753369E+01  | 0.1757049E+01  | 0.1760295E+01  |
| 0.1763052E+01  | 0.1765273E+01  | 0.1766919E+01  | 0.1767961E+01  | 0.1768383E+01  |
| 0.1768175E+01  | 0.1737408E+01  | 0.1736292E+01  | 0.1734595E+01  | 0.1732348E+01  |
| 0.1729585E+01  | 0.1726356E+01  | 0.1722714E+01  | 0.1718721E+01  | 0.1714445E+01  |
| 0.1709958E+01  | 0.1705336E+01  | 0.1700657E+01  | 0.1696002E+01  | 0.1691355E+01  |
| 0.1682079E+01  | 0.1668195E+01  | 0.1630736E+01  | 0.1532824E+01  | 0.1402270E+01  |
| 0.1239106E+01  | 0.1043447E+01  | 0.8481081E+00  | 0.6533335E+00  | 0.4594443E+00  |
| 0.2668488E+00  | 0.7605315E-01  | -0.1123305E+00 | -0.2975731E+00 | -0.4790433E+00 |
| -0.6559358E+00 | -0.8270100E+00 | -0.9896942E+00 | -0.1115349E+01 | -0.1205969E+01 |
| -0.1265425E+01 | -0.1288118E+01 | -0.1293586E+01 | -0.1297004E+01 | -0.1298637E+01 |
| -0.1300166E+01 | -0.1301460E+01 | -0.1302474E+01 | -0.1303172E+01 | -0.1303520E+01 |
| -0.1303494E+01 | -0.1303077E+01 | -0.1302259E+01 | -0.1301036E+01 | -0.1299414E+01 |
| -0.1297405E+01 | -0.1295027E+01 | -0.1292304E+01 | -0.1289269E+01 | -0.1285957E+01 |
| -0.1282409E+01 | -0.1278670E+01 | -0.1274786E+01 | -0.1270808E+01 | -0.1266784E+01 |
| -0.1262766E+01 | -0.1258802E+01 | -0.1254940E+01 | -0.1251221E+01 | -0.1247539E+01 |
| -0.1240222E+01 | -0.1229345E+01 | -0.1192498E+01 | -0.1108212E+01 | -0.9979503E+00 |
| -0.8606349E+00 | -0.6945291E+00 | -0.5260779E+00 | -0.3552673E+00 | -0.1823855E+00 |
| -0.7842065E-02 | 0.1683235E+00  | 0.3462975E+00  | 0.5261913E+00  | 0.7080505E+00  |
| 0.8918646E+00  | 0.1077573E+01  | 0.1265075E+01  | 0.1422604E+01  | 0.1549397E+01  |
| 0.1644910E+01  | 0.1681517E+01  | 0.1695171E+01  | 0.1704246E+01  | 0.1708772E+01  |
| 0.1713258E+01  | 0.1717566E+01  | 0.1721620E+01  | 0.1725350E+01  | 0.1728692E+01  |
| 0.1731587E+01  | 0.1733986E+01  | 0.1735846E+01  | 0.1737136E+01  | 0.1737833E+01  |
| 0.1737924E+01  | 0.1737408E+01  | 0.1703808E+01  | 0.1702452E+01  | 0.1700546E+01  |
| 0.1698122E+01  | 0.1695222E+01  | 0.1691894E+01  | 0.1688194E+01  | 0.1684186E+01  |
| 0.1679937E+01  | 0.1675517E+01  | 0.1671003E+01  | 0.1666470E+01  | 0.1661994E+01  |
| 0.1657537E+01  | 0.1648646E+01  | 0.1635352E+01  | 0.1597520E+01  | 0.1500820E+01  |
| 0.1371932E+01  | 0.1210946E+01  | 0.1018070E+01  | 0.8257270E+00  | 0.6341909E+00  |
| 0.4438029E+00  | 0.2549842E+00  | 0.6824351E-01  | -0.1158142E+00 | -0.2964795E+00 |
| -0.4731260E+00 | -0.6449916E+00 | -0.8108796E+00 | -0.9682835E+00 | -0.1089594E+01 |
| -0.1176931E+01 | -0.1234160E+01 | -0.1256097E+01 | -0.1261284E+01 | -0.1264522E+01 |
| -0.1266070E+01 | -0.1267515E+01 | -0.1268725E+01 | -0.1269655E+01 | -0.1270272E+01 |
| -0.1270543E+01 | -0.1270447E+01 | -0.1269966E+01 | -0.1269094E+01 | -0.1267828E+01 |
| -0.1266173E+01 | -0.1264144E+01 | -0.1261758E+01 | -0.1259041E+01 | -0.1256025E+01 |
| -0.1252747E+01 | -0.1249246E+01 | -0.1245567E+01 | -0.1241756E+01 | -0.1237861E+01 |
| -0.1233932E+01 | -0.1230017E+01 | -0.1226164E+01 | -0.1222419E+01 | -0.1218823E+01 |
| -0.1215264E+01 | -0.1208196E+01 | -0.1197699E+01 | -0.1161395E+01 | -0.1078969E+01 |
| -0.9711231E+00 | -0.8368229E+00 | -0.6744054E+00 | -0.5097324E+00 | -0.3427623E+00 |
| -0.1737664E+00 | -0.3161669E-02 | 0.1690471E+00  | 0.3430581E+00  | 0.5190032E+00  |
| 0.6969522E+00  | 0.8769224E+00  | 0.1058886E+01  | 0.1242774E+01  | 0.1397417E+01  |
| 0.1521998E+01  | 0.1615911E+01  | 0.1652805E+01  | 0.1665805E+01  | 0.1674437E+01  |
| 0.1678739E+01  | 0.1682993E+01  | 0.1687041E+01  | 0.1690812E+01  | 0.1694239E+01  |
| 0.1697264E+01  | 0.1699833E+01  | 0.1701902E+01  | 0.1703435E+01  | 0.1704404E+01  |
| 0.1704792E+01  | 0.1704593E+01  | 0.1703808E+01  | 0.1668094E+01  | 0.1666530E+01  |

|                |                |                |                |                |
|----------------|----------------|----------------|----------------|----------------|
| 0.1664444E+01  | 0.1661871E+01  | 0.1658856E+01  | 0.1655448E+01  | 0.1651705E+01  |
| 0.1647692E+01  | 0.1643476E+01  | 0.1639127E+01  | 0.1634719E+01  | 0.1630328E+01  |
| 0.1626026E+01  | 0.1621750E+01  | 0.1613220E+01  | 0.1600470E+01  | 0.1562516E+01  |
| 0.1467283E+01  | 0.1340391E+01  | 0.1181975E+01  | 0.9923176E+00  | 0.8033660E+00  |
| 0.6154161E+00  | 0.4288252E+00  | 0.2440229E+00  | 0.6151867E-01  | -0.1180916E+00 |
| -0.2941184E+00 | -0.4659422E+00 | -0.6328409E+00 | -0.7936609E+00 | -0.9459612E+00 |
| -0.1063115E+01 | -0.1147333E+01 | -0.1202461E+01 | -0.1223700E+01 | -0.1228617E+01 |
| -0.1231684E+01 | -0.1233149E+01 | -0.1234515E+01 | -0.1235645E+01 | -0.1236497E+01 |
| -0.1237037E+01 | -0.1237238E+01 | -0.1237077E+01 | -0.1236541E+01 | -0.1235621E+01 |
| -0.1234318E+01 | -0.1232638E+01 | -0.1230595E+01 | -0.1228210E+01 | -0.1225507E+01 |
| -0.1222517E+01 | -0.1219280E+01 | -0.1215833E+01 | -0.1212220E+01 | -0.1208488E+01 |
| -0.1204684E+01 | -0.1200854E+01 | -0.1197047E+01 | -0.1193310E+01 | -0.1189686E+01 |
| -0.1186215E+01 | -0.1182783E+01 | -0.1175970E+01 | -0.1165861E+01 | -0.1130114E+01 |
| -0.1049593E+01 | -0.9442247E+00 | -0.8130147E+00 | -0.6543735E+00 | -0.4935682E+00 |
| -0.3305335E+00 | -0.1655278E+00 | 0.1028538E-02  | 0.1691587E+00  | 0.3390711E+00  |
| 0.5109122E+00  | 0.6847730E+00  | 0.8606947E+00  | 0.1038675E+01  | 0.1218677E+01  |
| 0.1370175E+01  | 0.1492313E+01  | 0.1584444E+01  | 0.1621332E+01  | 0.1633749E+01  |
| 0.1641996E+01  | 0.1646107E+01  | 0.1650165E+01  | 0.1653992E+01  | 0.1657519E+01  |
| 0.1660685E+01  | 0.1663435E+01  | 0.1665722E+01  | 0.1667503E+01  | 0.1668751E+01  |
| 0.1669440E+01  | 0.1669562E+01  | 0.1669110E+01  | 0.1668094E+01  | 0.1630780E+01  |
| 0.1629044E+01  | 0.1626812E+01  | 0.1624122E+01  | 0.1621020E+01  | 0.1617559E+01  |
| 0.1613797E+01  | 0.1609799E+01  | 0.1605631E+01  | 0.1601365E+01  | 0.1597073E+01  |
| 0.1592827E+01  | 0.1588701E+01  | 0.1584605E+01  | 0.1576433E+01  | 0.1564214E+01  |
| 0.1526293E+01  | 0.1432730E+01  | 0.1308095E+01  | 0.1152559E+01  | 0.9664661E+00  |
| 0.7812153E+00  | 0.5971194E+00  | 0.4145482E+00  | 0.2339363E+00  | 0.5579186E-01  |
| -0.1193006E+00 | -0.2906711E+00 | -0.4577086E+00 | -0.6197287E+00 | -0.7756194E+00 |
| -0.9230070E+00 | -0.1036198E+01 | -0.1117467E+01 | -0.1170621E+01 | -0.1191223E+01 |
| -0.1195880E+01 | -0.1198784E+01 | -0.1200171E+01 | -0.1201461E+01 | -0.1202515E+01 |
| -0.1203294E+01 | -0.1203764E+01 | -0.1203900E+01 | -0.1203682E+01 | -0.1203096E+01 |
| -0.1202136E+01 | -0.1200803E+01 | -0.1199106E+01 | -0.1197058E+01 | -0.1194680E+01 |
| -0.1191998E+01 | -0.1189044E+01 | -0.1185853E+01 | -0.1182468E+01 | -0.1178928E+01 |
| -0.1175281E+01 | -0.1171572E+01 | -0.1167848E+01 | -0.1164155E+01 | -0.1160538E+01 |
| -0.1157038E+01 | -0.1153695E+01 | -0.1150393E+01 | -0.1143840E+01 | -0.1134127E+01 |
| -0.1098945E+01 | -0.1020364E+01 | -0.9175136E+00 | -0.7894434E+00 | -0.6346326E+00 |
| -0.4777470E+00 | -0.3187018E+00 | -0.1577456E+00 | 0.4700900E-02  | 0.1686833E+00  |
| 0.3344164E+00  | 0.5020598E+00  | 0.6717196E+00  | 0.8434575E+00  | 0.1017294E+01  |
| 0.1193217E+01  | 0.1341382E+01  | 0.1460911E+01  | 0.1551120E+01  | 0.1587843E+01  |
| 0.1599702E+01  | 0.1607587E+01  | 0.1611521E+01  | 0.1615399E+01  | 0.1619023E+01  |
| 0.1622330E+01  | 0.1625260E+01  | 0.1627763E+01  | 0.1629798E+01  | 0.1631326E+01  |
| 0.1632323E+01  | 0.1632769E+01  | 0.1632659E+01  | 0.1631992E+01  | 0.1630780E+01  |
| 0.1592190E+01  | 0.1590328E+01  | 0.1588001E+01  | 0.1585250E+01  | 0.1582122E+01  |
| 0.1578668E+01  | 0.1574947E+01  | 0.1571024E+01  | 0.1566963E+01  | 0.1562833E+01  |
| 0.1558705E+01  | 0.1554648E+01  | 0.1550730E+01  | 0.1546849E+01  | 0.1539109E+01  |
| 0.1527547E+01  | 0.1489521E+01  | 0.1397769E+01  | 0.1275571E+01  | 0.1123131E+01  |
| 0.9408354E+00  | 0.7594903E+00  | 0.5794206E+00  | 0.4010041E+00  | 0.2246788E+00  |
| 0.5094719E-01  | -0.1196170E+00 | -0.2863636E+00 | -0.4486928E+00 | -0.6059545E+00 |
| -0.7570780E+00 | -0.8997570E+00 | -0.1009184E+01 | -0.1087674E+01 | -0.1138983E+01 |
| -0.1159007E+01 | -0.1163418E+01 | -0.1166167E+01 | -0.1167480E+01 | -0.1168698E+01 |
| -0.1169681E+01 | -0.1170392E+01 | -0.1170799E+01 | -0.1170876E+01 | -0.1170607E+01 |
| -0.1169978E+01 | -0.1168985E+01 | -0.1167631E+01 | -0.1165923E+01 | -0.1163877E+01 |
| -0.1161515E+01 | -0.1158862E+01 | -0.1155950E+01 | -0.1152815E+01 | -0.1149496E+01 |
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| -0.1102832E+01 | -0.1068218E+01 | -0.9915922E+00 | -0.8912790E+00 | -0.7663655E+00 |
| -0.6153963E+00 | -0.4624358E+00 | -0.3073852E+00 | -0.1504839E+00 | 0.7847787E-02  |
| 0.1676734E+00  | 0.3292127E+00  | 0.4926334E+00  | 0.6580551E+00  | 0.8255554E+00  |
| 0.9951736E+00  | 0.1166918E+01  | 0.1311648E+01  | 0.1428469E+01  | 0.1516674E+01  |
| 0.1553472E+01  | 0.1564637E+01  | 0.1572054E+01  | 0.1575751E+01  | 0.1579390E+01  |
| 0.1582761E+01  | 0.1585805E+01  | 0.1588467E+01  | 0.1590704E+01  | 0.1592474E+01  |

|                |                |                |                |                |
|----------------|----------------|----------------|----------------|----------------|
| 0.1593747E+01  | 0.1594501E+01  | 0.1594721E+01  | 0.1594405E+01  | 0.1593557E+01  |
| 0.1592190E+01  | 0.1552912E+01  | 0.1550967E+01  | 0.1548593E+01  | 0.1545832E+01  |
| 0.1542729E+01  | 0.1539337E+01  | 0.1535712E+01  | 0.1531916E+01  | 0.1528012E+01  |
| 0.1524068E+01  | 0.1520146E+01  | 0.1516314E+01  | 0.1512635E+01  | 0.1508997E+01  |
| 0.1501755E+01  | 0.1490962E+01  | 0.1452689E+01  | 0.1362842E+01  | 0.1243203E+01  |
| 0.1094000E+01  | 0.9156528E+00  | 0.7383409E+00  | 0.5623983E+00  | 0.3882070E+00  |
| 0.2162049E+00  | 0.4688859E-01  | -0.1191812E+00 | -0.2813742E+00 | -0.4391032E+00 |
| -0.5917501E+00 | -0.7382852E+00 | -0.8764707E+00 | -0.9823374E+00 | -0.1058224E+01 |
| -0.1107820E+01 | -0.1127327E+01 | -0.1131504E+01 | -0.1134107E+01 | -0.1135351E+01 |
| -0.1136501E+01 | -0.1137419E+01 | -0.1138067E+01 | -0.1138416E+01 | -0.1138442E+01 |
| -0.1138128E+01 | -0.1137463E+01 | -0.1136445E+01 | -0.1135077E+01 | -0.1133366E+01 |
| -0.1131331E+01 | -0.1128991E+01 | -0.1126374E+01 | -0.1123512E+01 | -0.1120439E+01 |
| -0.1117194E+01 | -0.1113821E+01 | -0.1110360E+01 | -0.1106858E+01 | -0.1103358E+01 |
| -0.1099903E+01 | -0.1096536E+01 | -0.1093294E+01 | -0.1090214E+01 | -0.1087178E+01 |
| -0.1081157E+01 | -0.1072246E+01 | -0.1038194E+01 | -0.9635216E+00 | -0.8657406E+00 |
| -0.7439696E+00 | -0.5968167E+00 | -0.4477485E+00 | -0.2966576E+00 | -0.1437752E+00 |
| 0.1047993E-01  | 0.1661861E+00  | 0.3235646E+00  | 0.4827891E+00  | 0.6439896E+00  |
| 0.8072568E+00  | 0.9726452E+00  | 0.1140180E+01  | 0.1281432E+01  | 0.1395497E+01  |
| 0.1481654E+01  | 0.1518762E+01  | 0.1529112E+01  | 0.1535966E+01  | 0.1539375E+01  |
| 0.1542720E+01  | 0.1545793E+01  | 0.1548537E+01  | 0.1550904E+01  | 0.1552854E+01  |
| 0.1554350E+01  | 0.1555367E+01  | 0.1555885E+01  | 0.1555895E+01  | 0.1555397E+01  |
| 0.1554397E+01  | 0.1552912E+01  | 0.1513838E+01  | 0.1511828E+01  | 0.1509421E+01  |
| 0.1506659E+01  | 0.1503586E+01  | 0.1500255E+01  | 0.1496723E+01  | 0.1493047E+01  |
| 0.1489290E+01  | 0.1485514E+01  | 0.1481783E+01  | 0.1478158E+01  | 0.1474699E+01  |
| 0.1471284E+01  | 0.1464493E+01  | 0.1454385E+01  | 0.1416062E+01  | 0.1328189E+01  |
| 0.1211195E+01  | 0.1065327E+01  | 0.8910313E+00  | 0.7178362E+00  | 0.5460799E+00  |
| 0.3761473E+00  | 0.2084730E+00  | 0.4354573E-01  | -0.1180878E+00 | -0.2758174E+00 |
| -0.4290698E+00 | -0.5772582E+00 | -0.7193928E+00 | -0.8533062E+00 | -0.9558220E+00 |
| -0.1029284E+01 | -0.1077305E+01 | -0.1096361E+01 | -0.1100318E+01 | -0.1102785E+01 |
| -0.1103962E+01 | -0.1105051E+01 | -0.1105909E+01 | -0.1106500E+01 | -0.1106797E+01 |
| -0.1106777E+01 | -0.1106426E+01 | -0.1105734E+01 | -0.1104698E+01 | -0.1103323E+01 |
| -0.1101618E+01 | -0.1099601E+01 | -0.1097292E+01 | -0.1094718E+01 | -0.1091912E+01 |
| -0.1088908E+01 | -0.1085743E+01 | -0.1082461E+01 | -0.1079102E+01 | -0.1075710E+01 |
| -0.1072328E+01 | -0.1068997E+01 | -0.1065758E+01 | -0.1062649E+01 | -0.1059702E+01 |
| -0.1056800E+01 | -0.1051048E+01 | -0.1042540E+01 | -0.1009038E+01 | -0.9363019E+00 |
| -0.8410254E+00 | -0.7223580E+00 | -0.5789668E+00 | -0.4337316E+00 | -0.2865386E+00 |
| -0.1376126E+00 | 0.1263046E-01  | 0.1642797E+00  | 0.3175571E+00  | 0.4726398E+00  |
| 0.6296654E+00  | 0.7887340E+00  | 0.9499141E+00  | 0.1113243E+01  | 0.1251006E+01  |
| 0.1362295E+01  | 0.1446383E+01  | 0.1483547E+01  | 0.1493189E+01  | 0.1499562E+01  |
| 0.1502729E+01  | 0.1505829E+01  | 0.1508651E+01  | 0.1511143E+01  | 0.1513262E+01  |
| 0.1514971E+01  | 0.1516236E+01  | 0.1517037E+01  | 0.1517358E+01  | 0.1517192E+01  |
| 0.1516542E+01  | 0.1515418E+01  | 0.1513838E+01  | 0.1475296E+01  | 0.1473248E+01  |
| 0.1470815E+01  | 0.1468054E+01  | 0.1465008E+01  | 0.1461730E+01  | 0.1458277E+01  |
| 0.1454703E+01  | 0.1451071E+01  | 0.1447441E+01  | 0.1443874E+01  | 0.1440430E+01  |
| 0.1437163E+01  | 0.1433945E+01  | 0.1427540E+01  | 0.1418006E+01  | 0.1379867E+01  |
| 0.1294010E+01  | 0.1179717E+01  | 0.1037245E+01  | 0.8670641E+00  | 0.6980296E+00  |
| 0.5304840E+00  | 0.3648115E+00  | 0.2014415E+00  | 0.4085327E-01  | -0.1164212E+00 |
| -0.2697933E+00 | -0.4187045E+00 | -0.5625985E+00 | -0.7005249E+00 | -0.8303885E+00 |
| -0.9297612E+00 | -0.1000976E+01 | -0.1047560E+01 | -0.1066231E+01 | -0.1069983E+01 |
| -0.1072321E+01 | -0.1073437E+01 | -0.1074470E+01 | -0.1075271E+01 | -0.1075812E+01 |
| -0.1076063E+01 | -0.1076005E+01 | -0.1075623E+01 | -0.1074911E+01 | -0.1073865E+01 |
| -0.1072492E+01 | -0.1070800E+01 | -0.1068808E+01 | -0.1066538E+01 | -0.1064014E+01 |
| -0.1061272E+01 | -0.1058342E+01 | -0.1055264E+01 | -0.1052078E+01 | -0.1048825E+01 |
| -0.1045547E+01 | -0.1042287E+01 | -0.1039081E+01 | -0.1035974E+01 | -0.1032997E+01 |
| -0.1030185E+01 | -0.1027416E+01 | -0.1021933E+01 | -0.1013827E+01 | -0.9808594E+00 |
| -0.9100296E+00 | -0.8172151E+00 | -0.7015936E+00 | -0.5618894E+00 | -0.4204073E+00 |
| -0.2770315E+00 | -0.1319800E+00 | 0.1433516E-01  | 0.1620114E+00  | 0.3112681E+00  |
| 0.4622855E+00  | 0.6152053E+00  | 0.7701362E+00  | 0.9271563E+00  | 0.1086315E+01  |
| 0.1220604E+01  | 0.1329119E+01  | 0.1411134E+01  | 0.1448053E+01  | 0.1457122E+01  |

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|----------------|----------------|----------------|----------------|----------------|
| 0.1463120E+01  | 0.1466101E+01  | 0.1469017E+01  | 0.1471647E+01  | 0.1473945E+01  |
| 0.1475870E+01  | 0.1477389E+01  | 0.1478473E+01  | 0.1479102E+01  | 0.1479266E+01  |
| 0.1478961E+01  | 0.1478189E+01  | 0.1476966E+01  | 0.1475309E+01  | 0.1437172E+01  |
| 0.1435084E+01  | 0.1432651E+01  | 0.1429916E+01  | 0.1426922E+01  | 0.1423721E+01  |
| 0.1420367E+01  | 0.1416916E+01  | 0.1413426E+01  | 0.1409956E+01  | 0.1406563E+01  |
| 0.1403306E+01  | 0.1400235E+01  | 0.1397214E+01  | 0.1391202E+01  | 0.1382255E+01  |
| 0.1344297E+01  | 0.1260478E+01  | 0.1148914E+01  | 0.1009868E+01  | 0.8438256E+00  |
| 0.6789623E+00  | 0.5156208E+00  | 0.3541823E+00  | 0.1950696E+00  | 0.3875065E-01  |
| -0.1142588E+00 | -0.2633913E+00 | -0.4081047E+00 | -0.5478716E+00 | -0.6817811E+00 |
| -0.8078124E+00 | -0.9042417E+00 | -0.9733799E+00 | -0.1018658E+01 | -0.1037006E+01 |
| -0.1040564E+01 | -0.1042783E+01 | -0.1043843E+01 | -0.1044822E+01 | -0.1045573E+01 |
| -0.1046067E+01 | -0.1046279E+01 | -0.1046190E+01 | -0.1045784E+01 | -0.1045058E+01 |
| -0.1044010E+01 | -0.1042644E+01 | -0.1040974E+01 | -0.1039014E+01 | -0.1036790E+01 |
| -0.1034324E+01 | -0.1031650E+01 | -0.1028801E+01 | -0.1025815E+01 | -0.1022731E+01 |
| -0.1019588E+01 | -0.1016428E+01 | -0.1013291E+01 | -0.1010215E+01 | -0.1007239E+01 |
| -0.1004396E+01 | -0.1001718E+01 | -0.9990838E+00 | -0.9938686E+00 | -0.9861634E+00 |
| -0.9537097E+00 | -0.8847505E+00 | -0.7943472E+00 | -0.6817040E+00 | -0.5455992E+00 |
| -0.4077788E+00 | -0.2681256E+00 | -0.1268532E+00 | 0.1563215E-01  | 0.1594331E+00  |
| 0.3047669E+00  | 0.4518128E+00  | 0.6007157E+00  | 0.7515905E+00  | 0.9045225E+00  |
| 0.1059571E+01  | 0.1190425E+01  | 0.1296190E+01  | 0.1376145E+01  | 0.1412865E+01  |
| 0.1421344E+01  | 0.1426952E+01  | 0.1429740E+01  | 0.1432461E+01  | 0.1434895E+01  |
| 0.1436998E+01  | 0.1438733E+01  | 0.1440069E+01  | 0.1440982E+01  | 0.1441454E+01  |
| 0.1441477E+01  | 0.1441051E+01  | 0.1440180E+01  | 0.1438880E+01  | 0.1437172E+01  |
| 0.1399600E+01  | 0.1397508E+01  | 0.1395097E+01  | 0.1392408E+01  | 0.1389487E+01  |
| 0.1386382E+01  | 0.1383147E+01  | 0.1379834E+01  | 0.1376501E+01  | 0.1373203E+01  |
| 0.1369993E+01  | 0.1366929E+01  | 0.1364057E+01  | 0.1361236E+01  | 0.1355625E+01  |
| 0.1347276E+01  | 0.1309482E+01  | 0.1227710E+01  | 0.1118882E+01  | 0.9832665E+00  |
| 0.8213595E+00  | 0.6606515E+00  | 0.5014840E+00  | 0.3442333E+00  | 0.1893134E+00  |
| 0.3717971E-01  | -0.1116691E+00 | -0.2566870E+00 | -0.3973494E+00 | -0.5331567E+00 |
| -0.6632372E+00 | -0.7856447E+00 | -0.8793209E+00 | -0.9465412E+00 | -0.9906344E+00 |
| -0.1008723E+01 | -0.1012098E+01 | -0.1014205E+01 | -0.1015212E+01 | -0.1016141E+01 |
| -0.1016846E+01 | -0.1017299E+01 | -0.1017477E+01 | -0.1017361E+01 | -0.1016938E+01 |
| -0.1016205E+01 | -0.1015160E+01 | -0.1013809E+01 | -0.1012167E+01 | -0.1010247E+01 |
| -0.1008074E+01 | -0.1005673E+01 | -0.1003074E+01 | -0.1000312E+01 | -0.9974231E+00 |
| -0.9944444E+00 | -0.9914157E+00 | -0.9883765E+00 | -0.9853657E+00 | -0.9824213E+00 |
| -0.9795785E+00 | -0.9768702E+00 | -0.9743253E+00 | -0.9718252E+00 | -0.9668769E+00 |
| -0.9595701E+00 | -0.9276104E+00 | -0.8604830E+00 | -0.7724367E+00 | -0.6626993E+00 |
| -0.5301002E+00 | -0.3958421E+00 | -0.2598100E+00 | -0.1222129E+00 | 0.1654983E-01  |
| 0.1565840E+00  | 0.2981024E+00  | 0.4412825E+00  | 0.5862716E+00  | 0.7331865E+00  |
| 0.8821192E+00  | 0.1033136E+01  | 0.1160612E+01  | 0.1263667E+01  | 0.1341586E+01  |
| 0.1378142E+01  | 0.1386024E+01  | 0.1391233E+01  | 0.1393822E+01  | 0.1396344E+01  |
| 0.1398581E+01  | 0.1400490E+01  | 0.1402040E+01  | 0.1403200E+01  | 0.1403952E+01  |
| 0.1404279E+01  | 0.1404178E+01  | 0.1403647E+01  | 0.1402696E+01  | 0.1401339E+01  |
| 0.1399600E+01  | 0.1362842E+01  | 0.1360760E+01  | 0.1358382E+01  | 0.1355750E+01  |
| 0.1352909E+01  | 0.1349905E+01  | 0.1346790E+01  | 0.1343617E+01  | 0.1340439E+01  |
| 0.1337309E+01  | 0.1334279E+01  | 0.1331400E+01  | 0.1328719E+01  | 0.1326090E+01  |
| 0.1320859E+01  | 0.1313075E+01  | 0.1275504E+01  | 0.1195775E+01  | 0.1089674E+01  |
| 0.9574755E+00  | 0.7996791E+00  | 0.6430917E+00  | 0.4880517E+00  | 0.3349278E+00  |
| 0.1841245E+00  | 0.3608299E-01  | -0.1087148E+00 | -0.2497456E+00 | -0.3865032E+00 |
| -0.5185140E+00 | -0.6449453E+00 | -0.7639267E+00 | -0.8550270E+00 | -0.9204770E+00 |
| -0.9634982E+00 | -0.9813842E+00 | -0.9845852E+00 | -0.9865862E+00 | -0.9875443E+00 |
| -0.9884256E+00 | -0.9890893E+00 | -0.9895053E+00 | -0.9896530E+00 | -0.9895154E+00 |
| -0.9890816E+00 | -0.9883463E+00 | -0.9873112E+00 | -0.9859835E+00 | -0.9843740E+00 |
| -0.9825007E+00 | -0.9803861E+00 | -0.9780545E+00 | -0.9755371E+00 | -0.9728675E+00 |
| -0.9700797E+00 | -0.9672115E+00 | -0.9643005E+00 | -0.9613851E+00 | -0.9585034E+00 |
| -0.9556912E+00 | -0.9529825E+00 | -0.9504094E+00 | -0.9479979E+00 | -0.9456310E+00 |
| -0.9409482E+00 | -0.9340370E+00 | -0.9025525E+00 | -0.8372181E+00 | -0.7514741E+00 |
| -0.6445689E+00 | -0.5153797E+00 | -0.3845825E+00 | -0.2520669E+00 | -0.1180368E+00 |
| 0.1711464E-01  | 0.1534956E+00  | 0.2913120E+00  | 0.4307394E+00  | 0.5719243E+00  |



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| 0.7149857E+00  | 0.8600186E+00  | 0.1007097E+01  | 0.1131262E+01  | 0.1231656E+01  |
| 0.1307572E+01  | 0.1343877E+01  | 0.1351212E+01  | 0.1356059E+01  | 0.1358470E+01  |
| 0.1360813E+01  | 0.1362874E+01  | 0.1364612E+01  | 0.1365998E+01  | 0.1367007E+01  |
| 0.1367619E+01  | 0.1367824E+01  | 0.1367619E+01  | 0.1367005E+01  | 0.1365991E+01  |
| 0.1364596E+01  | 0.1362842E+01  | 0.1326687E+01  | 0.1324641E+01  | 0.1322325E+01  |
| 0.1319779E+01  | 0.1317047E+01  | 0.1314173E+01  | 0.1311206E+01  | 0.1308196E+01  |
| 0.1305194E+01  | 0.1302248E+01  | 0.1299410E+01  | 0.1296724E+01  | 0.1294235E+01  |
| 0.1291797E+01  | 0.1286953E+01  | 0.1279757E+01  | 0.1242371E+01  | 0.1164674E+01  |
| 0.1061282E+01  | 0.9324754E+00  | 0.7787531E+00  | 0.6262425E+00  | 0.4752748E+00  |
| 0.3262115E+00  | 0.1794450E+00  | 0.3540302E-01  | -0.1054518E+00 | -0.2426176E+00 |
| -0.3756078E+00 | -0.5039743E+00 | -0.6269221E+00 | -0.7426571E+00 | -0.8313411E+00 |
| -0.8951538E+00 | -0.9372035E+00 | -0.9549379E+00 | -0.9579731E+00 | -0.9598733E+00 |
| -0.9607841E+00 | -0.9616215E+00 | -0.9622458E+00 | -0.9626293E+00 | -0.9627514E+00 |
| -0.9625969E+00 | -0.9621563E+00 | -0.9614251E+00 | -0.9604055E+00 | -0.9591056E+00 |
| -0.9575349E+00 | -0.9557140E+00 | -0.9536626E+00 | -0.9514067E+00 | -0.9489759E+00 |
| -0.9464033E+00 | -0.9437214E+00 | -0.9409670E+00 | -0.9381773E+00 | -0.9353889E+00 |
| -0.9326380E+00 | -0.9299595E+00 | -0.9273808E+00 | -0.9249481E+00 | -0.9226699E+00 |
| -0.9204360E+00 | -0.9160172E+00 | -0.9094979E+00 | -0.8784713E+00 | -0.8148931E+00 |
| -0.7313980E+00 | -0.6272541E+00 | -0.5013834E+00 | -0.3739496E+00 | -0.2448490E+00 |
| -0.1142814E+00 | 0.1736689E-01  | 0.1502042E+00  | 0.2844301E+00  | 0.4202156E+00  |
| 0.5577052E+00  | 0.6970187E+00  | 0.8382533E+00  | 0.9814869E+00  | 0.1102415E+01  |
| 0.1200200E+01  | 0.1274149E+01  | 0.1310387E+01  | 0.1317104E+01  | 0.1321532E+01  |
| 0.1323732E+01  | 0.1325864E+01  | 0.1327721E+01  | 0.1329268E+01  | 0.1330477E+01  |
| 0.1331325E+01  | 0.1331798E+01  | 0.1331885E+01  | 0.1331584E+01  | 0.1330901E+01  |
| 0.1329844E+01  | 0.1328431E+01  | 0.1326687E+01  | 0.1291303E+01  | 0.1289315E+01  |
| 0.1287084E+01  | 0.1284649E+01  | 0.1282047E+01  | 0.1279325E+01  | 0.1276527E+01  |
| 0.1273697E+01  | 0.1270887E+01  | 0.1268138E+01  | 0.1265499E+01  | 0.1263010E+01  |
| 0.1260711E+01  | 0.1258463E+01  | 0.1254008E+01  | 0.1247413E+01  | 0.1210184E+01  |
| 0.1134493E+01  | 0.1033778E+01  | 0.9083193E+00  | 0.7586146E+00  | 0.6101175E+00  |
| 0.4631517E+00  | 0.3180681E+00  | 0.1752486E+00  | 0.3510380E-01  | -0.1019211E+00 |
| -0.2353468E+00 | -0.3647063E+00 | -0.4895762E+00 | -0.6091978E+00 | -0.7218544E+00 |
| -0.8082671E+00 | -0.8705603E+00 | -0.9117262E+00 | -0.9293547E+00 | -0.9322300E+00 |
| -0.9340332E+00 | -0.9348984E+00 | -0.9356946E+00 | -0.9362814E+00 | -0.9366354E+00 |
| -0.9367355E+00 | -0.9365684E+00 | -0.9361248E+00 | -0.9354032E+00 | -0.9344041E+00 |
| -0.9331365E+00 | -0.9316111E+00 | -0.9298472E+00 | -0.9278648E+00 | -0.9256905E+00 |
| -0.9233514E+00 | -0.9208795E+00 | -0.9183081E+00 | -0.9156713E+00 | -0.9130062E+00 |
| -0.9103475E+00 | -0.9077300E+00 | -0.9051870E+00 | -0.9027498E+00 | -0.9004465E+00 |
| -0.8983015E+00 | -0.8962007E+00 | -0.8920439E+00 | -0.8859138E+00 | -0.8553318E+00 |
| -0.7934790E+00 | -0.7121871E+00 | -0.6107398E+00 | -0.4881013E+00 | -0.3639365E+00 |
| -0.2381506E+00 | -0.1109407E+00 | 0.1731491E-01  | 0.1467230E+00  | 0.2774754E+00  |
| 0.4097371E+00  | 0.5436509E+00  | 0.6793340E+00  | 0.8168858E+00  | 0.9563831E+00  |
| 0.1074162E+01  | 0.1169405E+01  | 0.1241434E+01  | 0.1277731E+01  | 0.1283787E+01  |
| 0.1287764E+01  | 0.1289731E+01  | 0.1291631E+01  | 0.1293270E+01  | 0.1294614E+01  |
| 0.1295639E+01  | 0.1296325E+01  | 0.1296661E+01  | 0.1296636E+01  | 0.1296251E+01  |
| 0.1295512E+01  | 0.1294428E+01  | 0.1293017E+01  | 0.1291303E+01  | 0.1257362E+01  |
| 0.1255422E+01  | 0.1253260E+01  | 0.1250912E+01  | 0.1248415E+01  | 0.1245813E+01  |
| 0.1243150E+01  | 0.1240468E+01  | 0.1237812E+01  | 0.1235228E+01  | 0.1232757E+01  |
| 0.1230440E+01  | 0.1228313E+01  | 0.1226235E+01  | 0.1222114E+01  | 0.1216011E+01  |
| 0.1179096E+01  | 0.1105373E+01  | 0.1007284E+01  | 0.8851073E+00  | 0.7393392E+00  |
| 0.5947691E+00  | 0.4517124E+00  | 0.3105097E+00  | 0.1715291E+00  | 0.3516579E-01  |
| -0.9815432E-01 | -0.2279740E+00 | -0.3538454E+00 | -0.4753678E+00 | -0.5918182E+00 |
| -0.7015551E+00 | -0.7858297E+00 | -0.8467059E+00 | -0.8870601E+00 | -0.9046224E+00 |
| -0.9073410E+00 | -0.9090495E+00 | -0.9098703E+00 | -0.9106253E+00 | -0.9111772E+00 |
| -0.9115030E+00 | -0.9115840E+00 | -0.9114078E+00 | -0.9109660E+00 | -0.9102577E+00 |
| -0.9092841E+00 | -0.9080539E+00 | -0.9065791E+00 | -0.9048781E+00 | -0.9029704E+00 |
| -0.9008824E+00 | -0.8986400E+00 | -0.8962741E+00 | -0.8938178E+00 | -0.8913035E+00 |
| -0.8887665E+00 | -0.8862407E+00 | -0.8837590E+00 | -0.8813530E+00 | -0.8790532E+00 |
| -0.8768856E+00 | -0.8748737E+00 | -0.8729050E+00 | -0.8690103E+00 | -0.8632669E+00 |
| -0.8331243E+00 | -0.7729775E+00 | -0.6938561E+00 | -0.5950523E+00 | -0.4755674E+00 |

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| -0.3545797E+00 | -0.2320075E+00 | -0.1080454E+00 | 0.1693630E-01  | 0.1430400E+00  |
| 0.2704492E+00  | 0.3993223E+00  | 0.5297971E+00  | 0.6619878E+00  | 0.7959931E+00  |
| 0.9318899E+00  | 0.1046628E+01  | 0.1139411E+01  | 0.1209582E+01  | 0.1245521E+01  |
| 0.1251126E+01  | 0.1254809E+01  | 0.1256633E+01  | 0.1258393E+01  | 0.1259897E+01  |
| 0.1261114E+01  | 0.1262024E+01  | 0.1262607E+01  | 0.1262855E+01  | 0.1262759E+01  |
| 0.1262321E+01  | 0.1261548E+01  | 0.1260451E+01  | 0.1259048E+01  | 0.1257362E+01  |
| 0.1224121E+01  | 0.1222221E+01  | 0.1220115E+01  | 0.1217839E+01  | 0.1215428E+01  |
| 0.1212926E+01  | 0.1210376E+01  | 0.1207820E+01  | 0.1205299E+01  | 0.1202859E+01  |
| 0.1200539E+01  | 0.1198378E+01  | 0.1196412E+01  | 0.1194493E+01  | 0.1190676E+01  |
| 0.1185002E+01  | 0.1148495E+01  | 0.1076724E+01  | 0.9812394E+00  | 0.8623171E+00  |
| 0.7204512E+00  | 0.5797704E+00  | 0.4405818E+00  | 0.3032158E+00  | 0.1680248E+00  |
| 0.3538943E-01  | -0.9428383E-01 | -0.2205599E+00 | -0.3430102E+00 | -0.4612568E+00 |
| -0.5746096E+00 | -0.6815020E+00 | -0.7637019E+00 | -0.8232087E+00 | -0.8627837E+00 |
| -0.8802988E+00 | -0.8828619E+00 | -0.8844766E+00 | -0.8852534E+00 | -0.8859668E+00 |
| -0.8864849E+00 | -0.8867832E+00 | -0.8868464E+00 | -0.8866624E+00 | -0.8862250E+00 |
| -0.8855311E+00 | -0.8845853E+00 | -0.8833957E+00 | -0.8819738E+00 | -0.8803384E+00 |
| -0.8785083E+00 | -0.8765082E+00 | -0.8743653E+00 | -0.8721078E+00 | -0.8697689E+00 |
| -0.8673800E+00 | -0.8649722E+00 | -0.8625808E+00 | -0.8602362E+00 | -0.8579679E+00 |
| -0.8558061E+00 | -0.8537746E+00 | -0.8518957E+00 | -0.8500584E+00 | -0.8464257E+00 |
| -0.8410683E+00 | -0.8113630E+00 | -0.7529134E+00 | -0.6759471E+00 | -0.5797616E+00 |
| -0.4633913E+00 | -0.3455360E+00 | -0.2261279E+00 | -0.1053600E+00 | 0.1640439E-01  |
| 0.1392634E+00  | 0.2633906E+00  | 0.3889382E+00  | 0.5160366E+00  | 0.6447983E+00  |
| 0.7753177E+00  | 0.9076739E+00  | 0.1019417E+01  | 0.1109779E+01  | 0.1178116E+01  |
| 0.1213446E+01  | 0.1218721E+01  | 0.1222205E+01  | 0.1223938E+01  | 0.1225613E+01  |
| 0.1227030E+01  | 0.1228165E+01  | 0.1228996E+01  | 0.1229510E+01  | 0.1229697E+01  |
| 0.1229552E+01  | 0.1229077E+01  | 0.1228281E+01  | 0.1227176E+01  | 0.1225783E+01  |
| 0.1224121E+01  | 0.1830582E+00  | 0.1775081E+00  | 0.1718460E+00  | 0.1661651E+00  |
| 0.1605594E+00  | 0.1551211E+00  | 0.1499388E+00  | 0.1450974E+00  | 0.1406748E+00  |
| 0.1367411E+00  | 0.1333577E+00  | 0.1305749E+00  | 0.1284311E+00  | 0.1264604E+00  |
| 0.1226555E+00  | 0.1172153E+00  | 0.1067043E+00  | 0.7472914E-01  | 0.3338642E-01  |
| -0.1584021E-01 | -0.7055269E-01 | -0.1195075E+00 | -0.1615877E+00 | -0.1956237E+00 |
| -0.2204040E+00 | -0.2346865E+00 | -0.2372154E+00 | -0.2267428E+00 | -0.2019459E+00 |
| -0.1616085E+00 | -0.1035296E+00 | -0.2324828E-01 | 0.6507841E-01  | 0.1527494E+00  |
| 0.2301455E+00  | 0.2664550E+00  | 0.2775820E+00  | 0.2851793E+00  | 0.2890354E+00  |
| 0.2929549E+00  | 0.2970541E+00  | 0.3012913E+00  | 0.3056207E+00  | 0.3099947E+00  |
| 0.3143636E+00  | 0.3186770E+00  | 0.3228846E+00  | 0.3269376E+00  | 0.3307891E+00  |
| 0.3343954E+00  | 0.3377167E+00  | 0.3407178E+00  | 0.3433692E+00  | 0.3456478E+00  |
| 0.3475364E+00  | 0.3490252E+00  | 0.3501120E+00  | 0.3508016E+00  | 0.3511066E+00  |
| 0.3510472E+00  | 0.3506501E+00  | 0.3499495E+00  | 0.3489859E+00  | 0.3479406E+00  |
| 0.3457570E+00  | 0.3422813E+00  | 0.3306878E+00  | 0.3025072E+00  | 0.2671874E+00  |
| 0.2273421E+00  | 0.1858428E+00  | 0.1511679E+00  | 0.1231204E+00  | 0.1011107E+00  |
| 0.8385171E-01  | 0.7154937E-01  | 0.6466052E-01  | 0.6362006E-01  | 0.6882547E-01  |
| 0.8062708E-01  | 0.9931935E-01  | 0.1251381E+00  | 0.1522236E+00  | 0.1775836E+00  |
| 0.1987627E+00  | 0.2065938E+00  | 0.2103819E+00  | 0.2127647E+00  | 0.2138975E+00  |
| 0.2148582E+00  | 0.2151264E+00  | 0.2146888E+00  | 0.2135458E+00  | 0.2117103E+00  |
| 0.2092086E+00  | 0.2060784E+00  | 0.2023691E+00  | 0.1981401E+00  | 0.1934599E+00  |
| 0.1884049E+00  | 0.1830583E+00  | 0.4933353E-01  | 0.4387493E-01  | 0.3836423E-01  |
| 0.3289269E-01  | 0.2754995E-01  | 0.2242430E-01  | 0.1759912E-01  | 0.1315324E-01  |
| 0.9157927E-02  | 0.5676294E-02  | 0.2761781E-02  | 0.4573545E-03  | -0.1206700E-02 |
| -0.2698269E-02 | -0.5548059E-02 | -0.9561083E-02 | -0.1741009E-01 | -0.4112690E-01 |
| -0.7151939E-01 | -0.1071698E+00 | -0.1457869E+00 | -0.1789071E+00 | -0.2054717E+00 |
| -0.2243789E+00 | -0.2344941E+00 | -0.2346616E+00 | -0.2237203E+00 | -0.2005244E+00 |
| -0.1638473E+00 | -0.1125930E+00 | -0.4476715E-01 | 0.4373898E-01  | 0.1373984E+00  |
| 0.2280993E+00  | 0.3069277E+00  | 0.3437155E+00  | 0.3548518E+00  | 0.3624413E+00  |
| 0.3662894E+00  | 0.3701961E+00  | 0.3742743E+00  | 0.3784814E+00  | 0.3827708E+00  |
| 0.3870943E+00  | 0.3914016E+00  | 0.3956403E+00  | 0.3997656E+00  | 0.4037234E+00  |
| 0.4074689E+00  | 0.4109591E+00  | 0.4141549E+00  | 0.4170223E+00  | 0.4195326E+00  |
| 0.4216636E+00  | 0.4233997E+00  | 0.4247327E+00  | 0.4256614E+00  | 0.4261922E+00  |
| 0.4263389E+00  | 0.4261234E+00  | 0.4255737E+00  | 0.4247254E+00  | 0.4236195E+00  |

