QC
94
G3


Department of the Interior.
UNITED STATES GEOLOGICAL SURVEY, CHARLES D. WALCOTT, DIRECTOR.

ABLE FOR INTERCONVERSION OF MILES AND LOGARITHMS OF METERS, FOR DISTANCES FROM 10 TO 100. MILES.
1900.


Department of the Interior.
UNITED STATES GEOLOGICAL SURVEY, CHARLES D. WALCOTT, DIRECTOR.

# TABLE FOR INTERCONVERSION OF MILES AND LOGARITHMS OF METERS, 

FOR

DISTANCES FROM 10 TO 100 MILES.

$$
190 \mathrm{O}
$$

gefs



# TABLE FOR THE INTERCONVERSION OF MILES AND LOGARITHMS OF METERS. 

Prepared by S. S. Gannett.

The value adopted for the meter is 39.3700 inches. Distances between triangulation stations are given in logarithms of meters, but for general use distances in miles are most frequently desired.

The following examples illustrate use of the table:
To find the number of miles corresponding to log. distance in meters.-. 4.56857
Next lower log. in table is for 23.00 miles .................................... 4.56838
Difference
19
Corresponding to tabular difference for .01 mile.
Hence distance required is 23.01 miles.
For distances less than 10 miles proceed as above; first adding 1 to the characteristic of the given logarithm and afterwards dividing the corresponding number of miles by 10. Example:

Having given the log. 3.84062, which is less than any given in the table, and therefore for a distance less than 10 miles, adding 1 to the characteristic of the logarithm gives 4.84062 , which corresponds to a distance of 43.05 miles. Hence the distance sought is $\frac{43.05}{10}=4.305$ miles .

TO CHANGE-
(Add.)
Log. of miles to log. of meters
3. 2066498

Log. of yards to log. of meters ................ 9.9611371
Log. of feet to log. of meters .-..-.-. .-...... 9.4840158
Log. of inches to log. of meters............... 8.4048346

## TO CHANGE MILES TO INCHES ON MAP.

Scale $1: 125000,1$ mile $=0.50688$ ins. Log. $=9.7049052$
Scale $1: 90000,1$ mile $=0.70400$ ins. Log. $=9.8475727$
Scale $1: 62500,1$ mile $=1.01376$ ins. Log. $=0.0059352$
Scale $1: 45000,1$ mile $=1.40800$ ins. Log. $=0.1486027$
TO CHANGE-
(Add.)
Log. of meters to log. of miles_-.-............- 6. 7933502
Log. of meters to log. of yards ..............- 0.0388629
Log. of meters to log. of feet ................... 0.5159842
Log. of meters to log. of inches . . . . . . . . . . . 1.5951654
TO CHANGE LOG. OF METERS TO LOG. OF INCHES ON MAP.
Scale 1:125000 add 6.4982552
Scale 1:90000 add 6.6409228
Scale 1:62500 add 6.7992853
Scale 1:45000 add 6.9419528
(3)

Table for Interconversion of Miles and Logarithms of Meters.

| Miles. | Log. meters. | Diff. log. .01 mile. | Miles. | Log. meters. | Diff. log. .01 mile. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 10.00 | 4. 20665 | 43 | 12.00 | 4. 28583 | 36 |
| . 05 | 4.20882 |  | . 05 | 4.28764 |  |
| . 10 | 4.21097 |  | . 10 | 4. 28944 |  |
| . 15 | 4.21312 |  | . 15 | 4. 29123 |  |
| . 20 | 4.21525 | 42 | . 20 | 4.29301 |  |
| . 25 | 4.21737 |  | . 25 | 4. 29479 | 35 |
| . 30 | 4.21949 |  | . 30 | 4. 29656 |  |
| . 35 | 4.22159 |  | . 35 | 4.29832 |  |
| . 40 | 4.22368 |  | . 40 | 4.30007 |  |
| .45 | $4.2557 \%$ | 41 | . 45 | 4.30182 |  |
| . 50 | 4.22784 |  | . 50 | 4.30356 |  |
| . 55 | 4.22990 |  | . 55 | 4.30529 |  |
| . 60 | 4.23196 |  | . 60 | 4.30702 | 34 |
| . 65 | 4.23400 |  | . 65 | 4.30874 |  |
| . 70 | 4.23603 |  | . 70 | 4.31046 |  |
| . 75 | 4.23806 | 40 | . 75 | 4.31216 |  |
| . 80 | 4.24007 |  | . 80 | 4.31386 |  |
| . 85 | 4. 24208 |  | . 85 | 4.31555 |  |
| . 90 | 4. 24408 |  | . 90 | 4.31724 |  |
| . 95 | 4. 24606 |  | . 95 | 4.31892 | 33 |
| 11.00 | 4.24804 | 39 | 13.00 | 4. 32059 |  |
| . 05 | 4.25001 |  | . 05 | 4.32226 |  |
| . 10 | 4.25197 |  | . 10 | 4.32392 |  |
| . 15 | 4.25393 |  | . 15 | 4. 32558 |  |
| . 20 | 4. 25587 |  | . 20 | 4.32722 |  |
| . 25 | 4.25780 |  | . 25 | 4.32887 |  |
| . 30 | 4.25973 | 38 | . 30 | 4.33050 |  |
| . 35 | 4. 26165 |  | . 35 | 4.33213 | 32 |
| . 40 | 4.26355 |  | . 40 | 4.33375 |  |
| . 45 | 4.26545 |  | . 45 | 4.33537 |  |
| . 50 | 4. 26735 |  | . 50 | 4.33698 |  |
| . 55 | 4.26923 |  | . 55 | 4.33859 |  |
| . 60 | 4.27111 | 37 | . 60 | 4.34019 |  |
| . 65 | 4.27298 |  | . 65 | 4.34178 |  |
| . 70 | 4. 27484 |  | . 70 | 4.34337 |  |
| . 75 | 4.27669 |  | . 75 | 4.34495 |  |
| . 80 | 4.27853 |  | . 80 | 4.34653 | 31 |
| . 85 | 4. 28037 |  | . 85 | 4.34810 |  |
| . 90 | 4. 28220 | 36 | . 90 | 4. 34966 |  |
| . 95 | 4. 28402 |  | . 95 | 4.35122 |  |