|                |                |                |                |                |
|----------------|----------------|----------------|----------------|----------------|
| 0.4224334E+00  | 0.4199678E+00  | 0.4160669E+00  | 0.4028858E+00  | 0.3709320E+00  |
| 0.3302405E+00  | 0.2831524E+00  | 0.2322442E+00  | 0.1874394E+00  | 0.1486112E+00  |
| 0.1152252E+00  | 0.8609832E-01  | 0.6146917E-01  | 0.4178068E-01  | 0.2746058E-01  |
| 0.1890730E-01  | 0.1648032E-01  | 0.2049187E-01  | 0.3120350E-01  | 0.4539785E-01  |
| 0.6026434E-01  | 0.7347598E-01  | 0.7869362E-01  | 0.8110934E-01  | 0.8257798E-01  |
| 0.8325490E-01  | 0.8375997E-01  | 0.8358748E-01  | 0.8273130E-01  | 0.8119915E-01  |
| 0.7901118E-01  | 0.7619978E-01  | 0.7280817E-01  | 0.6889006E-01  | 0.6450915E-01  |
| 0.5973617E-01  | 0.5464979E-01  | 0.4933349E-01  | -0.8246684E-01 | -0.8782049E-01 |
| -0.9316742E-01 | -0.9842013E-01 | -0.1034917E+00 | -0.1082988E+00 | -0.1127629E+00 |
| -0.1168118E+00 | -0.1203805E+00 | -0.1234129E+00 | -0.1258635E+00 | -0.1276965E+00 |
| -0.1288896E+00 | -0.1299113E+00 | -0.1318257E+00 | -0.1344426E+00 | -0.1396219E+00 |
| -0.1551623E+00 | -0.1747205E+00 | -0.1969491E+00 | -0.2196681E+00 | -0.2371614E+00 |
| -0.2484256E+00 | -0.2524243E+00 | -0.2480977E+00 | -0.2343742E+00 | -0.2101854E+00 |
| -0.1744857E+00 | -0.1261447E+00 | -0.6418378E-01 | 0.1318899E-01  | 0.1097378E+00  |
| 0.2086015E+00  | 0.3022525E+00  | 0.3824704E+00  | 0.4197302E+00  | 0.4308694E+00  |
| 0.4384476E+00  | 0.4422856E+00  | 0.4461778E+00  | 0.4502337E+00  | 0.4544092E+00  |
| 0.4586572E+00  | 0.4629289E+00  | 0.4671736E+00  | 0.4713404E+00  | 0.4753790E+00  |
| 0.4792414E+00  | 0.4828807E+00  | 0.4862550E+00  | 0.4893259E+00  | 0.4920599E+00  |
| 0.4944297E+00  | 0.4964146E+00  | 0.4979996E+00  | 0.4991782E+00  | 0.4999506E+00  |
| 0.5003245E+00  | 0.5003152E+00  | 0.4999460E+00  | 0.4992462E+00  | 0.4982524E+00  |
| 0.4970070E+00  | 0.4956827E+00  | 0.4929397E+00  | 0.4886217E+00  | 0.4738643E+00  |
| 0.4381823E+00  | 0.3921876E+00  | 0.3379550E+00  | 0.2777724E+00  | 0.2229882E+00  |
| 0.1735432E+00  | 0.1289566E+00  | 0.8814810E-01  | 0.5138605E-01  | 0.1909935E-01  |
| -0.8291963E-02 | -0.3039013E-01 | -0.4682844E-01 | -0.5727988E-01 | -0.6146084E-01 |
| -0.5998457E-01 | -0.5547949E-01 | -0.5014089E-01 | -0.4754300E-01 | -0.4646693E-01 |
| -0.4588984E-01 | -0.4565732E-01 | -0.4559497E-01 | -0.4619459E-01 | -0.4745438E-01 |
| -0.4935902E-01 | -0.5188243E-01 | -0.5498591E-01 | -0.5862116E-01 | -0.6272976E-01 |
| -0.4724530E-01 | -0.7209393E-01 | -0.7719582E-01 | -0.8246700E-01 | -0.2087848E+00 |
| -0.2140018E+00 | -0.2191588E+00 | -0.2241709E+00 | -0.2289553E+00 | -0.2334332E+00 |
| -0.2375318E+00 | -0.2411849E+00 | -0.2443340E+00 | -0.2469303E+00 | -0.2489345E+00 |
| -0.2503191E+00 | -0.2510680E+00 | -0.2516484E+00 | -0.2526864E+00 | -0.2539988E+00 |
| -0.2564964E+00 | -0.2641160E+00 | -0.2731873E+00 | -0.2824399E+00 | -0.2898134E+00 |
| -0.2922513E+00 | -0.2888047E+00 | -0.2785000E+00 | -0.2603488E+00 | -0.2333587E+00 |
| -0.1965480E+00 | -0.1489639E+00 | -0.8956687E-01 | -0.1748627E-01 | 0.6888369E-01  |
| 0.1729861E+00  | 0.2767185E+00  | 0.3731174E+00  | 0.4546212E+00  | 0.4923405E+00  |
| 0.5034663E+00  | 0.5110228E+00  | 0.5148461E+00  | 0.5187203E+00  | 0.5227497E+00  |
| 0.5268898E+00  | 0.5310932E+00  | 0.5353099E+00  | 0.5394892E+00  | 0.5435801E+00  |
| 0.5475324E+00  | 0.5512978E+00  | 0.5548308E+00  | 0.5580896E+00  | 0.5610362E+00  |
| 0.5636386E+00  | 0.5658705E+00  | 0.5677117E+00  | 0.5691496E+00  | 0.5701781E+00  |
| 0.5707989E+00  | 0.5710212E+00  | 0.5708617E+00  | 0.5703446E+00  | 0.5695009E+00  |
| 0.5683683E+00  | 0.5669901E+00  | 0.5655335E+00  | 0.5625265E+00  | 0.5578126E+00  |
| 0.5415058E+00  | 0.5022110E+00  | 0.4510931E+00  | 0.3899780E+00  | 0.3208847E+00  |
| 0.2565328E+00  | 0.1969225E+00  | 0.1416228E+00  | 0.8965030E-01  | 0.4129552E-01  |
| -0.3027644E-02 | -0.4290903E-01 | -0.7795455E-01 | -0.1077947E+00 | -0.1320930E+00 |
| -0.1505503E+00 | -0.1612839E+00 | -0.1667405E+00 | -0.1689806E+00 | -0.1690088E+00 |
| -0.1691748E+00 | -0.1694219E+00 | -0.1695992E+00 | -0.1699431E+00 | -0.1709294E+00 |
| -0.1725498E+00 | -0.1747824E+00 | -0.1775947E+00 | -0.1809434E+00 | -0.1847753E+00 |
| -0.1890287E+00 | -0.1936342E+00 | -0.1985162E+00 | -0.2035945E+00 | -0.2087848E+00 |
| -0.3273237E+00 | -0.3323636E+00 | -0.3372966E+00 | -0.3420413E+00 | -0.3465194E+00 |
| -0.3506573E+00 | -0.3543874E+00 | -0.3576496E+00 | -0.3603921E+00 | -0.3625723E+00 |
| -0.3641582E+00 | -0.3651285E+00 | -0.3654734E+00 | -0.3656550E+00 | -0.3659027E+00 |
| -0.3660428E+00 | -0.3658485E+00 | -0.3659259E+00 | -0.3650208E+00 | -0.3619472E+00 |
| -0.3547727E+00 | -0.3429726E+00 | -0.3256521E+00 | -0.3018981E+00 | -0.2707890E+00 |
| -0.2314058E+00 | -0.1828452E+00 | -0.1242365E+00 | -0.5462461E-01 | 0.2676763E-01  |
| 0.1213820E+00  | 0.2323728E+00  | 0.3405215E+00  | 0.4393987E+00  | 0.5220510E+00  |
| 0.5602151E+00  | 0.5713058E+00  | 0.5788274E+00  | 0.5826294E+00  | 0.5864804E+00  |
| 0.5904781E+00  | 0.5945777E+00  | 0.5987312E+00  | 0.6028888E+00  | 0.6069990E+00  |
| 0.6110108E+00  | 0.6148747E+00  | 0.6185421E+00  | 0.6219682E+00  | 0.6251116E+00  |
| 0.6279355E+00  | 0.6304084E+00  | 0.6325059E+00  | 0.6342079E+00  | 0.6355036E+00  |

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| 0.6363876E+00  | 0.6368636E+00  | 0.6369417E+00  | 0.6366400E+00  | 0.6359832E+00  |
| 0.6350045E+00  | 0.6337416E+00  | 0.6322403E+00  | 0.6306601E+00  | 0.6274077E+00  |
| 0.6223280E+00  | 0.6045068E+00  | 0.5617588E+00  | 0.5057659E+00  | 0.4381314E+00  |
| 0.3606332E+00  | 0.2872871E+00  | 0.2181416E+00  | 0.1528097E+00  | 0.9039712E-01  |
| 0.3120611E-01  | -0.2436565E-01 | -0.7592027E-01 | -0.1230714E+00 | -0.1654522E+00 |
| -0.2027231E+00 | -0.2345775E+00 | -0.2567903E+00 | -0.2716300E+00 | -0.2810196E+00 |
| -0.2836721E+00 | -0.2849416E+00 | -0.2859181E+00 | -0.2864573E+00 | -0.2871555E+00 |
| -0.2884736E+00 | -0.2903956E+00 | -0.2928943E+00 | -0.2959324E+00 | -0.2994622E+00 |
| -0.3034271E+00 | -0.3077630E+00 | -0.3123986E+00 | -0.3172579E+00 | -0.3222606E+00 |
| -0.3273236E+00 | -0.4377834E+00 | -0.4426148E+00 | -0.4472990E+00 | -0.4517591E+00 |
| -0.4559207E+00 | -0.4597163E+00 | -0.4630835E+00 | -0.4659683E+00 | -0.4683249E+00 |
| -0.4701176E+00 | -0.4713201E+00 | -0.4719177E+00 | -0.4719059E+00 | -0.4717365E+00 |
| -0.4712886E+00 | -0.4703957E+00 | -0.4675178E+00 | -0.4604898E+00 | -0.4501914E+00 |
| -0.4355223E+00 | -0.4146796E+00 | -0.3895258E+00 | -0.3592183E+00 | -0.3229022E+00 |
| -0.2797191E+00 | -0.2288174E+00 | -0.1693651E+00 | -0.1005656E+00 | -0.2154073E-01 |
| 0.6840432E-01  | 0.1705673E+00  | 0.2878426E+00  | 0.4000053E+00  | 0.5011258E+00  |
| 0.5848107E+00  | 0.6234103E+00  | 0.6344469E+00  | 0.6419218E+00  | 0.6456968E+00  |
| 0.6495193E+00  | 0.6534798E+00  | 0.6575340E+00  | 0.6616334E+00  | 0.6657276E+00  |
| 0.6697653E+00  | 0.6736957E+00  | 0.6774690E+00  | 0.6810370E+00  | 0.6843557E+00  |
| 0.6873848E+00  | 0.6900876E+00  | 0.6924335E+00  | 0.6943999E+00  | 0.6959669E+00  |
| 0.6971259E+00  | 0.6978715E+00  | 0.6982092E+00  | 0.6981504E+00  | 0.6977146E+00  |
| 0.6969266E+00  | 0.6958215E+00  | 0.6944374E+00  | 0.6928217E+00  | 0.6911276E+00  |
| 0.6876494E+00  | 0.6822346E+00  | 0.6629287E+00  | 0.6168829E+00  | 0.5562597E+00  |
| 0.4824650E+00  | 0.3970634E+00  | 0.3152925E+00  | 0.2372393E+00  | 0.1625551E+00  |
| 0.9042697E-01  | 0.2116099E-01  | -0.4486204E-01 | -0.1072583E+00 | -0.1656518E+00 |
| -0.2196823E+00 | -0.2690125E+00 | -0.3133340E+00 | -0.3462432E+00 | -0.3698378E+00 |
| -0.3859061E+00 | -0.3911473E+00 | -0.3933798E+00 | -0.3949941E+00 | -0.3958494E+00 |
| -0.3968558E+00 | -0.3984546E+00 | -0.4006241E+00 | -0.4033330E+00 | -0.4065395E+00 |
| -0.4101927E+00 | -0.4142345E+00 | -0.4185981E+00 | -0.4232123E+00 | -0.4280013E+00 |
| -0.4328852E+00 | -0.4377834E+00 | -0.5402268E+00 | -0.5448313E+00 | -0.5492550E+00 |
| -0.5534247E+00 | -0.5572717E+00 | -0.5607333E+00 | -0.5637529E+00 | -0.5662825E+00 |
| -0.5682821E+00 | -0.5697216E+00 | -0.5705813E+00 | -0.5708518E+00 | -0.5705343E+00 |
| -0.5700643E+00 | -0.5690173E+00 | -0.5672299E+00 | -0.5617050E+00 | -0.5480511E+00 |
| -0.5289940E+00 | -0.5035133E+00 | -0.4699314E+00 | -0.4323385E+00 | -0.3899435E+00 |
| -0.3419469E+00 | -0.2875498E+00 | -0.2259637E+00 | -0.1564224E+00 | -0.7819629E-01 |
| 0.9521450E-02  | 0.1073526E+00  | 0.2164666E+00  | 0.3395213E+00  | 0.4553714E+00  |
| 0.5585512E+00  | 0.6431820E+00  | 0.6822143E+00  | 0.6931819E+00  | 0.7006005E+00  |
| 0.7043450E+00  | 0.7081326E+00  | 0.7120512E+00  | 0.7160556E+00  | 0.7200969E+00  |
| 0.7241241E+00  | 0.7280864E+00  | 0.7319328E+00  | 0.7356139E+00  | 0.7390819E+00  |
| 0.7422933E+00  | 0.7452087E+00  | 0.7477918E+00  | 0.7500141E+00  | 0.7518523E+00  |
| 0.7532889E+00  | 0.7543157E+00  | 0.7549294E+00  | 0.7551355E+00  | 0.7549469E+00  |
| 0.7543844E+00  | 0.7534736E+00  | 0.7522500E+00  | 0.7507535E+00  | 0.7490314E+00  |
| 0.7472329E+00  | 0.7435489E+00  | 0.7378296E+00  | 0.7170615E+00  | 0.6678616E+00  |
| 0.6028369E+00  | 0.5232195E+00  | 0.4303874E+00  | 0.3407294E+00  | 0.2543626E+00  |
| 0.1709726E+00  | 0.8981982E-01  | 0.1120938E-01  | -0.6449483E-01 | -0.1369239E+00 |
| -0.2057138E+00 | -0.2705132E+00 | -0.3309899E+00 | -0.3868376E+00 | -0.4296408E+00 |
| -0.4613378E+00 | -0.4835910E+00 | -0.4913475E+00 | -0.4944100E+00 | -0.4965769E+00 |
| -0.4977079E+00 | -0.4989828E+00 | -0.5008189E+00 | -0.5031905E+00 | -0.5060627E+00 |
| -0.5093905E+00 | -0.5131213E+00 | -0.5171947E+00 | -0.5215443E+00 | -0.5260985E+00 |
| -0.5307823E+00 | -0.5355178E+00 | -0.5402268E+00 | -0.6348007E+00 | -0.6391739E+00 |
| -0.6433375E+00 | -0.6472228E+00 | -0.6507652E+00 | -0.6539078E+00 | -0.6565988E+00 |
| -0.6587956E+00 | -0.6604639E+00 | -0.6615791E+00 | -0.6621264E+00 | -0.6621016E+00 |
| -0.6615111E+00 | -0.6607739E+00 | -0.6591982E+00 | -0.6566280E+00 | -0.6485710E+00 |
| -0.6287839E+00 | -0.6016162E+00 | -0.5661224E+00 | -0.5207402E+00 | -0.4716267E+00 |
| -0.4180399E+00 | -0.3592337E+00 | -0.2944655E+00 | -0.2230054E+00 | -0.1441482E+00 |
| -0.5722549E-01 | 0.3850396E-01  | 0.1435966E+00  | 0.2591076E+00  | 0.3874789E+00  |
| 0.5067209E+00  | 0.6117957E+00  | 0.6972960E+00  | 0.7367641E+00  | 0.7476472E+00  |
| 0.7550001E+00  | 0.7587093E+00  | 0.7624568E+00  | 0.7663286E+00  | 0.7702790E+00  |
| 0.7742581E+00  | 0.7782146E+00  | 0.7820986E+00  | 0.7858589E+00  | 0.7894458E+00  |

|                |                |                |                |                |
|----------------|----------------|----------------|----------------|----------------|
| 0.7928131E+00  | 0.7959176E+00  | 0.7987199E+00  | 0.8011855E+00  | 0.8032869E+00  |
| 0.8050004E+00  | 0.8063114E+00  | 0.8072113E+00  | 0.8076993E+00  | 0.8077806E+00  |
| 0.8074697E+00  | 0.8067882E+00  | 0.8057631E+00  | 0.8044297E+00  | 0.8028295E+00  |
| 0.8010093E+00  | 0.7991166E+00  | 0.7952465E+00  | 0.7892528E+00  | 0.7670465E+00  |
| 0.7148370E+00  | 0.6456380E+00  | 0.5605314E+00  | 0.4607331E+00  | 0.3637140E+00  |
| 0.2696135E+00  | 0.1781481E+00  | 0.8864370E-01  | 0.1401391E-02  | -0.8323190E-01 |
| -0.1649025E+00 | -0.2432594E+00 | -0.3179613E+00 | -0.3886839E+00 | -0.4551250E+00 |
| -0.5070226E+00 | -0.5461689E+00 | -0.5741099E+00 | -0.5842949E+00 | -0.5880679E+00 |
| -0.5907032E+00 | -0.5920661E+00 | -0.5935658E+00 | -0.5955957E+00 | -0.5981272E+00 |
| -0.6011222E+00 | -0.6045331E+00 | -0.6083063E+00 | -0.6123802E+00 | -0.6166877E+00 |
| -0.6211579E+00 | -0.6257173E+00 | -0.6302901E+00 | -0.6348006E+00 | -0.7217153E+00 |
| -0.7258664E+00 | -0.7297823E+00 | -0.7333978E+00 | -0.7366530E+00 | -0.7394944E+00 |
| -0.7418752E+00 | -0.7437578E+00 | -0.7451116E+00 | -0.7459174E+00 | -0.7461643E+00 |
| -0.7458522E+00 | -0.7449912E+00 | -0.7439936E+00 | -0.7419176E+00 | -0.7386363E+00 |
| -0.7282659E+00 | -0.7028294E+00 | -0.6681895E+00 | -0.6234682E+00 | -0.5672109E+00 |
| -0.5074808E+00 | -0.4435840E+00 | -0.3748250E+00 | -0.3005141E+00 | -0.2199761E+00 |
| -0.1325616E+00 | -0.3765802E-01 | 0.6541558E-01  | 0.1771576E+00  | 0.2985221E+00  |
| 0.4317551E+00  | 0.5540972E+00  | 0.6609029E+00  | 0.7471951E+00  | 0.7871077E+00  |
| 0.7978870E+00  | 0.8051629E+00  | 0.8088306E+00  | 0.8125328E+00  | 0.8163534E+00  |
| 0.8202446E+00  | 0.8241572E+00  | 0.8280399E+00  | 0.8318419E+00  | 0.8355135E+00  |
| 0.8390049E+00  | 0.8422706E+00  | 0.8452681E+00  | 0.8479586E+00  | 0.8503089E+00  |
| 0.8522917E+00  | 0.8538849E+00  | 0.8550754E+00  | 0.8558540E+00  | 0.8562225E+00  |
| 0.8561868E+00  | 0.8557618E+00  | 0.8549699E+00  | 0.8538395E+00  | 0.8524058E+00  |
| 0.8507116E+00  | 0.8488034E+00  | 0.8468258E+00  | 0.8427891E+00  | 0.8365513E+00  |
| 0.8129373E+00  | 0.7578706E+00  | 0.6847322E+00  | 0.5944766E+00  | 0.4881797E+00  |
| 0.3843256E+00  | 0.2830683E+00  | 0.1841517E+00  | 0.8696001E-01  | -0.8212501E-02 |
| -0.1010357E+00 | -0.1911715E+00 | -0.2782829E+00 | -0.3620403E+00 | -0.4421285E+00 |
| -0.5182519E+00 | -0.5784632E+00 | -0.6244215E+00 | -0.6575653E+00 | -0.6700910E+00 |
| -0.6744730E+00 | -0.6774896E+00 | -0.6790338E+00 | -0.6807047E+00 | -0.6828812E+00 |
| -0.6855311E+00 | -0.6886132E+00 | -0.6920778E+00 | -0.6958690E+00 | -0.6999243E+00 |
| -0.7041761E+00 | -0.7085549E+00 | -0.7129866E+00 | -0.7173980E+00 | -0.7217153E+00 |
| -0.8012733E+00 | -0.8052067E+00 | -0.8088830E+00 | -0.8122406E+00 | -0.8152238E+00 |
| -0.8177827E+00 | -0.8198745E+00 | -0.8214654E+00 | -0.8225290E+00 | -0.8230507E+00 |
| -0.8230221E+00 | -0.8224472E+00 | -0.8213380E+00 | -0.8201044E+00 | -0.8175828E+00 |
| -0.8136848E+00 | -0.8011388E+00 | -0.7705163E+00 | -0.7290151E+00 | -0.6758188E+00 |
| -0.6095726E+00 | -0.5400918E+00 | -0.4667288E+00 | -0.3888362E+00 | -0.3057737E+00 |
| -0.2169172E+00 | -0.1216683E+00 | -0.1946526E-01 | 0.9031755E-01  | 0.2081271E+00  |
| 0.3348283E+00  | 0.4724892E+00  | 0.5976515E+00  | 0.7060289E+00  | 0.7930366E+00  |
| 0.8334048E+00  | 0.8440599E+00  | 0.8512464E+00  | 0.8548659E+00  | 0.8585183E+00  |
| 0.8622824E+00  | 0.8661094E+00  | 0.8699507E+00  | 0.8737558E+00  | 0.8774726E+00  |
| 0.8810527E+00  | 0.8844472E+00  | 0.8876105E+00  | 0.8905010E+00  | 0.8930811E+00  |
| 0.8953184E+00  | 0.8971855E+00  | 0.8986633E+00  | 0.8997381E+00  | 0.9004024E+00  |
| 0.9006579E+00  | 0.9005134E+00  | 0.8999829E+00  | 0.8990898E+00  | 0.8978636E+00  |
| 0.8963401E+00  | 0.8945624E+00  | 0.8925768E+00  | 0.8905245E+00  | 0.8863408E+00  |
| 0.8798910E+00  | 0.8549017E+00  | 0.7971341E+00  | 0.7202936E+00  | 0.6252264E+00  |
| 0.5128903E+00  | 0.4027126E+00  | 0.2948564E+00  | 0.1890891E+00  | 0.8484709E-01  |
| -0.1758458E-01 | -0.1178924E+00 | -0.2157542E+00 | -0.3108474E+00 | -0.4028555E+00 |
| -0.4914738E+00 | -0.5764152E+00 | -0.6441998E+00 | -0.6963654E+00 | -0.7342518E+00 |
| -0.7490312E+00 | -0.7539178E+00 | -0.7572388E+00 | -0.7589232E+00 | -0.7607220E+00 |
| -0.7630051E+00 | -0.7657365E+00 | -0.7688719E+00 | -0.7723599E+00 | -0.7761427E+00 |
| -0.7801571E+00 | -0.7843356E+00 | -0.7886088E+00 | -0.7929041E+00 | -0.7971494E+00 |
| -0.8012732E+00 | -0.8738683E+00 | -0.8775649E+00 | -0.8809902E+00 | -0.8840874E+00 |
| -0.8868052E+00 | -0.8890980E+00 | -0.8909277E+00 | -0.8922642E+00 | -0.8930858E+00 |
| -0.8933823E+00 | -0.8931488E+00 | -0.8923925E+00 | -0.8911280E+00 | -0.8897460E+00 |
| -0.8869302E+00 | -0.8825961E+00 | -0.8677438E+00 | -0.8323665E+00 | -0.7845718E+00 |
| -0.7235997E+00 | -0.6481865E+00 | -0.5697577E+00 | -0.4877096E+00 | -0.4014403E+00 |
| -0.3103559E+00 | -0.2138798E+00 | -0.1114608E+00 | -0.2583560E-02 | 0.1133268E+00  |
| 0.2366717E+00  | 0.3682369E+00  | 0.5099282E+00  | 0.6376531E+00  | 0.7474545E+00  |
| 0.8351045E+00  | 0.8759387E+00  | 0.8864504E+00  | 0.8935346E+00  | 0.8971003E+00  |

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| 0.9006974E+00  | 0.9043990E+00  | 0.9081571E+00  | 0.9119226E+00  | 0.9156457E+00  |
| 0.9192744E+00  | 0.9227605E+00  | 0.9260562E+00  | 0.9291166E+00  | 0.9319007E+00  |
| 0.9343717E+00  | 0.9364982E+00  | 0.9382536E+00  | 0.9396206E+00  | 0.9405851E+00  |
| 0.9411420E+00  | 0.9412926E+00  | 0.9410472E+00  | 0.9404204E+00  | 0.9394363E+00  |
| 0.9381248E+00  | 0.9365221E+00  | 0.9346713E+00  | 0.9326197E+00  | 0.9305034E+00  |
| 0.9261954E+00  | 0.9195678E+00  | 0.8932326E+00  | 0.8329204E+00  | 0.7526101E+00  |
| 0.6530569E+00  | 0.5351182E+00  | 0.4190981E+00  | 0.3051641E+00  | 0.1931043E+00  |
| 0.8240146E-01  | -0.2667020E-01 | -0.1338133E+00 | -0.2387217E+00 | -0.3410880E+00 |
| -0.4406089E+00 | -0.5369917E+00 | -0.6299593E+00 | -0.7046380E+00 | -0.7624559E+00 |
| -0.8046622E+00 | -0.8216136E+00 | -0.8268753E+00 | -0.8304444E+00 | -0.8322516E+00 |
| -0.8341660E+00 | -0.8365334E+00 | -0.8393162E+00 | -0.8424698E+00 | -0.8459413E+00 |
| -0.8496736E+00 | -0.8536046E+00 | -0.8576673E+00 | -0.8617948E+00 | -0.8659167E+00 |
| -0.8699641E+00 | -0.8738683E+00 | -0.9400960E+00 | -0.9435402E+00 | -0.9467063E+00 |
| -0.9495429E+00 | -0.9520031E+00 | -0.9540465E+00 | -0.9556400E+00 | -0.9567574E+00 |
| -0.9573836E+00 | -0.9575094E+00 | -0.9571367E+00 | -0.9562736E+00 | -0.9549398E+00 |
| -0.9534898E+00 | -0.9505181E+00 | -0.9459121E+00 | -0.9286355E+00 | -0.8888977E+00 |
| -0.8353292E+00 | -0.7672219E+00 | -0.6833954E+00 | -0.5967547E+00 | -0.5067377E+00 |
| -0.4127852E+00 | -0.3143477E+00 | -0.2108923E+00 | -0.1019116E+00 | -0.1306717E-01 |
| 0.1345724E+00  | 0.2629652E+00  | 0.3989598E+00  | 0.5443149E+00  | 0.6743620E+00  |
| 0.7854464E+00  | 0.8736675E+00  | 0.9149781E+00  | 0.9253275E+00  | 0.9322958E+00  |
| 0.9358028E+00  | 0.9393384E+00  | 0.9429711E+00  | 0.9466556E+00  | 0.9503403E+00  |
| 0.9539768E+00  | 0.9575145E+00  | 0.9609045E+00  | 0.9640998E+00  | 0.9670568E+00  |
| 0.9697347E+00  | 0.9720987E+00  | 0.9741171E+00  | 0.9757653E+00  | 0.9770261E+00  |
| 0.9778867E+00  | 0.9783432E+00  | 0.9783976E+00  | 0.9780598E+00  | 0.9773468E+00  |
| 0.9762821E+00  | 0.9748963E+00  | 0.9732256E+00  | 0.9713129E+00  | 0.9692066E+00  |
| 0.9670379E+00  | 0.9626296E+00  | 0.9558604E+00  | 0.9282073E+00  | 0.8655077E+00  |
| 0.7819564E+00  | 0.6782313E+00  | 0.5551048E+00  | 0.4336947E+00  | 0.3141686E+00  |
| 0.1963333E+00  | 0.7971264E-01  | -0.3543076E-01 | -0.1488154E+00 | -0.2601511E+00 |
| -0.3691453E+00 | -0.4755090E+00 | -0.5789621E+00 | -0.6792381E+00 | -0.7601956E+00 |
| -0.8231632E+00 | -0.8693062E+00 | -0.8883524E+00 | -0.8938726E+00 | -0.8976401E+00 |
| -0.8995560E+00 | -0.9015759E+00 | -0.9040087E+00 | -0.9068176E+00 | -0.9099587E+00 |
| -0.9133796E+00 | -0.9170251E+00 | -0.9208352E+00 | -0.9247462E+00 | -0.9286930E+00 |
| -0.9326108E+00 | -0.9364329E+00 | -0.9400959E+00 | -0.1000777E+01 | -0.1003989E+01 |
| -0.1006917E+01 | -0.1009513E+01 | -0.1011736E+01 | -0.1013549E+01 | -0.1014924E+01 |
| -0.1015837E+01 | -0.1016278E+01 | -0.1016240E+01 | -0.1015728E+01 | -0.1014754E+01 |
| -0.1013338E+01 | -0.1011811E+01 | -0.1008681E+01 | -0.1003829E+01 | -0.9843517E+00 |
| -0.9406072E+00 | -0.8817343E+00 | -0.8070698E+00 | -0.7155122E+00 | -0.6213264E+00 |
| -0.5239905E+00 | -0.4229862E+00 | -0.3178051E+00 | -0.2079554E+00 | -0.9296996E-01 |
| 0.2758506E-01  | 0.1541951E+00  | 0.2871846E+00  | 0.4272048E+00  | 0.5758790E+00  |
| 0.7080186E+00  | 0.8202486E+00  | 0.9089689E+00  | 0.9507651E+00  | 0.9609318E+00  |
| 0.9677718E+00  | 0.9712133E+00  | 0.9746813E+00  | 0.9782398E+00  | 0.9818445E+00  |
| 0.9854439E+00  | 0.9889898E+00  | 0.9924331E+00  | 0.9957247E+00  | 0.9988182E+00  |
| 0.1001671E+01  | 0.1004244E+01  | 0.1006503E+01  | 0.1008417E+01  | 0.1009962E+01  |
| 0.1011122E+01  | 0.1011886E+01  | 0.1012250E+01  | 0.1012217E+01  | 0.1011796E+01  |
| 0.1011007E+01  | 0.1009873E+01  | 0.1008424E+01  | 0.1006697E+01  | 0.1004735E+01  |
| 0.1002585E+01  | 0.1000376E+01  | 0.9958919E+00  | 0.9890172E+00  | 0.9600763E+00  |
| 0.8951489E+00  | 0.8085825E+00  | 0.7009900E+00  | 0.5730714E+00  | 0.4466967E+00  |
| 0.3220315E+00  | 0.1988987E+00  | 0.7685947E-01  | -0.4383596E-01 | -0.1629218E+00 |
| -0.2801232E+00 | -0.3951630E+00 | -0.5077664E+00 | -0.6176662E+00 | -0.7246076E+00 |
| -0.8112938E+00 | -0.8789620E+00 | -0.9287001E+00 | -0.9497604E+00 | -0.9554823E+00 |
| -0.9593906E+00 | -0.9613791E+00 | -0.9634666E+00 | -0.9659343E+00 | -0.9687459E+00 |
| -0.9718571E+00 | -0.9752164E+00 | -0.9787697E+00 | -0.9824589E+00 | -0.9862228E+00 |
| -0.9899985E+00 | -0.9937243E+00 | -0.9973371E+00 | -0.1000778E+01 | -0.1056488E+01 |
| -0.1059490E+01 | -0.1062204E+01 | -0.1064585E+01 | -0.1066593E+01 | -0.1068194E+01 |
| -0.1069365E+01 | -0.1070085E+01 | -0.1070346E+01 | -0.1070143E+01 | -0.1069484E+01 |
| -0.1068382E+01 | -0.1066859E+01 | -0.1065233E+01 | -0.1061923E+01 | -0.1056827E+01 |
| -0.1035404E+01 | -0.9879720E+00 | -0.9242167E+00 | -0.8435165E+00 | -0.7448434E+00 |
| -0.6437154E+00 | -0.5396491E+00 | -0.4321647E+00 | -0.3207924E+00 | -0.2050787E+00 |
| -0.8459391E-01 | 0.4106012E-01  | 0.1723292E+00  | 0.3095047E+00  | 0.4531814E+00  |

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| 0.6048581E+00  | 0.7388780E+00  | 0.8521248E+00  | 0.9412761E+00  | 0.9835687E+00  |
| 0.9935321E+00  | 0.1000231E+01  | 0.1003600E+01  | 0.1006994E+01  | 0.1010474E+01  |
| 0.1013992E+01  | 0.1017502E+01  | 0.1020953E+01  | 0.1024298E+01  | 0.1027489E+01  |
| 0.1030480E+01  | 0.1033229E+01  | 0.1035698E+01  | 0.1037853E+01  | 0.1039666E+01  |
| 0.1041113E+01  | 0.1042178E+01  | 0.1042852E+01  | 0.1043131E+01  | 0.1043019E+01  |
| 0.1042526E+01  | 0.1041671E+01  | 0.1040478E+01  | 0.1038977E+01  | 0.1037206E+01  |
| 0.1035207E+01  | 0.1033026E+01  | 0.1030789E+01  | 0.1026253E+01  | 0.1019309E+01  |
| 0.9891084E+00  | 0.9221082E+00  | 0.8327426E+00  | 0.7215707E+00  | 0.5892292E+00  |
| 0.4582840E+00  | 0.3288960E+00  | 0.2009028E+00  | 0.7389928E-01  | -0.5187699E-01 |
| -0.1761756E+00 | -0.2987370E+00 | -0.4192986E+00 | -0.5376004E+00 | -0.6533882E+00 |
| -0.7664198E+00 | -0.8583428E+00 | -0.9303102E+00 | -0.9833382E+00 | -0.1006340E+01 |
| -0.1012220E+01 | -0.1016216E+01 | -0.1018241E+01 | -0.1020357E+01 | -0.1022830E+01 |
| -0.1025623E+01 | -0.1028690E+01 | -0.1031982E+01 | -0.1035444E+01 | -0.1039018E+01 |
| -0.1042646E+01 | -0.1046267E+01 | -0.1049820E+01 | -0.1053246E+01 | -0.1056487E+01 |
| -0.1107563E+01 | -0.1110360E+01 | -0.1112867E+01 | -0.1115041E+01 | -0.1116847E+01 |
| -0.1118256E+01 | -0.1119243E+01 | -0.1119794E+01 | -0.1119901E+01 | -0.1119564E+01 |
| -0.1118791E+01 | -0.1117597E+01 | -0.1116005E+01 | -0.1114317E+01 | -0.1110893E+01 |
| -0.1105646E+01 | -0.1082275E+01 | -0.1031443E+01 | -0.9631857E+00 | -0.8769214E+00 |
| -0.7716885E+00 | -0.6641631E+00 | -0.5538973E+00 | -0.4404482E+00 | -0.3233822E+00 |
| -0.2022818E+00 | -0.7675185E-01 | 0.5357274E-01  | 0.1891013E+00  | 0.3300955E+00  |
| 0.4770995E+00  | 0.6314970E+00  | 0.7672089E+00  | 0.8813591E+00  | 0.9708816E+00  |
| 0.1013686E+01  | 0.1023425E+01  | 0.1029971E+01  | 0.1033261E+01  | 0.1036575E+01  |
| 0.1039969E+01  | 0.1043397E+01  | 0.1046811E+01  | 0.1050164E+01  | 0.1053407E+01  |
| 0.1056494E+01  | 0.1059381E+01  | 0.1062026E+01  | 0.1064392E+01  | 0.1066445E+01  |
| 0.1068161E+01  | 0.1069514E+01  | 0.1070490E+01  | 0.1071080E+01  | 0.1071282E+01  |
| 0.1071099E+01  | 0.1070544E+01  | 0.1069633E+01  | 0.1068392E+01  | 0.1066851E+01  |
| 0.1065048E+01  | 0.1063023E+01  | 0.1060823E+01  | 0.1058570E+01  | 0.1054005E+01  |
| 0.1047028E+01  | 0.1015591E+01  | 0.9466607E+00  | 0.8546953E+00  | 0.7402076E+00  |
| 0.6037799E+00  | 0.4686214E+00  | 0.3348869E+00  | 0.2024273E+00  | 0.7086821E-01  |
| -0.5956576E-01 | -0.1886387E+00 | -0.3161063E+00 | -0.4417208E+00 | -0.5652362E+00 |
| -0.6864119E+00 | -0.8050181E+00 | -0.9017374E+00 | -0.9776449E+00 | -0.1033688E+01 |
| -0.1058580E+01 | -0.1064546E+01 | -0.1068587E+01 | -0.1070631E+01 | -0.1072758E+01 |
| -0.1075218E+01 | -0.1077973E+01 | -0.1080978E+01 | -0.1084184E+01 | -0.1087537E+01 |
| -0.1090982E+01 | -0.1094461E+01 | -0.1097915E+01 | -0.1101288E+01 | -0.1104522E+01 |
| -0.1107563E+01 | -0.1154459E+01 | -0.1157053E+01 | -0.1159359E+01 | -0.1161337E+01 |
| -0.1162953E+01 | -0.1164183E+01 | -0.1165006E+01 | -0.1165408E+01 | -0.1165386E+01 |
| -0.1164940E+01 | -0.1164081E+01 | -0.1162825E+01 | -0.1161195E+01 | -0.1159477E+01 |
| -0.1155995E+01 | -0.1150667E+01 | -0.1125365E+01 | -0.1071397E+01 | -0.9989851E+00 |
| -0.9075853E+00 | -0.7962988E+00 | -0.6828710E+00 | -0.5668885E+00 | -0.4479426E+00 |
| -0.3256338E+00 | -0.1995784E+00 | -0.6941340E-01 | 0.6519602E-01  | 0.2046249E+00  |
| 0.3491093E+00  | 0.4991466E+00  | 0.6560150E+00  | 0.7932527E+00  | 0.9082071E+00  |
| 0.9980491E+00  | 0.1041383E+01  | 0.1050879E+01  | 0.1057258E+01  | 0.1060463E+01  |
| 0.1063690E+01  | 0.1066993E+01  | 0.1070325E+01  | 0.1073639E+01  | 0.1076889E+01  |
| 0.1080028E+01  | 0.1083008E+01  | 0.1085790E+01  | 0.1088329E+01  | 0.1090593E+01  |
| 0.1092548E+01  | 0.1094167E+01  | 0.1095431E+01  | 0.1096323E+01  | 0.1096836E+01  |
| 0.1096968E+01  | 0.1096724E+01  | 0.1096114E+01  | 0.1095158E+01  | 0.1093880E+01  |
| 0.1092311E+01  | 0.1090485E+01  | 0.1088447E+01  | 0.1086239E+01  | 0.1083981E+01  |
| 0.1079412E+01  | 0.1072436E+01  | 0.1039780E+01  | 0.9690502E+00  | 0.8746682E+00  |
| 0.7571055E+00  | 0.6168981E+00  | 0.4778511E+00  | 0.3401116E+00  | 0.2035424E+00  |
| 0.6779726E-01  | -0.6691199E-01 | -0.2003636E+00 | -0.3323280E+00 | -0.4625719E+00 |
| -0.5908637E+00 | -0.7169763E+00 | -0.8406922E+00 | -0.9418101E+00 | -0.1021332E+01 |
| -0.1080144E+01 | -0.1106867E+01 | -0.1112857E+01 | -0.1116912E+01 | -0.1118959E+01 |
| -0.1121085E+01 | -0.1123519E+01 | -0.1126221E+01 | -0.1129150E+01 | -0.1132256E+01 |
| -0.1135488E+01 | -0.1138791E+01 | -0.1142111E+01 | -0.1145392E+01 | -0.1148579E+01 |
| -0.1151619E+01 | -0.1154459E+01 | -0.1197650E+01 | -0.1200054E+01 | -0.1202171E+01 |
| -0.1203966E+01 | -0.1205407E+01 | -0.1206473E+01 | -0.1207145E+01 | -0.1207412E+01 |
| -0.1207273E+01 | -0.1206731E+01 | -0.1205796E+01 | -0.1204486E+01 | -0.1202824E+01 |
| -0.1201082E+01 | -0.1197556E+01 | -0.1192179E+01 | -0.1165055E+01 | -0.1108188E+01 |
| -0.1031936E+01 | -0.9357886E+00 | -0.8189073E+00 | -0.7000260E+00 | -0.5787633E+00 |

|                |                |                |                |                |
|----------------|----------------|----------------|----------------|----------------|
| -0.4547435E+00 | -0.3275991E+00 | -0.1969775E+00 | -0.6254618E-01 | 0.7600234E-01  |
| 0.2190110E+00  | 0.3666928E+00  | 0.5195028E+00  | 0.6786216E+00  | 0.8172399E+00  |
| 0.9329125E+00  | 0.1023030E+01  | 0.1066914E+01  | 0.1076147E+01  | 0.1082348E+01  |
| 0.1085462E+01  | 0.1088596E+01  | 0.1091801E+01  | 0.1095032E+01  | 0.1098241E+01  |
| 0.1101384E+01  | 0.1104414E+01  | 0.1107286E+01  | 0.1109960E+01  | 0.1112395E+01  |
| 0.1114556E+01  | 0.1116414E+01  | 0.1117941E+01  | 0.1119118E+01  | 0.1119932E+01  |
| 0.1120374E+01  | 0.1120443E+01  | 0.1120144E+01  | 0.1119490E+01  | 0.1118498E+01  |
| 0.1117194E+01  | 0.1115605E+01  | 0.1113769E+01  | 0.1111728E+01  | 0.1109525E+01  |
| 0.1107273E+01  | 0.1102721E+01  | 0.1095781E+01  | 0.1061917E+01  | 0.9895070E+00  |
| 0.8928742E+00  | 0.7724553E+00  | 0.6287458E+00  | 0.4861035E+00  | 0.3446672E+00  |
| 0.2043101E+00  | 0.6471203E-01  | -0.7392809E-01 | -0.2114026E+00 | -0.3474957E+00 |
| -0.4819889E+00 | -0.6146643E+00 | -0.7453088E+00 | -0.8737164E+00 | -0.9788752E+00 |
| -0.1061719E+01 | -0.1123078E+01 | -0.1151572E+01 | -0.1157545E+01 | -0.1161581E+01 |
| -0.1163616E+01 | -0.1165722E+01 | -0.1168114E+01 | -0.1170754E+01 | -0.1173597E+01 |
| -0.1176596E+01 | -0.1179704E+01 | -0.1182864E+01 | -0.1186027E+01 | -0.1189139E+01 |
| -0.1192146E+01 | -0.1195000E+01 | -0.1197650E+01 | -0.1237408E+01 | -0.1239618E+01 |
| -0.1241550E+01 | -0.1243169E+01 | -0.1244449E+01 | -0.1245370E+01 | -0.1245917E+01 |
| -0.1246080E+01 | -0.1245861E+01 | -0.1245263E+01 | -0.1244299E+01 | -0.1242986E+01 |
| -0.1241351E+01 | -0.1239638E+01 | -0.1236170E+01 | -0.1230876E+01 | -0.1201780E+01 |
| -0.1142223E+01 | -0.1062407E+01 | -0.9618548E+00 | -0.8397814E+00 | -0.7158402E+00 |
| -0.5896805E+00 | -0.4609572E+00 | -0.3293332E+00 | -0.1944851E+00 | -0.5610844E-01 |
| 0.8607829E-01  | 0.2323889E+00  | 0.3830150E+00  | 0.5383734E+00  | 0.6995543E+00  |
| 0.8394299E+00  | 0.9557484E+00  | 0.1046105E+01  | 0.1090562E+01  | 0.1099515E+01  |
| 0.1105524E+01  | 0.1108541E+01  | 0.1111577E+01  | 0.1114680E+01  | 0.1117803E+01  |
| 0.1120903E+01  | 0.1123935E+01  | 0.1126852E+01  | 0.1129614E+01  | 0.1132179E+01  |
| 0.1134507E+01  | 0.1136566E+01  | 0.1138328E+01  | 0.1139765E+01  | 0.1140861E+01  |
| 0.1141600E+01  | 0.1141976E+01  | 0.1141990E+01  | 0.1141644E+01  | 0.1140953E+01  |
| 0.1139934E+01  | 0.1138612E+01  | 0.1137015E+01  | 0.1135180E+01  | 0.1133146E+01  |
| 0.1130957E+01  | 0.1128722E+01  | 0.1124209E+01  | 0.1117335E+01  | 0.1082270E+01  |
| 0.1008285E+01  | 0.9095469E+00  | 0.7864633E+00  | 0.6394951E+00  | 0.4935142E+00  |
| 0.3486505E+00  | 0.2047865E+00  | 0.6162603E-01  | -0.8064497E-01 | -0.2218322E+00 |
| -0.3617336E+00 | -0.5001447E+00 | -0.6368616E+00 | -0.7716841E+00 | -0.9044196E+00 |
| -0.1013308E+01 | -0.1099219E+01 | -0.1162930E+01 | -0.1193195E+01 | -0.1199076E+01 |
| -0.1203053E+01 | -0.1205059E+01 | -0.1207132E+01 | -0.1209464E+01 | -0.1212018E+01 |
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| -0.1278531E+01 | -0.1276964E+01 | -0.1275324E+01 | -0.1271992E+01 | -0.1266885E+01 |
| -0.1235728E+01 | -0.1173681E+01 | -0.1090567E+01 | -0.9859358E+00 | -0.8590546E+00 |
| -0.7304275E+00 | -0.5997330E+00 | -0.4666545E+00 | -0.3308837E+00 | -0.1921249E+00 |
| -0.5009910E-01 | 0.9545016E-01  | 0.2448103E+00  | 0.3981531E+00  | 0.5558612E+00  |
| 0.7189395E+00  | 0.8599687E+00  | 0.9768753E+00  | 0.1067444E+01  | 0.1112503E+01  |
| 0.1121156E+01  | 0.1126961E+01  | 0.1129875E+01  | 0.1132808E+01  | 0.1135800E+01  |
| 0.1138813E+01  | 0.1141798E+01  | 0.1144714E+01  | 0.1147516E+01  | 0.1150164E+01  |
| 0.1152617E+01  | 0.1154839E+01  | 0.1156796E+01  | 0.1158462E+01  | 0.1159812E+01  |
| 0.1160828E+01  | 0.1161497E+01  | 0.1161814E+01  | 0.1161777E+01  | 0.1161392E+01  |
| 0.1160672E+01  | 0.1159636E+01  | 0.1158304E+01  | 0.1156710E+01  | 0.1154885E+01  |
| 0.1152869E+01  | 0.1150705E+01  | 0.1148498E+01  | 0.1144044E+01  | 0.1137269E+01  |
| 0.1100999E+01  | 0.1025532E+01  | 0.9248194E+00  | 0.7992438E+00  | 0.6492380E+00  |
| 0.5001533E+00  | 0.3521090E+00  | 0.2049970E+00  | 0.5854248E-01  | -0.8708131E-01 |
| -0.2316925E+00 | -0.3751029E+00 | -0.5171216E+00 | -0.6575582E+00 | -0.7962251E+00 |
| -0.9329435E+00 | -0.1045264E+01 | -0.1134001E+01 | -0.1199876E+01 | -0.1231899E+01 |
| -0.1237626E+01 | -0.1241509E+01 | -0.1243473E+01 | -0.1245499E+01 | -0.1247755E+01 |
| -0.1250207E+01 | -0.1252815E+01 | -0.1255536E+01 | -0.1258329E+01 | -0.1261144E+01 |
| -0.1263937E+01 | -0.1266661E+01 | -0.1269271E+01 | -0.1271723E+01 | -0.1273976E+01 |
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| -0.1312524E+01 | -0.1311234E+01 | -0.1309669E+01 | -0.1308039E+01 | -0.1304734E+01 |



|                |                |                |                |                |
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| -0.1299686E+01 | -0.1266904E+01 | -0.1202573E+01 | -0.1116431E+01 | -0.1008053E+01 |
| -0.8767543E+00 | -0.7438204E+00 | -0.6089571E+00 | -0.4718742E+00 | -0.3322902E+00 |
| -0.1899344E+00 | -0.4455255E-01 | 0.1040897E+00  | 0.2562546E+00  | 0.4120972E+00  |
| 0.5719690E+00  | 0.7367969E+00  | 0.8788906E+00  | 0.9963407E+00  | 0.1087105E+01  |
| 0.1132805E+01  | 0.1141137E+01  | 0.1146724E+01  | 0.1149530E+01  | 0.1152351E+01  |
| 0.1155229E+01  | 0.1158122E+01  | 0.1160988E+01  | 0.1163783E+01  | 0.1166465E+01  |
| 0.1168995E+01  | 0.1171335E+01  | 0.1173448E+01  | 0.1175303E+01  | 0.1176874E+01  |
| 0.1178138E+01  | 0.1179077E+01  | 0.1179680E+01  | 0.1179942E+01  | 0.1179861E+01  |
| 0.1179445E+01  | 0.1178705E+01  | 0.1177659E+01  | 0.1176329E+01  | 0.1174746E+01  |
| 0.1172943E+01  | 0.1170956E+01  | 0.1168828E+01  | 0.1166660E+01  | 0.1162289E+01  |
| 0.1155646E+01  | 0.1118157E+01  | 0.1041292E+01  | 0.9387256E+00  | 0.8108213E+00  |
| 0.6579894E+00  | 0.5060278E+00  | 0.3550443E+00  | 0.2049384E+00  | 0.5545486E-01  |
| -0.9324554E-01 | -0.2409934E+00 | -0.3876135E+00 | -0.5329284E+00 | -0.6767609E+00 |
| -0.8189368E+00 | -0.9592894E+00 | -0.1074742E+01 | -0.1166057E+01 | -0.1233910E+01 |
| -0.1267557E+01 | -0.1273152E+01 | -0.1276936E+01 | -0.1278848E+01 | -0.1280814E+01 |
| -0.1282993E+01 | -0.1285351E+01 | -0.1287850E+01 | -0.1290447E+01 | -0.1293102E+01 |
| -0.1295770E+01 | -0.1298406E+01 | -0.1300967E+01 | -0.1303410E+01 | -0.1305694E+01 |
| -0.1307781E+01 | -0.1340477E+01 | -0.1342188E+01 | -0.1343638E+01 | -0.1344807E+01 |
| -0.1345673E+01 | -0.1346220E+01 | -0.1346443E+01 | -0.1346336E+01 | -0.1345903E+01 |
| -0.1345151E+01 | -0.1344093E+01 | -0.1342750E+01 | -0.1341144E+01 | -0.1339481E+01 |
| -0.1336132E+01 | -0.1331056E+01 | -0.1296905E+01 | -0.1230371E+01 | -0.1141310E+01 |
| -0.1029322E+01 | -0.8937697E+00 | -0.7566907E+00 | -0.6178170E+00 | -0.4768848E+00 |
| -0.3336369E+00 | -0.1878272E+00 | -0.3922461E-01 | 0.1123847E+00  | 0.2672383E+00  |
| 0.4254770E+00  | 0.5874222E+00  | 0.7539273E+00  | 0.8970422E+00  | 0.1015014E+01  |
| 0.1105965E+01  | 0.1152324E+01  | 0.1160325E+01  | 0.1165690E+01  | 0.1168382E+01  |
| 0.1171089E+01  | 0.1173849E+01  | 0.1176620E+01  | 0.1179362E+01  | 0.1182034E+01  |
| 0.1184595E+01  | 0.1187005E+01  | 0.1189230E+01  | 0.1191233E+01  | 0.1192986E+01  |
| 0.1194462E+01  | 0.1195642E+01  | 0.1196505E+01  | 0.1197045E+01  | 0.1197254E+01  |
| 0.1197132E+01  | 0.1196688E+01  | 0.1195931E+01  | 0.1194881E+01  | 0.1193558E+01  |
| 0.1191992E+01  | 0.1190215E+01  | 0.1188263E+01  | 0.1186176E+01  | 0.1184054E+01  |
| 0.1179776E+01  | 0.1173281E+01  | 0.1134567E+01  | 0.1056345E+01  | 0.9519844E+00  |
| 0.8218313E+00  | 0.6662755E+00  | 0.5115454E+00  | 0.3577366E+00  | 0.2047552E+00  |
| 0.5236427E-01  | -0.9928756E-01 | -0.2500437E+00 | -0.3997418E+00 | -0.5482181E+00 |
| -0.6953083E+00 | -0.8408524E+00 | -0.9846948E+00 | -0.1103158E+01 | -0.1196953E+01 |
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| -0.1326641E+01 | -0.1329181E+01 | -0.1331683E+01 | -0.1334103E+01 | -0.1336400E+01 |
| -0.1338538E+01 | -0.1340477E+01 | 0.5496953E+01  | 0.5497135E+01  | 0.5497315E+01  |
| 0.5497489E+01  | 0.5497656E+01  | 0.5497812E+01  | 0.5497956E+01  | 0.5498086E+01  |
| 0.5498200E+01  | 0.5498300E+01  | 0.5498383E+01  | 0.5498450E+01  | 0.5498500E+01  |
| 0.5498546E+01  | 0.5498632E+01  | 0.5498751E+01  | 0.5498965E+01  | 0.5499492E+01  |
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| 0.5496291E+01  | 0.5497625E+01  | 0.5499025E+01  | 0.5499951E+01  | 0.5499615E+01  |
| 0.5497878E+01  | 0.5495183E+01  | 0.5493542E+01  | 0.5492991E+01  | 0.5492601E+01  |
| 0.5492400E+01  | 0.5492192E+01  | 0.5491972E+01  | 0.5491741E+01  | 0.5491502E+01  |
| 0.5491257E+01  | 0.5491009E+01  | 0.5490760E+01  | 0.5490514E+01  | 0.5490274E+01  |
| 0.5490044E+01  | 0.5489825E+01  | 0.5489622E+01  | 0.5489437E+01  | 0.5489271E+01  |
| 0.5489128E+01  | 0.5489009E+01  | 0.5488914E+01  | 0.5488845E+01  | 0.5488801E+01  |
| 0.5488782E+01  | 0.5488785E+01  | 0.5488811E+01  | 0.5488855E+01  | 0.5488917E+01  |
| 0.5488984E+01  | 0.5489121E+01  | 0.5489339E+01  | 0.5490050E+01  | 0.5491674E+01  |
| 0.5493506E+01  | 0.5495299E+01  | 0.5496860E+01  | 0.5497922E+01  | 0.5498622E+01  |
| 0.5499071E+01  | 0.5499361E+01  | 0.5499535E+01  | 0.5499620E+01  | 0.5499632E+01  |
| 0.5499569E+01  | 0.5499409E+01  | 0.5499103E+01  | 0.5498576E+01  | 0.5497893E+01  |
| 0.5497132E+01  | 0.5496408E+01  | 0.5496119E+01  | 0.5495975E+01  | 0.5495883E+01  |
| 0.5495839E+01  | 0.5495801E+01  | 0.5495791E+01  | 0.5495809E+01  | 0.5495852E+01  |
| 0.5495924E+01  | 0.5496019E+01  | 0.5496138E+01  | 0.5496275E+01  | 0.5496429E+01  |
| 0.5496596E+01  | 0.5496772E+01  | 0.5496953E+01  | 0.5774789E+01  | 0.5774834E+01  |
| 0.5774873E+01  | 0.5774907E+01  | 0.5774934E+01  | 0.5774957E+01  | 0.5774973E+01  |

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|---------------|---------------|---------------|---------------|---------------|
| 0.5774985E+01 | 0.5774993E+01 | 0.5774997E+01 | 0.5775000E+01 | 0.5775000E+01 |
| 0.5775000E+01 | 0.5775000E+01 | 0.5774997E+01 | 0.5774992E+01 | 0.5774974E+01 |
| 0.5774854E+01 | 0.5774557E+01 | 0.5774006E+01 | 0.5773160E+01 | 0.5772228E+01 |
| 0.5771344E+01 | 0.5770639E+01 | 0.5770237E+01 | 0.5770231E+01 | 0.5770665E+01 |
| 0.5771518E+01 | 0.5772675E+01 | 0.5773902E+01 | 0.5774827E+01 | 0.5774835E+01 |
| 0.5773365E+01 | 0.5770494E+01 | 0.5766838E+01 | 0.5764762E+01 | 0.5764088E+01 |
| 0.5763616E+01 | 0.5763372E+01 | 0.5763123E+01 | 0.5762859E+01 | 0.5762584E+01 |
| 0.5762301E+01 | 0.5762012E+01 | 0.5761721E+01 | 0.5761432E+01 | 0.5761147E+01 |
| 0.5760871E+01 | 0.5760607E+01 | 0.5760359E+01 | 0.5760130E+01 | 0.5759923E+01 |
| 0.5759741E+01 | 0.5759586E+01 | 0.5759459E+01 | 0.5759360E+01 | 0.5759292E+01 |
| 0.5759252E+01 | 0.5759242E+01 | 0.5759257E+01 | 0.5759298E+01 | 0.5759361E+01 |
| 0.5759442E+01 | 0.5759529E+01 | 0.5759710E+01 | 0.5759993E+01 | 0.5760930E+01 |
| 0.5763075E+01 | 0.5765550E+01 | 0.5768054E+01 | 0.5770329E+01 | 0.5771957E+01 |
| 0.5773088E+01 | 0.5773850E+01 | 0.5774358E+01 | 0.5774673E+01 | 0.5774849E+01 |
| 0.5774935E+01 | 0.5774969E+01 | 0.5774977E+01 | 0.5774963E+01 | 0.5774916E+01 |
| 0.5774822E+01 | 0.5774685E+01 | 0.5774533E+01 | 0.5774464E+01 | 0.5774430E+01 |
| 0.5774410E+01 | 0.5774400E+01 | 0.5774393E+01 | 0.5774395E+01 | 0.5774407E+01 |
| 0.5774429E+01 | 0.5774460E+01 | 0.5774497E+01 | 0.5774541E+01 | 0.5774589E+01 |
| 0.5774640E+01 | 0.5774691E+01 | 0.5774742E+01 | 0.5774789E+01 | 0.6049438E+01 |
| 0.6049363E+01 | 0.6049283E+01 | 0.6049200E+01 | 0.6049115E+01 | 0.6049031E+01 |
| 0.6048949E+01 | 0.6048872E+01 | 0.6048802E+01 | 0.6048741E+01 | 0.6048691E+01 |
| 0.6048652E+01 | 0.6048627E+01 | 0.6048605E+01 | 0.6048564E+01 | 0.6048506E+01 |
| 0.6048389E+01 | 0.6048010E+01 | 0.6047477E+01 | 0.6046793E+01 | 0.6046011E+01 |
| 0.6045350E+01 | 0.6044898E+01 | 0.6044732E+01 | 0.6044911E+01 | 0.6045459E+01 |
| 0.6046348E+01 | 0.6047483E+01 | 0.6048685E+01 | 0.6049660E+01 | 0.6049986E+01 |
| 0.6049005E+01 | 0.6046403E+01 | 0.6042446E+01 | 0.6037899E+01 | 0.6035423E+01 |
| 0.6034638E+01 | 0.6034092E+01 | 0.6033812E+01 | 0.6033525E+01 | 0.6033224E+01 |
| 0.6032911E+01 | 0.6032589E+01 | 0.6032263E+01 | 0.6031936E+01 | 0.6031612E+01 |
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| 0.6029957E+01 | 0.6029763E+01 | 0.6029600E+01 | 0.6029469E+01 | 0.6029372E+01 |
| 0.6029308E+01 | 0.6029277E+01 | 0.6029277E+01 | 0.6029308E+01 | 0.6029366E+01 |
| 0.6029449E+01 | 0.6029551E+01 | 0.6029660E+01 | 0.6029885E+01 | 0.6030236E+01 |
| 0.6031414E+01 | 0.6034111E+01 | 0.6037275E+01 | 0.6040554E+01 | 0.6043620E+01 |
| 0.6045889E+01 | 0.6047511E+01 | 0.6048625E+01 | 0.6049358E+01 | 0.6049782E+01 |
| 0.6049970E+01 | 0.6049994E+01 | 0.6049924E+01 | 0.6049819E+01 | 0.6049729E+01 |
| 0.6049688E+01 | 0.6049703E+01 | 0.6049746E+01 | 0.6049792E+01 | 0.6049813E+01 |
| 0.6049822E+01 | 0.6049826E+01 | 0.6049828E+01 | 0.6049829E+01 | 0.6049824E+01 |
| 0.6049814E+01 | 0.6049799E+01 | 0.6049778E+01 | 0.6049750E+01 | 0.6049716E+01 |
| 0.6049675E+01 | 0.6049627E+01 | 0.6049571E+01 | 0.6049508E+01 | 0.6049438E+01 |
| 0.6321553E+01 | 0.6321378E+01 | 0.6321202E+01 | 0.6321026E+01 | 0.6320855E+01 |
| 0.6320691E+01 | 0.6320538E+01 | 0.6320400E+01 | 0.6320279E+01 | 0.6320178E+01 |
| 0.6320099E+01 | 0.6320045E+01 | 0.6320015E+01 | 0.6319992E+01 | 0.6319950E+01 |
| 0.6319898E+01 | 0.6319797E+01 | 0.6319483E+01 | 0.6319098E+01 | 0.6318691E+01 |
| 0.6318357E+01 | 0.6318244E+01 | 0.6318403E+01 | 0.6318865E+01 | 0.6319639E+01 |
| 0.6320693E+01 | 0.6321945E+01 | 0.6323245E+01 | 0.6324366E+01 | 0.6324975E+01 |
| 0.6324625E+01 | 0.6322634E+01 | 0.6318944E+01 | 0.6313985E+01 | 0.6308640E+01 |
| 0.6305809E+01 | 0.6304930E+01 | 0.6304322E+01 | 0.6304011E+01 | 0.6303694E+01 |
| 0.6303361E+01 | 0.6303016E+01 | 0.6302663E+01 | 0.6302306E+01 | 0.6301950E+01 |
| 0.6301599E+01 | 0.6301256E+01 | 0.6300928E+01 | 0.6300618E+01 | 0.6300330E+01 |
| 0.6300068E+01 | 0.6299836E+01 | 0.6299636E+01 | 0.6299470E+01 | 0.6299340E+01 |
| 0.6299247E+01 | 0.6299191E+01 | 0.6299171E+01 | 0.6299186E+01 | 0.6299232E+01 |
| 0.6299309E+01 | 0.6299411E+01 | 0.6299535E+01 | 0.6299666E+01 | 0.6299935E+01 |
| 0.6300354E+01 | 0.6301777E+01 | 0.6305030E+01 | 0.6308894E+01 | 0.6312966E+01 |
| 0.6316855E+01 | 0.6319795E+01 | 0.6321934E+01 | 0.6323414E+01 | 0.6324365E+01 |
| 0.6324865E+01 | 0.6324999E+01 | 0.6324854E+01 | 0.6324520E+01 | 0.6324081E+01 |
| 0.6323620E+01 | 0.6323208E+01 | 0.6322943E+01 | 0.6322802E+01 | 0.6322742E+01 |
| 0.6322741E+01 | 0.6322737E+01 | 0.6322730E+01 | 0.6322726E+01 | 0.6322716E+01 |
| 0.6322690E+01 | 0.6322646E+01 | 0.6322584E+01 | 0.6322506E+01 | 0.6322411E+01 |
| 0.6322300E+01 | 0.6322175E+01 | 0.6322035E+01 | 0.6321884E+01 | 0.6321722E+01 |

|               |               |               |               |               |
|---------------|---------------|---------------|---------------|---------------|
| 0.6321553E+01 | 0.6591878E+01 | 0.6591626E+01 | 0.6591376E+01 | 0.6591131E+01 |
| 0.6590897E+01 | 0.6590678E+01 | 0.6590479E+01 | 0.6590302E+01 | 0.6590153E+01 |
| 0.6590034E+01 | 0.6589946E+01 | 0.6589892E+01 | 0.6589873E+01 | 0.6589863E+01 |
| 0.6589849E+01 | 0.6589841E+01 | 0.6589852E+01 | 0.6589848E+01 | 0.6589898E+01 |
| 0.6590067E+01 | 0.6590458E+01 | 0.6591083E+01 | 0.6591961E+01 | 0.6593091E+01 |
| 0.6594442E+01 | 0.6595942E+01 | 0.6597466E+01 | 0.6598830E+01 | 0.6599774E+01 |
| 0.6599946E+01 | 0.6598884E+01 | 0.6595908E+01 | 0.6591209E+01 | 0.6585357E+01 |
| 0.6579321E+01 | 0.6576181E+01 | 0.6575227E+01 | 0.6574569E+01 | 0.6574233E+01 |
| 0.6573891E+01 | 0.6573533E+01 | 0.6573163E+01 | 0.6572786E+01 | 0.6572406E+01 |
| 0.6572028E+01 | 0.6571656E+01 | 0.6571296E+01 | 0.6570951E+01 | 0.6570628E+01 |
| 0.6570330E+01 | 0.6570061E+01 | 0.6569824E+01 | 0.6569623E+01 | 0.6569458E+01 |
| 0.6569333E+01 | 0.6569247E+01 | 0.6569201E+01 | 0.6569193E+01 | 0.6569223E+01 |
| 0.6569286E+01 | 0.6569381E+01 | 0.6569503E+01 | 0.6569648E+01 | 0.6569800E+01 |
| 0.6570111E+01 | 0.6570594E+01 | 0.6572258E+01 | 0.6576049E+01 | 0.6580593E+01 |
| 0.6585441E+01 | 0.6590140E+01 | 0.6593744E+01 | 0.6596394E+01 | 0.6598231E+01 |
| 0.6599380E+01 | 0.6599926E+01 | 0.6599955E+01 | 0.6599563E+01 | 0.6598852E+01 |
| 0.6597926E+01 | 0.6596886E+01 | 0.659530E+01  | 0.6595002E+01 | 0.6594408E+01 |
| 0.6594015E+01 | 0.6593901E+01 | 0.6593846E+01 | 0.6593804E+01 | 0.6593781E+01 |
| 0.6593750E+01 | 0.6593693E+01 | 0.6593608E+01 | 0.6593498E+01 | 0.6593362E+01 |
| 0.6593203E+01 | 0.6593021E+01 | 0.6592821E+01 | 0.6592602E+01 | 0.6592371E+01 |
| 0.6592128E+01 | 0.6591878E+01 | 0.6861047E+01 | 0.6860737E+01 | 0.6860434E+01 |
| 0.6860141E+01 | 0.6859866E+01 | 0.6859612E+01 | 0.6859386E+01 | 0.6859190E+01 |
| 0.6859030E+01 | 0.6858908E+01 | 0.6858825E+01 | 0.6858784E+01 | 0.6858785E+01 |
| 0.6858797E+01 | 0.6858827E+01 | 0.6858889E+01 | 0.6859085E+01 | 0.6859560E+01 |
| 0.6860244E+01 | 0.6861191E+01 | 0.6862483E+01 | 0.6863956E+01 | 0.6865609E+01 |
| 0.6867413E+01 | 0.6869308E+01 | 0.6871191E+01 | 0.6872913E+01 | 0.6874264E+01 |
| 0.6874967E+01 | 0.6874660E+01 | 0.6872884E+01 | 0.6868972E+01 | 0.6863354E+01 |
| 0.6856712E+01 | 0.6850082E+01 | 0.6846677E+01 | 0.6845663E+01 | 0.6844966E+01 |
| 0.6844611E+01 | 0.6844250E+01 | 0.6843873E+01 | 0.6843484E+01 | 0.6843089E+01 |
| 0.6842692E+01 | 0.6842298E+01 | 0.6841912E+01 | 0.6841539E+01 | 0.6841185E+01 |
| 0.6840854E+01 | 0.6840550E+01 | 0.6840278E+01 | 0.6840041E+01 | 0.6839841E+01 |
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| 0.6839504E+01 | 0.6839585E+01 | 0.6839697E+01 | 0.6839838E+01 | 0.6840002E+01 |
| 0.6840173E+01 | 0.6840524E+01 | 0.6841066E+01 | 0.6842964E+01 | 0.6847268E+01 |
| 0.6852459E+01 | 0.6858050E+01 | 0.6863524E+01 | 0.6867766E+01 | 0.6870905E+01 |
| 0.6873078E+01 | 0.6874405E+01 | 0.6874968E+01 | 0.6874854E+01 | 0.6874163E+01 |
| 0.6873004E+01 | 0.6871490E+01 | 0.6869735E+01 | 0.6867856E+01 | 0.6866276E+01 |
| 0.6865045E+01 | 0.6864161E+01 | 0.6863864E+01 | 0.6863736E+01 | 0.6863644E+01 |
| 0.6863595E+01 | 0.6863536E+01 | 0.6863444E+01 | 0.6863317E+01 | 0.6863159E+01 |
| 0.6862969E+01 | 0.6862752E+01 | 0.6862509E+01 | 0.6862245E+01 | 0.6861961E+01 |
| 0.6861664E+01 | 0.6861358E+01 | 0.6861047E+01 | 0.7129562E+01 | 0.7129212E+01 |
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| 0.7127540E+01 | 0.7127381E+01 | 0.7127266E+01 | 0.7127197E+01 | 0.7127175E+01 |
| 0.7127201E+01 | 0.7127239E+01 | 0.7127322E+01 | 0.7127464E+01 | 0.7127902E+01 |
| 0.7128965E+01 | 0.7130404E+01 | 0.7132249E+01 | 0.7134540E+01 | 0.7136917E+01 |
| 0.7139359E+01 | 0.7141819E+01 | 0.7144216E+01 | 0.7146429E+01 | 0.7148289E+01 |
| 0.7149573E+01 | 0.7149994E+01 | 0.7149194E+01 | 0.7146722E+01 | 0.7141934E+01 |
| 0.7135485E+01 | 0.7128150E+01 | 0.7121013E+01 | 0.7117379E+01 | 0.7116319E+01 |
| 0.7115592E+01 | 0.7115223E+01 | 0.7114847E+01 | 0.7114456E+01 | 0.7114054E+01 |
| 0.7113646E+01 | 0.7113237E+01 | 0.7112833E+01 | 0.7112438E+01 | 0.7112058E+01 |
| 0.7111699E+01 | 0.7111364E+01 | 0.7111059E+01 | 0.7110788E+01 | 0.7110554E+01 |
| 0.7110360E+01 | 0.7110208E+01 | 0.7110099E+01 | 0.7110034E+01 | 0.7110012E+01 |
| 0.7110032E+01 | 0.7110092E+01 | 0.7110188E+01 | 0.7110318E+01 | 0.7110476E+01 |
| 0.7110658E+01 | 0.7110847E+01 | 0.7111233E+01 | 0.7111829E+01 | 0.7113953E+01 |
| 0.7118740E+01 | 0.7124541E+01 | 0.7130830E+01 | 0.7137035E+01 | 0.7141877E+01 |
| 0.7145474E+01 | 0.7147956E+01 | 0.7149436E+01 | 0.7149991E+01 | 0.7149709E+01 |
| 0.7148689E+01 | 0.7147040E+01 | 0.7144881E+01 | 0.7142335E+01 | 0.7139528E+01 |
| 0.7137080E+01 | 0.7135101E+01 | 0.7133627E+01 | 0.7133098E+01 | 0.7132886E+01 |
| 0.7132735E+01 | 0.7132657E+01 | 0.7132567E+01 | 0.7132439E+01 | 0.7132272E+01 |

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|---------------|---------------|----------------|---------------|---------------|
| 0.7132069E+01 | 0.7131832E+01 | 0.7131564E+01  | 0.7131270E+01 | 0.7130953E+01 |
| 0.7130619E+01 | 0.7130272E+01 | 0.7129918E+01  | 0.7129562E+01 | 0.7397814E+01 |
| 0.7397438E+01 | 0.7397077E+01 | 0.7396738E+01  | 0.7396427E+01 | 0.7396150E+01 |
| 0.7395911E+01 | 0.7395716E+01 | 0.7395567E+01  | 0.7395467E+01 | 0.7395419E+01 |
| 0.7395421E+01 | 0.7395473E+01 | 0.7395540E+01  | 0.7395680E+01 | 0.7395909E+01 |
| 0.7396620E+01 | 0.7398328E+01 | 0.7400587E+01  | 0.7403387E+01 | 0.7406717E+01 |
| 0.7410007E+01 | 0.7413223E+01 | 0.7416305E+01  | 0.7419159E+01 | 0.7421650E+01 |
| 0.7423601E+01 | 0.7424780E+01 | 0.7424900E+01  | 0.7423612E+01 | 0.7420477E+01 |
| 0.7414883E+01 | 0.7407689E+01 | 0.7399752E+01  | 0.7392185E+01 | 0.7388356E+01 |
| 0.7387263E+01 | 0.7386515E+01 | 0.7386135E+01  | 0.7385749E+01 | 0.7385348E+01 |
| 0.7384937E+01 | 0.7384521E+01 | 0.7384105E+01  | 0.7383695E+01 | 0.7383296E+01 |
| 0.7382913E+01 | 0.7382552E+01 | 0.7382218E+01  | 0.7381915E+01 | 0.7381649E+01 |
| 0.7381420E+01 | 0.7381233E+01 | 0.7381090E+01  | 0.7380991E+01 | 0.7380939E+01 |
| 0.7380929E+01 | 0.7380963E+01 | 0.7381038E+01  | 0.7381150E+01 | 0.7381295E+01 |
| 0.7381470E+01 | 0.7381667E+01 | 0.7381872E+01  | 0.7382290E+01 | 0.7382934E+01 |
| 0.7385274E+01 | 0.7390510E+01 | 0.7396876E+01  | 0.7403812E+01 | 0.7410692E+01 |
| 0.7416087E+01 | 0.7420104E+01 | 0.7422863E+01  | 0.7424471E+01 | 0.7425000E+01 |
| 0.7424534E+01 | 0.7423169E+01 | 0.74221014E+01 | 0.7418189E+01 | 0.7414820E+01 |
| 0.7411038E+01 | 0.7407669E+01 | 0.7404885E+01  | 0.7402771E+01 | 0.7401975E+01 |
| 0.7401676E+01 | 0.7401466E+01 | 0.7401357E+01  | 0.7401237E+01 | 0.7401074E+01 |
| 0.7400870E+01 | 0.7400627E+01 | 0.7400349E+01  | 0.7400040E+01 | 0.7399704E+01 |
| 0.7399346E+01 | 0.7398972E+01 | 0.7398588E+01  | 0.7398200E+01 | 0.7397814E+01 |
| 0.7666102E+01 | 0.7665710E+01 | 0.7665339E+01  | 0.7664993E+01 | 0.7664681E+01 |
| 0.7664408E+01 | 0.7664177E+01 | 0.7663995E+01  | 0.7663864E+01 | 0.7663785E+01 |
| 0.7663761E+01 | 0.7663791E+01 | 0.7663876E+01  | 0.7663972E+01 | 0.7664174E+01 |
| 0.7664490E+01 | 0.7665483E+01 | 0.7667857E+01  | 0.7670953E+01 | 0.7674717E+01 |
| 0.7679080E+01 | 0.7683259E+01 | 0.7687212E+01  | 0.7690872E+01 | 0.7694133E+01 |
| 0.7696857E+01 | 0.7698859E+01 | 0.7699908E+01  | 0.7699722E+01 | 0.7697962E+01 |
| 0.7694211E+01 | 0.7687886E+01 | 0.7680037E+01  | 0.7671584E+01 | 0.7663661E+01 |
| 0.7659665E+01 | 0.7658549E+01 | 0.7657787E+01  | 0.7657401E+01 | 0.7657009E+01 |
| 0.7656603E+01 | 0.7656187E+01 | 0.7655766E+01  | 0.7655347E+01 | 0.7654935E+01 |
| 0.7654536E+01 | 0.7654154E+01 | 0.7653795E+01  | 0.7653464E+01 | 0.7653167E+01 |
| 0.7652906E+01 | 0.7652686E+01 | 0.7652508E+01  | 0.7652375E+01 | 0.7652288E+01 |
| 0.7652247E+01 | 0.7652250E+01 | 0.7652298E+01  | 0.7652387E+01 | 0.7652513E+01 |
| 0.7652673E+01 | 0.7652862E+01 | 0.7653073E+01  | 0.7653292E+01 | 0.7653738E+01 |
| 0.7654422E+01 | 0.7656966E+01 | 0.7662612E+01  | 0.7669494E+01 | 0.7677017E+01 |
| 0.7684509E+01 | 0.7690403E+01 | 0.7694795E+01  | 0.7697797E+01 | 0.7699509E+01 |
| 0.7699995E+01 | 0.7699337E+01 | 0.7697626E+01  | 0.7694970E+01 | 0.7691484E+01 |
| 0.7687296E+01 | 0.7682539E+01 | 0.7678241E+01  | 0.7674640E+01 | 0.7671871E+01 |
| 0.7670787E+01 | 0.7670403E+01 | 0.7670137E+01  | 0.7670001E+01 | 0.7669852E+01 |
| 0.7669659E+01 | 0.7669423E+01 | 0.7669147E+01  | 0.7668835E+01 | 0.7668491E+01 |
| 0.7668123E+01 | 0.7667733E+01 | 0.7667330E+01  | 0.7666919E+01 | 0.7666508E+01 |
| 0.7666102E+01 | 0.7934644E+01 | 0.7934247E+01  | 0.7933872E+01 | 0.7933529E+01 |
| 0.7933224E+01 | 0.7932960E+01 | 0.7932744E+01  | 0.7932580E+01 | 0.7932469E+01 |
| 0.7932415E+01 | 0.7932418E+01 | 0.7932478E+01  | 0.7932593E+01 | 0.7932720E+01 |
| 0.7932981E+01 | 0.7933382E+01 | 0.7934658E+01  | 0.7937690E+01 | 0.7941610E+01 |
| 0.7946313E+01 | 0.7951669E+01 | 0.7956690E+01  | 0.7961331E+01 | 0.7965515E+01 |
| 0.7969136E+01 | 0.7972049E+01 | 0.7974072E+01  | 0.7974976E+01 | 0.7974488E+01 |
| 0.7972284E+01 | 0.7967968E+01 | 0.7960991E+01  | 0.7952574E+01 | 0.7943686E+01 |
| 0.7935472E+01 | 0.7931334E+01 | 0.7930207E+01  | 0.7929439E+01 | 0.7929049E+01 |
| 0.7928655E+01 | 0.7928246E+01 | 0.7927829E+01  | 0.7927409E+01 | 0.7926991E+01 |
| 0.7926579E+01 | 0.7926183E+01 | 0.7925804E+01  | 0.7925451E+01 | 0.7925127E+01 |
| 0.7924836E+01 | 0.7924583E+01 | 0.7924373E+01  | 0.7924205E+01 | 0.7924083E+01 |
| 0.7924007E+01 | 0.7923978E+01 | 0.7923995E+01  | 0.7924056E+01 | 0.7924157E+01 |
| 0.7924296E+01 | 0.7924468E+01 | 0.7924669E+01  | 0.7924893E+01 | 0.7925124E+01 |
| 0.7925593E+01 | 0.7926311E+01 | 0.7929046E+01  | 0.7935061E+01 | 0.7942405E+01 |
| 0.7950454E+01 | 0.7958490E+01 | 0.7964826E+01  | 0.7969547E+01 | 0.7972758E+01 |
| 0.7974548E+01 | 0.7974980E+01 | 0.7974129E+01  | 0.7972081E+01 | 0.7968940E+01 |
| 0.7964818E+01 | 0.7959842E+01 | 0.7954142E+01  | 0.7948939E+01 | 0.7944539E+01 |

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| 0.7941127E+01 | 0.7939747E+01 | 0.7939284E+01 | 0.7938968E+01 | 0.7938807E+01 |
| 0.7938635E+01 | 0.7938416E+01 | 0.7938153E+01 | 0.7937850E+01 | 0.7937511E+01 |
| 0.7937142E+01 | 0.7936749E+01 | 0.7936337E+01 | 0.7935913E+01 | 0.7935485E+01 |
| 0.7935060E+01 | 0.7934644E+01 | 0.8203588E+01 | 0.8203194E+01 | 0.8202826E+01 |
| 0.8202493E+01 | 0.8202200E+01 | 0.8201951E+01 | 0.8201753E+01 | 0.8201608E+01 |
| 0.8201518E+01 | 0.8201486E+01 | 0.8201511E+01 | 0.8201593E+01 | 0.8201731E+01 |
| 0.8201881E+01 | 0.8202186E+01 | 0.8202654E+01 | 0.8204238E+01 | 0.8207903E+01 |
| 0.8212609E+01 | 0.8218205E+01 | 0.8224497E+01 | 0.8230303E+01 | 0.8235572E+01 |
| 0.8240227E+01 | 0.8244160E+01 | 0.8247227E+01 | 0.8249248E+01 | 0.8249999E+01 |
| 0.8249222E+01 | 0.8246605E+01 | 0.8241777E+01 | 0.8234225E+01 | 0.8225321E+01 |
| 0.8216070E+01 | 0.8207624E+01 | 0.8203367E+01 | 0.8202238E+01 | 0.8201469E+01 |
| 0.8201080E+01 | 0.8200686E+01 | 0.8200278E+01 | 0.8199862E+01 | 0.8199445E+01 |
| 0.8199030E+01 | 0.8198625E+01 | 0.8198233E+01 | 0.8197861E+01 | 0.8197515E+01 |
| 0.8197199E+01 | 0.8196917E+01 | 0.8196674E+01 | 0.8196474E+01 | 0.8196317E+01 |
| 0.8196206E+01 | 0.8196142E+01 | 0.8196125E+01 | 0.8196154E+01 | 0.8196225E+01 |
| 0.8196338E+01 | 0.8196488E+01 | 0.8196671E+01 | 0.8196883E+01 | 0.8197117E+01 |
| 0.8197357E+01 | 0.8197845E+01 | 0.8198591E+01 | 0.8201502E+01 | 0.8207847E+01 |
| 0.8215599E+01 | 0.8224112E+01 | 0.8232627E+01 | 0.8239348E+01 | 0.8244354E+01 |
| 0.8247740E+01 | 0.8249588E+01 | 0.8249957E+01 | 0.8248915E+01 | 0.8246546E+01 |
| 0.8242946E+01 | 0.8238226E+01 | 0.8232505E+01 | 0.8225913E+01 | 0.8219853E+01 |
| 0.8214692E+01 | 0.8210665E+01 | 0.8208986E+01 | 0.8208457E+01 | 0.8208097E+01 |
| 0.8207914E+01 | 0.8207720E+01 | 0.8207479E+01 | 0.8207194E+01 | 0.8206872E+01 |
| 0.8206514E+01 | 0.8206129E+01 | 0.8205721E+01 | 0.8205297E+01 | 0.8204865E+01 |
| 0.8204432E+01 | 0.8204002E+01 | 0.8203588E+01 | 0.8473006E+01 | 0.8472624E+01 |
| 0.8472271E+01 | 0.8471953E+01 | 0.8471677E+01 | 0.8471447E+01 | 0.8471268E+01 |
| 0.8471142E+01 | 0.8471070E+01 | 0.8471056E+01 | 0.8471098E+01 | 0.8471196E+01 |
| 0.8471346E+01 | 0.8471510E+01 | 0.8471844E+01 | 0.8472359E+01 | 0.8474270E+01 |
| 0.8478531E+01 | 0.8483975E+01 | 0.8490406E+01 | 0.8497563E+01 | 0.8504087E+01 |
| 0.8509926E+01 | 0.8515000E+01 | 0.8519202E+01 | 0.8522391E+01 | 0.8524390E+01 |
| 0.8524989E+01 | 0.8523937E+01 | 0.8520943E+01 | 0.8515659E+01 | 0.8507605E+01 |
| 0.8498285E+01 | 0.8488739E+01 | 0.8480113E+01 | 0.8475756E+01 | 0.8474631E+01 |
| 0.8473868E+01 | 0.8473482E+01 | 0.8473090E+01 | 0.8472687E+01 | 0.8472276E+01 |
| 0.8471864E+01 | 0.8471455E+01 | 0.8471056E+01 | 0.8470672E+01 | 0.8470308E+01 |
| 0.8469972E+01 | 0.8469666E+01 | 0.8469395E+01 | 0.8469163E+01 | 0.8468973E+01 |
| 0.8468827E+01 | 0.8468728E+01 | 0.8468676E+01 | 0.8468669E+01 | 0.8468708E+01 |
| 0.8468790E+01 | 0.8468913E+01 | 0.8469073E+01 | 0.8469265E+01 | 0.8469484E+01 |
| 0.8469726E+01 | 0.8469974E+01 | 0.8470476E+01 | 0.8471243E+01 | 0.8474318E+01 |
| 0.8480950E+01 | 0.8489061E+01 | 0.8497977E+01 | 0.8506907E+01 | 0.8513961E+01 |
| 0.8519209E+01 | 0.8522738E+01 | 0.8524627E+01 | 0.8524926E+01 | 0.8523701E+01 |
| 0.8521029E+01 | 0.8517004E+01 | 0.8511727E+01 | 0.8505318E+01 | 0.8497897E+01 |
| 0.8491037E+01 | 0.8485165E+01 | 0.8480561E+01 | 0.8478587E+01 | 0.8478007E+01 |
| 0.8477610E+01 | 0.8477407E+01 | 0.8477192E+01 | 0.8476933E+01 | 0.8476633E+01 |
| 0.8476295E+01 | 0.8475928E+01 | 0.8475534E+01 | 0.8475121E+01 | 0.8474695E+01 |
| 0.8474264E+01 | 0.8473833E+01 | 0.8473413E+01 | 0.8473006E+01 | 0.8742908E+01 |
| 0.8742540E+01 | 0.8742204E+01 | 0.8741904E+01 | 0.8741647E+01 | 0.8741437E+01 |
| 0.8741278E+01 | 0.8741172E+01 | 0.8741120E+01 | 0.8741125E+01 | 0.8741184E+01 |
| 0.8741298E+01 | 0.8741462E+01 | 0.8741638E+01 | 0.8742001E+01 | 0.8742558E+01 |
| 0.8744773E+01 | 0.8749586E+01 | 0.8755715E+01 | 0.8762913E+01 | 0.8770864E+01 |
| 0.8778038E+01 | 0.8784387E+01 | 0.8789828E+01 | 0.8794260E+01 | 0.8797543E+01 |
| 0.8799509E+01 | 0.8799957E+01 | 0.8798649E+01 | 0.8795313E+01 | 0.8789624E+01 |
| 0.8781137E+01 | 0.8771471E+01 | 0.8761689E+01 | 0.8752930E+01 | 0.8748488E+01 |
| 0.8747377E+01 | 0.8746623E+01 | 0.8746242E+01 | 0.8745856E+01 | 0.8745459E+01 |
| 0.8745055E+01 | 0.8744650E+01 | 0.8744250E+01 | 0.8743859E+01 | 0.8743485E+01 |
| 0.8743133E+01 | 0.8742805E+01 | 0.8742511E+01 | 0.8742251E+01 | 0.8742031E+01 |
| 0.8741853E+01 | 0.8741718E+01 | 0.8741630E+01 | 0.8741588E+01 | 0.8741591E+01 |
| 0.8741640E+01 | 0.8741731E+01 | 0.8741862E+01 | 0.8742029E+01 | 0.8742229E+01 |
| 0.8742455E+01 | 0.8742702E+01 | 0.8742954E+01 | 0.8743466E+01 | 0.8744246E+01 |
| 0.8747472E+01 | 0.8754354E+01 | 0.8762774E+01 | 0.8772036E+01 | 0.8781321E+01 |
| 0.8788655E+01 | 0.8794106E+01 | 0.8797752E+01 | 0.8799664E+01 | 0.8799891E+01 |