Table for Interconversion of Miles and Logarithms of Meters.

| Miles. | Log. meters. | Diff. log. . 01 mile. | Miles. | Log. meters. | Diff. log. .01 mile. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 14.00 | 4.35278 | 31 | 16.00 | 4.41077 | 27 |
| . 0.5 | 4.35433 |  | . 05 | 4.41213 |  |
| . 10 | 4. 35587 |  | . 10 | 4.41348 |  |
| . 15 | 4. 35741 |  | . 15 | 4.41482 |  |
| . 20 | 4. 35894 |  | . 20 | 4.41616 |  |
| . 25 | 4. 36047 | 30 | . 25 | 4.41750 |  |
| . 30 | 4.36199 |  | . 30 | 4.41884 |  |
| . 35 | 4.36350 |  | . 35 | 4.42017 | 26 |
| . 40 | 4.36501 |  | . 40 | 4.42149 |  |
| . 45 | 4.36652 |  | . 45 | 4.42282 |  |
| . 50 | 4.36802 |  | . 50 | 4.42413 |  |
| . 55 | 4.369 .71 |  | . 55 | 4.42545 |  |
| . 60 | 4.37100 |  | . 60 | 4. 42676 |  |
| . 65 | 4.37249 |  | . 65 | 4. 42806 |  |
| . 70 | 4.37397 | 29 | . 70 | 4.4293\% |  |
| . 75 | 4. 37544 |  | . 75 | 4.43067 |  |
| . 80 | 4.37691 |  | . 80 | 4.43196 |  |
| . 85 | 4.37838 |  | .85 | 4.43325 |  |
| . 90 | 4.37984 |  | . 90 | 4.43454 |  |
| . 95 | 4.38129 |  | . 95 | 4.43582 |  |
| 15.00 | 4. 38274 |  | 17.00 | 4.43710 | 25 |
| . 05 | 4.38419 |  | . 05 | 4.43837 |  |
| . 10 | 4.38563 |  | . 10 | 4.43964 |  |
| . 15 | 4.38706 |  | . 15 | 4.44091 |  |
| . 20 | 4.38849 |  | . 20 | 4.44218 |  |
| . 25 | 4. 38992 | 28 | . 25 | 4.44344 |  |
| . 30 | 4. 39134 |  | . 30 | 4.44470 |  |
| . 35 | 4.39276 |  | . 35 | 4.44595 |  |
| . 40 | 4. 39417 |  | . 40 | 4.44720 |  |
| . 45 | 4.39558 |  | . 45 | 4.44845 |  |
| . 50 | 4. 39698 |  | . 50 | 4.44969 |  |
| . 55 | 4.39838 |  | . 55 | 4.45093 |  |
| . 60 | $4.3997 \%$ |  | . 60 | 4. 45216 |  |
| . 65 | 4.40116 |  | . 65 | 4.45339 |  |
| . 70 | 4.40255 |  | . 70 | 4.45462 |  |
| . 75 | 4.40393 |  | . 75 | 4.45585 | 24 |
| . 80 | 4.40531 | 27 | . 80 | 4.45707 |  |
| . 85 | 4.40668 |  | . 85 | 4.45829 |  |
| . 90 | 4.40805 |  | . 90 | 4.46950 |  |
| . 95 | 4.40941 |  | . 95 | 4.46071 |  |

Table for Interconversion of Miles and Logarithms of Meters.