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| 0.8798491E+01 | 0.8795541E+01 | 0.8791123E+01 | 0.8785338E+01 | 0.8778296E+01 |
| 0.8770117E+01 | 0.8762523E+01 | 0.8755994E+01 | 0.8750858E+01 | 0.8748598E+01 |
| 0.8747974E+01 | 0.8747546E+01 | 0.8747329E+01 | 0.8747099E+01 | 0.8746826E+01 |
| 0.8746515E+01 | 0.8746170E+01 | 0.8745797E+01 | 0.8745399E+01 | 0.8744986E+01 |
| 0.8744562E+01 | 0.8744136E+01 | 0.8743712E+01 | 0.8743301E+01 | 0.8742908E+01 |
| 0.9013293E+01 | 0.9012941E+01 | 0.9012621E+01 | 0.9012341E+01 | 0.9012103E+01 |
| 0.9011913E+01 | 0.9011775E+01 | 0.9011689E+01 | 0.9011658E+01 | 0.9011683E+01 |
| 0.9011761E+01 | 0.9011891E+01 | 0.9012072E+01 | 0.9012263E+01 | 0.9012654E+01 |
| 0.9013253E+01 | 0.9015739E+01 | 0.9021061E+01 | 0.9027815E+01 | 0.9035713E+01 |
| 0.9044381E+01 | 0.9052141E+01 | 0.9058940E+01 | 0.9064704E+01 | 0.9069328E+01 |
| 0.9072682E+01 | 0.9074606E+01 | 0.9074906E+01 | 0.9073363E+01 | 0.9069720E+01 |
| 0.9063678E+01 | 0.9054820E+01 | 0.9044870E+01 | 0.9034904E+01 | 0.9026052E+01 |
| 0.9021542E+01 | 0.9020450E+01 | 0.9019710E+01 | 0.9019335E+01 | 0.9018957E+01 |
| 0.9018567E+01 | 0.9018172E+01 | 0.9017777E+01 | 0.9017387E+01 | 0.9017008E+01 |
| 0.9016645E+01 | 0.9016304E+01 | 0.9015989E+01 | 0.9015706E+01 | 0.9015458E+01 |
| 0.9015249E+01 | 0.9015082E+01 | 0.9014959E+01 | 0.9014881E+01 | 0.9014849E+01 |
| 0.9014862E+01 | 0.9014918E+01 | 0.9015018E+01 | 0.9015156E+01 | 0.9015328E+01 |
| 0.9015532E+01 | 0.9015762E+01 | 0.9016012E+01 | 0.9016269E+01 | 0.9016786E+01 |
| 0.9017573E+01 | 0.9020936E+01 | 0.9028030E+01 | 0.9036712E+01 | 0.9046268E+01 |
| 0.9055850E+01 | 0.9063421E+01 | 0.9069037E+01 | 0.9072776E+01 | 0.9074699E+01 |
| 0.9074852E+01 | 0.9073290E+01 | 0.9070082E+01 | 0.9065309E+01 | 0.9059062E+01 |
| 0.9051448E+01 | 0.9042578E+01 | 0.9034316E+01 | 0.9027189E+01 | 0.9021567E+01 |
| 0.9019030E+01 | 0.9018372E+01 | 0.9017922E+01 | 0.9017694E+01 | 0.9017455E+01 |
| 0.9017175E+01 | 0.9016858E+01 | 0.9016508E+01 | 0.9016131E+01 | 0.9015735E+01 |
| 0.9015324E+01 | 0.9014905E+01 | 0.9014485E+01 | 0.9014072E+01 | 0.9013673E+01 |
| 0.9013293E+01 | 0.9284170E+01 | 0.9283835E+01 | 0.9283536E+01 | 0.9283275E+01 |
| 0.9283057E+01 | 0.9282888E+01 | 0.9282769E+01 | 0.9282702E+01 | 0.9282690E+01 |
| 0.9282730E+01 | 0.9282824E+01 | 0.9282968E+01 | 0.9283159E+01 | 0.9283362E+01 |
| 0.9283772E+01 | 0.9284398E+01 | 0.9287151E+01 | 0.9292934E+01 | 0.9300257E+01 |
| 0.9308787E+01 | 0.9318101E+01 | 0.9326382E+01 | 0.9333579E+01 | 0.9339621E+01 |
| 0.9344406E+01 | 0.9347812E+01 | 0.9349686E+01 | 0.9349847E+01 | 0.9348087E+01 |
| 0.9344172E+01 | 0.9337820E+01 | 0.9328650E+01 | 0.9318471E+01 | 0.9308368E+01 |
| 0.9299457E+01 | 0.9294888E+01 | 0.9293820E+01 | 0.9293098E+01 | 0.9292732E+01 |
| 0.9292363E+01 | 0.9291985E+01 | 0.9291600E+01 | 0.9291216E+01 | 0.9290837E+01 |
| 0.9290470E+01 | 0.9290120E+01 | 0.9289791E+01 | 0.9289489E+01 | 0.9289218E+01 |
| 0.9288983E+01 | 0.9288786E+01 | 0.9288630E+01 | 0.9288518E+01 | 0.9288449E+01 |
| 0.9288426E+01 | 0.9288447E+01 | 0.9288511E+01 | 0.9288616E+01 | 0.9288759E+01 |
| 0.9288936E+01 | 0.9289144E+01 | 0.9289375E+01 | 0.9289626E+01 | 0.9289884E+01 |
| 0.9290402E+01 | 0.9291191E+01 | 0.9294681E+01 | 0.9301953E+01 | 0.9310854E+01 |
| 0.9320655E+01 | 0.9330485E+01 | 0.9338249E+01 | 0.9344001E+01 | 0.9347809E+01 |
| 0.9349731E+01 | 0.9349811E+01 | 0.9348097E+01 | 0.9344655E+01 | 0.9339561E+01 |
| 0.9332899E+01 | 0.9324771E+01 | 0.9315280E+01 | 0.9306416E+01 | 0.9298748E+01 |
| 0.9292686E+01 | 0.9289883E+01 | 0.9289201E+01 | 0.9288736E+01 | 0.9288502E+01 |
| 0.9288257E+01 | 0.9287971E+01 | 0.9287652E+01 | 0.9287303E+01 | 0.9286929E+01 |
| 0.9286537E+01 | 0.9286133E+01 | 0.9285724E+01 | 0.9285316E+01 | 0.9284916E+01 |
| 0.9284533E+01 | 0.9284170E+01 | 0.9555514E+01 | 0.9555201E+01 | 0.9554921E+01 |
| 0.9554681E+01 | 0.9554484E+01 | 0.9554334E+01 | 0.9554235E+01 | 0.9554185E+01 |
| 0.9554188E+01 | 0.9554242E+01 | 0.9554347E+01 | 0.9554500E+01 | 0.9554698E+01 |
| 0.9554907E+01 | 0.9555328E+01 | 0.9555971E+01 | 0.9558985E+01 | 0.9565183E+01 |
| 0.9573017E+01 | 0.9582114E+01 | 0.9592004E+01 | 0.9600745E+01 | 0.9608291E+01 |
| 0.9614571E+01 | 0.9619491E+01 | 0.9622931E+01 | 0.9624750E+01 | 0.9624779E+01 |
| 0.9622825E+01 | 0.9618667E+01 | 0.9612049E+01 | 0.9602618E+01 | 0.9592256E+01 |
| 0.9582055E+01 | 0.9573114E+01 | 0.9568498E+01 | 0.9567459E+01 | 0.9566757E+01 |
| 0.9566401E+01 | 0.9566044E+01 | 0.9565676E+01 | 0.9565304E+01 | 0.9564932E+01 |
| 0.9564567E+01 | 0.9564213E+01 | 0.9563876E+01 | 0.9563560E+01 | 0.9563272E+01 |
| 0.9563013E+01 | 0.9562791E+01 | 0.9562606E+01 | 0.9562461E+01 | 0.9562358E+01 |
| 0.9562300E+01 | 0.9562284E+01 | 0.9562312E+01 | 0.9562383E+01 | 0.9562492E+01 |
| 0.9562638E+01 | 0.9562818E+01 | 0.9563026E+01 | 0.9563258E+01 | 0.9563509E+01 |
| 0.9563766E+01 | 0.9564282E+01 | 0.9565067E+01 | 0.9568672E+01 | 0.9576094E+01 |

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| 0.9585176E+01 | 0.9595177E+01 | 0.9605210E+01 | 0.9613131E+01 | 0.9618989E+01 |
| 0.9622848E+01 | 0.9624762E+01 | 0.9624767E+01 | 0.9622914E+01 | 0.9619262E+01 |
| 0.9613878E+01 | 0.9606847E+01 | 0.9598259E+01 | 0.9588215E+01 | 0.9578811E+01 |
| 0.9570659E+01 | 0.9564199E+01 | 0.9561144E+01 | 0.9560449E+01 | 0.9559976E+01 |
| 0.9559736E+01 | 0.9559487E+01 | 0.9559201E+01 | 0.9558884E+01 | 0.9558538E+01 |
| 0.9558170E+01 | 0.9557787E+01 | 0.9557394E+01 | 0.9556997E+01 | 0.9556605E+01 |
| 0.9556223E+01 | 0.9555857E+01 | 0.9555514E+01 | 0.9827290E+01 | 0.9826997E+01 |
| 0.9826738E+01 | 0.9826518E+01 | 0.9826342E+01 | 0.9826211E+01 | 0.9826128E+01 |
| 0.9826096E+01 | 0.9826113E+01 | 0.9826179E+01 | 0.9826294E+01 | 0.9826454E+01 |
| 0.9826658E+01 | 0.9826871E+01 | 0.9827301E+01 | 0.9827955E+01 | 0.9831207E+01 |
| 0.9837780E+01 | 0.9846070E+01 | 0.9855673E+01 | 0.9866073E+01 | 0.9875219E+01 |
| 0.9883068E+01 | 0.9889550E+01 | 0.9894578E+01 | 0.9898040E+01 | 0.9899802E+01 |
| 0.9899708E+01 | 0.9897576E+01 | 0.9893206E+01 | 0.9886360E+01 | 0.9876713E+01 |
| 0.9866211E+01 | 0.9855946E+01 | 0.9847000E+01 | 0.9842341E+01 | 0.9841336E+01 |
| 0.9840656E+01 | 0.9840313E+01 | 0.9839967E+01 | 0.9839612E+01 | 0.9839252E+01 |
| 0.9838895E+01 | 0.9838544E+01 | 0.9838204E+01 | 0.9837881E+01 | 0.9837580E+01 |
| 0.9837305E+01 | 0.9837061E+01 | 0.9836850E+01 | 0.9836677E+01 | 0.9836542E+01 |
| 0.9836450E+01 | 0.9836400E+01 | 0.9836391E+01 | 0.9836426E+01 | 0.9836500E+01 |
| 0.9836613E+01 | 0.9836761E+01 | 0.9836942E+01 | 0.9837150E+01 | 0.9837380E+01 |
| 0.9837629E+01 | 0.9837883E+01 | 0.9838394E+01 | 0.9839170E+01 | 0.9842881E+01 |
| 0.9850425E+01 | 0.9859653E+01 | 0.9869818E+01 | 0.9880014E+01 | 0.9888058E+01 |
| 0.9893998E+01 | 0.9897891E+01 | 0.9899788E+01 | 0.9899723E+01 | 0.9897742E+01 |
| 0.9893899E+01 | 0.9888260E+01 | 0.9880899E+01 | 0.9871905E+01 | 0.9861370E+01 |
| 0.9851487E+01 | 0.9842903E+01 | 0.9836091E+01 | 0.9832796E+01 | 0.9832094E+01 |
| 0.9831618E+01 | 0.9831378E+01 | 0.9831128E+01 | 0.9830845E+01 | 0.9830530E+01 |
| 0.9830192E+01 | 0.9829833E+01 | 0.9829460E+01 | 0.9829081E+01 | 0.9828699E+01 |
| 0.9828323E+01 | 0.9827959E+01 | 0.9827613E+01 | 0.9827290E+01 | 0.1009948E+02 |
| 0.1009921E+02 | 0.1009897E+02 | 0.1009877E+02 | 0.1009861E+02 | 0.1009850E+02 |
| 0.1009843E+02 | 0.1009841E+02 | 0.1009844E+02 | 0.1009851E+02 | 0.1009863E+02 |
| 0.1009879E+02 | 0.1009899E+02 | 0.1009920E+02 | 0.1009963E+02 | 0.1010028E+02 |
| 0.1010378E+02 | 0.1011069E+02 | 0.1011938E+02 | 0.1012944E+02 | 0.1014029E+02 |
| 0.1014979E+02 | 0.1015790E+02 | 0.1016455E+02 | 0.1016967E+02 | 0.1017314E+02 |
| 0.1017485E+02 | 0.1017464E+02 | 0.1017235E+02 | 0.1016779E+02 | 0.1016075E+02 |
| 0.1015092E+02 | 0.1014032E+02 | 0.1013001E+02 | 0.1012108E+02 | 0.1011639E+02 |
| 0.1011542E+02 | 0.1011476E+02 | 0.1011443E+02 | 0.1011410E+02 | 0.1011376E+02 |
| 0.1011341E+02 | 0.1011307E+02 | 0.1011273E+02 | 0.1011241E+02 | 0.1011210E+02 |
| 0.1011181E+02 | 0.1011155E+02 | 0.1011132E+02 | 0.1011112E+02 | 0.1011096E+02 |
| 0.1011084E+02 | 0.1011076E+02 | 0.1011071E+02 | 0.1011071E+02 | 0.1011075E+02 |
| 0.1011083E+02 | 0.1011094E+02 | 0.1011109E+02 | 0.1011127E+02 | 0.1011148E+02 |
| 0.1011171E+02 | 0.1011195E+02 | 0.1011220E+02 | 0.1011270E+02 | 0.1011347E+02 |
| 0.1011728E+02 | 0.1012492E+02 | 0.1013427E+02 | 0.1014456E+02 | 0.1015488E+02 |
| 0.1016302E+02 | 0.1016903E+02 | 0.1017294E+02 | 0.1017481E+02 | 0.1017468E+02 |
| 0.1017258E+02 | 0.1016857E+02 | 0.1016270E+02 | 0.1015505E+02 | 0.1014569E+02 |
| 0.1013473E+02 | 0.1012442E+02 | 0.1011545E+02 | 0.1010833E+02 | 0.1010480E+02 |
| 0.1010410E+02 | 0.1010363E+02 | 0.1010339E+02 | 0.1010314E+02 | 0.1010286E+02 |
| 0.1010256E+02 | 0.1010223E+02 | 0.1010188E+02 | 0.1010153E+02 | 0.1010116E+02 |
| 0.1010080E+02 | 0.1010045E+02 | 0.1010010E+02 | 0.1009978E+02 | 0.1009948E+02 |
| 0.1037205E+02 | 0.1037181E+02 | 0.1037159E+02 | 0.1037141E+02 | 0.1037127E+02 |
| 0.1037117E+02 | 0.1037112E+02 | 0.1037111E+02 | 0.1037114E+02 | 0.1037122E+02 |
| 0.1037134E+02 | 0.1037149E+02 | 0.1037169E+02 | 0.1037189E+02 | 0.1037230E+02 |
| 0.1037292E+02 | 0.1037668E+02 | 0.1038388E+02 | 0.1039294E+02 | 0.1040339E+02 |
| 0.1041463E+02 | 0.1042444E+02 | 0.1043278E+02 | 0.1043958E+02 | 0.1044476E+02 |
| 0.1044823E+02 | 0.1044988E+02 | 0.1044956E+02 | 0.1044713E+02 | 0.1044241E+02 |
| 0.1043521E+02 | 0.1042524E+02 | 0.1041455E+02 | 0.1040424E+02 | 0.1039534E+02 |
| 0.1039061E+02 | 0.1038968E+02 | 0.1038905E+02 | 0.1038874E+02 | 0.1038842E+02 |
| 0.1038809E+02 | 0.1038776E+02 | 0.1038743E+02 | 0.1038711E+02 | 0.1038680E+02 |
| 0.1038651E+02 | 0.1038624E+02 | 0.1038599E+02 | 0.1038577E+02 | 0.1038559E+02 |
| 0.1038544E+02 | 0.1038532E+02 | 0.1038525E+02 | 0.1038521E+02 | 0.1038522E+02 |
| 0.1038526E+02 | 0.1038534E+02 | 0.1038546E+02 | 0.1038561E+02 | 0.1038578E+02 |

|               |               |               |               |               |
|---------------|---------------|---------------|---------------|---------------|
| 0.1038599E+02 | 0.1038621E+02 | 0.1038645E+02 | 0.1038670E+02 | 0.1038719E+02 |
| 0.1038793E+02 | 0.1039184E+02 | 0.1039956E+02 | 0.1040900E+02 | 0.1041939E+02 |
| 0.1042981E+02 | 0.1043802E+02 | 0.1044407E+02 | 0.1044799E+02 | 0.1044984E+02 |
| 0.1044964E+02 | 0.1044743E+02 | 0.1044326E+02 | 0.1043720E+02 | 0.1042929E+02 |
| 0.1041962E+02 | 0.1040827E+02 | 0.1039759E+02 | 0.1038829E+02 | 0.1038089E+02 |
| 0.1037713E+02 | 0.1037645E+02 | 0.1037599E+02 | 0.1037575E+02 | 0.1037551E+02 |
| 0.1037524E+02 | 0.1037494E+02 | 0.1037463E+02 | 0.1037430E+02 | 0.1037396E+02 |
| 0.1037362E+02 | 0.1037328E+02 | 0.1037295E+02 | 0.1037263E+02 | 0.1037233E+02 |
| 0.1037205E+02 | 0.1064497E+02 | 0.1064474E+02 | 0.1064454E+02 | 0.1064438E+02 |
| 0.1064426E+02 | 0.1064418E+02 | 0.1064414E+02 | 0.1064414E+02 | 0.1064418E+02 |
| 0.1064426E+02 | 0.1064438E+02 | 0.1064454E+02 | 0.1064474E+02 | 0.1064494E+02 |
| 0.1064534E+02 | 0.1064596E+02 | 0.1064991E+02 | 0.1065737E+02 | 0.1066673E+02 |
| 0.1067752E+02 | 0.1068910E+02 | 0.1069918E+02 | 0.1070770E+02 | 0.1071461E+02 |
| 0.1071985E+02 | 0.1072332E+02 | 0.1072491E+02 | 0.1072449E+02 | 0.1072194E+02 |
| 0.1071708E+02 | 0.1070974E+02 | 0.1069966E+02 | 0.1068893E+02 | 0.1067862E+02 |
| 0.1066976E+02 | 0.1066501E+02 | 0.1066412E+02 | 0.1066352E+02 | 0.1066322E+02 |
| 0.1066291E+02 | 0.1066260E+02 | 0.1066229E+02 | 0.1066198E+02 | 0.1066167E+02 |
| 0.1066138E+02 | 0.1066110E+02 | 0.1066084E+02 | 0.1066061E+02 | 0.1066041E+02 |
| 0.1066023E+02 | 0.1066010E+02 | 0.1065999E+02 | 0.1065992E+02 | 0.1065990E+02 |
| 0.1065990E+02 | 0.1065995E+02 | 0.1066003E+02 | 0.1066015E+02 | 0.1066029E+02 |
| 0.1066047E+02 | 0.1066067E+02 | 0.1066089E+02 | 0.1066112E+02 | 0.1066136E+02 |
| 0.1066183E+02 | 0.1066256E+02 | 0.1066655E+02 | 0.1067433E+02 | 0.1068384E+02 |
| 0.1069431E+02 | 0.1070480E+02 | 0.1071306E+02 | 0.1071912E+02 | 0.1072304E+02 |
| 0.1072486E+02 | 0.1072460E+02 | 0.1072229E+02 | 0.1071799E+02 | 0.1071175E+02 |
| 0.1070363E+02 | 0.1069369E+02 | 0.1068201E+02 | 0.1067101E+02 | 0.1066142E+02 |
| 0.1065378E+02 | 0.1064983E+02 | 0.1064917E+02 | 0.1064871E+02 | 0.1064848E+02 |
| 0.1064825E+02 | 0.1064798E+02 | 0.1064770E+02 | 0.1064740E+02 | 0.1064708E+02 |
| 0.1064676E+02 | 0.1064644E+02 | 0.1064612E+02 | 0.1064580E+02 | 0.1064550E+02 |
| 0.1064522E+02 | 0.1064497E+02 | 0.1091802E+02 | 0.1091781E+02 | 0.1091763E+02 |
| 0.1091749E+02 | 0.1091738E+02 | 0.1091731E+02 | 0.1091728E+02 | 0.1091730E+02 |
| 0.1091735E+02 | 0.1091744E+02 | 0.1091757E+02 | 0.1091774E+02 | 0.1091794E+02 |
| 0.1091814E+02 | 0.1091855E+02 | 0.1091917E+02 | 0.1092328E+02 | 0.1093097E+02 |
| 0.1094063E+02 | 0.1095173E+02 | 0.1096363E+02 | 0.1097394E+02 | 0.1098264E+02 |
| 0.1098966E+02 | 0.1099494E+02 | 0.1099840E+02 | 0.1099993E+02 | 0.1099943E+02 |
| 0.1099675E+02 | 0.1099177E+02 | 0.1098430E+02 | 0.1097413E+02 | 0.1096336E+02 |
| 0.1095307E+02 | 0.1094426E+02 | 0.1093948E+02 | 0.1093863E+02 | 0.1093806E+02 |
| 0.1093777E+02 | 0.1093748E+02 | 0.1093719E+02 | 0.1093689E+02 | 0.1093659E+02 |
| 0.1093631E+02 | 0.1093603E+02 | 0.1093577E+02 | 0.1093553E+02 | 0.1093531E+02 |
| 0.1093512E+02 | 0.1093496E+02 | 0.1093483E+02 | 0.1093473E+02 | 0.1093467E+02 |
| 0.1093465E+02 | 0.1093466E+02 | 0.1093471E+02 | 0.1093480E+02 | 0.1093491E+02 |
| 0.1093505E+02 | 0.1093523E+02 | 0.1093542E+02 | 0.1093563E+02 | 0.1093586E+02 |
| 0.1093609E+02 | 0.1093655E+02 | 0.1093725E+02 | 0.1094133E+02 | 0.1094916E+02 |
| 0.1095873E+02 | 0.1096926E+02 | 0.1097980E+02 | 0.1098810E+02 | 0.1099418E+02 |
| 0.1099809E+02 | 0.1099988E+02 | 0.1099955E+02 | 0.1099716E+02 | 0.1099273E+02 |
| 0.1098633E+02 | 0.1097800E+02 | 0.1096781E+02 | 0.1095584E+02 | 0.1094454E+02 |
| 0.1093468E+02 | 0.1092682E+02 | 0.1092268E+02 | 0.1092203E+02 | 0.1092159E+02 |
| 0.1092136E+02 | 0.1092114E+02 | 0.1092088E+02 | 0.1092061E+02 | 0.1092032E+02 |
| 0.1092002E+02 | 0.1091971E+02 | 0.1091940E+02 | 0.1091910E+02 | 0.1091880E+02 |
| 0.1091852E+02 | 0.1091826E+02 | 0.1091802E+02 |               |               |



## Stator

|               |               |               |               |               |
|---------------|---------------|---------------|---------------|---------------|
| 0.1212373E+02 | 0.1212207E+02 | 0.1211953E+02 | 0.1211617E+02 | 0.1211205E+02 |
| 0.1210723E+02 | 0.1210181E+02 | 0.1209587E+02 | 0.1208951E+02 | 0.1208284E+02 |
| 0.1207598E+02 | 0.1206904E+02 | 0.1206214E+02 | 0.1205526E+02 | 0.1204151E+02 |
| 0.1202092E+02 | 0.1195256E+02 | 0.1178794E+02 | 0.1156802E+02 | 0.1129268E+02 |
| 0.1096217E+02 | 0.1063224E+02 | 0.1030362E+02 | 0.9977022E+01 | 0.9653052E+01 |
| 0.9332144E+01 | 0.9014484E+01 | 0.8699960E+01 | 0.8389400E+01 | 0.8085401E+01 |
| 0.7789957E+01 | 0.7504829E+01 | 0.7275269E+01 | 0.7095280E+01 | 0.6959034E+01 |
| 0.6888721E+01 | 0.6874745E+01 | 0.6865303E+01 | 0.6860539E+01 | 0.6855728E+01 |
| 0.6850708E+01 | 0.6845527E+01 | 0.6840240E+01 | 0.6834899E+01 | 0.6829562E+01 |
| 0.6824288E+01 | 0.6819131E+01 | 0.6814149E+01 | 0.6809393E+01 | 0.6804914E+01 |
| 0.6800756E+01 | 0.6796962E+01 | 0.6793560E+01 | 0.6790580E+01 | 0.6788039E+01 |
| 0.6785951E+01 | 0.6784316E+01 | 0.6783133E+01 | 0.6782384E+01 | 0.6782047E+01 |
| 0.6782047E+01 | 0.6782495E+01 | 0.6783192E+01 | 0.6784156E+01 | 0.6786345E+01 |
| 0.6790268E+01 | 0.6824026E+01 | 0.6918156E+01 | 0.7077314E+01 | 0.7309417E+01 |
| 0.7615436E+01 | 0.7936883E+01 | 0.8266150E+01 | 0.8600097E+01 | 0.8938096E+01 |
| 0.9278892E+01 | 0.9620652E+01 | 0.9962044E+01 | 0.1030215E+02 | 0.1064041E+02 |
| 0.1097654E+02 | 0.1131044E+02 | 0.1158703E+02 | 0.1180727E+02 | 0.1197188E+02 |
| 0.1204079E+02 | 0.1206111E+02 | 0.1207461E+02 | 0.1208134E+02 | 0.1208802E+02 |
| 0.1209443E+02 | 0.1210045E+02 | 0.1210599E+02 | 0.1211095E+02 | 0.1211524E+02 |
| 0.1211878E+02 | 0.1212153E+02 | 0.1212342E+02 | 0.1212443E+02 | 0.1212455E+02 |
| 0.1212376E+02 | 0.1226076E+02 | 0.1225914E+02 | 0.1225666E+02 | 0.1225335E+02 |
| 0.1224928E+02 | 0.1224451E+02 | 0.1223913E+02 | 0.1223322E+02 | 0.1222689E+02 |
| 0.1222024E+02 | 0.1221339E+02 | 0.1220645E+02 | 0.1219954E+02 | 0.1219265E+02 |
| 0.1217888E+02 | 0.1215826E+02 | 0.1208991E+02 | 0.1192523E+02 | 0.1170529E+02 |
| 0.1143000E+02 | 0.1109964E+02 | 0.1076993E+02 | 0.1044159E+02 | 0.1011529E+02 |
| 0.9791602E+01 | 0.9470916E+01 | 0.9153387E+01 | 0.8838866E+01 | 0.8528109E+01 |
| 0.8223650E+01 | 0.7927350E+01 | 0.7640758E+01 | 0.7409279E+01 | 0.7227079E+01 |
| 0.7088596E+01 | 0.7016077E+01 | 0.7002203E+01 | 0.6992838E+01 | 0.6988116E+01 |
| 0.6983349E+01 | 0.6978385E+01 | 0.6973271E+01 | 0.6968060E+01 | 0.6962810E+01 |
| 0.6957570E+01 | 0.6952402E+01 | 0.6947358E+01 | 0.6942496E+01 | 0.6937864E+01 |
| 0.6933512E+01 | 0.6929482E+01 | 0.6925812E+01 | 0.6922535E+01 | 0.6919675E+01 |
| 0.6917249E+01 | 0.6915268E+01 | 0.6913733E+01 | 0.6912638E+01 | 0.6911967E+01 |
| 0.6911699E+01 | 0.6911805E+01 | 0.6912245E+01 | 0.6912976E+01 | 0.6913970E+01 |
| 0.6916212E+01 | 0.6920191E+01 | 0.6955407E+01 | 0.7051685E+01 | 0.7212962E+01 |
| 0.7446745E+01 | 0.7753826E+01 | 0.8075704E+01 | 0.8405037E+01 | 0.8738811E+01 |
| 0.9076507E+01 | 0.9416905E+01 | 0.9758236E+01 | 0.1009921E+02 | 0.1043895E+02 |
| 0.1077691E+02 | 0.1111283E+02 | 0.1144663E+02 | 0.1172322E+02 | 0.1194352E+02 |
| 0.1210821E+02 | 0.1217710E+02 | 0.1219746E+02 | 0.1221099E+02 | 0.1221775E+02 |
| 0.1222444E+02 | 0.1223087E+02 | 0.1223693E+02 | 0.1224251E+02 | 0.1224752E+02 |
| 0.1225186E+02 | 0.1225546E+02 | 0.1225827E+02 | 0.1226023E+02 | 0.1226130E+02 |
| 0.1226148E+02 | 0.1226076E+02 | 0.1239775E+02 | 0.1239620E+02 | 0.1239377E+02 |
| 0.1239053E+02 | 0.1238651E+02 | 0.1238179E+02 | 0.1237644E+02 | 0.1237057E+02 |
| 0.1236426E+02 | 0.1235763E+02 | 0.1235078E+02 | 0.1234384E+02 | 0.1233693E+02 |
| 0.1233002E+02 | 0.1231623E+02 | 0.1229558E+02 | 0.1222724E+02 | 0.1206251E+02 |
| 0.1184254E+02 | 0.1156730E+02 | 0.1123709E+02 | 0.1090761E+02 | 0.1057955E+02 |
| 0.1025354E+02 | 0.9930122E+01 | 0.9609650E+01 | 0.9292247E+01 | 0.8977722E+01 |
| 0.8666768E+01 | 0.8361852E+01 | 0.8064704E+01 | 0.7776675E+01 | 0.7543315E+01 |
| 0.7358949E+01 | 0.7218279E+01 | 0.7143574E+01 | 0.7129814E+01 | 0.7120531E+01 |
| 0.7115852E+01 | 0.7111132E+01 | 0.7106227E+01 | 0.7101183E+01 | 0.7096054E+01 |
| 0.7090890E+01 | 0.7085752E+01 | 0.7080690E+01 | 0.7075761E+01 | 0.7071019E+01 |
| 0.7066511E+01 | 0.7062284E+01 | 0.7058382E+01 | 0.7054837E+01 | 0.7051682E+01 |
| 0.7048941E+01 | 0.7046627E+01 | 0.7044750E+01 | 0.7043312E+01 | 0.7042303E+01 |
| 0.7041708E+01 | 0.7041506E+01 | 0.7041663E+01 | 0.7042145E+01 | 0.7042908E+01 |
| 0.7043929E+01 | 0.7046217E+01 | 0.7050245E+01 | 0.7086895E+01 | 0.7185272E+01 |
| 0.7348620E+01 | 0.7584052E+01 | 0.7892177E+01 | 0.8214485E+01 | 0.8543886E+01 |
| 0.8877499E+01 | 0.9214894E+01 | 0.9554909E+01 | 0.9895813E+01 | 0.1023637E+02 |
| 0.1057574E+02 | 0.1091340E+02 | 0.1124911E+02 | 0.1158281E+02 | 0.1185941E+02 |

|               |               |               |               |               |
|---------------|---------------|---------------|---------------|---------------|
| 0.1207977E+02 | 0.1224454E+02 | 0.1231340E+02 | 0.1233380E+02 | 0.1234737E+02 |
| 0.1235414E+02 | 0.1236086E+02 | 0.1236731E+02 | 0.1237341E+02 | 0.1237903E+02 |
| 0.1238408E+02 | 0.1238847E+02 | 0.1239213E+02 | 0.1239500E+02 | 0.1239703E+02 |
| 0.1239817E+02 | 0.1239841E+02 | 0.1239775E+02 | 0.1253467E+02 | 0.1253317E+02 |
| 0.1253080E+02 | 0.1252760E+02 | 0.1252362E+02 | 0.1251894E+02 | 0.1251362E+02 |
| 0.1250777E+02 | 0.1250148E+02 | 0.1249485E+02 | 0.1248800E+02 | 0.1248105E+02 |
| 0.1247412E+02 | 0.1246720E+02 | 0.1245336E+02 | 0.1243265E+02 | 0.1236439E+02 |
| 0.1219962E+02 | 0.1197965E+02 | 0.1170448E+02 | 0.1137442E+02 | 0.1104517E+02 |
| 0.1071737E+02 | 0.1039165E+02 | 0.1006848E+02 | 0.9748212E+01 | 0.9430921E+01 |
| 0.9116386E+01 | 0.8805238E+01 | 0.8499883E+01 | 0.8201934E+01 | 0.7912551E+01 |
| 0.7677427E+01 | 0.7491033E+01 | 0.7348317E+01 | 0.7271494E+01 | 0.7257871E+01 |
| 0.7248687E+01 | 0.7244060E+01 | 0.7239396E+01 | 0.7234557E+01 | 0.7229589E+01 |
| 0.7224545E+01 | 0.7219478E+01 | 0.7214442E+01 | 0.7209491E+01 | 0.7204678E+01 |
| 0.7200057E+01 | 0.7195671E+01 | 0.7191570E+01 | 0.7187792E+01 | 0.7184369E+01 |
| 0.7181331E+01 | 0.7178703E+01 | 0.7176496E+01 | 0.7174716E+01 | 0.7173366E+01 |
| 0.7172436E+01 | 0.7171908E+01 | 0.7171763E+01 | 0.7171965E+01 | 0.7172481E+01 |
| 0.7173267E+01 | 0.7174307E+01 | 0.7176628E+01 | 0.7180684E+01 | 0.7218694E+01 |
| 0.7319026E+01 | 0.7484311E+01 | 0.7721288E+01 | 0.8030400E+01 | 0.8353123E+01 |
| 0.8682601E+01 | 0.9016071E+01 | 0.9353197E+01 | 0.9692850E+01 | 0.1003336E+02 |
| 0.1037353E+02 | 0.1071254E+02 | 0.1104991E+02 | 0.1138540E+02 | 0.1171898E+02 |
| 0.1199555E+02 | 0.1221594E+02 | 0.1238077E+02 | 0.1244953E+02 | 0.1247001E+02 |
| 0.1248363E+02 | 0.1249042E+02 | 0.1249717E+02 | 0.1250366E+02 | 0.1250980E+02 |
| 0.1251547E+02 | 0.1252057E+02 | 0.1252502E+02 | 0.1252874E+02 | 0.1253167E+02 |
| 0.1253376E+02 | 0.1253497E+02 | 0.1253527E+02 | 0.1253467E+02 | 0.1267145E+02 |
| 0.1266999E+02 | 0.1266767E+02 | 0.1266450E+02 | 0.1266056E+02 | 0.1265589E+02 |
| 0.1265059E+02 | 0.1264475E+02 | 0.1263845E+02 | 0.1263182E+02 | 0.1262496E+02 |
| 0.1261799E+02 | 0.1261103E+02 | 0.1260408E+02 | 0.1259019E+02 | 0.1256938E+02 |
| 0.1250128E+02 | 0.1233650E+02 | 0.1211656E+02 | 0.1184147E+02 | 0.1151159E+02 |
| 0.1118257E+02 | 0.1085503E+02 | 0.1052955E+02 | 0.1020662E+02 | 0.9886528E+01 |
| 0.9569330E+01 | 0.9254773E+01 | 0.8943439E+01 | 0.8637671E+01 | 0.8338984E+01 |
| 0.8048365E+01 | 0.7811638E+01 | 0.7623405E+01 | 0.7478834E+01 | 0.7399984E+01 |
| 0.7386531E+01 | 0.7377466E+01 | 0.7372903E+01 | 0.7368307E+01 | 0.7363544E+01 |
| 0.7358662E+01 | 0.7353711E+01 | 0.7348747E+01 | 0.7343820E+01 | 0.7338982E+01 |
| 0.7334289E+01 | 0.7329788E+01 | 0.7325525E+01 | 0.7321546E+01 | 0.7317887E+01 |
| 0.7314582E+01 | 0.7311656E+01 | 0.7309132E+01 | 0.7307021E+01 | 0.7305331E+01 |
| 0.7304059E+01 | 0.7303196E+01 | 0.7302725E+01 | 0.7302624E+01 | 0.7302861E+01 |
| 0.7303399E+01 | 0.7304198E+01 | 0.7305249E+01 | 0.7307581E+01 | 0.7311636E+01 |
| 0.7350906E+01 | 0.7453001E+01 | 0.7620036E+01 | 0.7858419E+01 | 0.8168439E+01 |
| 0.8491559E+01 | 0.8821125E+01 | 0.9154483E+01 | 0.9491378E+01 | 0.9830712E+01 |
| 0.1017087E+02 | 0.1051067E+02 | 0.1084934E+02 | 0.1118642E+02 | 0.1152169E+02 |
| 0.1185512E+02 | 0.1213163E+02 | 0.1235202E+02 | 0.1251687E+02 | 0.1258545E+02 |
| 0.1260603E+02 | 0.1261972E+02 | 0.1262655E+02 | 0.1263334E+02 | 0.1263988E+02 |
| 0.1264606E+02 | 0.1265179E+02 | 0.1265695E+02 | 0.1266146E+02 | 0.1266524E+02 |
| 0.1266823E+02 | 0.1267037E+02 | 0.1267164E+02 | 0.1267200E+02 | 0.1267145E+02 |
| 0.1280798E+02 | 0.1280653E+02 | 0.1280424E+02 | 0.1280112E+02 | 0.1279720E+02 |
| 0.1279256E+02 | 0.1278728E+02 | 0.1278145E+02 | 0.1277517E+02 | 0.1276854E+02 |
| 0.1276168E+02 | 0.1275470E+02 | 0.1274773E+02 | 0.1274076E+02 | 0.1272684E+02 |
| 0.1270599E+02 | 0.1263798E+02 | 0.1247321E+02 | 0.1225332E+02 | 0.1197833E+02 |
| 0.1164863E+02 | 0.1131982E+02 | 0.1099252E+02 | 0.1066728E+02 | 0.1034456E+02 |
| 0.1002462E+02 | 0.9707491E+01 | 0.9392905E+01 | 0.9081382E+01 | 0.8775226E+01 |
| 0.8475853E+01 | 0.8184095E+01 | 0.7945902E+01 | 0.7755993E+01 | 0.7609727E+01 |
| 0.7528930E+01 | 0.7515673E+01 | 0.7506747E+01 | 0.7502255E+01 | 0.7497736E+01 |
| 0.7493057E+01 | 0.7488267E+01 | 0.7483417E+01 | 0.7478560E+01 | 0.7473745E+01 |
| 0.7469026E+01 | 0.7464452E+01 | 0.7460072E+01 | 0.7455931E+01 | 0.7452070E+01 |
| 0.7448528E+01 | 0.7445335E+01 | 0.7442515E+01 | 0.7440088E+01 | 0.7438066E+01 |
| 0.7436457E+01 | 0.7435253E+01 | 0.7434449E+01 | 0.7434025E+01 | 0.7433960E+01 |
| 0.7434221E+01 | 0.7434773E+01 | 0.7435576E+01 | 0.7436630E+01 | 0.7438958E+01 |
| 0.7442988E+01 | 0.7483428E+01 | 0.7587122E+01 | 0.7755753E+01 | 0.7995427E+01 |
| 0.8306296E+01 | 0.8629796E+01 | 0.8959468E+01 | 0.9292745E+01 | 0.9629444E+01 |

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| 0.9968501E+01 | 0.1030833E+02 | 0.1064780E+02 | 0.1098616E+02 | 0.1132296E+02 |
| 0.1165801E+02 | 0.1199127E+02 | 0.1226769E+02 | 0.1248804E+02 | 0.1265289E+02 |
| 0.1272136E+02 | 0.1274200E+02 | 0.1275573E+02 | 0.1276258E+02 | 0.1276939E+02 |
| 0.1277596E+02 | 0.1278218E+02 | 0.1278793E+02 | 0.1279313E+02 | 0.1279768E+02 |
| 0.1280151E+02 | 0.1280455E+02 | 0.1280674E+02 | 0.1280805E+02 | 0.1280845E+02 |
| 0.1280794E+02 | 0.1294403E+02 | 0.1294266E+02 | 0.1294041E+02 | 0.1293733E+02 |
| 0.1293346E+02 | 0.1292887E+02 | 0.1292364E+02 | 0.1291785E+02 | 0.1291161E+02 |
| 0.1290503E+02 | 0.1289820E+02 | 0.1289126E+02 | 0.1288431E+02 | 0.1287737E+02 |
| 0.1286351E+02 | 0.1284273E+02 | 0.1277457E+02 | 0.1260983E+02 | 0.1238999E+02 |
| 0.1211511E+02 | 0.1178559E+02 | 0.1145698E+02 | 0.1112990E+02 | 0.1080487E+02 |
| 0.1048233E+02 | 0.1016251E+02 | 0.9845443E+01 | 0.9530813E+01 | 0.9219104E+01 |
| 0.8912574E+01 | 0.8612548E+01 | 0.8319728E+01 | 0.8080168E+01 | 0.7888701E+01 |
| 0.7740864E+01 | 0.7658179E+01 | 0.7645137E+01 | 0.7636361E+01 | 0.7631948E+01 |
| 0.7627510E+01 | 0.7622921E+01 | 0.7618228E+01 | 0.7613482E+01 | 0.7608735E+01 |
| 0.7604034E+01 | 0.7599433E+01 | 0.7594979E+01 | 0.7590720E+01 | 0.7586698E+01 |
| 0.7582954E+01 | 0.7579525E+01 | 0.7576438E+01 | 0.7573719E+01 | 0.7571384E+01 |
| 0.7569447E+01 | 0.7567910E+01 | 0.7566769E+01 | 0.7566016E+01 | 0.7565633E+01 |
| 0.7565596E+01 | 0.7565876E+01 | 0.7566434E+01 | 0.7567235E+01 | 0.7568285E+01 |
| 0.7570599E+01 | 0.7574587E+01 | 0.7616127E+01 | 0.7721299E+01 | 0.7891413E+01 |
| 0.8132298E+01 | 0.8443977E+01 | 0.8767859E+01 | 0.9097651E+01 | 0.9430878E+01 |
| 0.9767415E+01 | 0.1010623E+02 | 0.1044577E+02 | 0.1078494E+02 | 0.1112301E+02 |
| 0.1145955E+02 | 0.1179436E+02 | 0.1212745E+02 | 0.1240377E+02 | 0.1262407E+02 |
| 0.1278890E+02 | 0.1285753E+02 | 0.1287809E+02 | 0.1289176E+02 | 0.1289859E+02 |
| 0.1290537E+02 | 0.1291192E+02 | 0.1291812E+02 | 0.1292387E+02 | 0.1292906E+02 |
| 0.1293362E+02 | 0.1293746E+02 | 0.1294051E+02 | 0.1294272E+02 | 0.1294406E+02 |
| 0.1294450E+02 | 0.1294403E+02 | 0.1307998E+02 | 0.1307865E+02 | 0.1307645E+02 |
| 0.1307341E+02 | 0.1306959E+02 | 0.1306505E+02 | 0.1305987E+02 | 0.1305414E+02 |
| 0.1304796E+02 | 0.1304142E+02 | 0.1303465E+02 | 0.1302775E+02 | 0.1302084E+02 |
| 0.1301394E+02 | 0.1300015E+02 | 0.1297949E+02 | 0.1291111E+02 | 0.1274639E+02 |
| 0.1252662E+02 | 0.1225185E+02 | 0.1192248E+02 | 0.1159407E+02 | 0.1126718E+02 |
| 0.1094234E+02 | 0.1061996E+02 | 0.1030025E+02 | 0.9983218E+01 | 0.9668530E+01 |
| 0.9356635E+01 | 0.9049740E+01 | 0.8749097E+01 | 0.8455276E+01 | 0.8214439E+01 |
| 0.8021518E+01 | 0.7872212E+01 | 0.7787693E+01 | 0.7774879E+01 | 0.7766265E+01 |
| 0.7761934E+01 | 0.7757582E+01 | 0.7753086E+01 | 0.7748495E+01 | 0.7743856E+01 |
| 0.7739221E+01 | 0.7734636E+01 | 0.7730154E+01 | 0.7725820E+01 | 0.7721678E+01 |
| 0.7717775E+01 | 0.7714145E+01 | 0.7710825E+01 | 0.7707842E+01 | 0.7705218E+01 |
| 0.7702971E+01 | 0.7701111E+01 | 0.7699641E+01 | 0.7698557E+01 | 0.7697850E+01 |
| 0.7697500E+01 | 0.7697486E+01 | 0.7697778E+01 | 0.7698338E+01 | 0.7699131E+01 |
| 0.7700173E+01 | 0.7702462E+01 | 0.7706397E+01 | 0.7748972E+01 | 0.7855515E+01 |
| 0.8027016E+01 | 0.8269045E+01 | 0.8581506E+01 | 0.8905769E+01 | 0.9235698E+01 |
| 0.9568902E+01 | 0.9905310E+01 | 0.1024391E+02 | 0.1058320E+02 | 0.1092210E+02 |
| 0.1125989E+02 | 0.1159618E+02 | 0.1193078E+02 | 0.1226369E+02 | 0.1253990E+02 |
| 0.1276015E+02 | 0.1292494E+02 | 0.1299381E+02 | 0.1301425E+02 | 0.1302784E+02 |
| 0.1303463E+02 | 0.1304136E+02 | 0.1304786E+02 | 0.1305403E+02 | 0.1305976E+02 |
| 0.1306493E+02 | 0.1306948E+02 | 0.1307331E+02 | 0.1307637E+02 | 0.1307860E+02 |
| 0.1307995E+02 | 0.1308042E+02 | 0.1307998E+02 | 0.1321639E+02 | 0.1321508E+02 |
| 0.1321290E+02 | 0.1320988E+02 | 0.1320608E+02 | 0.1320156E+02 | 0.1319639E+02 |
| 0.1319066E+02 | 0.1318448E+02 | 0.1317794E+02 | 0.1317116E+02 | 0.1316425E+02 |
| 0.1315733E+02 | 0.1315041E+02 | 0.1313659E+02 | 0.1311589E+02 | 0.1304761E+02 |
| 0.1288293E+02 | 0.1266322E+02 | 0.1238855E+02 | 0.1205934E+02 | 0.1173110E+02 |
| 0.1140439E+02 | 0.1107972E+02 | 0.1075747E+02 | 0.1043785E+02 | 0.1012084E+02 |
| 0.9806085E+01 | 0.9494003E+01 | 0.9186757E+01 | 0.8885533E+01 | 0.8590773E+01 |
| 0.8348752E+01 | 0.8154476E+01 | 0.8003806E+01 | 0.7917504E+01 | 0.7904934E+01 |
| 0.7896489E+01 | 0.7892246E+01 | 0.7887984E+01 | 0.7883586E+01 | 0.7879099E+01 |
| 0.7874571E+01 | 0.7870049E+01 | 0.7865582E+01 | 0.7861219E+01 | 0.7857004E+01 |
| 0.7852981E+01 | 0.7849194E+01 | 0.7845675E+01 | 0.7842462E+01 | 0.7839577E+01 |
| 0.7837045E+01 | 0.7834880E+01 | 0.7833093E+01 | 0.7831684E+01 | 0.7830652E+01 |
| 0.7829983E+01 | 0.7829662E+01 | 0.7829665E+01 | 0.7829963E+01 | 0.7830519E+01 |
| 0.7831298E+01 | 0.7832327E+01 | 0.7834583E+01 | 0.7838448E+01 | 0.7881993E+01 |

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| 0.7989803E+01 | 0.8162594E+01 | 0.8405698E+01 | 0.8718906E+01 | 0.9043550E+01 |
| 0.9373631E+01 | 0.9706835E+01 | 0.1004314E+02 | 0.1038157E+02 | 0.1072063E+02 |
| 0.1105928E+02 | 0.1139682E+02 | 0.1173287E+02 | 0.1206726E+02 | 0.1239999E+02 |
| 0.1267609E+02 | 0.1289627E+02 | 0.1306103E+02 | 0.1312977E+02 | 0.1315026E+02 |
| 0.1316389E+02 | 0.1317069E+02 | 0.1317744E+02 | 0.1318398E+02 | 0.1319017E+02 |
| 0.1319592E+02 | 0.1320113E+02 | 0.1320570E+02 | 0.1320957E+02 | 0.1321266E+02 |
| 0.1321492E+02 | 0.1321630E+02 | 0.1321680E+02 | 0.1321639E+02 | 0.1335321E+02 |
| 0.1335192E+02 | 0.1334975E+02 | 0.1334673E+02 | 0.1334291E+02 | 0.1333836E+02 |
| 0.1333316E+02 | 0.1332740E+02 | 0.1332117E+02 | 0.1331458E+02 | 0.1330774E+02 |
| 0.1330077E+02 | 0.1329379E+02 | 0.1328682E+02 | 0.1327288E+02 | 0.1325198E+02 |
| 0.1318410E+02 | 0.1301945E+02 | 0.1279980E+02 | 0.1252524E+02 | 0.1219617E+02 |
| 0.1186809E+02 | 0.1154154E+02 | 0.1121701E+02 | 0.1089487E+02 | 0.1057532E+02 |
| 0.1025831E+02 | 0.9943484E+01 | 0.9631215E+01 | 0.9323634E+01 | 0.9021857E+01 |
| 0.8726224E+01 | 0.8483097E+01 | 0.8287571E+01 | 0.8135631E+01 | 0.8047595E+01 |
| 0.8035281E+01 | 0.8027017E+01 | 0.8022864E+01 | 0.8018697E+01 | 0.8014400E+01 |
| 0.8010020E+01 | 0.8005606E+01 | 0.8001198E+01 | 0.7996850E+01 | 0.7992606E+01 |
| 0.7988510E+01 | 0.7984604E+01 | 0.7980930E+01 | 0.7977520E+01 | 0.7974410E+01 |
| 0.7971621E+01 | 0.7969176E+01 | 0.7967089E+01 | 0.7965369E+01 | 0.7964017E+01 |
| 0.7963030E+01 | 0.7962394E+01 | 0.7962095E+01 | 0.7962109E+01 | 0.7962407E+01 |
| 0.7962956E+01 | 0.7963717E+01 | 0.7964728E+01 | 0.7966942E+01 | 0.7970726E+01 |
| 0.8015176E+01 | 0.8124152E+01 | 0.8298142E+01 | 0.8542260E+01 | 0.8856189E+01 |
| 0.9181211E+01 | 0.9511464E+01 | 0.9844694E+01 | 0.1018093E+02 | 0.1051921E+02 |
| 0.1085807E+02 | 0.1119649E+02 | 0.1153381E+02 | 0.1186964E+02 | 0.1220382E+02 |
| 0.1253638E+02 | 0.1281236E+02 | 0.1303246E+02 | 0.1319717E+02 | 0.1326547E+02 |
| 0.1328616E+02 | 0.1329993E+02 | 0.1330681E+02 | 0.1331364E+02 | 0.1332025E+02 |
| 0.1332652E+02 | 0.1333235E+02 | 0.1333763E+02 | 0.1334227E+02 | 0.1334620E+02 |
| 0.1334934E+02 | 0.1335165E+02 | 0.1335308E+02 | 0.1335360E+02 | 0.1335321E+02 |
| 0.1348968E+02 | 0.1348840E+02 | 0.1348624E+02 | 0.1348323E+02 | 0.1347941E+02 |
| 0.1347487E+02 | 0.1346967E+02 | 0.1346391E+02 | 0.1345767E+02 | 0.1345108E+02 |
| 0.1344423E+02 | 0.1343725E+02 | 0.1343026E+02 | 0.1342327E+02 | 0.1340929E+02 |
| 0.1338835E+02 | 0.1332058E+02 | 0.1315598E+02 | 0.1293639E+02 | 0.1266192E+02 |
| 0.1233298E+02 | 0.1200503E+02 | 0.1167862E+02 | 0.1135421E+02 | 0.1103216E+02 |
| 0.1071265E+02 | 0.1039563E+02 | 0.1008071E+02 | 0.9768256E+01 | 0.9460346E+01 |
| 0.9158042E+01 | 0.8861588E+01 | 0.8617433E+01 | 0.8420739E+01 | 0.8267617E+01 |
| 0.8177893E+01 | 0.8165846E+01 | 0.8157764E+01 | 0.8153708E+01 | 0.8149640E+01 |
| 0.8145447E+01 | 0.8141177E+01 | 0.8136875E+01 | 0.8132586E+01 | 0.8128354E+01 |
| 0.8124229E+01 | 0.8120250E+01 | 0.8116461E+01 | 0.8112897E+01 | 0.8109594E+01 |
| 0.8106582E+01 | 0.8103885E+01 | 0.8101522E+01 | 0.8099508E+01 | 0.8097851E+01 |
| 0.8096551E+01 | 0.8095603E+01 | 0.8094995E+01 | 0.8094714E+01 | 0.8094734E+01 |
| 0.8095029E+01 | 0.8095565E+01 | 0.8096307E+01 | 0.8097298E+01 | 0.8099463E+01 |
| 0.8103155E+01 | 0.8148450E+01 | 0.8258506E+01 | 0.8433619E+01 | 0.8678704E+01 |
| 0.8993340E+01 | 0.9318752E+01 | 0.9649199E+01 | 0.9982485E+01 | 0.1031868E+02 |
| 0.1065684E+02 | 0.1099554E+02 | 0.1133376E+02 | 0.1167087E+02 | 0.1200649E+02 |
| 0.1234048E+02 | 0.1267287E+02 | 0.1294872E+02 | 0.1316874E+02 | 0.1333339E+02 |
| 0.1340155E+02 | 0.1342230E+02 | 0.1343610E+02 | 0.1344300E+02 | 0.1344986E+02 |
| 0.1345649E+02 | 0.1346278E+02 | 0.1346863E+02 | 0.1347394E+02 | 0.1347860E+02 |
| 0.1348255E+02 | 0.1348572E+02 | 0.1348805E+02 | 0.1348950E+02 | 0.1349005E+02 |
| 0.1348968E+02 | 0.1362557E+02 | 0.1362436E+02 | 0.1362223E+02 | 0.1361925E+02 |
| 0.1361548E+02 | 0.1361098E+02 | 0.1360583E+02 | 0.1360011E+02 | 0.1359393E+02 |
| 0.1358739E+02 | 0.1358060E+02 | 0.1357367E+02 | 0.1356673E+02 | 0.1355979E+02 |
| 0.1354591E+02 | 0.1352513E+02 | 0.1345707E+02 | 0.1329251E+02 | 0.1307298E+02 |
| 0.1279860E+02 | 0.1246978E+02 | 0.1214194E+02 | 0.1181563E+02 | 0.1149132E+02 |
| 0.1116933E+02 | 0.1084985E+02 | 0.1053279E+02 | 0.1021777E+02 | 0.9905123E+01 |
| 0.9596886E+01 | 0.9294076E+01 | 0.8996851E+01 | 0.8751732E+01 | 0.8553950E+01 |
| 0.8399722E+01 | 0.8308352E+01 | 0.8296580E+01 | 0.8288688E+01 | 0.8284728E+01 |
| 0.8280766E+01 | 0.8276678E+01 | 0.8272518E+01 | 0.8268331E+01 | 0.8264158E+01 |
| 0.8260044E+01 | 0.8256037E+01 | 0.8252173E+01 | 0.8248498E+01 | 0.8245043E+01 |
| 0.8241841E+01 | 0.8238927E+01 | 0.8236318E+01 | 0.8234034E+01 | 0.8232086E+01 |
| 0.8230488E+01 | 0.8229234E+01 | 0.8228321E+01 | 0.8227739E+01 | 0.8227469E+01 |

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| 0.8227493E+01 | 0.8227780E+01 | 0.8228298E+01 | 0.8229021E+01 | 0.8229989E+01 |
| 0.8232100E+01 | 0.8235694E+01 | 0.8281776E+01 | 0.8392831E+01 | 0.8569006E+01 |
| 0.8815022E+01 | 0.9130359E+01 | 0.9456177E+01 | 0.9786839E+01 | 0.1012022E+02 |
| 0.1045640E+02 | 0.1079448E+02 | 0.1113305E+02 | 0.1147110E+02 | 0.1180802E+02 |
| 0.1214344E+02 | 0.1247725E+02 | 0.1280946E+02 | 0.1308518E+02 | 0.1330511E+02 |
| 0.1346971E+02 | 0.1353816E+02 | 0.1355875E+02 | 0.1357244E+02 | 0.1357928E+02 |
| 0.1358607E+02 | 0.1359265E+02 | 0.1359889E+02 | 0.1360469E+02 | 0.1360996E+02 |
| 0.1361459E+02 | 0.1361852E+02 | 0.1362167E+02 | 0.1362398E+02 | 0.1362543E+02 |
| 0.1362598E+02 | 0.1362562E+02 | 0.1376170E+02 | 0.1376050E+02 | 0.1375838E+02 |
| 0.1375543E+02 | 0.1375168E+02 | 0.1374721E+02 | 0.1374209E+02 | 0.1373641E+02 |
| 0.1373026E+02 | 0.1372376E+02 | 0.1371700E+02 | 0.1371011E+02 | 0.1370320E+02 |
| 0.1369630E+02 | 0.1368249E+02 | 0.1366181E+02 | 0.1359357E+02 | 0.1342905E+02 |
| 0.1320958E+02 | 0.1293528E+02 | 0.1260655E+02 | 0.1227882E+02 | 0.1195260E+02 |
| 0.1162834E+02 | 0.1130640E+02 | 0.1098691E+02 | 0.1066980E+02 | 0.1035468E+02 |
| 0.1004182E+02 | 0.9733269E+01 | 0.9429977E+01 | 0.9132021E+01 | 0.8886003E+01 |
| 0.8687206E+01 | 0.8531945E+01 | 0.8438966E+01 | 0.8427474E+01 | 0.8419778E+01 |
| 0.8415918E+01 | 0.8412058E+01 | 0.8408010E+01 | 0.8404032E+01 | 0.8399959E+01 |
| 0.8395904E+01 | 0.8391911E+01 | 0.8388019E+01 | 0.8384272E+01 | 0.8380707E+01 |
| 0.8377359E+01 | 0.8374260E+01 | 0.8371437E+01 | 0.8368912E+01 | 0.8366704E+01 |
| 0.8364823E+01 | 0.8363277E+01 | 0.8362067E+01 | 0.8361185E+01 | 0.8360623E+01 |
| 0.8360363E+01 | 0.8360385E+01 | 0.8360660E+01 | 0.8361158E+01 | 0.8361856E+01 |
| 0.8362796E+01 | 0.8364848E+01 | 0.8368335E+01 | 0.8415151E+01 | 0.8527137E+01 |
| 0.8704311E+01 | 0.8951226E+01 | 0.9267260E+01 | 0.9593498E+01 | 0.9924404E+01 |
| 0.1025790E+02 | 0.1059411E+02 | 0.1093214E+02 | 0.1127059E+02 | 0.1160850E+02 |
| 0.1194525E+02 | 0.1228049E+02 | 0.1261411E+02 | 0.1294615E+02 | 0.1322174E+02 |
| 0.1344157E+02 | 0.1360611E+02 | 0.1367474E+02 | 0.1369522E+02 | 0.1370884E+02 |
| 0.1371564E+02 | 0.1372239E+02 | 0.1372893E+02 | 0.1373513E+02 | 0.1374090E+02 |
| 0.1374614E+02 | 0.1375075E+02 | 0.1375466E+02 | 0.1375779E+02 | 0.1376010E+02 |
| 0.1376155E+02 | 0.1376210E+02 | 0.1376175E+02 | 0.1389824E+02 | 0.1389700E+02 |
| 0.1389488E+02 | 0.1389193E+02 | 0.1388818E+02 | 0.1388371E+02 | 0.1387859E+02 |
| 0.1387291E+02 | 0.1386676E+02 | 0.1386025E+02 | 0.1385349E+02 | 0.1384660E+02 |
| 0.1383969E+02 | 0.1383278E+02 | 0.1381897E+02 | 0.1379827E+02 | 0.1373008E+02 |
| 0.1356560E+02 | 0.1334619E+02 | 0.1307195E+02 | 0.1274331E+02 | 0.1241566E+02 |
| 0.1208950E+02 | 0.1176529E+02 | 0.1144336E+02 | 0.1112385E+02 | 0.1080668E+02 |
| 0.1049143E+02 | 0.1017837E+02 | 0.9869504E+01 | 0.9565749E+01 | 0.9267106E+01 |
| 0.9020251E+01 | 0.8820505E+01 | 0.8664274E+01 | 0.8569715E+01 | 0.8558517E+01 |
| 0.8551020E+01 | 0.8547264E+01 | 0.8543504E+01 | 0.8539634E+01 | 0.8535701E+01 |
| 0.8531745E+01 | 0.8527807E+01 | 0.8523932E+01 | 0.8520159E+01 | 0.8516527E+01 |
| 0.8513072E+01 | 0.8509830E+01 | 0.8506829E+01 | 0.8504098E+01 | 0.8501656E+01 |
| 0.8499518E+01 | 0.8497700E+01 | 0.8496205E+01 | 0.8495034E+01 | 0.8494180E+01 |
| 0.8493636E+01 | 0.8493381E+01 | 0.8493397E+01 | 0.8493658E+01 | 0.8494132E+01 |
| 0.8494794E+01 | 0.8495708E+01 | 0.8497696E+01 | 0.8501069E+01 | 0.8548567E+01 |
| 0.8661417E+01 | 0.8839542E+01 | 0.9087324E+01 | 0.9404049E+01 | 0.9730724E+01 |
| 0.1006190E+02 | 0.1039554E+02 | 0.1073181E+02 | 0.1106982E+02 | 0.1140818E+02 |
| 0.1174597E+02 | 0.1208256E+02 | 0.1241763E+02 | 0.1275108E+02 | 0.1308294E+02 |
| 0.1335840E+02 | 0.1357812E+02 | 0.1374259E+02 | 0.1381115E+02 | 0.1383164E+02 |
| 0.1384527E+02 | 0.1385207E+02 | 0.1385883E+02 | 0.1386537E+02 | 0.1387158E+02 |
| 0.1387736E+02 | 0.1388260E+02 | 0.1388722E+02 | 0.1389113E+02 | 0.1389427E+02 |
| 0.1389658E+02 | 0.1389803E+02 | 0.1389859E+02 | 0.1389824E+02 | 0.1403475E+02 |
| 0.1403352E+02 | 0.1403141E+02 | 0.1402845E+02 | 0.1402470E+02 | 0.1402023E+02 |
| 0.1401511E+02 | 0.1400942E+02 | 0.1400327E+02 | 0.1399676E+02 | 0.1399000E+02 |
| 0.1398311E+02 | 0.1397619E+02 | 0.1396928E+02 | 0.1395546E+02 | 0.1393476E+02 |
| 0.1386661E+02 | 0.1370217E+02 | 0.1348280E+02 | 0.1320863E+02 | 0.1288006E+02 |
| 0.1255246E+02 | 0.1222635E+02 | 0.1190216E+02 | 0.1158022E+02 | 0.1126068E+02 |
| 0.1094342E+02 | 0.1062803E+02 | 0.1031477E+02 | 0.1000560E+02 | 0.9701400E+01 |
| 0.9402114E+01 | 0.9154469E+01 | 0.8953840E+01 | 0.8796698E+01 | 0.8700591E+01 |
| 0.8689688E+01 | 0.8682395E+01 | 0.8678742E+01 | 0.8675086E+01 | 0.8671329E+01 |
| 0.8667509E+01 | 0.8663670E+01 | 0.8659850E+01 | 0.8656094E+01 | 0.8652436E+01 |
| 0.8648917E+01 | 0.8645573E+01 | 0.8642433E+01 | 0.8639529E+01 | 0.8636885E+01 |

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| 0.8634521E+01 | 0.8632454E+01 | 0.8630693E+01 | 0.8629247E+01 | 0.8628111E+01 |
| 0.8627282E+01 | 0.8626750E+01 | 0.8626498E+01 | 0.8626507E+01 | 0.8626750E+01 |
| 0.8627199E+01 | 0.8627824E+01 | 0.8628708E+01 | 0.8630629E+01 | 0.8633883E+01 |
| 0.8682013E+01 | 0.8795668E+01 | 0.8974691E+01 | 0.9223314E+01 | 0.9540733E+01 |
| 0.9867857E+01 | 0.1019932E+02 | 0.1053314E+02 | 0.1086949E+02 | 0.1120750E+02 |
| 0.1154581E+02 | 0.1188349E+02 | 0.1221994E+02 | 0.1255485E+02 | 0.1288813E+02 |
| 0.1321983E+02 | 0.1349514E+02 | 0.1371476E+02 | 0.1387915E+02 | 0.1394765E+02 |
| 0.1396815E+02 | 0.1398178E+02 | 0.1398859E+02 | 0.1399534E+02 | 0.1400189E+02 |
| 0.1400810E+02 | 0.1401388E+02 | 0.1401912E+02 | 0.1402374E+02 | 0.1402766E+02 |
| 0.1403080E+02 | 0.1403311E+02 | 0.1403456E+02 | 0.1403511E+02 | 0.1403477E+02 |
| 0.1417126E+02 | 0.1417001E+02 | 0.1416789E+02 | 0.1416493E+02 | 0.1416119E+02 |
| 0.1415671E+02 | 0.1415160E+02 | 0.1414591E+02 | 0.1413977E+02 | 0.1413326E+02 |
| 0.1412650E+02 | 0.1411961E+02 | 0.1411270E+02 | 0.1410580E+02 | 0.1409199E+02 |
| 0.1407131E+02 | 0.1400315E+02 | 0.1383874E+02 | 0.1361942E+02 | 0.1334530E+02 |
| 0.1301678E+02 | 0.1268922E+02 | 0.1236313E+02 | 0.1203895E+02 | 0.1171700E+02 |
| 0.1139739E+02 | 0.1108004E+02 | 0.1076451E+02 | 0.1045105E+02 | 0.1014157E+02 |
| 0.9836950E+01 | 0.9537056E+01 | 0.9288679E+01 | 0.9087221E+01 | 0.8929225E+01 |
| 0.8831601E+01 | 0.8820994E+01 | 0.8813909E+01 | 0.8810359E+01 | 0.8806811E+01 |
| 0.8803164E+01 | 0.8799459E+01 | 0.8795736E+01 | 0.8792034E+01 | 0.8788393E+01 |
| 0.8784852E+01 | 0.8781445E+01 | 0.8778206E+01 | 0.8775168E+01 | 0.8772357E+01 |
| 0.8769798E+01 | 0.8767511E+01 | 0.8765510E+01 | 0.8763804E+01 | 0.8762402E+01 |
| 0.8761299E+01 | 0.8760491E+01 | 0.8759968E+01 | 0.8759717E+01 | 0.8759715E+01 |
| 0.8759938E+01 | 0.8760361E+01 | 0.8760949E+01 | 0.8761803E+01 | 0.8763654E+01 |
| 0.8766786E+01 | 0.8815494E+01 | 0.8929895E+01 | 0.9109772E+01 | 0.9359217E+01 |
| 0.9677322E+01 | 0.1000491E+02 | 0.1033668E+02 | 0.1067070E+02 | 0.1100716E+02 |
| 0.1134519E+02 | 0.1168346E+02 | 0.1202105E+02 | 0.1235738E+02 | 0.1269215E+02 |
| 0.1302526E+02 | 0.1335678E+02 | 0.1363196E+02 | 0.1385147E+02 | 0.1401578E+02 |
| 0.1408428E+02 | 0.1410475E+02 | 0.1411836E+02 | 0.1412516E+02 | 0.1413191E+02 |
| 0.1413845E+02 | 0.1414466E+02 | 0.1415042E+02 | 0.1415566E+02 | 0.1416027E+02 |
| 0.1416418E+02 | 0.1416731E+02 | 0.1416962E+02 | 0.1417106E+02 | 0.1417161E+02 |
| 0.1417126E+02 | 0.1430778E+02 | 0.1430653E+02 | 0.1430441E+02 | 0.1430144E+02 |
| 0.1429769E+02 | 0.1429322E+02 | 0.1428809E+02 | 0.1428241E+02 | 0.1427626E+02 |
| 0.1426976E+02 | 0.1426300E+02 | 0.1425612E+02 | 0.1424921E+02 | 0.1424231E+02 |
| 0.1422851E+02 | 0.1420784E+02 | 0.1413968E+02 | 0.1397530E+02 | 0.1375603E+02 |
| 0.1348195E+02 | 0.1315348E+02 | 0.1282595E+02 | 0.1249986E+02 | 0.1217567E+02 |
| 0.1185367E+02 | 0.1153401E+02 | 0.1121655E+02 | 0.1090087E+02 | 0.1058721E+02 |
| 0.1027744E+02 | 0.9972425E+01 | 0.9671956E+01 | 0.9422899E+01 | 0.9220664E+01 |
| 0.9061868E+01 | 0.8962757E+01 | 0.8952453E+01 | 0.8945572E+01 | 0.8942127E+01 |
| 0.8938684E+01 | 0.8935149E+01 | 0.8931558E+01 | 0.8927952E+01 | 0.8924366E+01 |
| 0.8920841E+01 | 0.8917412E+01 | 0.8914114E+01 | 0.8910980E+01 | 0.8908041E+01 |
| 0.8905320E+01 | 0.8902844E+01 | 0.8900630E+01 | 0.8898691E+01 | 0.8897038E+01 |
| 0.8895677E+01 | 0.8894603E+01 | 0.8893815E+01 | 0.8893301E+01 | 0.8893047E+01 |
| 0.8893031E+01 | 0.8893233E+01 | 0.8893626E+01 | 0.8894178E+01 | 0.8894999E+01 |
| 0.8896780E+01 | 0.8899788E+01 | 0.8949023E+01 | 0.9064117E+01 | 0.9244808E+01 |
| 0.9495046E+01 | 0.9813835E+01 | 0.1014190E+02 | 0.1047399E+02 | 0.1080823E+02 |
| 0.1114481E+02 | 0.1148289E+02 | 0.1182115E+02 | 0.1215867E+02 | 0.1249488E+02 |
| 0.1282950E+02 | 0.1316245E+02 | 0.1349381E+02 | 0.1376884E+02 | 0.1398823E+02 |
| 0.1415246E+02 | 0.1422093E+02 | 0.1424139E+02 | 0.1425500E+02 | 0.1426179E+02 |
| 0.1426853E+02 | 0.1427506E+02 | 0.1428126E+02 | 0.1428702E+02 | 0.1429225E+02 |
| 0.1429685E+02 | 0.1430075E+02 | 0.1430387E+02 | 0.1430617E+02 | 0.1430760E+02 |
| 0.1430815E+02 | 0.1430779E+02 | 0.1444434E+02 | 0.1444308E+02 | 0.1444094E+02 |
| 0.1443797E+02 | 0.1443421E+02 | 0.1442973E+02 | 0.1442460E+02 | 0.1441892E+02 |
| 0.1441277E+02 | 0.1440626E+02 | 0.1439951E+02 | 0.1439262E+02 | 0.1438572E+02 |
| 0.1437882E+02 | 0.1436503E+02 | 0.1434436E+02 | 0.1427621E+02 | 0.1411186E+02 |
| 0.1389263E+02 | 0.1361860E+02 | 0.1329015E+02 | 0.1296263E+02 | 0.1263654E+02 |
| 0.1231232E+02 | 0.1199027E+02 | 0.1167053E+02 | 0.1135296E+02 | 0.1103713E+02 |
| 0.1072326E+02 | 0.1041322E+02 | 0.1010782E+02 | 0.9806818E+01 | 0.9557124E+01 |
| 0.9354163E+01 | 0.9194608E+01 | 0.9094034E+01 | 0.9084035E+01 | 0.9077360E+01 |
| 0.9074022E+01 | 0.9070686E+01 | 0.9067261E+01 | 0.9063785E+01 | 0.9060292E+01 |

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| 0.9056824E+01 | 0.9053412E+01 | 0.9050097E+01 | 0.9046906E+01 | 0.9043875E+01 |
| 0.9041031E+01 | 0.9038401E+01 | 0.9036004E+01 | 0.9033860E+01 | 0.9031983E+01 |
| 0.9030379E+01 | 0.9029057E+01 | 0.9028011E+01 | 0.9027239E+01 | 0.9026731E+01 |
| 0.9026471E+01 | 0.9026442E+01 | 0.9026622E+01 | 0.9026981E+01 | 0.9027498E+01 |
| 0.9028285E+01 | 0.9029993E+01 | 0.9032875E+01 | 0.9082591E+01 | 0.9198329E+01 |
| 0.9379795E+01 | 0.9630802E+01 | 0.9950276E+01 | 0.1027882E+02 | 0.1061125E+02 |
| 0.1094572E+02 | 0.1128245E+02 | 0.1162060E+02 | 0.1195885E+02 | 0.1229631E+02 |
| 0.1263242E+02 | 0.1296691E+02 | 0.1329970E+02 | 0.1363088E+02 | 0.1390576E+02 |
| 0.1412504E+02 | 0.1428919E+02 | 0.1435763E+02 | 0.1437807E+02 | 0.1439167E+02 |
| 0.1439846E+02 | 0.1440520E+02 | 0.1441172E+02 | 0.1441791E+02 | 0.1442366E+02 |
| 0.1442888E+02 | 0.1443347E+02 | 0.1443736E+02 | 0.1444047E+02 | 0.1444276E+02 |
| 0.1444418E+02 | 0.1444471E+02 | 0.1444434E+02 | 0.1458090E+02 | 0.1457963E+02 |
| 0.1457748E+02 | 0.1457450E+02 | 0.1457073E+02 | 0.1456624E+02 | 0.1456111E+02 |
| 0.1455542E+02 | 0.1454926E+02 | 0.1454276E+02 | 0.1453600E+02 | 0.1452912E+02 |
| 0.1452222E+02 | 0.1451532E+02 | 0.1450154E+02 | 0.1448089E+02 | 0.1441273E+02 |
| 0.1424842E+02 | 0.1402922E+02 | 0.1375521E+02 | 0.1342679E+02 | 0.1309927E+02 |
| 0.1277317E+02 | 0.1244890E+02 | 0.1212679E+02 | 0.1180696E+02 | 0.1148928E+02 |
| 0.1117330E+02 | 0.1085923E+02 | 0.1054892E+02 | 0.1024316E+02 | 0.9941658E+01 |
| 0.9691369E+01 | 0.9487733E+01 | 0.9327465E+01 | 0.9225444E+01 | 0.9215750E+01 |
| 0.9209286E+01 | 0.9206054E+01 | 0.9202825E+01 | 0.9199512E+01 | 0.9196149E+01 |
| 0.9192772E+01 | 0.9189418E+01 | 0.9186121E+01 | 0.9182915E+01 | 0.9179832E+01 |
| 0.9176902E+01 | 0.9174152E+01 | 0.9171609E+01 | 0.9169290E+01 | 0.9167216E+01 |
| 0.9165395E+01 | 0.9163840E+01 | 0.9162552E+01 | 0.9161533E+01 | 0.9160775E+01 |
| 0.9160271E+01 | 0.9160004E+01 | 0.9159958E+01 | 0.9160112E+01 | 0.9160440E+01 |
| 0.9160919E+01 | 0.9161674E+01 | 0.9163307E+01 | 0.9166063E+01 | 0.9216207E+01 |
| 0.9332541E+01 | 0.9514733E+01 | 0.9766490E+01 | 0.1008664E+02 | 0.1041566E+02 |
| 0.1074845E+02 | 0.1108317E+02 | 0.1142006E+02 | 0.1175829E+02 | 0.1209655E+02 |
| 0.1243396E+02 | 0.1276998E+02 | 0.1310434E+02 | 0.1343698E+02 | 0.1376799E+02 |
| 0.1404273E+02 | 0.1426189E+02 | 0.1442594E+02 | 0.1449437E+02 | 0.1451480E+02 |
| 0.1452838E+02 | 0.1453516E+02 | 0.1454189E+02 | 0.1454841E+02 | 0.1455459E+02 |
| 0.1456033E+02 | 0.1456554E+02 | 0.1457012E+02 | 0.1457399E+02 | 0.1457709E+02 |
| 0.1457936E+02 | 0.1458077E+02 | 0.1458129E+02 | 0.1458090E+02 | 0.1471746E+02 |
| 0.1471617E+02 | 0.1471401E+02 | 0.1471101E+02 | 0.1470723E+02 | 0.1470274E+02 |
| 0.1469759E+02 | 0.1469190E+02 | 0.1468574E+02 | 0.1467923E+02 | 0.1467248E+02 |
| 0.1466559E+02 | 0.1465870E+02 | 0.1465181E+02 | 0.1463803E+02 | 0.1461739E+02 |
| 0.1454924E+02 | 0.1438495E+02 | 0.1416578E+02 | 0.1389180E+02 | 0.1356339E+02 |
| 0.1323586E+02 | 0.1290972E+02 | 0.1258541E+02 | 0.1226323E+02 | 0.1194330E+02 |
| 0.1162551E+02 | 0.1130938E+02 | 0.1099513E+02 | 0.1068456E+02 | 0.1037847E+02 |
| 0.1007652E+02 | 0.9825684E+01 | 0.9621422E+01 | 0.9460483E+01 | 0.9357039E+01 |
| 0.9347651E+01 | 0.9341397E+01 | 0.9338272E+01 | 0.9335149E+01 | 0.9331947E+01 |
| 0.9328698E+01 | 0.9325436E+01 | 0.9322195E+01 | 0.9319010E+01 | 0.9315912E+01 |
| 0.9312934E+01 | 0.9310103E+01 | 0.9307446E+01 | 0.9304987E+01 | 0.9302744E+01 |
| 0.9300735E+01 | 0.9298970E+01 | 0.9297462E+01 | 0.9296206E+01 | 0.9295210E+01 |
| 0.9294465E+01 | 0.9293962E+01 | 0.9293686E+01 | 0.9293623E+01 | 0.9293750E+01 |
| 0.9294046E+01 | 0.9294483E+01 | 0.9295206E+01 | 0.9296766E+01 | 0.9299393E+01 |
| 0.9349909E+01 | 0.9466780E+01 | 0.9649652E+01 | 0.9902123E+01 | 0.1022293E+02 |
| 0.1055244E+02 | 0.1088557E+02 | 0.1122055E+02 | 0.1155762E+02 | 0.1189594E+02 |
| 0.1223423E+02 | 0.1257160E+02 | 0.1290754E+02 | 0.1324178E+02 | 0.1357427E+02 |
| 0.1390511E+02 | 0.1417971E+02 | 0.1439875E+02 | 0.1456271E+02 | 0.1463112E+02 |
| 0.1465152E+02 | 0.1466510E+02 | 0.1467187E+02 | 0.1467859E+02 | 0.1468510E+02 |
| 0.1469127E+02 | 0.1469700E+02 | 0.1470219E+02 | 0.1470676E+02 | 0.1471062E+02 |
| 0.1471370E+02 | 0.1471596E+02 | 0.1471735E+02 | 0.1471786E+02 | 0.1471746E+02 |
| 0.1485401E+02 | 0.1485270E+02 | 0.1485053E+02 | 0.1484752E+02 | 0.1484373E+02 |
| 0.1483922E+02 | 0.1483407E+02 | 0.1482837E+02 | 0.1482221E+02 | 0.1481570E+02 |
| 0.1480894E+02 | 0.1480206E+02 | 0.1479517E+02 | 0.1478828E+02 | 0.1477452E+02 |
| 0.1475389E+02 | 0.1468573E+02 | 0.1452147E+02 | 0.1430234E+02 | 0.1402838E+02 |
| 0.1369997E+02 | 0.1337242E+02 | 0.1304625E+02 | 0.1272189E+02 | 0.1239964E+02 |
| 0.1207962E+02 | 0.1176170E+02 | 0.1144544E+02 | 0.1113100E+02 | 0.1082020E+02 |
| 0.1051378E+02 | 0.1021138E+02 | 0.9960030E+01 | 0.9755161E+01 | 0.9593567E+01 |

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|----------------|----------------|----------------|----------------|----------------|
| 0.9488713E+01  | 0.9479633E+01  | 0.9473588E+01  | 0.9470569E+01  | 0.9467553E+01  |
| 0.9464461E+01  | 0.9461325E+01  | 0.9458176E+01  | 0.9455050E+01  | 0.9451976E+01  |
| 0.9448986E+01  | 0.9446112E+01  | 0.9443378E+01  | 0.9440812E+01  | 0.9438437E+01  |
| 0.9436269E+01  | 0.9434324E+01  | 0.9432616E+01  | 0.9431149E+01  | 0.9429929E+01  |
| 0.9428953E+01  | 0.9428220E+01  | 0.9427715E+01  | 0.9427432E+01  | 0.9427350E+01  |
| 0.9427451E+01  | 0.9427713E+01  | 0.9428111E+01  | 0.9428801E+01  | 0.9430285E+01  |
| 0.9432785E+01  | 0.9483646E+01  | 0.9601030E+01  | 0.9784568E+01  | 0.1003774E+02  |
| 0.1035920E+02  | 0.1068918E+02  | 0.1102267E+02  | 0.1135791E+02  | 0.1169516E+02  |
| 0.1203357E+02  | 0.1237189E+02  | 0.1270923E+02  | 0.1304508E+02  | 0.1337921E+02  |
| 0.1371155E+02  | 0.1404224E+02  | 0.1431668E+02  | 0.1453561E+02  | 0.1469948E+02  |
| 0.1476787E+02  | 0.1478825E+02  | 0.1480181E+02  | 0.1480858E+02  | 0.1481530E+02  |
| 0.1482179E+02  | 0.1482795E+02  | 0.1483367E+02  | 0.1483885E+02  | 0.1484340E+02  |
| 0.1484725E+02  | 0.1485032E+02  | 0.1485256E+02  | 0.1485393E+02  | 0.1485442E+02  |
| 0.1485401E+02  | 0.9497373E-01  | 0.8812279E-01  | 0.8154739E-01  | 0.7535765E-01  |
| 0.6965711E-01  | 0.6454047E-01  | 0.6009242E-01  | 0.5638587E-01  | 0.5348079E-01  |
| 0.5142286E-01  | 0.5024265E-01  | 0.4995490E-01  | 0.5055795E-01  | 0.5137992E-01  |
| 0.5313984E-01  | 0.5601433E-01  | 0.6640287E-01  | 0.8756198E-01  | 0.1106497E+00  |
| 0.1310219E+00  | 0.1427770E+00  | 0.1406145E+00  | 0.1247075E+00  | 0.9548497E-01  |
| 0.5362481E-01  | 0.3961496E-04  | -0.6414950E-01 | -0.1376542E+00 | -0.2212351E+00 |
| -0.3205336E+00 | -0.4345692E+00 | -0.5634350E+00 | -0.6834484E+00 | -0.7890773E+00 |
| -0.8740885E+00 | -0.9163449E+00 | -0.9236551E+00 | -0.9282894E+00 | -0.9305280E+00 |
| -0.9326578E+00 | -0.9345355E+00 | -0.9361004E+00 | -0.9372996E+00 | -0.9380855E+00 |
| -0.9384199E+00 | -0.9382714E+00 | -0.9376184E+00 | -0.9364468E+00 | -0.9347535E+00 |
| -0.9325435E+00 | -0.9298313E+00 | -0.9266391E+00 | -0.9229990E+00 | -0.9189487E+00 |
| -0.9145352E+00 | -0.9098084E+00 | -0.9048252E+00 | -0.8996466E+00 | -0.8943356E+00 |
| -0.8889569E+00 | -0.8835760E+00 | -0.8782597E+00 | -0.8730700E+00 | -0.8679091E+00 |
| -0.8576505E+00 | -0.8424168E+00 | -0.7575856E+00 | -0.6027678E+00 | -0.4216881E+00 |
| -0.2325086E+00 | -0.5239924E-01 | 0.8759028E-01  | 0.1981741E+00  | 0.2867211E+00  |
| 0.3516735E+00  | 0.3939570E+00  | 0.4160134E+00  | 0.4202047E+00  | 0.4087555E+00  |
| 0.3837101E+00  | 0.3469086E+00  | 0.2999681E+00  | 0.2541098E+00  | 0.2134972E+00  |
| 0.1809213E+00  | 0.1673974E+00  | 0.1629838E+00  | 0.1598470E+00  | 0.1582097E+00  |
| 0.1563556E+00  | 0.1536531E+00  | 0.1501416E+00  | 0.1458757E+00  | 0.1409239E+00  |
| 0.1353667E+00  | 0.1292958E+00  | 0.1228117E+00  | 0.1160225E+00  | 0.1090418E+00  |
| 0.1019862E+00  | 0.9497404E-01  | 0.1051087E+00  | 0.9824522E-01  | 0.9164912E-01  |
| 0.8543050E-01  | 0.7969328E-01  | 0.7453271E-01  | 0.7003421E-01  | 0.6627136E-01  |
| 0.6330507E-01  | 0.6118187E-01  | 0.5993339E-01  | 0.5957539E-01  | 0.6010716E-01  |
| 0.6085810E-01  | 0.6247725E-01  | 0.6514321E-01  | 0.7483331E-01  | 0.9437206E-01  |
| 0.1154101E+00  | 0.1334098E+00  | 0.1426185E+00  | 0.1382667E+00  | 0.1205585E+00  |
| 0.8995414E-01  | 0.4716222E-01  | -0.6874121E-02 | -0.7100337E-01 | -0.1439062E+00 |
| -0.2262875E+00 | -0.3238407E+00 | -0.4354933E+00 | -0.5611563E+00 | -0.6777041E+00 |
| -0.7798898E+00 | -0.8617544E+00 | -0.9025111E+00 | -0.9092082E+00 | -0.9134289E+00 |
| -0.9154594E+00 | -0.9173787E+00 | -0.9190482E+00 | -0.9204110E+00 | -0.9214163E+00 |
| -0.9220197E+00 | -0.9221851E+00 | -0.9218835E+00 | -0.9210947E+00 | -0.9198067E+00 |
| -0.9180176E+00 | -0.9157329E+00 | -0.9129677E+00 | -0.9097445E+00 | -0.9060948E+00 |
| -0.9020566E+00 | -0.8976746E+00 | -0.8929979E+00 | -0.8880824E+00 | -0.8829865E+00 |
| -0.8777713E+00 | -0.8724996E+00 | -0.8672347E+00 | -0.8620388E+00 | -0.8569730E+00 |
| -0.8519378E+00 | -0.8419314E+00 | -0.8270808E+00 | -0.7418855E+00 | -0.5885841E+00 |
| -0.4099520E+00 | -0.2238363E+00 | -0.4696760E-01 | 0.9040023E-01  | 0.1989812E+00  |
| 0.2860987E+00  | 0.3500438E+00  | 0.3917514E+00  | 0.4136718E+00  | 0.4181689E+00  |
| 0.4074637E+00  | 0.3835949E+00  | 0.3483935E+00  | 0.3034655E+00  | 0.2595898E+00  |
| 0.2207562E+00  | 0.1896230E+00  | 0.1767445E+00  | 0.1725145E+00  | 0.1694994E+00  |
| 0.1679227E+00  | 0.1661288E+00  | 0.1634851E+00  | 0.1600301E+00  | 0.1558171E+00  |
| 0.1509136E+00  | 0.1453991E+00  | 0.1393646E+00  | 0.1329098E+00  | 0.1261423E+00  |
| 0.1191750E+00  | 0.1121244E+00  | 0.1051087E+00  | 0.1151377E+00  | 0.1082617E+00  |
| 0.1016444E+00  | 0.9539653E-01  | 0.8962230E-01  | 0.8441755E-01  | 0.7986841E-01  |
| 0.7604922E-01  | 0.7302184E-01  | 0.7083365E-01  | 0.6951732E-01  | 0.6908968E-01  |
| 0.6955106E-01  | 0.7023171E-01  | 0.7171119E-01  | 0.7416936E-01  | 0.8315858E-01  |
| 0.1010789E+00  | 0.1200727E+00  | 0.1357107E+00  | 0.1423907E+00  | 0.1358712E+00  |
| 0.1163858E+00  | 0.8442416E-01  | 0.4072408E-01  | -0.1374232E-01 | -0.7779470E-01 |



|                |                |                |                |                |
|----------------|----------------|----------------|----------------|----------------|
| -0.1500839E+00 | -0.2312613E+00 | -0.3270731E+00 | -0.4363551E+00 | -0.5588361E+00 |
| -0.6719400E+00 | -0.7706991E+00 | -0.8494268E+00 | -0.8886729E+00 | -0.8947631E+00 |
| -0.8985745E+00 | -0.9003990E+00 | -0.9021100E+00 | -0.9035742E+00 | -0.9047375E+00 |
| -0.9055517E+00 | -0.9059757E+00 | -0.9059752E+00 | -0.9055238E+00 | -0.9046024E+00 |
| -0.9032015E+00 | -0.9013199E+00 | -0.8989639E+00 | -0.8961490E+00 | -0.8928978E+00 |
| -0.8892418E+00 | -0.8852184E+00 | -0.8808705E+00 | -0.8762467E+00 | -0.8714010E+00 |
| -0.8663901E+00 | -0.8612725E+00 | -0.8561093E+00 | -0.8509611E+00 | -0.8458872E+00 |
| -0.8409461E+00 | -0.8360373E+00 | -0.8262842E+00 | -0.8118179E+00 | -0.7262601E+00 |
| -0.5744670E+00 | -0.3982545E+00 | -0.2151607E+00 | -0.4149120E-01 | 0.9327979E-01  |
| 0.1998670E+00  | 0.2855518E+00  | 0.3484774E+00  | 0.3895903E+00  | 0.4113519E+00  |
| 0.4161297E+00  | 0.4061438E+00  | 0.3834281E+00  | 0.3498062E+00  | 0.3068739E+00  |
| 0.2649709E+00  | 0.2279114E+00  | 0.1982195E+00  | 0.1859845E+00  | 0.1819384E+00  |
| 0.1790459E+00  | 0.1775305E+00  | 0.1757974E+00  | 0.1732132E+00  | 0.1698149E+00  |
| 0.1656551E+00  | 0.1607999E+00  | 0.1553282E+00  | 0.1493298E+00  | 0.1429041E+00  |
| 0.1361578E+00  | 0.1292035E+00  | 0.1221575E+00  | 0.1151378E+00  | 0.1237717E+00  |
| 0.1168787E+00  | 0.1102372E+00  | 0.1039584E+00  | 0.9814690E-01  | 0.9289953E-01  |
| 0.8830317E-01  | 0.8443309E-01  | 0.8135217E-01  | 0.7910885E-01  | 0.7773693E-01  |
| 0.7725436E-01  | 0.7766269E-01  | 0.7828891E-01  | 0.7965464E-01  | 0.8193190E-01  |
| 0.9024552E-01  | 0.1066840E+00  | 0.1238074E+00  | 0.1372867E+00  | 0.1416599E+00  |
| 0.1331691E+00  | 0.1120763E+00  | 0.7889990E-01  | 0.3440624E-01  | -0.2040394E-01 |
| -0.8432128E-01 | -0.1559663E+00 | -0.2359409E+00 | -0.3300440E+00 | -0.4370198E+00 |
| -0.5564167E+00 | -0.6661833E+00 | -0.7616145E+00 | -0.8372841E+00 | -0.8750147E+00 |
| -0.8805234E+00 | -0.8839442E+00 | -0.8855723E+00 | -0.8870845E+00 | -0.8883532E+00 |
| -0.8893270E+00 | -0.8899602E+00 | -0.8902151E+00 | -0.8900589E+00 | -0.8894678E+00 |
| -0.8884241E+00 | -0.8869197E+00 | -0.8849546E+00 | -0.8825364E+00 | -0.8796797E+00 |
| -0.8764083E+00 | -0.8727526E+00 | -0.8687495E+00 | -0.8644411E+00 | -0.8598744E+00 |
| -0.8551021E+00 | -0.8501782E+00 | -0.8451601E+00 | -0.8401061E+00 | -0.8350746E+00 |
| -0.8301220E+00 | -0.8253049E+00 | -0.8205208E+00 | -0.8110184E+00 | -0.7969303E+00 |
| -0.7109802E+00 | -0.5606179E+00 | -0.3867019E+00 | -0.2064807E+00 | -0.3586769E-01 |
| 0.9640048E-01  | 0.2010425E+00  | 0.2853040E+00  | 0.3471868E+00  | 0.3876480E+00  |
| 0.4091614E+00  | 0.4141005E+00  | 0.4046856E+00  | 0.3829478E+00  | 0.3507045E+00  |
| 0.3095432E+00  | 0.2694077E+00  | 0.2339475E+00  | 0.2055597E+00  | 0.1938878E+00  |
| 0.1900115E+00  | 0.1872400E+00  | 0.1857877E+00  | 0.1841189E+00  | 0.1815950E+00  |
| 0.1782525E+00  | 0.1741430E+00  | 0.1693320E+00  | 0.1638978E+00  | 0.1579298E+00  |
| 0.1515268E+00  | 0.1447954E+00  | 0.1378479E+00  | 0.1308007E+00  | 0.1237717E+00  |
| 0.1303246E+00  | 0.1234107E+00  | 0.1167426E+00  | 0.1104320E+00  | 0.1045847E+00  |
| 0.9929824E-01  | 0.9466051E-01  | 0.9074783E-01  | 0.8762413E-01  | 0.8533909E-01  |
| 0.8392770E-01  | 0.8340915E-01  | 0.8378617E-01  | 0.8437806E-01  | 0.8566377E-01  |
| 0.8779737E-01  | 0.9548736E-01  | 0.1106512E+00  | 0.1261667E+00  | 0.1377921E+00  |
| 0.1401887E+00  | 0.1300165E+00  | 0.1075649E+00  | 0.7338023E-01  | 0.2825740E-01  |
| -0.2677398E-01 | -0.9047469E-01 | -0.1614335E+00 | -0.2402082E+00 | -0.3326495E+00 |
| -0.4374108E+00 | -0.5538638E+00 | -0.6604471E+00 | -0.7526962E+00 | -0.8254274E+00 |
| -0.8616431E+00 | -0.8666077E+00 | -0.8696643E+00 | -0.8711097E+00 | -0.8724366E+00 |
| -0.8735237E+00 | -0.8743221E+00 | -0.8747893E+00 | -0.8748893E+00 | -0.8745921E+00 |
| -0.8738754E+00 | -0.8727231E+00 | -0.8711285E+00 | -0.8690926E+00 | -0.8666235E+00 |
| -0.8637359E+00 | -0.8604540E+00 | -0.8568073E+00 | -0.8528319E+00 | -0.8485692E+00 |
| -0.8440647E+00 | -0.8393693E+00 | -0.8345352E+00 | -0.8296183E+00 | -0.8246735E+00 |
| -0.8197576E+00 | -0.8149251E+00 | -0.8102296E+00 | -0.8055675E+00 | -0.7963099E+00 |
| -0.7825898E+00 | -0.6961985E+00 | -0.5471478E+00 | -0.3753506E+00 | -0.1977927E+00 |
| -0.3003807E-01 | 0.9985840E-01  | 0.2026242E+00  | 0.2854779E+00  | 0.3462870E+00  |
| 0.3860172E+00  | 0.4071564E+00  | 0.4120852E+00  | 0.4030262E+00  | 0.3820091E+00  |
| 0.3508470E+00  | 0.3111207E+00  | 0.2724445E+00  | 0.2383192E+00  | 0.2110270E+00  |
| 0.1998045E+00  | 0.1960751E+00  | 0.1934178E+00  | 0.1920284E+00  | 0.1904251E+00  |
| 0.1879604E+00  | 0.1846702E+00  | 0.1806059E+00  | 0.1758329E+00  | 0.1704291E+00  |
| 0.1644836E+00  | 0.1580954E+00  | 0.1513711E+00  | 0.1444231E+00  | 0.1373682E+00  |
| 0.1303246E+00  | 0.1349915E+00  | 0.1280649E+00  | 0.1213791E+00  | 0.1150462E+00  |
| 0.1091721E+00  | 0.1038551E+00  | 0.9918381E-01  | 0.9523508E-01  | 0.9207366E-01  |
| 0.8975009E-01  | 0.8830011E-01  | 0.8774380E-01  | 0.8808473E-01  | 0.8863913E-01  |
| 0.8984464E-01  | 0.9184726E-01  | 0.9903457E-01  | 0.1131126E+00  | 0.1272588E+00  |