| Miles. | Log. meters. | Diff. log. .01 mile. | Miles. | Log. meters. | Diff. log. .01 mile. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 18.00 | 4.46192 | 24 | 20.00 | 4. 50768 | 22 |
| . 05 | 4.46313 |  | . 05 | 4.50876 |  |
| . 10 | $4.46433{ }^{\circ}$ |  | . 10 | 4. 50985 |  |
| . 15 | 4.46553 |  | . 15 | 4.51093 |  |
| . 20 | 4.46672 |  | . 20 | 4.51200 |  |
| . 25 | 4.46791 |  | . 25 | 4.51308 | 21 |
| . 30 | 4.46910 |  | . 30 | 4.51415 |  |
| . 35 | 4. 47029 |  | . 35 | 4.51521 |  |
| . 40 | 4. 47147 |  | . 40 | 4.51628 |  |
| .45 | 4.47265 | 23 | . 45 | 4.51734 |  |
| . 50 | 4.47382 |  | . 50 | 4.51840 |  |
| . 55 | 4.47499 |  | . 55 | 4.51946 |  |
| . 60 | 4.47616 |  | . 60 | 4.52052 |  |
| . 65 | 4.47733 |  | . 65 | 4.52157 |  |
| . 70 | 4.47849 |  | . 70 | 4.52262 |  |
| . 75 | 4.47965 |  | . 75 | 4.52367 |  |
| . 80 | 4.48081 |  | . 80 | 4.52471 |  |
| . 85 | 4.48196 |  | . 85 | 4.52576 |  |
| . 90 | 4.48311 |  | . 90 | 4.52680 |  |
| . 95 | 4.48426 |  | . 95 | 4.52783 |  |
| 19.00 | 4.48540. |  | 21.00 | 4.52887 |  |
| . 05 | 4.48654 |  | . 05 | 4.52990 |  |
| . 10 | 4.48768 |  | . 10 | 4.53093 |  |
| . 15 | 4.48882 |  | . 15 | 4.53196 |  |
| . 20 | 4.48995 |  | . 20 | 4.53299 | 20 |
| . 25 | 4.49108 |  | . 25 | 4. 53401 |  |
| . 30 | 4.49221 | 22 | . 30 | 4. 53503 |  |
| . 35 | 4.49333 |  | . 35 | 4.53605 |  |
| . 40 | 4.49445 |  | . 40 | 4.53706 |  |
| . 45 | $4.4955 \%$ |  | . 45 | 4.53808 |  |
| . 50 | 4.49669 |  | . 50 | 4.53909 |  |
| . 55 | $4.49 \% 80$ |  | . 55 | 4.54010 |  |
| . 60 | 4.49891 |  | . 60 | 4.54110 |  |
| . 65 | 4.50001 |  | . 65 | 4.54211 |  |
| . 70 | 4.50112 |  | . 70 | 4. 54311 |  |
| . 75 | 4.50232 |  | . 75 | 4.54411 |  |
| . 80 | 4.50332 |  | . 80 | 4. 54511 |  |
| . 85 | 4.50441 |  | . 85 | 4. 54610 |  |
| . 90 | 4.50550 |  | . 90 | $4.5+709$ |  |
| . 95 | 4.50659 |  | . 95 | 4. 54808 |  |

Table for Interconversion of Miles and Logarithms of Meters.

| Miles. | Log. meters. | Diff. log. .01 mile. | Miles. | Log. meters. | Diff. log .01 mile |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 22.00 | 4.54907 | 20 | 24.00 | 4. 58686 | 18 |
| . 05 | 4. 55006 |  | . 05 | $4.5877 \%$. |  |
| . 10 | 4.55104 |  | . 10 | $4.58867^{\circ}$ |  |
| . 15 | 4.55202 |  | . 15 | 4.58957 |  |
| . 20 | 4.55300 |  | . 20 | 4.59047 |  |
| . 25 | 4.55398 | 19 | . 25 | 4.59136 |  |
| . 30 | 4.55495 |  | . 30 | 4. 59226 |  |
| . 35 | 4.55593 |  | . 35 | 4.59315 |  |
| . 40 | $4.55690^{\prime}$ |  | . 40 | 4.59404 |  |
| . 45 | 4.55787 |  | . 45 | 4.59493 |  |
| . 50 | 4. 5 5\%883 |  | . 50 | 4.59582 |  |
| . 55 | 4.5 .5980 |  | . 55 | 4.59670 |  |
| . 60 | 4.56076 |  | . 60 | 4. 59759 |  |
| . 65 | 4.56172 |  | . 65 | 4. 59847 |  |
| . 70 | -4.56268 |  | . 70 | 4.59935 |  |
| . 75 | 4. 56363 |  | . 75 | 4.60023 |  |
| . 80 | 4.56459 |  | . 80 | 4.60110 |  |
| . 85 | 4.56554 |  | . 85 | 4.60198 |  |
| . 90 | 4.56649 |  | . 90 | 4.60285 | 17 |
| . 95 | 4.56743 |  | . 95 | 4.60372 | 1 |
| 23.00 | 4.56838 |  | 25. 00 | 4.60459 |  |
| . 05 | 4. 56932 |  | . 05 | 4.60546 |  |
| . 10 | 4.57026 |  | . 10 | 4.60632 |  |
| .15 | 4.57120 |  | . 15 | 4.60719 |  |
| . 20 | 4.57214 |  | . 20 | 4.60805 |  |
| . 25 | 4. 57307 |  | . 25 | 4.60891 |  |
| . 30 | 4.57401 |  | . 30 | 4.60977 |  |
| . 35 | 4.57494 |  | . 35 | 4.61063 |  |
| . 40 | 4.57587 | 18 | . 40 | 4.61148 |  |
| . 45 | 4.57679 |  | . 45 | 4.61234 |  |
| . 50 | 4.57772 |  | . 50 | 4.61319 |  |
| . 55 | 4.57864 |  | . 55 | 4.61404 |  |
| . 60 | 4.57956 |  | . 60 | 4.61489 |  |
| . 65 | 4.58048 |  | . 65 | 4.61574 |  |
| . 70 | 4.58140 |  | . 70 | 4.61658 |  |
| . 75 | 4. 58231 |  | . 75 | 4.61743 |  |
| . 80 | 4.58323 |  | . 80 | 4.61827 |  |
| . 85 | 4. 58414 |  | . 85 | 4.61911 |  |
| . 90 | 4.58505 |  | . 90 | 4.61995 |  |
| . 95 | 4.58596 |  | . 95 | 4.62079 |  |