|                |                |                |                |                |
|----------------|----------------|----------------|----------------|----------------|
| 0.1373074E+00  | 0.1380269E+00  | 0.1264363E+00  | 0.1028515E+00  | 0.6784619E-01  |
| 0.2224405E-01  | -0.3289599E-01 | -0.9630397E-01 | -0.1665358E+00 | -0.2441092E+00 |
| -0.3349263E+00 | -0.4375508E+00 | -0.5511812E+00 | -0.6547169E+00 | -0.7439147E+00 |
| -0.8138180E+00 | -0.8485204E+00 | -0.8529752E+00 | -0.8556917E+00 | -0.8569671E+00 |
| -0.8581210E+00 | -0.8590392E+00 | -0.8596753E+00 | -0.8599893E+00 | -0.8599476E+00 |
| -0.8595221E+00 | -0.8586923E+00 | -0.8574436E+00 | -0.8557706E+00 | -0.8536747E+00 |
| -0.8511648E+00 | -0.8482555E+00 | -0.8449717E+00 | -0.8413413E+00 | -0.8373996E+00 |
| -0.8331878E+00 | -0.8287496E+00 | -0.8241339E+00 | -0.8193915E+00 | -0.8145765E+00 |
| -0.8097407E+00 | -0.8049394E+00 | -0.8002251E+00 | -0.7956489E+00 | -0.7911059E+00 |
| -0.7820874E+00 | -0.7687251E+00 | -0.6818471E+00 | -0.5339993E+00 | -0.3641625E+00 |
| -0.1890840E+00 | -0.2401590E-01 | 0.1036211E+00  | 0.2045681E+00  | 0.2860243E+00  |
| 0.3457290E+00  | 0.3846545E+00  | 0.4053038E+00  | 0.4100660E+00  | 0.4011672E+00  |
| 0.3806373E+00  | 0.3502866E+00  | 0.3116902E+00  | 0.2741930E+00  | 0.2411619E+00  |
| 0.2147756E+00  | 0.2039403E+00  | 0.2003314E+00  | 0.1977622E+00  | 0.1964196E+00  |
| 0.1948643E+00  | 0.1924443E+00  | 0.1891953E+00  | 0.1851680E+00  | 0.1804272E+00  |
| 0.1750506E+00  | 0.1691271E+00  | 0.1627551E+00  | 0.1560412E+00  | 0.1490979E+00  |
| 0.1420418E+00  | 0.1349913E+00  | 0.1382028E+00  | 0.1312866E+00  | 0.1246048E+00  |
| 0.1182693E+00  | 0.1123856E+00  | 0.1070516E+00  | 0.1023556E+00  | 0.9837436E-01  |
| 0.9517248E-01  | 0.9280045E-01  | 0.9129399E-01  | 0.9067312E-01  | 0.9094140E-01  |
| 0.9142714E-01  | 0.9251082E-01  | 0.9436344E-01  | 0.1012393E+00  | 0.1143758E+00  |
| 0.1273360E+00  | 0.1360212E+00  | 0.1352962E+00  | 0.1224927E+00  | 0.9795252E-01  |
| 0.6227643E-01  | 0.1631631E-01  | -0.3883930E-01 | -0.1018894E+00 | -0.1713562E+00 |
| -0.2477213E+00 | -0.3369383E+00 | -0.4374817E+00 | -0.5483810E+00 | -0.6489750E+00 |
| -0.7352263E+00 | -0.8023933E+00 | -0.8355848E+00 | -0.8395585E+00 | -0.8419551E+00 |
| -0.8430711E+00 | -0.8440621E+00 | -0.8448217E+00 | -0.8453060E+00 | -0.8454775E+00 |
| -0.8453049E+00 | -0.8447614E+00 | -0.8438284E+00 | -0.8424931E+00 | -0.8407508E+00 |
| -0.8386034E+00 | -0.8360605E+00 | -0.8331369E+00 | -0.8298569E+00 | -0.8262482E+00 |
| -0.8223452E+00 | -0.8181877E+00 | -0.8138186E+00 | -0.8092844E+00 | -0.8046349E+00 |
| -0.7999213E+00 | -0.7951945E+00 | -0.7905066E+00 | -0.7859089E+00 | -0.7814496E+00 |
| -0.7770233E+00 | -0.7682384E+00 | -0.7552253E+00 | -0.6678229E+00 | -0.5210890E+00 |
| -0.3530855E+00 | -0.1803424E+00 | -0.1782912E-01 | 0.1076317E+00  | 0.2067996E+00  |
| 0.2868606E+00  | 0.3454308E+00  | 0.3834884E+00  | 0.4035523E+00  | 0.4080215E+00  |
| 0.3991270E+00  | 0.3789004E+00  | 0.3491500E+00  | 0.3114471E+00  | 0.2749130E+00  |
| 0.2427915E+00  | 0.2171659E+00  | 0.2067239E+00  | 0.2032088E+00  | 0.2006816E+00  |
| 0.1993526E+00  | 0.1978074E+00  | 0.1954042E+00  | 0.1921772E+00  | 0.1881756E+00  |
| 0.1834633E+00  | 0.1781165E+00  | 0.1722229E+00  | 0.1658799E+00  | 0.1591930E+00  |
| 0.1522738E+00  | 0.1452378E+00  | 0.1382028E+00  | 0.1401611E+00  | 0.1332627E+00  |
| 0.1265928E+00  | 0.1202623E+00  | 0.1143761E+00  | 0.1090313E+00  | 0.1043157E+00  |
| 0.1003055E+00  | 0.9706497E-01  | 0.9464422E-01  | 0.9307860E-01  | 0.9238775E-01  |
| 0.9257492E-01  | 0.9298523E-01  | 0.9394007E-01  | 0.9564564E-01  | 0.1023042E+00  |
| 0.1146206E+00  | 0.1265489E+00  | 0.1340510E+00  | 0.1320786E+00  | 0.1182374E+00  |
| 0.9289423E-01  | 0.5667616E-01  | 0.1046287E-01  | -0.4462764E-01 | -0.1072631E+00 |
| -0.1759322E+00 | -0.2510828E+00 | -0.3387212E+00 | -0.4372336E+00 | -0.5454844E+00 |
| -0.6432335E+00 | -0.7266359E+00 | -0.7911527E+00 | -0.8228369E+00 | -0.8263563E+00 |
| -0.8284516E+00 | -0.8294182E+00 | -0.8302559E+00 | -0.8308663E+00 | -0.8312086E+00 |
| -0.8312473E+00 | -0.8309534E+00 | -0.8303012E+00 | -0.8292741E+00 | -0.8278608E+00 |
| -0.8260573E+00 | -0.8238661E+00 | -0.8212970E+00 | -0.8183655E+00 | -0.8150947E+00 |
| -0.8115124E+00 | -0.8076523E+00 | -0.8035519E+00 | -0.7992540E+00 | -0.7948030E+00 |
| -0.7902471E+00 | -0.7856347E+00 | -0.7810164E+00 | -0.7764410E+00 | -0.7719581E+00 |
| -0.7676135E+00 | -0.7633019E+00 | -0.7547455E+00 | -0.7420741E+00 | -0.6541091E+00 |
| -0.5084056E+00 | -0.3421189E+00 | -0.1715807E+00 | -0.1150366E-01 | 0.1118557E+00  |
| 0.2092802E+00  | 0.2879488E+00  | 0.3453589E+00  | 0.3824937E+00  | 0.4018897E+00  |
| 0.4059567E+00  | 0.3969327E+00  | 0.3768518E+00  | 0.3475222E+00  | 0.3105120E+00  |
| 0.2747588E+00  | 0.2433915E+00  | 0.2184047E+00  | 0.2083230E+00  | 0.2048846E+00  |
| 0.2023791E+00  | 0.2010505E+00  | 0.1995005E+00  | 0.1971025E+00  | 0.1938888E+00  |
| 0.1899073E+00  | 0.1852199E+00  | 0.1799017E+00  | 0.1740390E+00  | 0.1677277E+00  |
| 0.1610721E+00  | 0.1541826E+00  | 0.1471733E+00  | 0.1401611E+00  | 0.1408848E+00  |
| 0.1339757E+00  | 0.1272919E+00  | 0.1209449E+00  | 0.1150399E+00  | 0.1096745E+00  |
| 0.1049370E+00  | 0.1009044E+00  | 0.9764130E-01  | 0.9519849E-01  | 0.9361202E-01  |

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| 0.9290220E-01  | 0.9307301E-01  | 0.9346490E-01  | 0.9437583E-01  | 0.9600054E-01  |
| 0.1023131E+00  | 0.1139247E+00  | 0.1249679E+00  | 0.1314581E+00  | 0.1284251E+00  |
| 0.1137117E+00  | 0.8770855E-01  | 0.5106860E-01  | 0.4698929E-02  | -0.5025326E-01 |
| -0.1124244E+00 | -0.1802691E+00 | -0.2542050E+00 | -0.3402915E+00 | -0.4368277E+00 |
| -0.5425171E+00 | -0.6375220E+00 | -0.7181766E+00 | -0.7801334E+00 | -0.8103153E+00 |
| -0.8134075E+00 | -0.8152204E+00 | -0.8160473E+00 | -0.8167414E+00 | -0.8172125E+00 |
| -0.8174226E+00 | -0.8173382E+00 | -0.8169323E+00 | -0.8161811E+00 | -0.8150688E+00 |
| -0.8135862E+00 | -0.8117296E+00 | -0.8095021E+00 | -0.8069139E+00 | -0.8039806E+00 |
| -0.8007246E+00 | -0.7971733E+00 | -0.7933598E+00 | -0.7893199E+00 | -0.7850954E+00 |
| -0.7807291E+00 | -0.7762675E+00 | -0.7717567E+00 | -0.7672461E+00 | -0.7627821E+00 |
| -0.7584122E+00 | -0.7541808E+00 | -0.7499819E+00 | -0.7416499E+00 | -0.7293128E+00 |
| -0.6407424E+00 | -0.4959823E+00 | -0.3312932E+00 | -0.1628259E+00 | -0.5062771E-02 |
| 0.1162743E+00  | 0.2119965E+00  | 0.2892815E+00  | 0.3455126E+00  | 0.3816772E+00  |
| 0.4003305E+00  | 0.4038949E+00  | 0.3946163E+00  | 0.3745331E+00  | 0.3454546E+00  |
| 0.3089468E+00  | 0.2738012E+00  | 0.2430404E+00  | 0.2185764E+00  | 0.2087052E+00  |
| 0.2053414E+00  | 0.2028961E+00  | 0.2016014E+00  | 0.2000871E+00  | 0.1977212E+00  |
| 0.1945360E+00  | 0.1905791E+00  | 0.1859125E+00  | 0.1806110E+00  | 0.1747609E+00  |
| 0.1684580E+00  | 0.1618066E+00  | 0.1549173E+00  | 0.1479044E+00  | 0.1408848E+00  |
| 0.1403746E+00  | 0.1334294E+00  | 0.1267094E+00  | 0.1203271E+00  | 0.1143894E+00  |
| 0.1089955E+00  | 0.1042350E+00  | 0.1001864E+00  | 0.9691583E-01  | 0.9447551E-01  |
| 0.9290306E-01  | 0.9222031E-01  | 0.9243292E-01  | 0.9285765E-01  | 0.9380152E-01  |
| 0.9540659E-01  | 0.1012620E+00  | 0.1122823E+00  | 0.1225850E+00  | 0.1282324E+00  |
| 0.1243237E+00  | 0.1089023E+00  | 0.8238210E-01  | 0.4544093E-01  | -0.9869387E-03 |
| -0.5572544E-01 | -0.1173795E+00 | -0.1843698E+00 | -0.2570865E+00 | -0.3416427E+00 |
| -0.4362523E+00 | -0.5394621E+00 | -0.6318194E+00 | -0.7098253E+00 | -0.7693110E+00 |
| -0.7979970E+00 | -0.8006884E+00 | -0.8022375E+00 | -0.8029337E+00 | -0.8034937E+00 |
| -0.8038351E+00 | -0.8039225E+00 | -0.8037246E+00 | -0.8032159E+00 | -0.8023748E+00 |
| -0.8011866E+00 | -0.7996429E+00 | -0.7977411E+00 | -0.7954847E+00 | -0.7928841E+00 |
| -0.7899548E+00 | -0.7867190E+00 | -0.7832034E+00 | -0.7794397E+00 | -0.7754635E+00 |
| -0.7713143E+00 | -0.7670340E+00 | -0.7626671E+00 | -0.7582585E+00 | -0.7538545E+00 |
| -0.7495008E+00 | -0.7452422E+00 | -0.7411220E+00 | -0.7370337E+00 | -0.7289217E+00 |
| -0.7169112E+00 | -0.6276922E+00 | -0.4837895E+00 | -0.3205811E+00 | -0.1540562E+00 |
| 0.1508540E-02  | 0.1208962E+00  | 0.2149517E+00  | 0.2908573E+00  | 0.3458866E+00  |
| 0.3810306E+00  | 0.3988642E+00  | 0.4018239E+00  | 0.3921651E+00  | 0.3719317E+00  |
| 0.3429356E+00  | 0.3067421E+00  | 0.2720329E+00  | 0.2417328E+00  | 0.2176774E+00  |
| 0.2078821E+00  | 0.2045885E+00  | 0.2022356E+00  | 0.2010033E+00  | 0.1995592E+00  |
| 0.1972484E+00  | 0.1941041E+00  | 0.1901753E+00  | 0.1855249E+00  | 0.1802289E+00  |
| 0.1743744E+00  | 0.1680587E+00  | 0.1613873E+00  | 0.1544719E+00  | 0.1474282E+00  |
| 0.1403746E+00  | 0.1386215E+00  | 0.1316668E+00  | 0.1249355E+00  | 0.1185408E+00  |
| 0.1125897E+00  | 0.1071819E+00  | 0.1024075E+00  | 0.9834540E-01  | 0.9506217E-01  |
| 0.9261061E-01  | 0.9102879E-01  | 0.9033906E-01  | 0.9054760E-01  | 0.9096599E-01  |
| 0.9188927E-01  | 0.9344689E-01  | 0.9904542E-01  | 0.1095907E+00  | 0.1193013E+00  |
| 0.1242807E+00  | 0.1196891E+00  | 0.1037333E+00  | 0.7684896E-01  | 0.3973852E-01  |
| -0.6637238E-02 | -0.6107355E-01 | -0.1221441E+00 | -0.1882350E+00 | -0.2597122E+00 |
| -0.3427441E+00 | -0.4354602E+00 | -0.5362560E+00 | -0.6260495E+00 | -0.7014965E+00 |
| -0.7585948E+00 | -0.7857932E+00 | -0.7881083E+00 | -0.7894105E+00 | -0.7899849E+00 |
| -0.7904186E+00 | -0.7906395E+00 | -0.7906134E+00 | -0.7903111E+00 | -0.7897084E+00 |
| -0.7887860E+00 | -0.7875301E+00 | -0.7859331E+00 | -0.7839934E+00 | -0.7817148E+00 |
| -0.7791079E+00 | -0.7761881E+00 | -0.7729772E+00 | -0.7695011E+00 | -0.7657905E+00 |
| -0.7618803E+00 | -0.7578082E+00 | -0.7536150E+00 | -0.7493431E+00 | -0.7450362E+00 |
| -0.7407383E+00 | -0.7364935E+00 | -0.7323446E+00 | -0.7283326E+00 | -0.7243521E+00 |
| -0.7164543E+00 | -0.7047615E+00 | -0.6148553E+00 | -0.4717286E+00 | -0.3098935E+00 |
| -0.1451968E+00 | 0.8266673E-02  | 0.1257597E+00  | 0.2181666E+00  | 0.2926805E+00  |
| 0.3464694E+00  | 0.3805274E+00  | 0.3974505E+00  | 0.3996909E+00  | 0.3895146E+00  |
| 0.3689728E+00  | 0.3398810E+00  | 0.3038054E+00  | 0.2693558E+00  | 0.2393668E+00  |
| 0.2156032E+00  | 0.2059194E+00  | 0.2026700E+00  | 0.2003579E+00  | 0.1991499E+00  |
| 0.1977322E+00  | 0.1954443E+00  | 0.1923195E+00  | 0.1884067E+00  | 0.1837690E+00  |
| 0.1784823E+00  | 0.1726339E+00  | 0.1663213E+00  | 0.1596499E+00  | 0.1527317E+00  |
| 0.1456827E+00  | 0.1386215E+00  | 0.1356098E+00  | 0.1286815E+00  | 0.1219731E+00  |

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| 0.1155962E+00  | 0.1096571E+00  | 0.1042541E+00  | 0.9947647E-01  | 0.9540208E-01  |
| 0.9209669E-01  | 0.8961221E-01  | 0.8798583E-01  | 0.8723909E-01  | 0.8737704E-01  |
| 0.8773185E-01  | 0.8855471E-01  | 0.9001807E-01  | 0.9562270E-01  | 0.1058085E+00  |
| 0.1150751E+00  | 0.1195612E+00  | 0.1144805E+00  | 0.9816550E-01  | 0.7107326E-01  |
| 0.3392971E-01  | -0.1227845E-01 | -0.6631788E-01 | -0.1267311E+00 | -0.1918697E+00 |
| -0.2620784E+00 | -0.3435821E+00 | -0.4344273E+00 | -0.5328636E+00 | -0.6201682E+00 |
| -0.6931392E+00 | -0.7479293E+00 | -0.7736477E+00 | -0.7756101E+00 | -0.7766818E+00 |
| -0.7771428E+00 | -0.7774580E+00 | -0.7775669E+00 | -0.7774358E+00 | -0.7770375E+00 |
| -0.7763495E+00 | -0.7753536E+00 | -0.7740375E+00 | -0.7723946E+00 | -0.7704235E+00 |
| -0.7681289E+00 | -0.7655212E+00 | -0.7626157E+00 | -0.7594337E+00 | -0.7560007E+00 |
| -0.7523463E+00 | -0.7485039E+00 | -0.7445105E+00 | -0.7404050E+00 | -0.7362283E+00 |
| -0.7320225E+00 | -0.7278298E+00 | -0.7236925E+00 | -0.7196518E+00 | -0.7157453E+00 |
| -0.7118701E+00 | -0.7041814E+00 | -0.6927982E+00 | -0.6021659E+00 | -0.4597379E+00 |
| -0.2991763E+00 | -0.1362046E+00 | 0.1524181E-01  | 0.1308828E+00  | 0.2216482E+00  |
| 0.2947485E+00  | 0.3472497E+00  | 0.3801486E+00  | 0.3960639E+00  | 0.3974646E+00  |
| 0.3866293E+00  | 0.3656177E+00  | 0.3362504E+00  | 0.3000954E+00  | 0.2657286E+00  |
| 0.2359015E+00  | 0.2123136E+00  | 0.2028080E+00  | 0.1995741E+00  | 0.1972359E+00  |
| 0.1960019E+00  | 0.1945521E+00  | 0.1922450E+00  | 0.1891122E+00  | 0.1852011E+00  |
| 0.1805731E+00  | 0.1753030E+00  | 0.1694768E+00  | 0.1631904E+00  | 0.1565480E+00  |
| 0.1496601E+00  | 0.1426415E+00  | 0.1356095E+00  | 0.1313107E+00  | 0.1244001E+00  |
| 0.1177070E+00  | 0.1113423E+00  | 0.1054114E+00  | 0.1000119E+00  | 0.9523238E-01  |
| 0.9115018E-01  | 0.8783042E-01  | 0.8532444E-01  | 0.8366887E-01  | 0.8288467E-01  |
| 0.8297620E-01  | 0.8328898E-01  | 0.8404503E-01  | 0.8544441E-01  | 0.9104481E-01  |
| 0.1009809E+00  | 0.1099442E+00  | 0.1141035E+00  | 0.1087184E+00  | 0.9221167E-01  |
| 0.6506071E-01  | 0.2801442E-01  | -0.1791504E-01 | -0.7146619E-01 | -0.1311505E+00 |
| -0.1952850E+00 | -0.2641960E+00 | -0.3441657E+00 | -0.4331601E+00 | -0.5292875E+00 |
| -0.6141734E+00 | -0.6847479E+00 | -0.7373062E+00 | -0.7615483E+00 | -0.7631820E+00 |
| -0.7640403E+00 | -0.7643967E+00 | -0.7646026E+00 | -0.7646074E+00 | -0.7643793E+00 |
| -0.7638928E+00 | -0.7631269E+00 | -0.7620649E+00 | -0.7606957E+00 | -0.7590132E+00 |
| -0.7570168E+00 | -0.7547117E+00 | -0.7521081E+00 | -0.7492215E+00 | -0.7460722E+00 |
| -0.7426851E+00 | -0.7390891E+00 | -0.7353165E+00 | -0.7314028E+00 | -0.7273855E+00 |
| -0.7233041E+00 | -0.7191988E+00 | -0.7151105E+00 | -0.7110793E+00 | -0.7071451E+00 |
| -0.7033434E+00 | -0.6995724E+00 | -0.6920902E+00 | -0.6810123E+00 | -0.5896081E+00 |
| -0.4478048E+00 | -0.2884218E+00 | -0.1270777E+00 | 0.2242939E-01  | 0.1362567E+00  |
| 0.2253856E+00  | 0.2970495E+00  | 0.3482162E+00  | 0.3798850E+00  | 0.3946986E+00  |
| 0.3951441E+00  | 0.3835143E+00  | 0.3618786E+00  | 0.3320642E+00  | 0.2956419E+00  |
| 0.2611898E+00  | 0.2313829E+00  | 0.2078603E+00  | 0.1984518E+00  | 0.1952240E+00  |
| 0.1928667E+00  | 0.1916149E+00  | 0.1901433E+00  | 0.1878231E+00  | 0.1846846E+00  |
| 0.1807743E+00  | 0.1761526E+00  | 0.1708934E+00  | 0.1650816E+00  | 0.1588124E+00  |
| 0.1521892E+00  | 0.1453214E+00  | 0.1383229E+00  | 0.1313103E+00  | 0.1257924E+00  |
| 0.1188796E+00  | 0.1121836E+00  | 0.1058159E+00  | 0.9988196E-01  | 0.9447949E-01  |
| 0.8969707E-01  | 0.8561236E-01  | 0.8229051E-01  | 0.7978296E-01  | 0.7812652E-01  |
| 0.7734220E-01  | 0.7743464E-01  | 0.7774716E-01  | 0.7849895E-01  | 0.7988419E-01  |
| 0.8539578E-01  | 0.9518406E-01  | 0.1039747E+00  | 0.1079612E+00  | 0.1024431E+00  |
| 0.8589982E-01  | 0.5882856E-01  | 0.2200044E-01  | -0.2354735E-01 | -0.7652556E-01 |
| -0.1354146E+00 | -0.1984973E+00 | -0.2660835E+00 | -0.3445148E+00 | -0.4316776E+00 |
| -0.5255443E+00 | -0.6080793E+00 | -0.6763332E+00 | -0.7267337E+00 | -0.7495031E+00 |
| -0.7508313E+00 | -0.7514923E+00 | -0.7517524E+00 | -0.7518578E+00 | -0.7517659E+00 |
| -0.7514482E+00 | -0.7508809E+00 | -0.7500443E+00 | -0.7489231E+00 | -0.7475072E+00 |
| -0.7457912E+00 | -0.7437754E+00 | -0.7414649E+00 | -0.7388701E+00 | -0.7360061E+00 |
| -0.7328929E+00 | -0.7295547E+00 | -0.7260194E+00 | -0.7223182E+00 | -0.7184852E+00 |
| -0.7145568E+00 | -0.7105707E+00 | -0.7065657E+00 | -0.7025807E+00 | -0.6986545E+00 |
| -0.6948254E+00 | -0.6911280E+00 | -0.6874603E+00 | -0.6801826E+00 | -0.6694064E+00 |
| -0.5771846E+00 | -0.4359345E+00 | -0.2776396E+00 | -0.1178309E+00 | 0.2981082E-01  |
| 0.1418613E+00  | 0.2293589E+00  | 0.2995658E+00  | 0.3493553E+00  | 0.3797284E+00  |
| 0.3933533E+00  | 0.3927366E+00  | 0.3801865E+00  | 0.3577837E+00  | 0.3273629E+00  |
| 0.2904991E+00  | 0.2558056E+00  | 0.2258876E+00  | 0.2023281E+00  | 0.1929024E+00  |
| 0.1896762E+00  | 0.1873256E+00  | 0.1860790E+00  | 0.1846139E+00  | 0.1822990E+00  |
| 0.1791647E+00  | 0.1752577E+00  | 0.1706386E+00  | 0.1653809E+00  | 0.1595698E+00  |

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| 0.1533006E+00  | 0.1466767E+00  | 0.1398076E+00  | 0.1328073E+00  | 0.1257925E+00  |
| 0.1192169E+00  | 0.1123028E+00  | 0.1056059E+00  | 0.9923757E-01  | 0.9330313E-01  |
| 0.8790056E-01  | 0.8311848E-01  | 0.7903444E-01  | 0.7571373E-01  | 0.7320781E-01  |
| 0.7155351E-01  | 0.7077186E-01  | 0.7086761E-01  | 0.7118245E-01  | 0.7193591E-01  |
| 0.7331749E-01  | 0.7878435E-01  | 0.8851679E-01  | 0.9725261E-01  | 0.1012058E+00  |
| 0.9570910E-01  | 0.7926941E-01  | 0.5240242E-01  | 0.1590109E-01  | -0.2917290E-01 |
| -0.8150270E-01 | -0.1395379E+00 | -0.2015270E+00 | -0.2677660E+00 | -0.3446572E+00 |
| -0.4300090E+00 | -0.5216627E+00 | -0.6019117E+00 | -0.6679187E+00 | -0.7162324E+00 |
| -0.7375358E+00 | -0.7385789E+00 | -0.7390571E+00 | -0.7392281E+00 | -0.7392397E+00 |
| -0.7390585E+00 | -0.7386586E+00 | -0.7380177E+00 | -0.7371173E+00 | -0.7359435E+00 |
| -0.7344872E+00 | -0.7327439E+00 | -0.7307141E+00 | -0.7284033E+00 | -0.7258219E+00 |
| -0.7229846E+00 | -0.7199109E+00 | -0.7166243E+00 | -0.7131519E+00 | -0.7095237E+00 |
| -0.7057728E+00 | -0.7019338E+00 | -0.6980430E+00 | -0.6941379E+00 | -0.6902559E+00 |
| -0.6864339E+00 | -0.6827083E+00 | -0.6791137E+00 | -0.6755475E+00 | -0.6684704E+00 |
| -0.6579902E+00 | -0.5649104E+00 | -0.4241453E+00 | -0.2668525E+00 | -0.1084910E+00 |
| 0.3735704E-01  | 0.1476676E+00  | 0.2335419E+00  | 0.3022756E+00  | 0.3506511E+00  |
| 0.3796711E+00  | 0.3920297E+00  | 0.3902551E+00  | 0.3766716E+00  | 0.3533728E+00  |
| 0.3222018E+00  | 0.2847391E+00  | 0.2496632E+00  | 0.2195152E+00  | 0.1958265E+00  |
| 0.1863464E+00  | 0.1831098E+00  | 0.1807567E+00  | 0.1795104E+00  | 0.1780467E+00  |
| 0.1757324E+00  | 0.1725984E+00  | 0.1686912E+00  | 0.1640715E+00  | 0.1588129E+00  |
| 0.1530007E+00  | 0.1467303E+00  | 0.1401051E+00  | 0.1332346E+00  | 0.1262330E+00  |
| 0.1192168E+00  | 0.1116954E+00  | 0.1047852E+00  | 0.9809260E-01  | 0.9172857E-01  |
| 0.8579847E-01  | 0.8040009E-01  | 0.7562183E-01  | 0.7154113E-01  | 0.6822301E-01  |
| 0.6571885E-01  | 0.6406526E-01  | 0.6328309E-01  | 0.6337687E-01  | 0.6368992E-01  |
| 0.6444114E-01  | 0.6582212E-01  | 0.7130666E-01  | 0.8106725E-01  | 0.8985566E-01  |
| 0.9390240E-01  | 0.8856770E-01  | 0.7235860E-01  | 0.4580875E-01  | 0.9732145E-02  |
| -0.3478538E-01 | -0.8639971E-01 | -0.1435298E+00 | -0.2043896E+00 | -0.2692640E+00 |
| -0.3446166E+00 | -0.4281797E+00 | -0.5176680E+00 | -0.5956955E+00 | -0.6595272E+00 |
| -0.7058232E+00 | -0.7256679E+00 | -0.7264460E+00 | -0.7267548E+00 | -0.7268437E+00 |
| -0.7267681E+00 | -0.7265047E+00 | -0.7260296E+00 | -0.7253217E+00 | -0.7243642E+00 |
| -0.7231444E+00 | -0.7216538E+00 | -0.7198886E+00 | -0.7178500E+00 | -0.7155434E+00 |
| -0.7129794E+00 | -0.7101723E+00 | -0.7071411E+00 | -0.7039087E+00 | -0.7005011E+00 |
| -0.6969472E+00 | -0.6932790E+00 | -0.6895295E+00 | -0.6857342E+00 | -0.6819283E+00 |
| -0.6781480E+00 | -0.6744288E+00 | -0.6708055E+00 | -0.6673117E+00 | -0.6638448E+00 |
| -0.6569644E+00 | -0.6467736E+00 | -0.5527987E+00 | -0.4124532E+00 | -0.2560798E+00 |
| -0.9908091E-01 | 0.4504286E-01  | 0.1536508E+00  | 0.2379120E+00  | 0.3051606E+00  |
| 0.3520911E+00  | 0.3797073E+00  | 0.3907310E+00  | 0.3877126E+00  | 0.3729941E+00  |
| 0.3486827E+00  | 0.3166314E+00  | 0.2784269E+00  | 0.2428405E+00  | 0.2123544E+00  |
| 0.1884521E+00  | 0.1788958E+00  | 0.1756364E+00  | 0.1732667E+00  | 0.1720115E+00  |
| 0.1705390E+00  | 0.1682173E+00  | 0.1650775E+00  | 0.1611658E+00  | 0.1565429E+00  |
| 0.1512823E+00  | 0.1454695E+00  | 0.1391993E+00  | 0.1325753E+00  | 0.1257069E+00  |
| 0.1187081E+00  | 0.1116954E+00  | 0.1033195E+00  | 0.9641260E-01  | 0.8972411E-01  |
| 0.8336489E-01  | 0.7744018E-01  | 0.7204760E-01  | 0.6727540E-01  | 0.6320079E-01  |
| 0.5988869E-01  | 0.5739027E-01  | 0.5574196E-01  | 0.5496440E-01  | 0.5506196E-01  |
| 0.5537861E-01  | 0.5613714E-01  | 0.5752943E-01  | 0.6305684E-01  | 0.7292178E-01  |
| 0.8186011E-01  | 0.8611502E-01  | 0.8106951E-01  | 0.6520540E-01  | 0.3907414E-01  |
| 0.3509702E-02  | -0.4037790E-01 | -0.9121794E-01 | -0.1473988E+00 | -0.2071000E+00 |
| -0.2705970E+00 | -0.3444157E+00 | -0.4262143E+00 | -0.5135853E+00 | -0.5894536E+00 |
| -0.6511797E+00 | -0.6955254E+00 | -0.7139171E+00 | -0.7144501E+00 | -0.7146031E+00 |
| -0.7146165E+00 | -0.7144606E+00 | -0.7141219E+00 | -0.7135780E+00 | -0.7128097E+00 |
| -0.7118013E+00 | -0.7105412E+00 | -0.7090219E+00 | -0.7072401E+00 | -0.7051973E+00 |
| -0.7028992E+00 | -0.7003561E+00 | -0.6975822E+00 | -0.6945962E+00 | -0.6914196E+00 |
| -0.6880780E+00 | -0.6845993E+00 | -0.6810141E+00 | -0.6773543E+00 | -0.6736535E+00 |
| -0.6699460E+00 | -0.6662661E+00 | -0.6626483E+00 | -0.6591256E+00 | -0.6557303E+00 |
| -0.6523612E+00 | -0.6456733E+00 | -0.6357660E+00 | -0.5408601E+00 | -0.4008722E+00 |
| -0.2453392E+00 | -0.8962216E-01 | 0.5284427E-01  | 0.1597871E+00  | 0.2424477E+00  |
| 0.3082033E+00  | 0.3536632E+00  | 0.3798322E+00  | 0.3894607E+00  | 0.3851222E+00  |
| 0.3691782E+00  | 0.3437497E+00  | 0.3107013E+00  | 0.2716259E+00  | 0.2354136E+00  |
| 0.2044917E+00  | 0.1802994E+00  | 0.1706302E+00  | 0.1673389E+00  | 0.1649480E+00  |

|                |                |                |                |                |
|----------------|----------------|----------------|----------------|----------------|
| 0.1636823E+00  | 0.1621994E+00  | 0.1598687E+00  | 0.1567207E+00  | 0.1528022E+00  |
| 0.1481736E+00  | 0.1429085E+00  | 0.1370924E+00  | 0.1308202E+00  | 0.1241953E+00  |
| 0.1173272E+00  | 0.1103297E+00  | 0.1033194E+00  | 0.9421626E-01  | 0.8731274E-01  |
| 0.8062874E-01  | 0.7427512E-01  | 0.6835702E-01  | 0.6297181E-01  | 0.5820766E-01  |
| 0.5414158E-01  | 0.5083830E-01  | 0.4834872E-01  | 0.4670906E-01  | 0.4593984E-01  |
| 0.4604514E-01  | 0.4636922E-01  | 0.4714217E-01  | 0.4855523E-01  | 0.5415028E-01  |
| 0.6418523E-01  | 0.7335763E-01  | 0.7792001E-01  | 0.7327291E-01  | 0.5785200E-01  |
| 0.3222585E-01  | -0.2751822E-02 | -0.4594773E-01 | -0.9596435E-01 | -0.1511597E+00 |
| -0.2096792E+00 | -0.2717905E+00 | -0.3440831E+00 | -0.4241421E+00 | -0.5094417E+00 |
| -0.5832096E+00 | -0.6428947E+00 | -0.6853523E+00 | -0.7022964E+00 | -0.7026020E+00 |
| -0.7026113E+00 | -0.7025554E+00 | -0.7023252E+00 | -0.7019172E+00 | -0.7013107E+00 |
| -0.7004878E+00 | -0.6994343E+00 | -0.6981395E+00 | -0.6965964E+00 | -0.6948028E+00 |
| -0.6927601E+00 | -0.6904745E+00 | -0.6879557E+00 | -0.6852183E+00 | -0.6822796E+00 |
| -0.6791611E+00 | -0.6758873E+00 | -0.6724850E+00 | -0.6689834E+00 | -0.6654135E+00 |
| -0.6618074E+00 | -0.6581978E+00 | -0.6546178E+00 | -0.6511003E+00 | -0.6476772E+00 |
| -0.6443792E+00 | -0.6411062E+00 | -0.6346086E+00 | -0.6249804E+00 | -0.5291057E+00 |
| -0.3894172E+00 | -0.2346518E+00 | -0.8014110E-01 | 0.6073205E-01  | 0.1660469E+00  |
| 0.2471221E+00  | 0.3113815E+00  | 0.3553516E+00  | 0.3800382E+00  | 0.3882213E+00  |
| 0.3824986E+00  | 0.3652516E+00  | 0.3386167E+00  | 0.3044704E+00  | 0.2644135E+00  |
| 0.2274749E+00  | 0.1960326E+00  | 0.1714845E+00  | 0.1616721E+00  | 0.1583407E+00  |
| 0.1559239E+00  | 0.1546457E+00  | 0.1531506E+00  | 0.1508086E+00  | 0.1476505E+00  |
| 0.1437228E+00  | 0.1390863E+00  | 0.1338148E+00  | 0.1279934E+00  | 0.1217175E+00  |
| 0.1150903E+00  | 0.1082214E+00  | 0.1012246E+00  | 0.9421626E-01  | 0.8457463E-01  |
| 0.7767528E-01  | 0.7099692E-01  | 0.6465028E-01  | 0.5874029E-01  | 0.5336423E-01  |
| 0.4860995E-01  | 0.4455432E-01  | 0.4126173E-01  | 0.3878290E-01  | 0.3715379E-01  |
| 0.3639460E-01  | 0.3650913E-01  | 0.3684227E-01  | 0.3763327E-01  | 0.3907334E-01  |
| 0.4476179E-01  | 0.5502062E-01  | 0.6449594E-01  | 0.6944615E-01  | 0.6528476E-01  |
| 0.5038426E-01  | 0.2532935E-01  | -0.9006348E-02 | -0.5146717E-01 | -0.1006286E+00 |
| -0.1548188E+00 | -0.2121489E+00 | -0.2728806E+00 | -0.3436682E+00 | -0.4220245E+00 |
| -0.5053095E+00 | -0.5770442E+00 | -0.6347587E+00 | -0.6753944E+00 | -0.6908978E+00 |
| -0.6909935E+00 | -0.6908711E+00 | -0.6907523E+00 | -0.6904534E+00 | -0.6899820E+00 |
| -0.6893191E+00 | -0.6884477E+00 | -0.6873547E+00 | -0.6860307E+00 | -0.6844692E+00 |
| -0.6826683E+00 | -0.6806301E+00 | -0.6783609E+00 | -0.6758704E+00 | -0.6731722E+00 |
| -0.6702839E+00 | -0.6672258E+00 | -0.6640213E+00 | -0.6606967E+00 | -0.6572797E+00 |
| -0.6538001E+00 | -0.6502887E+00 | -0.6467770E+00 | -0.6432966E+00 | -0.6398788E+00 |
| -0.6365543E+00 | -0.6333526E+00 | -0.6301749E+00 | -0.6238651E+00 | -0.6145128E+00 |
| -0.5176274E+00 | -0.3781777E+00 | -0.2241032E+00 | -0.7071591E-01 | 0.6863871E-01  |
| 0.1723753E+00  | 0.2518940E+00  | 0.3146692E+00  | 0.3571466E+00  | 0.3803333E+00  |
| 0.3870389E+00  | 0.3798871E+00  | 0.3612795E+00  | 0.3333698E+00  | 0.2980461E+00  |
| 0.2569189E+00  | 0.2191727E+00  | 0.1871408E+00  | 0.1621830E+00  | 0.1522050E+00  |
| 0.1488265E+00  | 0.1463788E+00  | 0.1450850E+00  | 0.1435749E+00  | 0.1412190E+00  |
| 0.1380483E+00  | 0.1341095E+00  | 0.1294635E+00  | 0.1241840E+00  | 0.1183564E+00  |
| 0.1120760E+00  | 0.1054462E+00  | 0.9857636E-01  | 0.9158047E-01  | 0.8457463E-01  |
| 0.7464235E-01  | 0.6774748E-01  | 0.6107529E-01  | 0.5473635E-01  | 0.4883547E-01  |
| 0.4346963E-01  | 0.3872655E-01  | 0.3468281E-01  | 0.3140252E-01  | 0.2893616E-01  |
| 0.2731935E-01  | 0.2657204E-01  | 0.2669764E-01  | 0.2704166E-01  | 0.2785428E-01  |
| 0.2932658E-01  | 0.3512524E-01  | 0.4564802E-01  | 0.5547622E-01  | 0.6087115E-01  |
| 0.5725548E-01  | 0.4292606E-01  | 0.1848257E-01  | -0.1518189E-01 | -0.5688898E-01 |
| -0.1051879E+00 | -0.1583768E+00 | -0.2145327E+00 | -0.2739132E+00 | -0.3432379E+00 |
| -0.4199488E+00 | -0.5012958E+00 | -0.5710796E+00 | -0.6269057E+00 | -0.6657957E+00 |
| -0.6798674E+00 | -0.6797728E+00 | -0.6795317E+00 | -0.6793560E+00 | -0.6789953E+00 |
| -0.6784672E+00 | -0.6777540E+00 | -0.6768402E+00 | -0.6757140E+00 | -0.6743660E+00 |
| -0.6727914E+00 | -0.6709884E+00 | -0.6689594E+00 | -0.6667107E+00 | -0.6642516E+00 |
| -0.6615959E+00 | -0.6587602E+00 | -0.6557644E+00 | -0.6526309E+00 | -0.6493849E+00 |
| -0.6460531E+00 | -0.6426640E+00 | -0.6392471E+00 | -0.6358327E+00 | -0.6324509E+00 |
| -0.6291318E+00 | -0.6259047E+00 | -0.6227980E+00 | -0.6197141E+00 | -0.6135893E+00 |
| -0.6045084E+00 | -0.5065689E+00 | -0.3672925E+00 | -0.2138219E+00 | -0.6146187E-01 |
| 0.7646755E-01  | 0.1786965E+00  | 0.2567097E+00  | 0.3180353E+00  | 0.3590412E+00  |
| 0.3807349E+00  | 0.3859567E+00  | 0.3773568E+00  | 0.3573581E+00  | 0.3281316E+00  |

|                |                |                |                |                |
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| 0.2915791E+00  | 0.2493201E+00  | 0.2107089E+00  | 0.1780369E+00  | 0.1526293E+00  |
| 0.1424685E+00  | 0.1390379E+00  | 0.1365558E+00  | 0.1352450E+00  | 0.1337182E+00  |
| 0.1313469E+00  | 0.1281622E+00  | 0.1242108E+00  | 0.1195539E+00  | 0.1142653E+00  |
| 0.1084306E+00  | 0.1021450E+00  | 0.9551185E-01  | 0.8864078E-01  | 0.8164560E-01  |
| 0.7464241E-01  | 0.6462402E-01  | 0.5773359E-01  | 0.5106768E-01  | 0.4473668E-01  |
| 0.3884518E-01  | 0.3349000E-01  | 0.2875852E-01  | 0.2472722E-01  | 0.2145983E-01  |
| 0.1900661E-01  | 0.1740280E-01  | 0.1666809E-01  | 0.1680556E-01  | 0.1716119E-01  |
| 0.1799688E-01  | 0.1950336E-01  | 0.2541780E-01  | 0.3621882E-01  | 0.4641739E-01  |
| 0.5227681E-01  | 0.4922748E-01  | 0.3548610E-01  | 0.1166685E-01  | -0.2131777E-01 |
| -0.6226659E-01 | -0.1097028E+00 | -0.1618948E+00 | -0.2168853E+00 | -0.2749284E+00 |
| -0.3428091E+00 | -0.4178997E+00 | -0.4973408E+00 | -0.5652075E+00 | -0.6191787E+00 |
| -0.6563539E+00 | -0.6689980E+00 | -0.6687204E+00 | -0.6683658E+00 | -0.6681362E+00 |
| -0.6677161E+00 | -0.6671339E+00 | -0.6663730E+00 | -0.6654195E+00 | -0.6642621E+00 |
| -0.6628928E+00 | -0.6613071E+00 | -0.6595040E+00 | -0.6574860E+00 | -0.6552590E+00 |
| -0.6528330E+00 | -0.6502210E+00 | -0.6474389E+00 | -0.6445062E+00 | -0.6414442E+00 |
| -0.6382772E+00 | -0.6350307E+00 | -0.6317322E+00 | -0.6284099E+00 | -0.6250924E+00 |
| -0.6218089E+00 | -0.6185880E+00 | -0.6154579E+00 | -0.6124455E+00 | -0.6094549E+00 |
| -0.6035141E+00 | -0.5947028E+00 | -0.4956921E+00 | -0.3565633E+00 | -0.2036614E+00 |
| -0.5228905E-01 | 0.8425427E-01  | 0.1850060E+00  | 0.2615365E+00  | 0.3214290E+00  |
| 0.3609744E+00  | 0.3811806E+00  | 0.3849190E+00  | 0.3748664E+00  | 0.3534677E+00  |
| 0.3229110E+00  | 0.2851124E+00  | 0.2417004E+00  | 0.2022044E+00  | 0.1688747E+00  |
| 0.1430031E+00  | 0.1326533E+00  | 0.1291687E+00  | 0.1266511E+00  | 0.1253228E+00  |
| 0.1237790E+00  | 0.1213916E+00  | 0.1181924E+00  | 0.1142280E+00  | 0.1095598E+00  |
| 0.1042618E+00  | 0.9841953E-01  | 0.9212835E-01  | 0.8549170E-01  | 0.7861918E-01  |
| 0.7162461E-01  | 0.6462399E-01  | 0.5499180E+01  | 0.5499294E+01  | 0.5499395E+01  |
| 0.5499484E+01  | 0.5499559E+01  | 0.5499621E+01  | 0.5499672E+01  | 0.5499711E+01  |
| 0.5499740E+01  | 0.5499760E+01  | 0.5499771E+01  | 0.5499773E+01  | 0.5499768E+01  |
| 0.5499760E+01  | 0.5499743E+01  | 0.5499715E+01  | 0.5499599E+01  | 0.5499303E+01  |
| 0.5498887E+01  | 0.5498439E+01  | 0.5498147E+01  | 0.5498202E+01  | 0.5498586E+01  |
| 0.5499171E+01  | 0.5499739E+01  | 0.5500000E+01  | 0.5499626E+01  | 0.5498277E+01  |
| 0.5495549E+01  | 0.5490652E+01  | 0.5482805E+01  | 0.5471064E+01  | 0.5457371E+01  |
| 0.5443102E+01  | 0.5430099E+01  | 0.5423128E+01  | 0.5421887E+01  | 0.5421096E+01  |
| 0.5420712E+01  | 0.5420346E+01  | 0.5420022E+01  | 0.5419752E+01  | 0.5419545E+01  |
| 0.5419409E+01  | 0.5419351E+01  | 0.5419377E+01  | 0.5419490E+01  | 0.5419693E+01  |
| 0.5419985E+01  | 0.5420366E+01  | 0.5420832E+01  | 0.5421378E+01  | 0.5421999E+01  |
| 0.5422687E+01  | 0.5423433E+01  | 0.5424228E+01  | 0.5425061E+01  | 0.5425922E+01  |
| 0.5426801E+01  | 0.5427684E+01  | 0.5428563E+01  | 0.5429425E+01  | 0.5430263E+01  |
| 0.5431089E+01  | 0.5432719E+01  | 0.5435102E+01  | 0.5447574E+01  | 0.5466870E+01  |
| 0.5483810E+01  | 0.5495083E+01  | 0.5499751E+01  | 0.5499302E+01  | 0.5496428E+01  |
| 0.5492521E+01  | 0.5488745E+01  | 0.5485873E+01  | 0.5484244E+01  | 0.5483924E+01  |
| 0.5484790E+01  | 0.5486599E+01  | 0.5489048E+01  | 0.5491814E+01  | 0.5494127E+01  |
| 0.5495855E+01  | 0.5497024E+01  | 0.5497452E+01  | 0.5497584E+01  | 0.5497677E+01  |
| 0.5497724E+01  | 0.5497777E+01  | 0.5497853E+01  | 0.5497951E+01  | 0.5498065E+01  |
| 0.5498194E+01  | 0.5498334E+01  | 0.5498480E+01  | 0.5498629E+01  | 0.5498776E+01  |
| 0.5498919E+01  | 0.5499054E+01  | 0.5499180E+01  | 0.5774044E+01  | 0.5774164E+01  |
| 0.5774273E+01  | 0.5774368E+01  | 0.5774450E+01  | 0.5774519E+01  | 0.5774575E+01  |
| 0.5774620E+01  | 0.5774653E+01  | 0.5774676E+01  | 0.5774689E+01  | 0.5774693E+01  |
| 0.5774687E+01  | 0.5774679E+01  | 0.5774662E+01  | 0.5774633E+01  | 0.5774515E+01  |
| 0.5774229E+01  | 0.5773847E+01  | 0.5773459E+01  | 0.5773239E+01  | 0.5773345E+01  |
| 0.5773742E+01  | 0.5774300E+01  | 0.5774807E+01  | 0.5774996E+01  | 0.5774564E+01  |
| 0.5773207E+01  | 0.5770565E+01  | 0.5765913E+01  | 0.5758556E+01  | 0.5747672E+01  |
| 0.5735097E+01  | 0.5722097E+01  | 0.5710342E+01  | 0.5704042E+01  | 0.5702979E+01  |
| 0.5702304E+01  | 0.5701979E+01  | 0.5701670E+01  | 0.5701401E+01  | 0.5701181E+01  |
| 0.5701019E+01  | 0.5700922E+01  | 0.5700895E+01  | 0.5700943E+01  | 0.5701071E+01  |
| 0.5701279E+01  | 0.5701567E+01  | 0.5701934E+01  | 0.5702378E+01  | 0.5702893E+01  |
| 0.5703474E+01  | 0.5704114E+01  | 0.5704806E+01  | 0.5705540E+01  | 0.5706307E+01  |
| 0.5707098E+01  | 0.5707902E+01  | 0.5708710E+01  | 0.5709512E+01  | 0.5710299E+01  |
| 0.5711061E+01  | 0.5711814E+01  | 0.5713298E+01  | 0.5715467E+01  | 0.5727149E+01  |
| 0.5744927E+01  | 0.5760431E+01  | 0.5770660E+01  | 0.5774809E+01  | 0.5774292E+01  |

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| 0.5771571E+01 | 0.5767909E+01 | 0.5764382E+01 | 0.5761697E+01 | 0.5760165E+01 |
| 0.5759840E+01 | 0.5760608E+01 | 0.5762246E+01 | 0.5764482E+01 | 0.5767021E+01 |
| 0.5769163E+01 | 0.5770779E+01 | 0.5771886E+01 | 0.5772295E+01 | 0.5772423E+01 |
| 0.5772512E+01 | 0.5772558E+01 | 0.5772610E+01 | 0.5772686E+01 | 0.5772782E+01 |
| 0.5772898E+01 | 0.5773028E+01 | 0.5773170E+01 | 0.5773318E+01 | 0.5773470E+01 |
| 0.5773622E+01 | 0.5773770E+01 | 0.5773911E+01 | 0.5774044E+01 | 0.6048905E+01 |
| 0.6049032E+01 | 0.6049146E+01 | 0.6049248E+01 | 0.6049336E+01 | 0.6049411E+01 |
| 0.6049473E+01 | 0.6049522E+01 | 0.6049560E+01 | 0.6049585E+01 | 0.6049601E+01 |
| 0.6049606E+01 | 0.6049600E+01 | 0.6049592E+01 | 0.6049575E+01 | 0.6049545E+01 |
| 0.6049428E+01 | 0.6049156E+01 | 0.6048809E+01 | 0.6048478E+01 | 0.6048325E+01 |
| 0.6048474E+01 | 0.6048881E+01 | 0.6049411E+01 | 0.6049863E+01 | 0.6049984E+01 |
| 0.6049500E+01 | 0.6048138E+01 | 0.6045578E+01 | 0.6041152E+01 | 0.6034244E+01 |
| 0.6024135E+01 | 0.6012570E+01 | 0.6000710E+01 | 0.5990073E+01 | 0.5984377E+01 |
| 0.5983469E+01 | 0.5982898E+01 | 0.5982624E+01 | 0.5982366E+01 | 0.5982145E+01 |
| 0.5981969E+01 | 0.5981846E+01 | 0.5981781E+01 | 0.5981782E+01 | 0.5981850E+01 |
| 0.5981989E+01 | 0.5982201E+01 | 0.5982485E+01 | 0.5982840E+01 | 0.5983262E+01 |
| 0.5983747E+01 | 0.5984292E+01 | 0.5984889E+01 | 0.5985530E+01 | 0.5986208E+01 |
| 0.5986916E+01 | 0.5987643E+01 | 0.5988381E+01 | 0.5989121E+01 | 0.5989855E+01 |
| 0.5990574E+01 | 0.5991270E+01 | 0.5991957E+01 | 0.5993309E+01 | 0.5995286E+01 |
| 0.6006251E+01 | 0.6022665E+01 | 0.6036878E+01 | 0.6046173E+01 | 0.6049858E+01 |
| 0.6049281E+01 | 0.6046698E+01 | 0.6043258E+01 | 0.6039956E+01 | 0.6037444E+01 |
| 0.6036000E+01 | 0.6035672E+01 | 0.6036352E+01 | 0.6037838E+01 | 0.6039879E+01 |
| 0.6042212E+01 | 0.6044195E+01 | 0.6045706E+01 | 0.6046752E+01 | 0.6047141E+01 |
| 0.6047264E+01 | 0.6047350E+01 | 0.6047395E+01 | 0.6047446E+01 | 0.6047520E+01 |
| 0.6047616E+01 | 0.6047732E+01 | 0.6047863E+01 | 0.6048006E+01 | 0.6048157E+01 |
| 0.6048312E+01 | 0.6048468E+01 | 0.6048621E+01 | 0.6048767E+01 | 0.6048905E+01 |
| 0.6323789E+01 | 0.6323920E+01 | 0.6324039E+01 | 0.6324145E+01 | 0.6324238E+01 |
| 0.6324317E+01 | 0.6324383E+01 | 0.6324436E+01 | 0.6324477E+01 | 0.6324505E+01 |
| 0.6324522E+01 | 0.6324528E+01 | 0.6324523E+01 | 0.6324515E+01 | 0.6324498E+01 |
| 0.6324469E+01 | 0.6324356E+01 | 0.6324100E+01 | 0.6323788E+01 | 0.6323510E+01 |
| 0.6323413E+01 | 0.6323598E+01 | 0.6324007E+01 | 0.6324508E+01 | 0.6324906E+01 |
| 0.6324967E+01 | 0.6324438E+01 | 0.6323077E+01 | 0.6320598E+01 | 0.6316383E+01 |
| 0.6309884E+01 | 0.6300478E+01 | 0.6289819E+01 | 0.6278978E+01 | 0.6269336E+01 |
| 0.6264182E+01 | 0.6263410E+01 | 0.6262928E+01 | 0.6262698E+01 | 0.6262484E+01 |
| 0.6262304E+01 | 0.6262166E+01 | 0.6262076E+01 | 0.6262039E+01 | 0.6262062E+01 |
| 0.6262146E+01 | 0.6262294E+01 | 0.6262507E+01 | 0.6262785E+01 | 0.6263126E+01 |
| 0.6263528E+01 | 0.6263987E+01 | 0.6264497E+01 | 0.6265054E+01 | 0.6265649E+01 |
| 0.6266278E+01 | 0.6266931E+01 | 0.6267601E+01 | 0.6268280E+01 | 0.6268959E+01 |
| 0.6269631E+01 | 0.6270288E+01 | 0.6270925E+01 | 0.6271552E+01 | 0.6272788E+01 |
| 0.6274593E+01 | 0.6284913E+01 | 0.6300106E+01 | 0.6313168E+01 | 0.6321629E+01 |
| 0.6324898E+01 | 0.6324265E+01 | 0.6321804E+01 | 0.6318562E+01 | 0.6315464E+01 |
| 0.6313109E+01 | 0.6311752E+01 | 0.6311430E+01 | 0.6312040E+01 | 0.6313396E+01 |
| 0.6315269E+01 | 0.6317420E+01 | 0.6319260E+01 | 0.6320672E+01 | 0.6321659E+01 |
| 0.6322028E+01 | 0.6322145E+01 | 0.6322228E+01 | 0.6322271E+01 | 0.6322320E+01 |
| 0.6322392E+01 | 0.6322487E+01 | 0.6322602E+01 | 0.6322733E+01 | 0.6322876E+01 |
| 0.6323028E+01 | 0.6323184E+01 | 0.6323342E+01 | 0.6323497E+01 | 0.6323647E+01 |
| 0.6323789E+01 | 0.6598713E+01 | 0.6598846E+01 | 0.6598967E+01 | 0.6599076E+01 |
| 0.6599171E+01 | 0.6599253E+01 | 0.6599321E+01 | 0.6599376E+01 | 0.6599418E+01 |
| 0.6599448E+01 | 0.6599466E+01 | 0.6599473E+01 | 0.6599468E+01 | 0.6599461E+01 |
| 0.6599444E+01 | 0.6599416E+01 | 0.6599309E+01 | 0.6599072E+01 | 0.6598794E+01 |
| 0.6598561E+01 | 0.6598511E+01 | 0.6598719E+01 | 0.6599123E+01 | 0.6599592E+01 |
| 0.6599939E+01 | 0.6599946E+01 | 0.6599380E+01 | 0.6598025E+01 | 0.6595627E+01 |
| 0.6591612E+01 | 0.6585489E+01 | 0.6576719E+01 | 0.6566872E+01 | 0.6556939E+01 |
| 0.6548181E+01 | 0.6543514E+01 | 0.6542858E+01 | 0.6542452E+01 | 0.6542260E+01 |
| 0.6542083E+01 | 0.6541938E+01 | 0.6541831E+01 | 0.6541769E+01 | 0.6541756E+01 |
| 0.6541795E+01 | 0.6541892E+01 | 0.6542045E+01 | 0.6542258E+01 | 0.6542528E+01 |
| 0.6542856E+01 | 0.6543238E+01 | 0.6543670E+01 | 0.6544148E+01 | 0.6544668E+01 |
| 0.6545222E+01 | 0.6545805E+01 | 0.6546408E+01 | 0.6547026E+01 | 0.6547651E+01 |
| 0.6548276E+01 | 0.6548892E+01 | 0.6549496E+01 | 0.6550078E+01 | 0.6550653E+01 |



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| 0.6551785E+01 | 0.6553438E+01 | 0.6563178E+01 | 0.6577281E+01 | 0.6589318E+01 |
| 0.6597035E+01 | 0.6599931E+01 | 0.6599245E+01 | 0.6596889E+01 | 0.6593823E+01 |
| 0.6590909E+01 | 0.6588702E+01 | 0.6587429E+01 | 0.6587122E+01 | 0.6587683E+01 |
| 0.6588935E+01 | 0.6590668E+01 | 0.6592663E+01 | 0.6594375E+01 | 0.6595696E+01 |
| 0.6596625E+01 | 0.6596975E+01 | 0.6597087E+01 | 0.6597165E+01 | 0.6597206E+01 |
| 0.6597252E+01 | 0.6597323E+01 | 0.6597416E+01 | 0.6597528E+01 | 0.6597657E+01 |
| 0.6597799E+01 | 0.6597950E+01 | 0.6598106E+01 | 0.6598264E+01 | 0.6598420E+01 |
| 0.6598570E+01 | 0.6598713E+01 | 0.6873675E+01 | 0.6873807E+01 | 0.6873929E+01 |
| 0.6874037E+01 | 0.6874133E+01 | 0.6874216E+01 | 0.6874285E+01 | 0.6874340E+01 |
| 0.6874383E+01 | 0.6874414E+01 | 0.6874433E+01 | 0.6874440E+01 | 0.6874436E+01 |
| 0.6874429E+01 | 0.6874413E+01 | 0.6874387E+01 | 0.6874287E+01 | 0.6874069E+01 |
| 0.6873822E+01 | 0.6873629E+01 | 0.6873614E+01 | 0.6873837E+01 | 0.6874230E+01 |
| 0.6874665E+01 | 0.6874964E+01 | 0.6874921E+01 | 0.6874325E+01 | 0.6872983E+01 |
| 0.6870665E+01 | 0.6866837E+01 | 0.6861062E+01 | 0.6852870E+01 | 0.6843754E+01 |
| 0.6834634E+01 | 0.6826663E+01 | 0.6822436E+01 | 0.6821881E+01 | 0.6821541E+01 |
| 0.6821381E+01 | 0.6821235E+01 | 0.6821120E+01 | 0.6821040E+01 | 0.6821000E+01 |
| 0.6821005E+01 | 0.6821059E+01 | 0.6821164E+01 | 0.6821321E+01 | 0.6821531E+01 |
| 0.6821794E+01 | 0.6822107E+01 | 0.6822469E+01 | 0.6822877E+01 | 0.6823325E+01 |
| 0.6823811E+01 | 0.6824326E+01 | 0.6824866E+01 | 0.6825425E+01 | 0.6825996E+01 |
| 0.6826572E+01 | 0.6827147E+01 | 0.6827715E+01 | 0.6828269E+01 | 0.6828804E+01 |
| 0.6829332E+01 | 0.6830370E+01 | 0.6831888E+01 | 0.6841105E+01 | 0.6854230E+01 |
| 0.6865348E+01 | 0.6872399E+01 | 0.6874958E+01 | 0.6874219E+01 | 0.6871956E+01 |
| 0.6869048E+01 | 0.6866302E+01 | 0.6864231E+01 | 0.6863042E+01 | 0.6862760E+01 |
| 0.6863286E+01 | 0.6864455E+01 | 0.6866070E+01 | 0.6867931E+01 | 0.6869530E+01 |
| 0.6870769E+01 | 0.6871644E+01 | 0.6871974E+01 | 0.6872081E+01 | 0.6872155E+01 |
| 0.6872193E+01 | 0.6872238E+01 | 0.6872306E+01 | 0.6872396E+01 | 0.6872506E+01 |
| 0.6872632E+01 | 0.6872771E+01 | 0.6872920E+01 | 0.6873073E+01 | 0.6873229E+01 |
| 0.6873383E+01 | 0.6873533E+01 | 0.6873675E+01 | 0.7148664E+01 | 0.7148795E+01 |
| 0.7148914E+01 | 0.7149022E+01 | 0.7149117E+01 | 0.7149199E+01 | 0.7149268E+01 |
| 0.7149323E+01 | 0.7149367E+01 | 0.7149398E+01 | 0.7149417E+01 | 0.7149425E+01 |
| 0.7149422E+01 | 0.7149415E+01 | 0.7149402E+01 | 0.7149377E+01 | 0.7149283E+01 |
| 0.7149085E+01 | 0.7148866E+01 | 0.7148706E+01 | 0.7148720E+01 | 0.7148951E+01 |
| 0.7149329E+01 | 0.7149729E+01 | 0.7149981E+01 | 0.7149894E+01 | 0.7149274E+01 |
| 0.7147946E+01 | 0.7145708E+01 | 0.7142056E+01 | 0.7136604E+01 | 0.7128940E+01 |
| 0.7120487E+01 | 0.7112098E+01 | 0.7104834E+01 | 0.7101007E+01 | 0.7100538E+01 |
| 0.7100255E+01 | 0.7100122E+01 | 0.7100005E+01 | 0.7099914E+01 | 0.7099856E+01 |
| 0.7099836E+01 | 0.7099856E+01 | 0.7099921E+01 | 0.7100032E+01 | 0.7100191E+01 |
| 0.7100397E+01 | 0.7100651E+01 | 0.7100951E+01 | 0.7101295E+01 | 0.7101678E+01 |
| 0.7102099E+01 | 0.7102552E+01 | 0.7103033E+01 | 0.7103534E+01 | 0.7104052E+01 |
| 0.7104581E+01 | 0.7105113E+01 | 0.7105643E+01 | 0.7106166E+01 | 0.7106676E+01 |
| 0.7107168E+01 | 0.7107654E+01 | 0.7108608E+01 | 0.7110003E+01 | 0.7118744E+01 |
| 0.7130986E+01 | 0.7141277E+01 | 0.7147725E+01 | 0.7149978E+01 | 0.7149190E+01 |
| 0.7147009E+01 | 0.7144243E+01 | 0.7141651E+01 | 0.7139709E+01 | 0.7138603E+01 |
| 0.7138349E+01 | 0.7138851E+01 | 0.7139954E+01 | 0.7141470E+01 | 0.7143214E+01 |
| 0.7144713E+01 | 0.7145877E+01 | 0.7146701E+01 | 0.7147011E+01 | 0.7147112E+01 |
| 0.7147183E+01 | 0.7147221E+01 | 0.7147263E+01 | 0.7147329E+01 | 0.7147417E+01 |
| 0.7147523E+01 | 0.7147646E+01 | 0.7147781E+01 | 0.7147925E+01 | 0.7148076E+01 |
| 0.7148228E+01 | 0.7148378E+01 | 0.7148525E+01 | 0.7148664E+01 | 0.7423677E+01 |
| 0.7423804E+01 | 0.7423921E+01 | 0.7424026E+01 | 0.7424119E+01 | 0.7424200E+01 |
| 0.7424267E+01 | 0.7424323E+01 | 0.7424366E+01 | 0.7424397E+01 | 0.7424417E+01 |
| 0.7424425E+01 | 0.7424423E+01 | 0.7424418E+01 | 0.7424406E+01 | 0.7424384E+01 |
| 0.7424295E+01 | 0.7424116E+01 | 0.7423922E+01 | 0.7423790E+01 | 0.7423825E+01 |
| 0.7424059E+01 | 0.7424419E+01 | 0.7424784E+01 | 0.7424993E+01 | 0.7424866E+01 |
| 0.7424225E+01 | 0.7422916E+01 | 0.7420754E+01 | 0.7417270E+01 | 0.7412116E+01 |
| 0.7404936E+01 | 0.7397086E+01 | 0.7389359E+01 | 0.7382730E+01 | 0.7379266E+01 |
| 0.7378872E+01 | 0.7378638E+01 | 0.7378529E+01 | 0.7378435E+01 | 0.7378366E+01 |
| 0.7378328E+01 | 0.7378324E+01 | 0.7378356E+01 | 0.7378430E+01 | 0.7378546E+01 |
| 0.7378704E+01 | 0.7378906E+01 | 0.7379151E+01 | 0.7379438E+01 | 0.7379764E+01 |
| 0.7380125E+01 | 0.7380520E+01 | 0.7380943E+01 | 0.7381391E+01 | 0.7381858E+01 |

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| 0.7382339E+01 | 0.7382827E+01 | 0.7383319E+01 | 0.7383810E+01 | 0.7384292E+01 |
| 0.7384762E+01 | 0.7385215E+01 | 0.7385662E+01 | 0.7386541E+01 | 0.7387825E+01 |
| 0.7396132E+01 | 0.7407574E+01 | 0.7417114E+01 | 0.7423018E+01 | 0.7424991E+01 |
| 0.7424158E+01 | 0.7422050E+01 | 0.7419415E+01 | 0.7416964E+01 | 0.7415142E+01 |
| 0.7414116E+01 | 0.7413894E+01 | 0.7414382E+01 | 0.7415431E+01 | 0.7416863E+01 |
| 0.7418505E+01 | 0.7419915E+01 | 0.7421010E+01 | 0.7421787E+01 | 0.7422077E+01 |
| 0.7422173E+01 | 0.7422242E+01 | 0.7422277E+01 | 0.7422319E+01 | 0.7422384E+01 |
| 0.7422468E+01 | 0.7422571E+01 | 0.7422689E+01 | 0.7422821E+01 | 0.7422960E+01 |
| 0.7423106E+01 | 0.7423253E+01 | 0.7423399E+01 | 0.7423542E+01 | 0.7423677E+01 |
| 0.7698711E+01 | 0.7698834E+01 | 0.7698947E+01 | 0.7699050E+01 | 0.7699140E+01 |
| 0.7699219E+01 | 0.7699285E+01 | 0.7699338E+01 | 0.7699381E+01 | 0.7699411E+01 |
| 0.7699431E+01 | 0.7699440E+01 | 0.7699437E+01 | 0.7699432E+01 | 0.7699421E+01 |
| 0.7699401E+01 | 0.7699320E+01 | 0.7699157E+01 | 0.7698986E+01 | 0.7698878E+01 |
| 0.7698929E+01 | 0.7699160E+01 | 0.7699501E+01 | 0.7699831E+01 | 0.7699998E+01 |
| 0.7699836E+01 | 0.7699179E+01 | 0.7697889E+01 | 0.7695803E+01 | 0.7692477E+01 |
| 0.7687599E+01 | 0.7680864E+01 | 0.7673563E+01 | 0.7666435E+01 | 0.7660378E+01 |
| 0.7675244E+01 | 0.7656916E+01 | 0.7656723E+01 | 0.7656635E+01 | 0.7656561E+01 |
| 0.7656511E+01 | 0.7656488E+01 | 0.7656497E+01 | 0.7656541E+01 | 0.7656621E+01 |
| 0.7656740E+01 | 0.7656897E+01 | 0.7657094E+01 | 0.7657330E+01 | 0.7657603E+01 |
| 0.7657912E+01 | 0.7658253E+01 | 0.7658624E+01 | 0.7659019E+01 | 0.7659437E+01 |
| 0.7659871E+01 | 0.7660317E+01 | 0.7660770E+01 | 0.7661226E+01 | 0.7661679E+01 |
| 0.7662125E+01 | 0.7662559E+01 | 0.7662976E+01 | 0.7663388E+01 | 0.7664199E+01 |
| 0.7665383E+01 | 0.7673295E+01 | 0.7684010E+01 | 0.7692870E+01 | 0.7698278E+01 |
| 0.7699998E+01 | 0.7699122E+01 | 0.7697081E+01 | 0.7694564E+01 | 0.7692244E+01 |
| 0.7690534E+01 | 0.7689586E+01 | 0.7689400E+01 | 0.7689881E+01 | 0.7690886E+01 |
| 0.7692246E+01 | 0.7693799E+01 | 0.7695130E+01 | 0.7696163E+01 | 0.7696897E+01 |
| 0.7697171E+01 | 0.7697261E+01 | 0.7697326E+01 | 0.7697361E+01 | 0.7697400E+01 |
| 0.7697461E+01 | 0.7697542E+01 | 0.7697641E+01 | 0.7697755E+01 | 0.7697881E+01 |
| 0.7698016E+01 | 0.7698157E+01 | 0.7698299E+01 | 0.7698441E+01 | 0.7698579E+01 |
| 0.7698711E+01 | 0.7973764E+01 | 0.7973884E+01 | 0.7973993E+01 | 0.7974092E+01 |
| 0.7974179E+01 | 0.7974255E+01 | 0.7974319E+01 | 0.7974370E+01 | 0.7974411E+01 |
| 0.7974441E+01 | 0.7974459E+01 | 0.7974467E+01 | 0.7974464E+01 | 0.7974460E+01 |
| 0.7974448E+01 | 0.7974429E+01 | 0.7974357E+01 | 0.7974209E+01 | 0.7974058E+01 |
| 0.7973969E+01 | 0.7974030E+01 | 0.7974257E+01 | 0.7974575E+01 | 0.7974871E+01 |
| 0.7975000E+01 | 0.7974805E+01 | 0.7974136E+01 | 0.7972868E+01 | 0.7970855E+01 |
| 0.7967679E+01 | 0.7963059E+01 | 0.7956733E+01 | 0.7949933E+01 | 0.7943347E+01 |
| 0.7937808E+01 | 0.7934975E+01 | 0.7934704E+01 | 0.7934547E+01 | 0.7934476E+01 |
| 0.7934420E+01 | 0.7934385E+01 | 0.7934377E+01 | 0.7934397E+01 | 0.7934448E+01 |
| 0.7934533E+01 | 0.7934653E+01 | 0.7934809E+01 | 0.7935000E+01 | 0.7935227E+01 |
| 0.7935487E+01 | 0.7935780E+01 | 0.7936101E+01 | 0.7936449E+01 | 0.7936819E+01 |
| 0.7937208E+01 | 0.7937613E+01 | 0.7938027E+01 | 0.7938448E+01 | 0.7938871E+01 |
| 0.7939290E+01 | 0.7939702E+01 | 0.7940103E+01 | 0.7940489E+01 | 0.7940869E+01 |
| 0.7941618E+01 | 0.7942711E+01 | 0.7950260E+01 | 0.7960312E+01 | 0.7968554E+01 |
| 0.7973512E+01 | 0.7975000E+01 | 0.7974083E+01 | 0.7972103E+01 | 0.7969694E+01 |
| 0.7967495E+01 | 0.7965892E+01 | 0.7965019E+01 | 0.7964870E+01 | 0.7965352E+01 |
| 0.7966322E+01 | 0.7967623E+01 | 0.7969099E+01 | 0.7970359E+01 | 0.7971335E+01 |
| 0.7972029E+01 | 0.7972290E+01 | 0.7972375E+01 | 0.7972435E+01 | 0.7972466E+01 |
| 0.7972503E+01 | 0.7972560E+01 | 0.7972638E+01 | 0.7972732E+01 | 0.7972842E+01 |
| 0.7972963E+01 | 0.7973094E+01 | 0.7973229E+01 | 0.7973367E+01 | 0.7973504E+01 |
| 0.7973637E+01 | 0.7973764E+01 | 0.8248835E+01 | 0.8248949E+01 | 0.8249054E+01 |
| 0.8249148E+01 | 0.8249232E+01 | 0.8249304E+01 | 0.8249364E+01 | 0.8249413E+01 |
| 0.8249453E+01 | 0.8249480E+01 | 0.8249498E+01 | 0.8249505E+01 | 0.8249503E+01 |
| 0.8249498E+01 | 0.8249488E+01 | 0.8249471E+01 | 0.8249406E+01 | 0.8249272E+01 |
| 0.8249138E+01 | 0.8249063E+01 | 0.8249131E+01 | 0.8249348E+01 | 0.8249642E+01 |
| 0.8249904E+01 | 0.8249997E+01 | 0.8249774E+01 | 0.8249096E+01 | 0.8247852E+01 |
| 0.8245912E+01 | 0.8242877E+01 | 0.8238500E+01 | 0.8232553E+01 | 0.8226212E+01 |
| 0.8220122E+01 | 0.8215049E+01 | 0.8212492E+01 | 0.8212271E+01 | 0.8212146E+01 |
| 0.8212090E+01 | 0.8212049E+01 | 0.8212027E+01 | 0.8212029E+01 | 0.8212059E+01 |
| 0.8212116E+01 | 0.8212206E+01 | 0.8212326E+01 | 0.8212479E+01 | 0.8212665E+01 |

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| 0.8212882E+01 | 0.8213129E+01 | 0.8213406E+01 | 0.8213708E+01 | 0.8214035E+01 |
| 0.8214381E+01 | 0.8214746E+01 | 0.8215122E+01 | 0.8215508E+01 | 0.8215899E+01 |
| 0.8216290E+01 | 0.8216679E+01 | 0.8217060E+01 | 0.8217431E+01 | 0.8217788E+01 |
| 0.8218140E+01 | 0.8218832E+01 | 0.8219843E+01 | 0.8227056E+01 | 0.8236503E+01 |
| 0.8244178E+01 | 0.8248722E+01 | 0.8249996E+01 | 0.8249042E+01 | 0.8247115E+01 |
| 0.8244806E+01 | 0.8242722E+01 | 0.8241220E+01 | 0.8240420E+01 | 0.8240313E+01 |
| 0.8240800E+01 | 0.8241745E+01 | 0.8242995E+01 | 0.8244405E+01 | 0.8245602E+01 |
| 0.8246527E+01 | 0.8247182E+01 | 0.8247430E+01 | 0.8247510E+01 | 0.8247567E+01 |
| 0.8247596E+01 | 0.8247630E+01 | 0.8247684E+01 | 0.8247758E+01 | 0.8247849E+01 |
| 0.8247952E+01 | 0.8248069E+01 | 0.8248194E+01 | 0.8248323E+01 | 0.8248455E+01 |
| 0.8248587E+01 | 0.8248713E+01 | 0.8248835E+01 | 0.8523921E+01 | 0.8524029E+01 |
| 0.8524127E+01 | 0.8524216E+01 | 0.8524294E+01 | 0.8524362E+01 | 0.8524420E+01 |
| 0.8524466E+01 | 0.8524502E+01 | 0.8524529E+01 | 0.8524546E+01 | 0.8524553E+01 |
| 0.8524552E+01 | 0.8524549E+01 | 0.8524540E+01 | 0.8524525E+01 | 0.8524464E+01 |
| 0.8524343E+01 | 0.8524222E+01 | 0.8524161E+01 | 0.8524231E+01 | 0.8524435E+01 |
| 0.8524703E+01 | 0.8524932E+01 | 0.8524991E+01 | 0.8524741E+01 | 0.8524057E+01 |
| 0.8522840E+01 | 0.8520970E+01 | 0.8518073E+01 | 0.8513924E+01 | 0.8508330E+01 |
| 0.8502412E+01 | 0.8496775E+01 | 0.8492127E+01 | 0.8489822E+01 | 0.8489643E+01 |
| 0.8489546E+01 | 0.8489503E+01 | 0.8489474E+01 | 0.8489465E+01 | 0.8489477E+01 |
| 0.8489512E+01 | 0.8489576E+01 | 0.8489667E+01 | 0.8489787E+01 | 0.8489937E+01 |
| 0.8490116E+01 | 0.8490324E+01 | 0.8490560E+01 | 0.8490821E+01 | 0.8491106E+01 |
| 0.8491412E+01 | 0.8491737E+01 | 0.8492076E+01 | 0.8492428E+01 | 0.8492786E+01 |
| 0.8493150E+01 | 0.8493513E+01 | 0.8493874E+01 | 0.8494226E+01 | 0.8494570E+01 |
| 0.8494900E+01 | 0.8495226E+01 | 0.8495867E+01 | 0.8496802E+01 | 0.8503706E+01 |
| 0.8512594E+01 | 0.8519749E+01 | 0.8523911E+01 | 0.8524986E+01 | 0.8523995E+01 |
| 0.8522118E+01 | 0.8519902E+01 | 0.8517924E+01 | 0.8516520E+01 | 0.8515795E+01 |
| 0.8515729E+01 | 0.8516228E+01 | 0.8517156E+01 | 0.8518366E+01 | 0.8519716E+01 |
| 0.8520858E+01 | 0.8521735E+01 | 0.8522355E+01 | 0.8522587E+01 | 0.8522663E+01 |
| 0.8522717E+01 | 0.8522746E+01 | 0.8522779E+01 | 0.8522832E+01 | 0.8522902E+01 |
| 0.8522988E+01 | 0.8523087E+01 | 0.8523197E+01 | 0.8523314E+01 | 0.8523438E+01 |
| 0.8523562E+01 | 0.8523685E+01 | 0.8523806E+01 | 0.8523921E+01 | 0.8799021E+01 |
| 0.8799121E+01 | 0.8799212E+01 | 0.8799295E+01 | 0.8799369E+01 | 0.8799432E+01 |
| 0.8799485E+01 | 0.8799528E+01 | 0.8799562E+01 | 0.8799586E+01 | 0.8799603E+01 |
| 0.8799610E+01 | 0.8799609E+01 | 0.8799606E+01 | 0.8799599E+01 | 0.8799585E+01 |
| 0.8799529E+01 | 0.8799420E+01 | 0.8799314E+01 | 0.8799260E+01 | 0.8799329E+01 |
| 0.8799517E+01 | 0.8799760E+01 | 0.8799955E+01 | 0.8799982E+01 | 0.8799710E+01 |
| 0.8799023E+01 | 0.8797832E+01 | 0.8796033E+01 | 0.8793267E+01 | 0.8789333E+01 |
| 0.8784068E+01 | 0.8778542E+01 | 0.8773319E+01 | 0.8769058E+01 | 0.8766986E+01 |
| 0.8766844E+01 | 0.8766769E+01 | 0.8766738E+01 | 0.8766721E+01 | 0.8766720E+01 |
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| 0.8769887E+01 | 0.8770225E+01 | 0.8770562E+01 | 0.8770896E+01 | 0.8771224E+01 |
| 0.8771542E+01 | 0.8771848E+01 | 0.8772149E+01 | 0.8772743E+01 | 0.8773609E+01 |
| 0.8780226E+01 | 0.8788599E+01 | 0.8795272E+01 | 0.8799083E+01 | 0.8799972E+01 |
| 0.8798945E+01 | 0.8797113E+01 | 0.8794985E+01 | 0.8793108E+01 | 0.8791797E+01 |
| 0.8791144E+01 | 0.8791124E+01 | 0.8791639E+01 | 0.8792556E+01 | 0.8793733E+01 |
| 0.8795033E+01 | 0.8796124E+01 | 0.8796958E+01 | 0.8797544E+01 | 0.8797762E+01 |
| 0.8797834E+01 | 0.8797886E+01 | 0.8797914E+01 | 0.8797946E+01 | 0.8797996E+01 |
| 0.8798062E+01 | 0.8798143E+01 | 0.8798237E+01 | 0.8798341E+01 | 0.8798451E+01 |
| 0.8798567E+01 | 0.8798684E+01 | 0.8798800E+01 | 0.8798913E+01 | 0.8799021E+01 |
| 0.9074128E+01 | 0.9074221E+01 | 0.9074306E+01 | 0.9074383E+01 | 0.9074450E+01 |
| 0.9074508E+01 | 0.9074556E+01 | 0.9074595E+01 | 0.9074627E+01 | 0.9074649E+01 |
| 0.9074663E+01 | 0.9074671E+01 | 0.9074669E+01 | 0.9074667E+01 | 0.9074660E+01 |
| 0.9074648E+01 | 0.9074598E+01 | 0.9074500E+01 | 0.9074405E+01 | 0.9074358E+01 |
| 0.9074422E+01 | 0.9074593E+01 | 0.9074809E+01 | 0.9074973E+01 | 0.9074969E+01 |
| 0.9074677E+01 | 0.9073989E+01 | 0.9072828E+01 | 0.9071098E+01 | 0.9068458E+01 |
| 0.9064727E+01 | 0.9059770E+01 | 0.9054605E+01 | 0.9049762E+01 | 0.9045855E+01 |
| 0.9043997E+01 | 0.9043886E+01 | 0.9043831E+01 | 0.9043810E+01 | 0.9043800E+01 |

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| 0.9043808E+01 | 0.9043835E+01 | 0.9043881E+01 | 0.9043951E+01 | 0.9044044E+01 |
| 0.9044162E+01 | 0.9044303E+01 | 0.9044469E+01 | 0.9044659E+01 | 0.9044871E+01 |
| 0.9045105E+01 | 0.9045358E+01 | 0.9045628E+01 | 0.9045912E+01 | 0.9046208E+01 |
| 0.9046514E+01 | 0.9046824E+01 | 0.9047138E+01 | 0.9047452E+01 | 0.9047762E+01 |
| 0.9048066E+01 | 0.9048361E+01 | 0.9048644E+01 | 0.9048923E+01 | 0.9049474E+01 |
| 0.9050278E+01 | 0.9056626E+01 | 0.9064524E+01 | 0.9070752E+01 | 0.9074235E+01 |
| 0.9074950E+01 | 0.9073891E+01 | 0.9072101E+01 | 0.9070054E+01 | 0.9068273E+01 |
| 0.9067052E+01 | 0.9066471E+01 | 0.9066498E+01 | 0.9067033E+01 | 0.9067945E+01 |
| 0.9069094E+01 | 0.9070349E+01 | 0.9071394E+01 | 0.9072188E+01 | 0.9072744E+01 |
| 0.9072949E+01 | 0.9073017E+01 | 0.9073066E+01 | 0.9073092E+01 | 0.9073122E+01 |
| 0.9073169E+01 | 0.9073231E+01 | 0.9073307E+01 | 0.9073396E+01 | 0.9073493E+01 |
| 0.9073597E+01 | 0.9073705E+01 | 0.9073814E+01 | 0.9073923E+01 | 0.9074028E+01 |
| 0.9074128E+01 | 0.9349240E+01 | 0.9349326E+01 | 0.9349404E+01 | 0.9349474E+01 |
| 0.9349535E+01 | 0.9349587E+01 | 0.9349631E+01 | 0.9349667E+01 | 0.9349694E+01 |
| 0.9349714E+01 | 0.9349727E+01 | 0.9349732E+01 | 0.9349731E+01 | 0.9349730E+01 |
| 0.9349724E+01 | 0.9349712E+01 | 0.9349669E+01 | 0.9349582E+01 | 0.9349494E+01 |
| 0.9349453E+01 | 0.9349510E+01 | 0.9349665E+01 | 0.9349854E+01 | 0.9349987E+01 |
| 0.9349955E+01 | 0.9349646E+01 | 0.9348959E+01 | 0.9347829E+01 | 0.9346166E+01 |
| 0.9343646E+01 | 0.9340107E+01 | 0.9335437E+01 | 0.9330606E+01 | 0.9326114E+01 |
| 0.9322528E+01 | 0.9320867E+01 | 0.9320784E+01 | 0.9320745E+01 | 0.9320732E+01 |
| 0.9320731E+01 | 0.9320745E+01 | 0.9320778E+01 | 0.9320828E+01 | 0.9320899E+01 |
| 0.9320992E+01 | 0.9321107E+01 | 0.9321244E+01 | 0.9321404E+01 | 0.9321585E+01 |
| 0.9321786E+01 | 0.9322006E+01 | 0.9322244E+01 | 0.9322497E+01 | 0.9322763E+01 |
| 0.9323040E+01 | 0.9323325E+01 | 0.9323615E+01 | 0.9323907E+01 | 0.9324199E+01 |
| 0.9324487E+01 | 0.9324769E+01 | 0.9325043E+01 | 0.9325305E+01 | 0.9325563E+01 |
| 0.9326074E+01 | 0.9326819E+01 | 0.9332919E+01 | 0.9340375E+01 | 0.9346191E+01 |
| 0.9349371E+01 | 0.9349926E+01 | 0.9348834E+01 | 0.9347083E+01 | 0.9345113E+01 |
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| 0.9347949E+01 | 0.9348144E+01 | 0.9348207E+01 | 0.9348253E+01 | 0.9348277E+01 |
| 0.9348305E+01 | 0.9348349E+01 | 0.9348407E+01 | 0.9348478E+01 | 0.9348561E+01 |
| 0.9348652E+01 | 0.9348748E+01 | 0.9348849E+01 | 0.9348950E+01 | 0.9349051E+01 |
| 0.9349148E+01 | 0.9349240E+01 | 0.9624352E+01 | 0.9624430E+01 | 0.9624500E+01 |
| 0.9624563E+01 | 0.9624618E+01 | 0.9624664E+01 | 0.9624702E+01 | 0.9624734E+01 |
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| 0.9624789E+01 | 0.9624784E+01 | 0.9624775E+01 | 0.9624736E+01 | 0.9624659E+01 |
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| 0.9624995E+01 | 0.9624937E+01 | 0.9624612E+01 | 0.9623929E+01 | 0.9622829E+01 |
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| 0.9602378E+01 | 0.9599085E+01 | 0.9597606E+01 | 0.9597547E+01 | 0.9597524E+01 |
| 0.9597517E+01 | 0.9597523E+01 | 0.9597543E+01 | 0.9597578E+01 | 0.9597631E+01 |
| 0.9597704E+01 | 0.9597796E+01 | 0.9597908E+01 | 0.9598041E+01 | 0.9598193E+01 |
| 0.9598366E+01 | 0.9598557E+01 | 0.9598764E+01 | 0.9598989E+01 | 0.9599226E+01 |
| 0.9599475E+01 | 0.9599734E+01 | 0.9599999E+01 | 0.9600269E+01 | 0.9600541E+01 |
| 0.9600813E+01 | 0.9601080E+01 | 0.9601342E+01 | 0.9601596E+01 | 0.9601839E+01 |
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| 0.9617770E+01 | 0.9618682E+01 | 0.9619790E+01 | 0.9620972E+01 | 0.9621936E+01 |
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| 0.9623463E+01 | 0.9623488E+01 | 0.9623530E+01 | 0.9623584E+01 | 0.9623651E+01 |
| 0.9623727E+01 | 0.9623812E+01 | 0.9623900E+01 | 0.9623993E+01 | 0.9624086E+01 |
| 0.9624179E+01 | 0.9624268E+01 | 0.9624352E+01 | 0.9899460E+01 | 0.9899529E+01 |
| 0.9899593E+01 | 0.9899649E+01 | 0.9899697E+01 | 0.9899737E+01 | 0.9899772E+01 |
| 0.9899797E+01 | 0.9899818E+01 | 0.9899834E+01 | 0.9899842E+01 | 0.9899847E+01 |
| 0.9899847E+01 | 0.9899845E+01 | 0.9899840E+01 | 0.9899833E+01 | 0.9899799E+01 |
| 0.9899731E+01 | 0.9899661E+01 | 0.9899625E+01 | 0.9899668E+01 | 0.9899785E+01 |
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0.1017156E+02 0.1017246E+02 0.1017311E+02 0.1017356E+02 0.1017372E+02  
0.1017377E+02 0.1017381E+02 0.1017383E+02 0.1017385E+02 0.1017388E+02  
0.1017393E+02 0.1017398E+02 0.1017405E+02 0.1017412E+02 0.1017420E+02  
0.1017427E+02 0.1017435E+02 0.1017442E+02 0.1017450E+02 0.1017456E+02  
0.1044966E+02 0.1044971E+02 0.1044976E+02 0.1044980E+02 0.1044983E+02  
0.1044986E+02 0.1044989E+02 0.1044991E+02 0.1044992E+02 0.1044993E+02  
0.1044993E+02 0.1044994E+02 0.1044994E+02 0.1044993E+02 0.1044993E+02  
0.1044993E+02 0.1044990E+02 0.1044985E+02 0.1044980E+02 0.1044977E+02  
0.1044980E+02 0.1044988E+02 0.1044997E+02 0.1045000E+02 0.1044987E+02  
0.1044952E+02 0.1044885E+02 0.1044785E+02 0.1044644E+02 0.1044435E+02  
0.1044147E+02 0.1043778E+02 0.1043406E+02 0.1043070E+02 0.1042815E+02  
0.1042714E+02 0.1042713E+02 0.1042714E+02 0.1042715E+02 0.1042717E+02  
0.1042720E+02 0.1042724E+02 0.1042730E+02 0.1042737E+02 0.1042746E+02  
0.1042756E+02 0.1042768E+02 0.1042781E+02 0.1042796E+02 0.1042812E+02  
0.1042830E+02 0.1042848E+02 0.1042868E+02 0.1042888E+02 0.1042909E+02  
0.1042931E+02 0.1042953E+02 0.1042975E+02 0.1042997E+02 0.1043018E+02  
0.1043039E+02 0.1043059E+02 0.1043079E+02 0.1043098E+02 0.1043136E+02  
0.1043192E+02 0.1043717E+02 0.1044315E+02 0.1044760E+02 0.1044976E+02  
0.1044977E+02 0.1044858E+02 0.1044696E+02 0.1044526E+02 0.1044390E+02  
0.1044308E+02 0.1044283E+02 0.1044309E+02 0.1044375E+02 0.1044468E+02  
0.1044575E+02 0.1044684E+02 0.1044770E+02 0.1044832E+02 0.1044874E+02  
0.1044889E+02 0.1044894E+02 0.1044897E+02 0.1044899E+02 0.1044901E+02  
0.1044905E+02 0.1044909E+02 0.1044914E+02 0.1044920E+02 0.1044926E+02  
0.1044933E+02 0.1044940E+02 0.1044947E+02 0.1044954E+02 0.1044960E+02  
0.1044966E+02 0.1072474E+02 0.1072479E+02 0.1072483E+02 0.1072486E+02  
0.1072489E+02 0.1072491E+02 0.1072493E+02 0.1072494E+02 0.1072495E+02  
0.1072496E+02 0.1072497E+02 0.1072497E+02 0.1072497E+02 0.1072497E+02  
0.1072496E+02 0.1072496E+02 0.1072494E+02 0.1072490E+02 0.1072486E+02  
0.1072483E+02 0.1072485E+02 0.1072491E+02 0.1072498E+02 0.1072499E+02

0.1072485E+02 0.1072448E+02 0.1072383E+02 0.1072285E+02 0.1072150E+02  
0.1071951E+02 0.1071678E+02 0.1071328E+02 0.1070979E+02 0.1070666E+02  
0.1070431E+02 0.1070343E+02 0.1070344E+02 0.1070345E+02 0.1070346E+02  
0.1070349E+02 0.1070352E+02 0.1070356E+02 0.1070362E+02 0.1070369E+02  
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0.1070634E+02 0.1070653E+02 0.1070672E+02 0.1070690E+02 0.1070708E+02  
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0.1072482E+02 0.1072473E+02 0.1072351E+02 0.1072193E+02 0.1072028E+02  
0.1071899E+02 0.1071824E+02 0.1071805E+02 0.1071836E+02 0.1071904E+02  
0.1071998E+02 0.1072104E+02 0.1072210E+02 0.1072293E+02 0.1072352E+02  
0.1072391E+02 0.1072405E+02 0.1072410E+02 0.1072413E+02 0.1072415E+02  
0.1072417E+02 0.1072420E+02 0.1072423E+02 0.1072428E+02 0.1072433E+02  
0.1072439E+02 0.1072445E+02 0.1072451E+02 0.1072458E+02 0.1072463E+02  
0.1072469E+02 0.1072474E+02 0.1099981E+02 0.1099985E+02 0.1099988E+02  
0.1099991E+02 0.1099993E+02 0.1099995E+02 0.1099996E+02 0.1099997E+02  
0.1099998E+02 0.1099998E+02 0.1099999E+02 0.1099999E+02 0.1099999E+02  
0.1099999E+02 0.1099999E+02 0.1099998E+02 0.1099997E+02 0.1099994E+02  
0.1099990E+02 0.1099988E+02 0.1099989E+02 0.1099994E+02 0.1099999E+02  
0.1099998E+02 0.1099982E+02 0.1099945E+02 0.1099881E+02 0.1099786E+02  
0.1099656E+02 0.1099466E+02 0.1099206E+02 0.1098875E+02 0.1098547E+02  
0.1098256E+02 0.1098040E+02 0.1097964E+02 0.1097965E+02 0.1097968E+02  
0.1097969E+02 0.1097972E+02 0.1097975E+02 0.1097980E+02 0.1097986E+02  
0.1097993E+02 0.1098001E+02 0.1098010E+02 0.1098021E+02 0.1098033E+02  
0.1098047E+02 0.1098061E+02 0.1098077E+02 0.1098093E+02 0.1098110E+02  
0.1098128E+02 0.1098147E+02 0.1098165E+02 0.1098184E+02 0.1098203E+02  
0.1098222E+02 0.1098241E+02 0.1098259E+02 0.1098277E+02 0.1098294E+02  
0.1098310E+02 0.1098343E+02 0.1098391E+02 0.1098883E+02 0.1099422E+02  
0.1099811E+02 0.1099988E+02 0.1099968E+02 0.1099844E+02 0.1099689E+02  
0.1099530E+02 0.1099408E+02 0.1099339E+02 0.1099326E+02 0.1099361E+02  
0.1099432E+02 0.1099526E+02 0.1099630E+02 0.1099734E+02 0.1099814E+02  
0.1099870E+02 0.1099907E+02 0.1099920E+02 0.1099924E+02 0.1099927E+02  
0.1099929E+02 0.1099930E+02 0.1099933E+02 0.1099936E+02 0.1099941E+02  
0.1099945E+02 0.1099951E+02 0.1099956E+02 0.1099961E+02 0.1099967E+02  
0.1099972E+02 0.1099977E+02 0.1099981E+02

## Appendix C Stress Analyses

Structural analyses of the 2-stage fan rotor and stator designs were completed. All analyses were completed using MSC/NASTRAN. The results of the analyses include:

1. Zero speed frequencies and mode shapes for both the rotor and stator
2. At speed frequencies for the rotor
3. Campbell diagrams for the rotor and stator
4. Stresses and deflections at operating speed (4792 rpm) and maximum speed (6000 rpm) for the rotor
5. Reduced frequency flutter parameters

The finite element model of the rotor is shown in figure C-1. The base of the rotor is assumed to be fixed. Material properties for titanium (Ti-6AL-4V) were used for the analyses.