Table for Interconversion of Miles and Logarithms of Meters.

| Miles. | Log. meters. | Diff. log. .01 mile. | Miles. | Log. meters. | Diff. log. .01 mile. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 26.00 | 4.62162 | 17 | 28.00 | 4.65381 | 15 |
| . 05 | 4.62246 |  | . 05 | 4.65458 |  |
| . 10 | 4.62329 |  | . 10 | 4.65536 |  |
| . 15 | 4.62412 |  | . 15 | 4.65613 |  |
| . 20 | 4.62495 |  | . 20 | 4.65690 |  |
| . 25 | 4.625\%8 |  | . 25 | 4.65767 |  |
| . 30 | 4.62661 | 16 | . 30 | 4.65844 |  |
| . 35 | 4.62743 |  | . 35 | 4.65920 |  |
| . 40 | 4.62825 |  | . 40 | 4.65997 |  |
| . 45 | 4.62908 |  | . 45 | 4.66073 |  |
| . 50 | 4. 62990 |  | . 50 | 4.66149 |  |
| . 55 | 4.63071 |  | . 55 | 4.66226 |  |
| . 60 | 4.63153 |  | . 60 | 4.66302 |  |
| . 65 | 4.63235 |  | . 65 | 4.66377 |  |
| . 70 | 4.63316 |  | . 70 | 4.66453 |  |
| . 75 | 4.63397 |  | . 75 | 4.66529 |  |
| . 80 | 4.63479 |  | . 80 | 4.66604 |  |
| . 85 | 4. 63559 |  | . 85 | 4.66680 |  |
| . 90 | 4.63640 |  | . 90 | 4.66755 |  |
| . 95 | 4.63721 |  | . 95 | 4.66830 |  |
| 27.00 | 4.63801 |  | 29.00 | 4.66905 |  |
| . 05 | 4.63882 |  | . 05 | 4.66980 |  |
| . 10 | 4.63962 |  | . 10 | 4.67054 |  |
| . 15 | 4.64042 |  | . 15 | 4.67129 |  |
| . 20 | 4.64122 |  | . 20 | $4.6 \% 203$ |  |
| . 25 | 4.64202 |  | . 25 | 4.67278 |  |
| . 30 | 4.64281 |  | . 30 | 4.67352 |  |
| . 35 | 4. 64361 |  | . 35 | 4. 67426 |  |
| . 40 | 4. 64440 |  | . 40 | 4.67500 |  |
| . 45 | 4.64519 |  | . 45 | 4.67573 |  |
| . 50 | 4. 64598 |  | . 50 | 4.67647 |  |
| . 55 | 4.64677 |  | . 55 | 4.67721 |  |
| . 60 | 4.64756 |  | . 60 | 4.67794 |  |
| . 65 | 4.64835 |  | . 65 | 4.67867 |  |
| . 70 | 4.64913 |  | . 70 | 4.67941 |  |
| . 75 | 4.64991 |  | . 75 | 4.68014 |  |
| . 80 | 4.65069 |  | . 80 | 4.68087 |  |
| . 85 | 4. 65147 |  | . 85 | 4.68159 |  |
| . 90 | 4.65225 |  | . 90 | 4.68232 |  |
| . 95 | 4.65303 |  | . 95 | 4.68305 |  |

Table for Interconversion of Miles and Logarithms of Meters.

| Miles. | Log. meters. | Diff. log. . 01 mile. | Miles. | Log. meters. | Diff. log. .01 mile. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 30.00 | 4.68377 | 14 | 32.00 | 4. 71180 | 14 |
| . 05 | 4.68449 |  | . 05 | 4. 71248 |  |
| . 10 | 4.68522 |  | . 10 | 4. 71315 |  |
| . 15 | 4.68594 |  | . 15 | 4. 71383 |  |
| . 20 | 4.68666 |  | . 20 | 4.71451 | 13 |
| . 25 | 4.68737 |  | . 25 | 4.71518 |  |
| . 30 | 4.68809 |  | . 30 | 4.71585 |  |
| . 35 | 4.68881 |  | . 35 | 4.71652 |  |
| . 40 | 4.68952 |  | . 40 | 4. 71719 |  |
| . 45 | 4.69024 |  | . 45 | 4.71787 |  |
| . 50 | 4.69095 |  | . 50 | 4.71853 |  |
| . 55 | 4.69166 |  | . 55 | 4. 71920 |  |
| . 60 | 4.69237 |  | . 60 | 4. 71987 |  |
| . 65 | 4.69308 |  | . 65 | 4. 72053 |  |
| . 70 | 4.69379 |  | . 70 | 4. 72120 |  |
| . 75 | 4.69449 |  | . 75 | 4.72186 |  |
| . 80 | 4.69520 |  | . 80 | 4.72252 |  |
| . 85 | 4.69590 |  | . 85 | 4. 72319 |  |
| . 90 | 4.69661 |  | . 90 | 4. 72385 |  |
| . 95 | 4.69731 |  | . 95 | 4. 72451 |  |
| 31.00 | 4. 69801 |  | 33.00 | 4. 72516 |  |
| . 05 | 4.69871 |  | . 05 | 4.72582 |  |
| . 10 | 4.69941 |  | . 10 | 4. 72648 |  |
| . 15 | 4. 70011 |  | . 15 | 4.72713 |  |
| . 20 | 4. 70081 |  | . 20 | 4. 72779 |  |
| . 25 | 4. 70150 |  | . 25 | 4.72844 |  |
| . 30 | 4.70219 |  | . 30 | 4. 72909 |  |
| . 35 | 4. 70289 |  | . 35 | 4.72975 |  |
| . 40 | 4. 70358 |  | . 40 | 4.73040 |  |
| . 45 | 4. 70427 |  | . 45 | 4.73105 |  |
| . 50 | 4. 70496 |  | . 50 | 4.73169 |  |
| . 55 | 4. 70565 |  | . 55 | 4.73234 |  |
| . 60 | 4.70634 |  | . 60 | 4.73299 |  |
| . 65 | 4. 70702 |  | . 65 | 4.73363 |  |
| . 70 | 4.70771 |  | . 70 | 4. 73428 |  |
| . 75 | 4. 70839 |  | . 75 | 4.73492 |  |
| . 80 | 4. 70908 |  | . 80 | $4.7355 \%$ |  |
| . 85 | 4. 70976 |  | . 85 | 4.73621 |  |
| . 90 | 4.71044 |  | . 90 | 4.73685 |  |
| . 95 | 4.71112 |  | . 95 | 4. 73749 |  |

Table for Interconversion of Miles and Logarithms of Meters.

| Miles. | Log. meters. | Diff. log. . 01 mile. | Miles. | Log. meters. | Diff. log. .01 mile. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 34.00 | 4. 73813 | 13 | 36.00 | 4. 76295 | 12 |
| . 05 | 4.73877 |  | . 05 | 4. 76355 |  |
| . 10 | 4.73940 |  | . 10 | 4. 76416 |  |
| . 15 | 4.74004 |  | . 15 | 4.76476 |  |
| . 20 | 4.74068 |  | . 20 | 4. 76536 |  |
| . 25 | 4.74131 |  | . 25 | 4. 76596 |  |
| . 30 | 4.74194 |  | . 30 | 4. 76656 |  |
| . 35 | 4. 74258 |  | . 35 | 4.76715 |  |
| . 40 | 4.74321 |  | . 40 | 4.76775 |  |
| . 45 | 4.74384 |  | . 45 | 4.76835 |  |
| . 50 | 4. 74447 |  | . 50. | 4. 76894 |  |
| . 55 | 4.74510 |  | . 55 | 4. 76954 |  |
| . 60 | 4.74573 |  | . 60 | 4.77013 |  |
| . 65 | 4.74635 |  | . 65 | 4.771172 |  |
| . 70 | 4. 74698 |  | . 70 | 4.77132 |  |
| . 75 | 4.74761 | 12 | . 75 | 4.77191 |  |
| . 80 | 4. 74823 |  | . 80 | 4. 77250 |  |
| . 85 | 4.74885 |  | . 85 | 4.77309 |  |
| . 90 | 4.74947 |  | . 90 | 4.77368 |  |
| . 95 | 4.75010 |  | . 95 | 4.77426 |  |
| 35.00 | 4. 75072 |  | 37.00 | 4. 77485 |  |
| . 05 | 4. 75134 |  | . 05 | 4. 77544 |  |
| . 10 | 4. 75196 |  | . 10 | 4.77602 |  |
| . 15 | 4. 75257 |  | . 15 | 4. 77661 |  |
| . 20 | 4. 75319 |  | . 20 | 4.77719 |  |
| . 25 | 4. 75381 |  | . 25 | 4. 77778 |  |
| . 30 | 4.75443 |  | . 30 | 4. 77836 |  |
| . 35 | 4. 75 504 |  | . 35 | 4.77894 |  |
| . 40 | 4.75565 |  | . 40 | 4.75952 |  |
| . 45 | $4.756 \% 7$ |  | . 45 | 4.78010 |  |
| . 50 | 4. 75688 |  | . 50 | 4. 78068 |  |
| . 55 | 4. 75749 |  | . 55 | 4.78126 |  |
| . 60 | 4.75810 |  | . 60 | 4.78184 |  |
| . 65 | 4.75871 |  | . 65 | 4.78.71 |  |
| . 70 | 4.7593) |  | . 70 | 4. 78299 |  |
| . 75 | 4.75993 |  | . 75 | 4. $783.5 \%$ |  |
| . 80 | 4. 76053 |  | . 80 | 4. 78414 |  |
| .85) | 4. 76114 |  | . 85 | 4. $784 \%$ |  |
| . 90 | 4. 76174 |  | . 90 | 4. 78529 |  |
| . 95 | 4.76235 |  | . 95 | 4. 78586 |  |