The zero speed mode shapes and frequencies for the titanium rotor are shown in figure C-2. The Campbell diagram for the rotor, including the frequencies at operating speed, is shown in figure C-3.

Displacement and stress analyses were performed assuming the base of the blade is fixed. Only rotational loading is applied.

Displacement for the rotor at 4792 rpm is shown in figure C-4. Maximum tip deflection is 0.016 in. Maximum principal stress for the rotor at 4792 rpm is shown in figure C-5. Maximum stress is 8050 psi at the base of the blade. The yield strength for the titanium is 126000 psi giving a factor of safety on yield of 15.

Displacement for the rotor at 6000 RPM is shown in figure C-6. Maximum tip deflection is 0.024 in. Maximum principal stress for the rotor at 6000 RPM is shown in figure C-7. Maximum stress is 12600 psi at the base of the blade. The yield strength for the titanium is 126000 psi giving a factor of safety on yield of 10.

The finite element model of the stator is shown in figure C-8. The base and tip of the stator are assumed to be fixed. Material properties for carbon steel were used for the analyses. The zero speed mode shapes and frequencies for the carbon steel stator are shown in figure C-9. The Campbell diagram for the stator is shown in figure C-10.

The reduced frequency flutter parameters were calculated. They are summarized in table C-1. All calculated frequency flutter parameters are above the generally accepted limits.

Table C-1.—Reduced frequency flutter parameters.

| Mode           | Frequency,<br>$\omega$    | Chord length,<br>$c$ | Velocity,<br>$V$ | $\omega c/V$ |
|----------------|---------------------------|----------------------|------------------|--------------|
| First bending  | 350.6 hz/2202.9 rad/sec   | 3.3 in.              | 4830 in./sec     | 1.5          |
| Bend/torsion   | 1154.8 hz/7255.8 rad/sec  | 3.3 in.              | 4830 in./sec     | 4.9          |
| First torsion  | 1741.7 hz/10943.4 rad/sec | 3.3 in.              | 4830 in./sec     | 7.4          |
| Second torsion | 2702.0 hz/16977.2 rad/sec | 3.3 in.              | 4830 in./sec     | 11.5         |

Reduced frequency flutter parameter =  $\omega c/V$

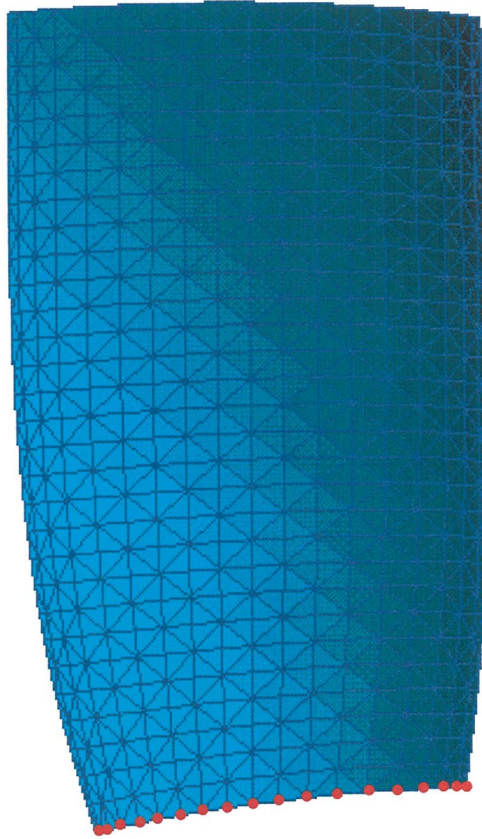
where

- w = zero speed frequency
- c = chord length at 75 percent span
- V = air inlet velocity at 75 percent span

Limits:

bending mode,  $\omega c/V > 0.33$

torsion mode,  $\omega c/V > 1.66$



Rotor model  
Base fixed  
4792 rpm operating speed  
6000 rpm maximum speed

Titanium  
 $E = 16 \times 10^6$  psi  
 $\nu = 0.31$   
 $\rho = 0.160$  lb/in.<sup>3</sup>

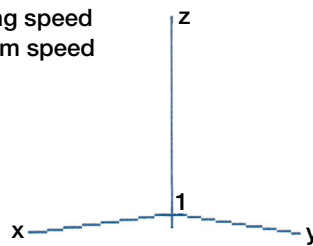


Figure C-1.—2-stage fan rotor model.



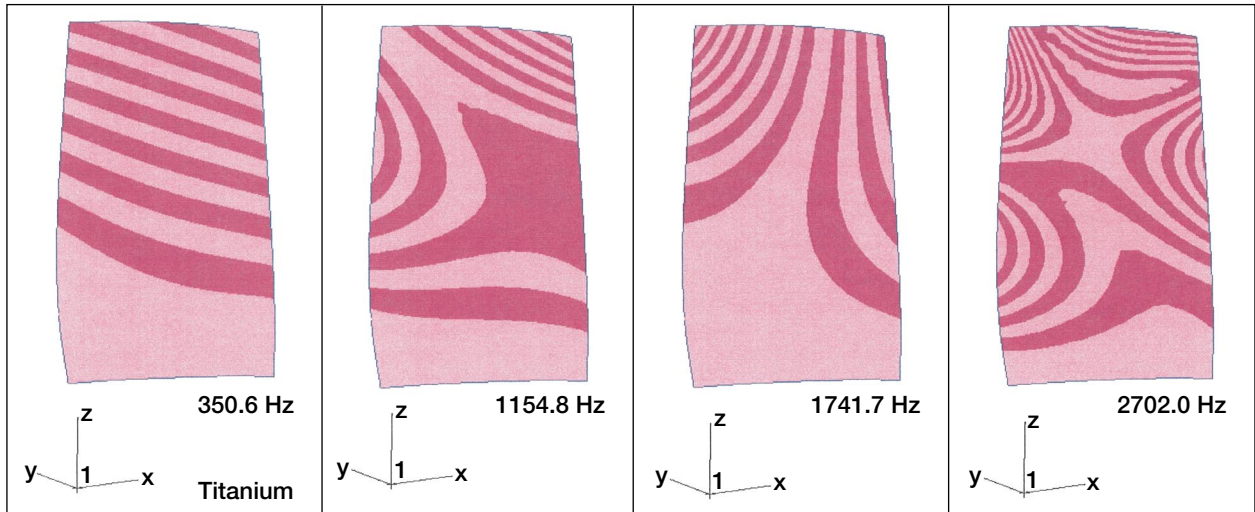


Figure C-2.—2-stage fan rotor zero speed mode shapes.

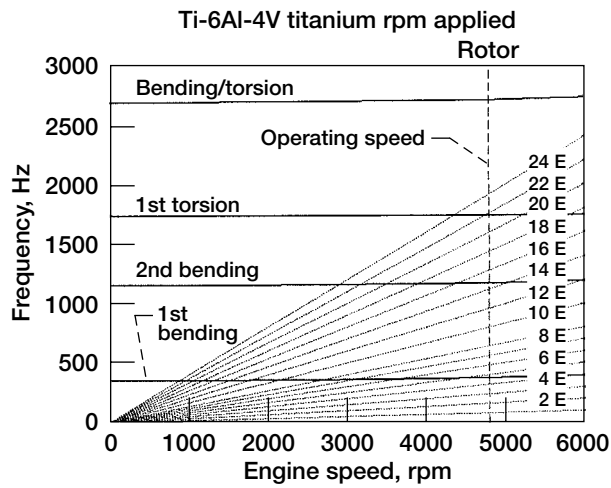


Figure C-3.—2-stage fan rotor Campbell diagram.

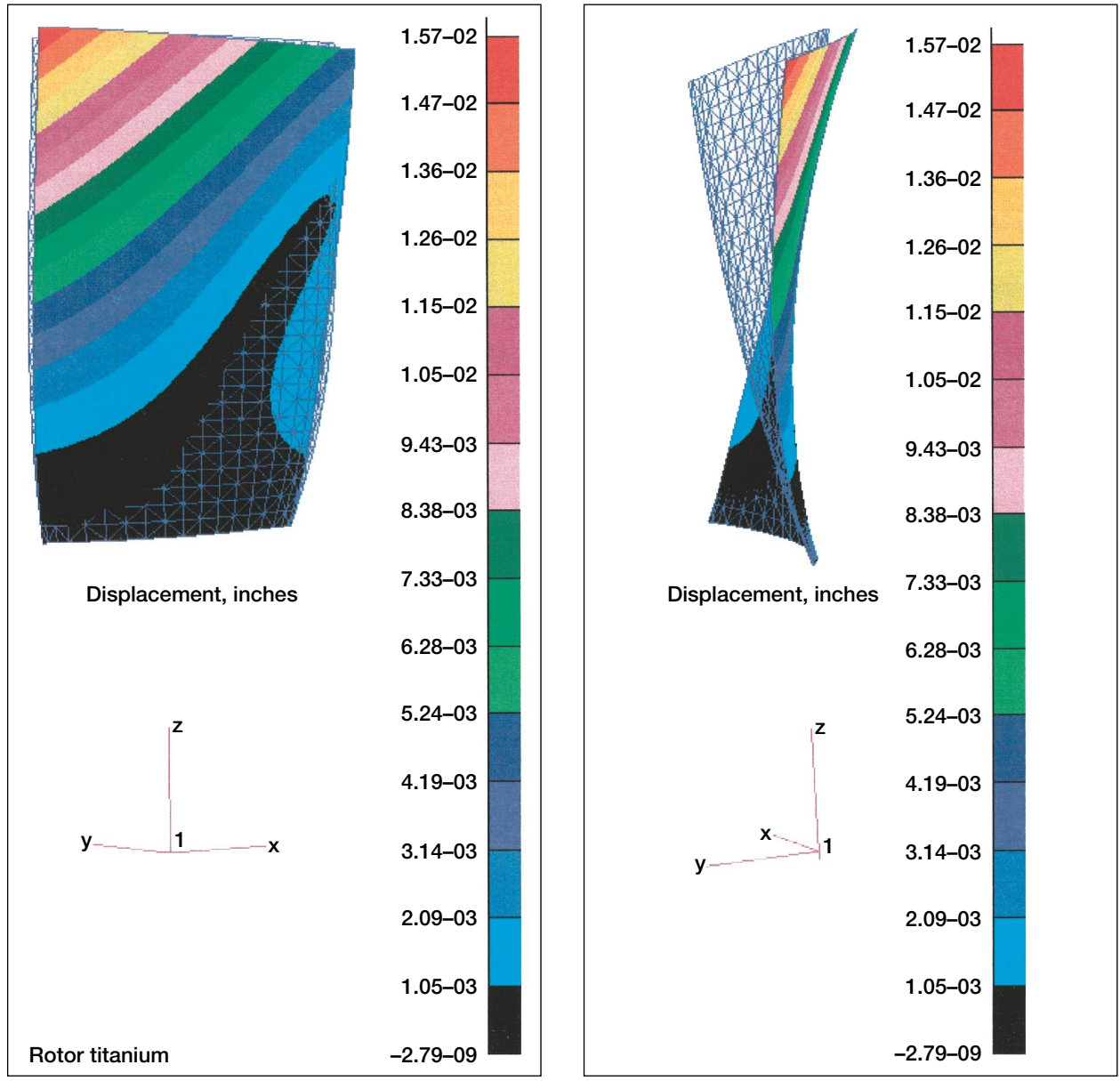


Figure C-4.—2-stage fan rotor displacement due to 4792 rpm.

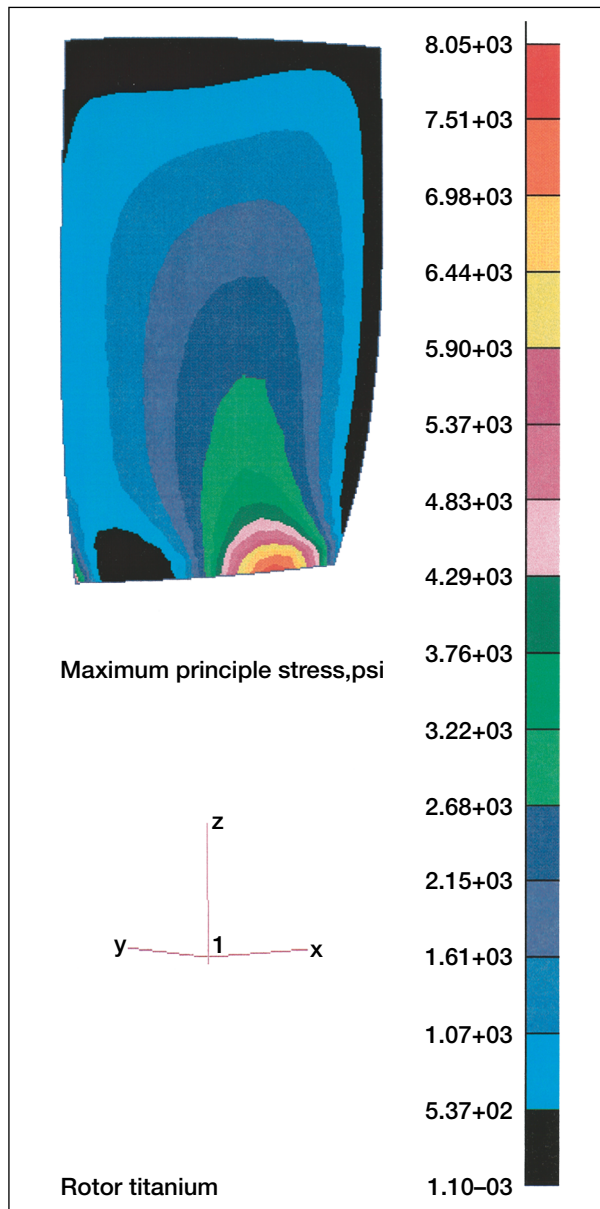


Figure C-5.—2-stage fan rotor maximum principle stress due to 4792 rpm.

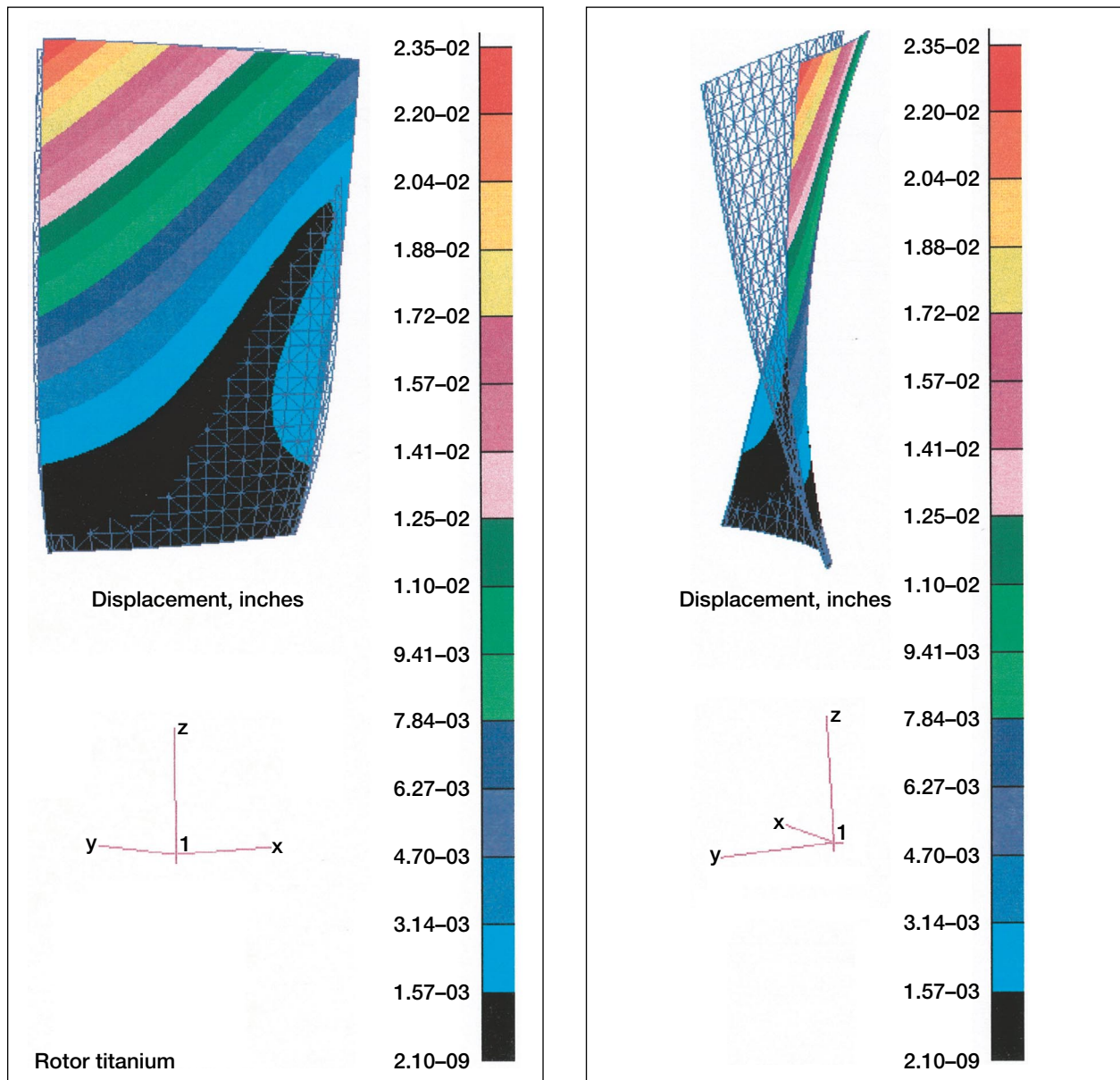


Figure C-6.—2-stage fan rotor displacement due to 6000 rpm.

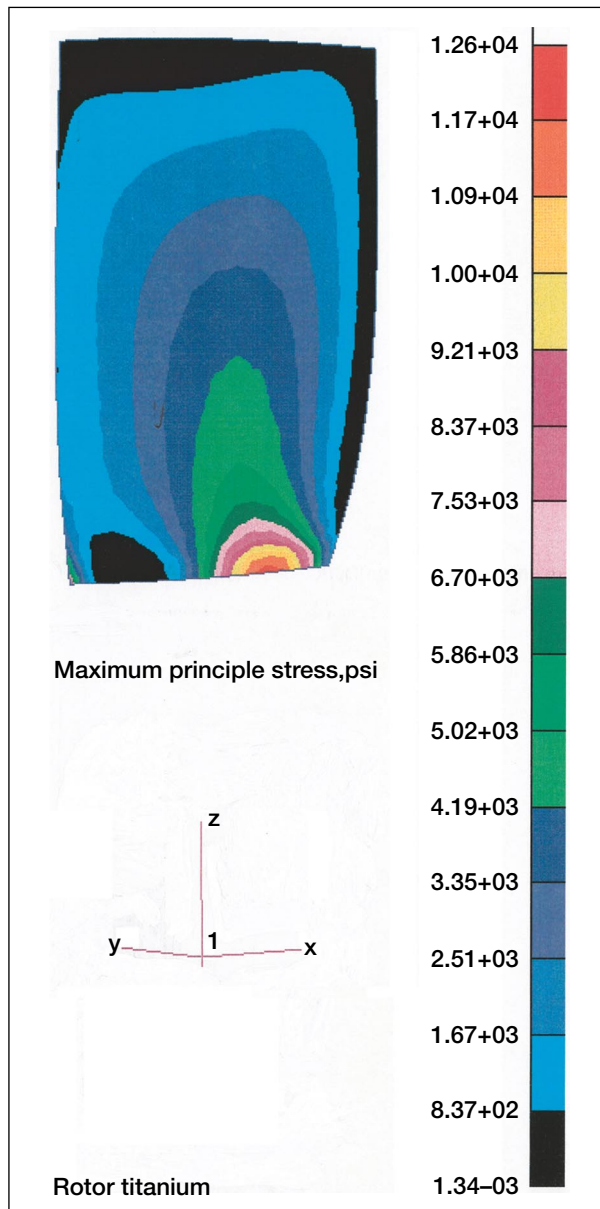


Figure C-7.—2-stage fan rotor maximum principle stress due to 6000 rpm.

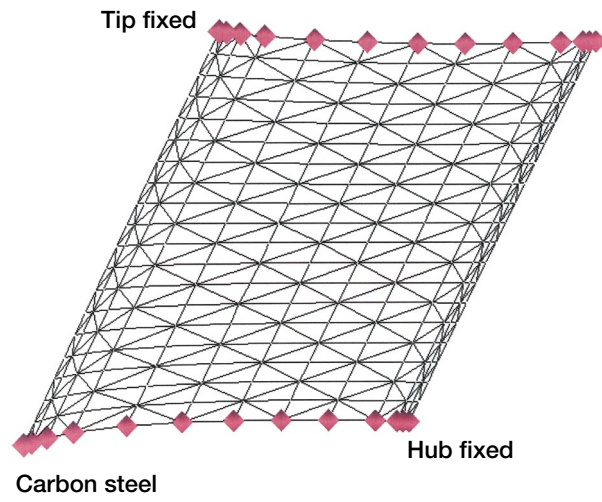


Figure C-8.—2-stage fan stator model.

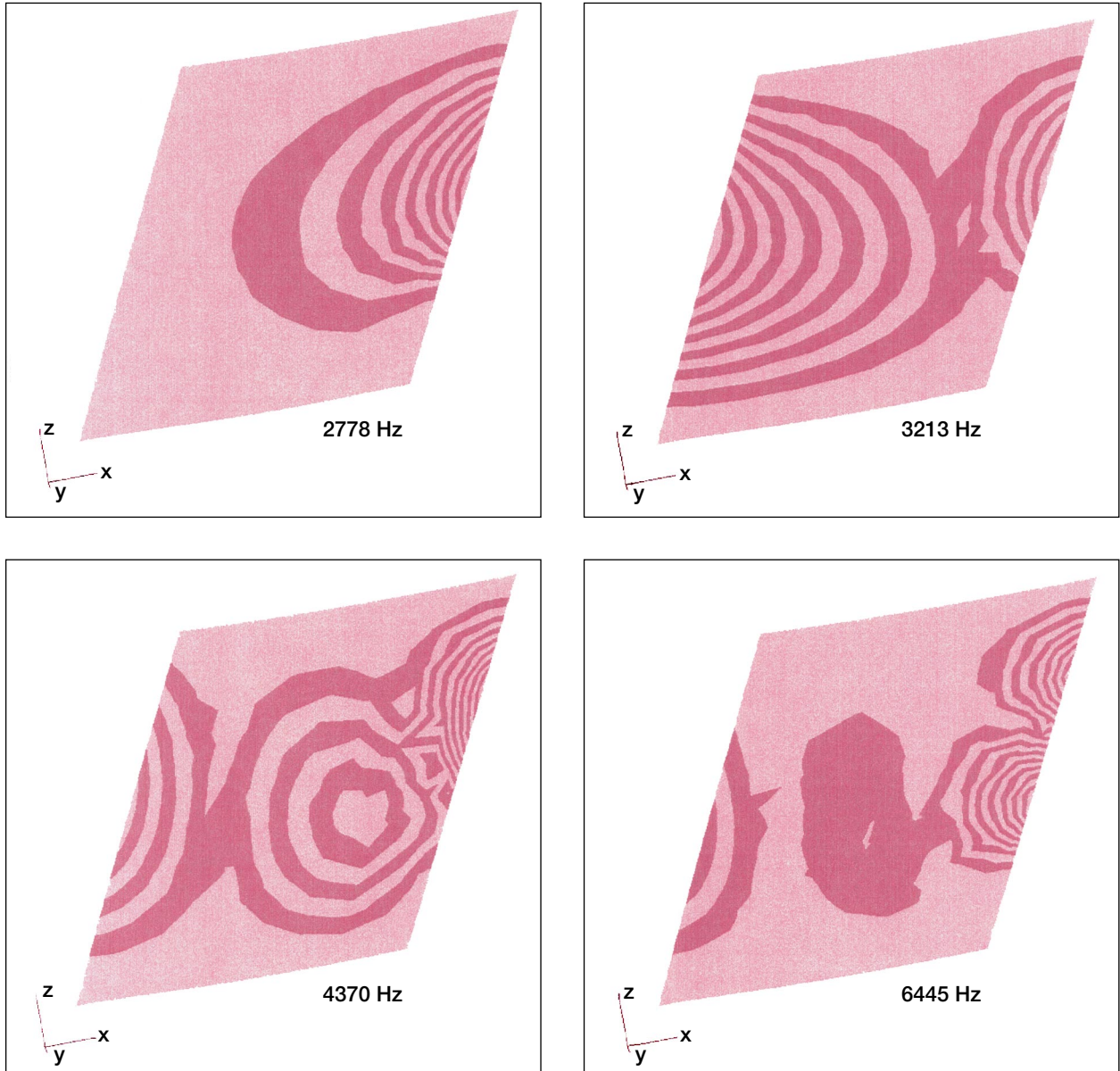


Figure C-9.—2-stage fan stator zero speed mode shapes.

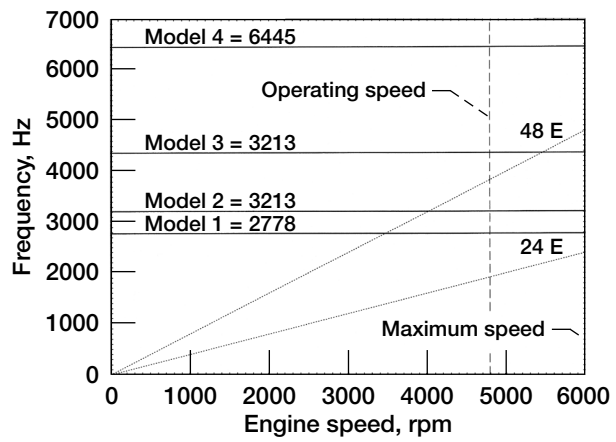


Figure C-10.—2-stage fan stator Campbell diagram.



## Appendix D Nacelle Coordinates

Coordinates are (x,r) with units in inches.

### Spinner

| x         | r             |
|-----------|---------------|
| -9.900406 | 0.0           |
| -9.898868 | 9.9980652E-02 |
| -9.894304 | 0.2089549     |
| -9.885285 | 0.3273358     |
| -9.871078 | 0.4554956     |
| -9.850528 | 0.5936861     |
| -9.822304 | 0.7419972     |
| -9.785071 | 0.9003696     |
| -9.737323 | 1.068499      |
| -9.677708 | 1.245904      |
| -9.604757 | 1.431807      |
| -9.517189 | 1.625205      |
| -9.413952 | 1.824893      |
| -9.294060 | 2.029369      |
| -9.157122 | 2.237124      |
| -9.002758 | 2.446338      |
| -8.831235 | 2.655306      |
| -8.643129 | 2.862299      |
| -8.439045 | 3.065299      |
| -8.220637 | 3.263098      |
| -7.989817 | 3.454694      |
| -7.989817 | 3.454694      |
| -7.750286 | 3.635292      |
| -7.499722 | 3.809183      |
| -7.239244 | 3.974925      |
| -6.970392 | 4.131564      |
| -6.695434 | 4.279432      |
| -6.415626 | 4.417100      |
| -6.132689 | 4.544032      |
| -5.849457 | 4.662484      |
| -5.566682 | 4.770203      |
| -5.285860 | 4.866837      |
| -5.009298 | 4.954819      |
| -4.738127 | 5.033803      |
| -4.473418 | 5.103605      |
| -4.216282 | 5.164757      |
| -3.967801 | 5.218449      |
| -3.728698 | 5.265158      |
| -3.499547 | 5.305415      |
| -3.280816 | 5.339999      |
| -3.072570 | 5.367952      |
| -2.875365 | 5.392725      |
| -2.689230 | 5.415092      |
| -2.514066 | 5.435596      |
| -2.349681 | 5.454664      |
| -2.195802 | 5.472606      |
| -2.051717 | 5.485533      |
| -1.916913 | 5.490041      |
| -1.791490 | 5.493895      |
| -1.675003 | 5.497095      |
| -1.566997 | 5.499249      |
| -1.467000 | 5.500000      |

### Inlet Interior

| x | r |
|---|---|
|---|---|

|           |          |
|-----------|----------|
| -12.75000 | 11.17150 |
| -12.74797 | 11.12156 |
| -12.73763 | 11.07053 |
| -12.72305 | 11.01817 |
| -12.70141 | 10.96577 |
| -12.67338 | 10.91368 |
| -12.63896 | 10.86240 |
| -12.59879 | 10.81194 |
| -12.55280 | 10.76270 |
| -12.50124 | 10.71476 |
| -12.44457 | 10.66781 |
| -12.38231 | 10.62256 |
| -12.31504 | 10.57830 |
| -12.24256 | 10.53531 |
| -12.16480 | 10.49360 |
| -12.08164 | 10.45324 |
| -11.99296 | 10.41425 |
| -11.89866 | 10.37646 |
| -11.79851 | 10.34002 |
| -11.69222 | 10.30506 |
| -11.57951 | 10.27178 |
| -11.46005 | 10.24039 |
| -11.33361 | 10.21056 |
| -11.19973 | 10.18282 |
| -11.05803 | 10.15724 |
| -10.90802 | 10.13425 |
| -10.74918 | 10.11425 |
| -10.58098 | 10.09766 |
| -10.40284 | 10.08486 |
| -10.21414 | 10.07623 |
| -10.01417 | 10.07299 |
| -10.01417 | 10.07299 |
| -9.814212 | 10.07639 |
| -9.591628 | 10.08075 |
| -9.345455 | 10.08635 |
| -9.075278 | 10.09675 |
| -8.781065 | 10.11291 |
| -8.463618 | 10.13664 |
| -8.124067 | 10.16589 |
| -7.764811 | 10.20422 |
| -7.388507 | 10.24951 |
| -6.998544 | 10.30077 |
| -6.598976 | 10.35740 |
| -6.194336 | 10.41877 |
| -5.789073 | 10.48219 |
| -5.387791 | 10.54584 |
| -4.994959 | 10.60820 |
| -4.614645 | 10.66773 |
| -4.250282 | 10.72243 |
| -3.904928 | 10.77221 |
| -3.580836 | 10.81673 |
| -3.279307 | 10.85396 |
| -3.001584 | 10.88718 |
| -2.747429 | 10.91273 |
| -2.517028 | 10.93590 |
| -2.309132 | 10.95192 |
| -2.123026 | 10.96599 |
| -1.957293 | 10.97767 |
| -1.810239 | 10.98450 |
| -1.680501 | 10.99052 |
| -1.566469 | 10.99582 |

-1.466579 11.00000

Nacelle Exterior

| x              | r        |
|----------------|----------|
| -12.75000      | 11.17150 |
| -12.74575      | 11.22125 |
| -12.72671      | 11.27239 |
| -12.69905      | 11.32560 |
| -12.65904      | 11.37756 |
| -12.60983      | 11.42976 |
| -12.54991      | 11.48035 |
| -12.48133      | 11.53160 |
| -12.40270      | 11.58201 |
| -12.31484      | 11.63336 |
| -12.21599      | 11.68335 |
| -12.10706      | 11.73471 |
| -11.98720      | 11.78696 |
| -11.85574      | 11.84001 |
| -11.71194      | 11.89359 |
| -11.55512      | 11.94758 |
| -11.38465      | 12.00193 |
| -11.20001      | 12.05690 |
| -11.00071      | 12.11282 |
| -10.78624      | 12.16981 |
| -10.55602      | 12.22749 |
| -10.30960      | 12.28564 |
| -10.04659      | 12.34371 |
| -9.766830      | 12.40172 |
| -9.470257      | 12.45947 |
| -9.157003      | 12.51687 |
| -8.827396      | 12.57401 |
| -8.481884      | 12.63063 |
| -8.121112      | 12.68642 |
| -7.745918      | 12.74097 |
| -7.357352      | 12.79391 |
| -6.956688      | 12.84496 |
| -6.545393      | 12.89384 |
| -6.125114      | 12.94040 |
| -5.697660      | 12.98450 |
| -5.264954      | 13.02596 |
| -4.829035      | 13.06472 |
| -4.391963      | 13.10061 |
| -3.955822      | 13.13348 |
| -3.522688      | 13.16321 |
| -3.094569      | 13.18973 |
| -2.673394      | 13.21304 |
| -2.260943      | 13.23319 |
| -1.858843      | 13.25027 |
| -1.468560      | 13.26441 |
| -1.091363      | 13.27579 |
| -0.7283011     | 13.28464 |
| -0.3802317     | 13.29119 |
| -4.7797091E-02 | 13.29572 |
| 0.2685482      | 13.29849 |
| 0.5685425      | 13.29941 |
| 0.8685346      | 13.29941 |
| 1.212904       | 13.29941 |
| 1.606552       | 13.29940 |
| 2.054405       | 13.29941 |
| 2.561131       | 13.29941 |
| 3.130955       | 13.29941 |

|          |          |
|----------|----------|
| 3.767310 | 13.29941 |
| 4.472507 | 13.29941 |
| 5.247336 | 13.29941 |
| 6.090680 | 13.29941 |
| 6.999272 | 13.29940 |
| 7.967413 | 13.29941 |
| 8.987004 | 13.29941 |
| 10.04756 | 13.29941 |
| 11.13667 | 13.29940 |
| 12.24044 | 13.29941 |
| 13.34421 | 13.29941 |
| 14.43332 | 13.29941 |
| 15.49388 | 13.29941 |
| 16.51347 | 13.29941 |
| 17.48161 | 13.29941 |
| 18.39020 | 13.29940 |
| 19.23355 | 13.29941 |
| 20.00838 | 13.29941 |
| 20.71357 | 13.29941 |
| 21.34993 | 13.29941 |
| 21.91975 | 13.29941 |
| 22.42648 | 13.29941 |
| 22.87433 | 13.29941 |
| 23.26798 | 13.29940 |
| 23.61235 | 13.29941 |
| 23.91234 | 13.29941 |
| 24.21167 | 13.29582 |
| 24.54984 | 13.29176 |
| 24.93074 | 13.28719 |
| 25.35835 | 13.28206 |
| 25.83661 | 13.27548 |
| 26.36908 | 13.25670 |
| 26.95945 | 13.23589 |
| 27.61070 | 13.21293 |
| 28.32439 | 13.17359 |
| 29.10230 | 13.12892 |
| 29.94408 | 13.07264 |
| 30.84819 | 13.00166 |
| 31.81180 | 12.91872 |
| 32.82981 | 12.81845 |
| 33.89584 | 12.70265 |
| 35.00203 | 12.57279 |
| 36.13785 | 12.42271 |
| 37.29377 | 12.26266 |
| 38.45709 | 12.08595 |
| 39.61654 | 11.89919 |
| 40.76097 | 11.70749 |
| 41.87777 | 11.50475 |
| 42.95870 | 11.30398 |
| 43.99397 | 11.10167 |
| 44.97715 | 10.90384 |
| 45.90266 | 10.71160 |
| 46.76696 | 10.52759 |
| 47.56783 | 10.35229 |
| 48.30536 | 10.18993 |
| 48.97906 | 10.03568 |
| 49.59192 | 9.895355 |
| 50.14625 | 9.767647 |
| 50.64451 | 9.649109 |
| 51.09111 | 9.542860 |
| 51.48983 | 9.448004 |

|          |          |
|----------|----------|
| 51.84453 | 9.363618 |
| 52.15860 | 9.286861 |
| 52.43626 | 9.218636 |
| 52.68118 | 9.158453 |
| 52.89677 | 9.105479 |
| 53.08614 | 9.058947 |
| 53.25225 | 9.018131 |
| 53.39769 | 8.982393 |
| 53.52487 | 8.951141 |
| 53.63601 | 8.923832 |
| 53.73300 | 8.900000 |

Nozzle Hub

| x        | r        |
|----------|----------|
| 38.73300 | 5.500000 |
| 38.83300 | 5.499597 |
| 38.94788 | 5.499134 |
| 39.07957 | 5.498602 |
| 39.23016 | 5.497995 |
| 39.40186 | 5.497302 |
| 39.59701 | 5.496514 |
| 39.81800 | 5.494514 |
| 40.06722 | 5.491627 |
| 40.34696 | 5.488387 |
| 40.65931 | 5.484428 |
| 41.00602 | 5.478065 |
| 41.38839 | 5.471046 |
| 41.80705 | 5.461803 |
| 42.26189 | 5.450731 |
| 42.75181 | 5.437410 |
| 43.27470 | 5.421955 |
| 43.82734 | 5.403827 |
| 44.40543 | 5.384012 |
| 45.00359 | 5.361501 |
| 45.61565 | 5.337552 |
| 46.23484 | 5.312473 |
| 46.85395 | 5.286108 |
| 47.46591 | 5.259662 |
| 48.06391 | 5.233417 |
| 48.64178 | 5.207776 |
| 49.19417 | 5.183282 |
| 49.71679 | 5.160209 |
| 50.20642 | 5.138824 |
| 50.66096 | 5.119230 |
| 51.07935 | 5.101484 |
| 51.46147 | 5.085710 |
| 51.80794 | 5.071407 |
| 52.12007 | 5.059205 |
| 52.39963 | 5.048393 |
| 52.64868 | 5.038761 |
| 52.86953 | 5.030470 |
| 53.06456 | 5.023588 |
| 53.23615 | 5.017532 |
| 53.38665 | 5.012222 |
| 53.51826 | 5.007578 |
| 53.63307 | 5.003526 |
| 53.73300 | 5.000000 |

Nozzle Case Interior

| x        | r        |
|----------|----------|
| 38.73300 | 11.00000 |

|          |          |
|----------|----------|
| 38.83283 | 10.99842 |
| 38.94764 | 10.99660 |
| 39.07937 | 10.99451 |
| 39.23016 | 10.99212 |
| 39.40228 | 10.98940 |
| 39.59811 | 10.98630 |
| 39.81997 | 10.97861 |
| 40.07034 | 10.96716 |
| 40.35167 | 10.95430 |
| 40.66604 | 10.93881 |
| 41.01486 | 10.91339 |
| 41.39996 | 10.88534 |
| 41.82147 | 10.84844 |
| 42.27943 | 10.80393 |
| 42.77254 | 10.75031 |
| 43.29868 | 10.68785 |
| 43.85417 | 10.61432 |
| 44.43508 | 10.53372 |
| 45.03524 | 10.44182 |
| 45.64887 | 10.34363 |
| 46.26916 | 10.24055 |
| 46.88844 | 10.13161 |
| 47.50013 | 10.02186 |
| 48.09738 | 9.912634 |
| 48.67389 | 9.804996 |
| 49.22469 | 9.701880 |
| 49.74540 | 9.604013 |
| 50.23299 | 9.512829 |
| 50.68534 | 9.428669 |
| 51.10151 | 9.352095 |
| 51.48144 | 9.283258 |
| 51.82559 | 9.220904 |
| 52.13567 | 9.166868 |
| 52.41315 | 9.118760 |
| 52.66011 | 9.075946 |
| 52.87901 | 9.038882 |
| 53.07232 | 9.007444 |
| 53.24223 | 8.979812 |
| 53.39108 | 8.955606 |
| 53.52113 | 8.934455 |
| 53.63445 | 8.916026 |
| 53.73300 | 8.900000 |



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