Table for Interconversion of Miles and Logarithms of Meters.

| Miles. | Log. meters. | Diff. log. .01 mile. | Miles. | Log. meters. | Diff. log. <br> .01 mile |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 38.00 | 4. 78643 | 12 | 40.00 | 4.80871 | 11 |
| . 05 | 4.78701 | 11 | . 05 | 4.80925 |  |
| . 10 | 4.78758 |  | . 10 | 4.80979 |  |
| . 15 | 4. 78815 |  | . 15 | 4.81034 |  |
| . 20 | 4. 78871 |  | . 20 | 4.81088 |  |
| . 25 | 4. 78928 |  | . 25 | 4.81142 |  |
| . 30 | 4. 78985 |  | . 30 | 4.81195 |  |
| . 35 | 4. 79041 |  | . 35 | 4.81249 |  |
| . 40 | 4. 79098 |  | . 40 | 4.81303 |  |
| . 45 | 4. 79155 |  | . 45 | 4.81357 |  |
| . 50 | 4. 79211 |  | . 50 | 4.81411 |  |
| . 55 | 4. 79267 |  | . 55 | 4.81464 |  |
| . 60 | 4.79324 |  | . 60 | 4.81518 |  |
| . 65 | 4. 79380 |  | . 65 | $4.815 \% 1$ |  |
| . 70 | 4.79436 |  | . 70 | 4.81624 |  |
| . 75 | 4. 79592 |  | . 75 | 4.81677 |  |
| . 80 | 4. 79548 |  | . 80 | 4.81731 |  |
| . 85 | 4.79604 |  | . 85 | 4.81784 |  |
| . 90 | 4. 79660 |  | . 90 | 4.81837 |  |
| . 95 | 4.79716 |  | . 95 | 4.81890 |  |
| 39.00 | 4.79771 |  | 41.00 | 4.81943 |  |
| . 05 | 4.79727 |  | . 05 | 4.81996 |  |
| . 10 | 4.79883 |  | . 10 | 4.82049 |  |
| . 15 | 4. 79938 |  | . 15 | 4.82102 |  |
| . 20 | 4.79994 |  | . 20 | 4.82155 |  |
| . 25 | 4. 80049 |  | . 25 | 4.82207 |  |
| . 30 | 4.80104 |  | . 30 | 4.82260 |  |
| . 35 | 4.80159 |  | . 35 | 4.82313 | 10 |
| . 40 | 4.80215 |  | . 40 | 4.82365 | 10 |
| . 45 | 4.80270 |  | . 45 | 4.82417 |  |
| . 50 | 4.80325 |  | . 50 | 4.82470 |  |
| . 55 | 4. 80380 |  | . 55 | 4.82522 |  |
| . 60 | 4.80435 |  | . 60 | 4.82574 |  |
| . 65 | 4.80489 |  | . 65 | 4.82627 |  |
| . 70 | 4.80544 |  | . 70 | 4.82679 |  |
| . 75 | 4.80599 |  | . 75 | 4.82731 |  |
| . 80 | 4.80653 |  | . 80 | 4.82783 |  |
| . 85 | 4.80708 |  | . 85 | 4.82835 |  |
| . 90 | 4.80762 |  | . 90 | 4.82886 |  |
| . 95 | 4.80817 |  | . 95 | 4.82938 |  |

Table for Interconversion of Miles and Logarithms of Meters.

| Miles. | Log. meters. | Diff. log. .01 mile. | Miles. ${ }^{\text {' }}$ | Log. meters. | Diff. log. .01 mile. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 42.00 | 4.82990 | 10 | 44.00 | 4.85010 | 10 |
| . 05 | 4.83042 |  | . 05 | 4.85060 |  |
| . 10 | 4.83093 |  | . 10 | 4.85109 |  |
| . 15 | 4.83145 |  | . 15 | 4.85158 |  |
| . 20 | 4.83196 |  | . 20 | 4.85207 |  |
| . 25 | 4.83248 |  | . 25 | 4.85256 |  |
| . 30 | 4.83299 |  | . 30 | 4.85305 |  |
| . 35 | 4.83350 |  | . 35 | 4.85354 |  |
| . 40 | 4.83402 |  | . 40 | 4.85403 |  |
| . 45 | 4.83453 |  | . 45 | 4.85452 |  |
| . 50 | 4.83504 |  | . 50 | 4.85501 |  |
| . 55 | 4.83555 |  | . 55 | 4.85550 |  |
| . 60 | 4.83606 |  | . 60 | 4.85599 |  |
| . 65 | 4.83657 |  | . 65 | 4.85647 |  |
| . 70 | 4.83708 |  | . 70 | 4.85696 |  |
| . 75 | 4.83759 |  | . 75 | 4.85744 |  |
| . 80 | 4.83809 |  | . 80 | 4.85793 |  |
| . 85 | 4.83860 . |  | . 85 | 4.85841 |  |
| . 90 | $4.83911{ }^{\circ}$ |  | . 90 | 4.85890 |  |
| . 95 | 4.83961 |  | . 95 | 4.85938 |  |
| 43.00 | 4.84012 |  | 45.00 | 4.85986 |  |
| . 05 | 4.84062 |  | . 05 | 4.86035 |  |
| . 10 | 4.84113 |  | . 10 | 4.86083 |  |
| . 15 | 4.84163 |  | . 15 | 4.86131 |  |
| . 20 | 4.84213 |  | . 20 | 4.86179 |  |
| . 25 | 4.84264 |  | . 25 | 4.86227 |  |
| . 30 | 4.84314 |  | . 30 | 4.86275 |  |
| . 35 | 4.84364 |  | . 35 | 4.86323 |  |
| . 40 | 4.84414 |  | . 40 | 4.86371 |  |
| . 45 | 4.84464 |  | . 45 | 4.86418 |  |
| . 50 | 4.84514 |  | . 50 | 4.86466 |  |
| . 55 | 4.84564 |  | . 55 | 4.86514 |  |
| . 60 | 4.84614 |  | . 60 | 4.86561 |  |
| . 65 | 4.84663 |  | . 65 | 4.86609 |  |
| . 70 | 4.84713 |  | .70 | 4.86657 |  |
|  | 4.84763 |  | . 75 | 4.86704 |  |
| . 80 | 4.84812 |  | . 80 | 4.86751 |  |
| . 85 | 4.84862 |  | . 85 | 4.86799 |  |
| . 90 | 4.84911 |  | . 90 | 4.86846 |  |
| . 95 | 4.84961 |  | . 95 | 4.86894 |  |

Table for Interconversion of Miles and Logarithms of Meters.

| Miles. | Log. meters. | Diff. log. .01 mile. | Miles. | Log. meters. | Diff. log. .01 mile. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 46.00 | 4. 86941 | 9 | 48.00 | 4.88789 | 9 |
| . 05 | 4.86988 |  | . 05 | 4.88834 |  |
| . 10 | 4.87035 |  | . 10 | 4.88879 |  |
| . 15 | 4.87082 |  | . 15 | 4.88925 |  |
| . 20 | 4.87129 |  | . 20 | 4.88970 |  |
| . 25 | 4.87176 |  | . 25 | 4. 89015 |  |
| . 30 | 4.87223 |  | . 30 | 4.89060 |  |
| . 35 | 4.87270 |  | . 35 | 4.89105 |  |
| . 40 | 4.87317 |  | . 40 | 4.89149 |  |
| . 45 | 4.87364 |  | . 45 | 4.89194 |  |
| . 50 | 4.87410 |  | . 50 | 4.89239 |  |
| . 55 | 4.87457 |  | . 55 | 4.89284 |  |
| . 60 | 4.87504 |  | . 60 | 4.89329 |  |
| . 65 | 4.87550 |  | . 65 | 4.89373 |  |
| . 70 | $4.8759 \%$ |  | . 70 | 4.89418 |  |
| . 75 | 4.87643 |  | . 75 | 4.89462 |  |
| . 80 | 4.87690 |  | . 80 | 4.89507 |  |
| . 85 | 4.87736 |  | . 85 | 4.895 .51 |  |
| . 90 | 4.87782 |  | . 90 | 4.89596 |  |
| . 95 | 4.87829 |  | . 95 | 4.89640 |  |
| 47.00 | 4.87875 |  | 49.00 | 4.89685 |  |
| . 05 | 4.87921 |  | . 05 | 4.89729 |  |
| . 10 | 4.87967 |  | . 10 | 4.89773' |  |
| . 15 | 4.88013 |  | . 15 | 4.89817 |  |
| . 20 | 4.88059 |  | . 20 | 4.89861 |  |
| . 25 | 4.88105 |  | . 25 | 4.89906 |  |
| . 30 | 4.88151 |  | . 30 | 4.89950 |  |
| . 35 | 4.88197 |  | . 35 | 4.89994 |  |
| . 40 | 4.88243 |  | . 40 | 4.90038 |  |
| . 45 | 4.88289 |  | . 45 | 4.90082 |  |
| . 50 | 4.88334 |  | . 50 | 4.90125 |  |
| . 55 | 4.88380 |  | . 55 | 4.90169 |  |
| . 60 | 4.88326 |  | . 60 | 4.90213 | . |
| . 65 | 4.88471 |  | . 65 | 4.90257 |  |
| . 70 | 4.88517 |  | . 70 | 4.90301 |  |
| . 75 | 4.88562 |  | . 75 | 4.90344 |  |
| . 80 | 4.88608 |  | . 80 | 4.90388 |  |
| . 85 | 4.88653 |  | . 85 | 4.90431 |  |
| . 90 | 4.88699 |  | . 90 | 4.90475 |  |
| . 95 | 4.88744 |  | . 95 | 4.90519 . |  |

Table for Interconversion of Miles and Logarithms of Meters.

| Miles. | Log. meters. | Diff. log. .01 mile. | Miles. | Log. meters. | Diff. log. .01 mile. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 50.00 | 4.90562 | 9 | 52.00 | 4.92265 | 8 |
| . 05 | 4.90605 |  | . 05 | 4.92307 |  |
| . 10 | 4.90649 |  | . 10 | 4.92349 |  |
| . 15 | 4.90692 |  | . 15 | 4.92390 |  |
| . 20 | 4.90735 |  | . 20 | 4.92432 |  |
| . 25 | 4.90779 |  | . 25 | 4.92474. |  |
| . 30 | 4.90822 |  | . 30 | 4.92515 |  |
| . 35 | 4.90865 |  | . 35 | $4.9255 \%$ |  |
| . 40 | 4.90908 |  | . 40 | 4.92598 |  |
| . 45 | 4.90951 |  | . 45 | 4.92639 |  |
| . 50 | 4.90994 |  | . 50 | 4.92681 |  |
| . 55 | 4.91037 |  | . 55 | 4.92722 |  |
| . 60 | 4.91080 |  | . 60 | ¢.92764 |  |
| . 65 | 4.91123 |  | . 65 | 4.92805 |  |
| . 70 | 4.91166 |  | . 70 | 4.92846 |  |
| . 75 | 4.91209 |  | . 75 | 4.92887 |  |
| . 80 | 4.91251 |  | . 80 | 4.92928 |  |
| . 85 | 4.91294 |  | . 85 | 4.92969 |  |
| . 90 | 4.91337 |  | . 90 | 4.93011 |  |
| . 95 | 4.91379 |  | . 95 | 4.93052 |  |
| 51.00 | 4.91422 |  | 53.00 | 4.93093 |  |
| . 05 | 4!91465 |  | . 05 | 4.93133 |  |
| . 10 | 4.91507 |  | . 10 | 4.93175 |  |
| . 15 | 4.91550 |  | . 15 | 4.93215 |  |
| . 20 | 4.91592 |  | . 20 | 4.93256 |  |
| . 25 | 4.91634 |  | . 25 | 4.93297 |  |
| . 30 | $4.916 \% 7$ | 8 | . 30 | 4.93338 |  |
| . 35 | 4.91719 |  | . 35 | 4.93378 |  |
| . 40 | 4. 91761 |  | . 40 | 4. 93419 |  |
| . 45 | 4.91803 |  | . 45 | 4.93460 |  |
| . 50 | 4.91846 |  | . 50 | 4.93500 |  |
| . 55 | 4.91888 |  | . 55 | 4.93541 |  |
| . 60 | 4.91930 |  | . 60 | 4.93581 |  |
| . 65 | 4.91972 |  | . 65 | 4.93622 |  |
| . 70 | 4.92014 |  | . 70 | 4.93662 |  |
| . 75 | 4.92056 |  | . 75 | 4.93703 |  |
| . 80 | 4.92098 |  | . 80 | 4.93743 |  |
| . 85 | 4.92140 |  | . 85 | 4.93784 |  |
| . 90 | 4.92182 |  | . 90 | 4.93824 |  |
| . 95 | 4.92224 |  | . 95 | 4.93864 |  |

Table for Interconversion of Miles and Logarithms of Meters.

| Miles. | Log. meters. | Diff. log. .01 mile. | Miles. | Log. meters. | Diff. log. .01 mile. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 54.00 | 4.93964 | 8 | 56.00 | 4.95484 | 8 |
| . 05 | 4.93945 |  | . 05 | 4.95523 |  |
| . 10 | 4.93985 |  | . 10 | 4.95561 |  |
| . 15 | 4.94025 |  | . 15 | 4. 95600 |  |
| . 20 | 4.94065 |  | . 20 | 4.95639 |  |
| . 25 | 4.94105 |  | . 25 | $4.9567 \%$ |  |
| . 30 | 4.94145 |  | . 30 | 4.95716 |  |
| . 35 | 4.94185 |  | . 35 | 4.95754 |  |
| . 40 | 4.94225 |  | . 40 | 4.95793 |  |
| . 45 | 4.94265 |  | . 45 | 4.95831 |  |
| . 50 | 4.94305 |  | . 50 | 4.95870 |  |
| . 55 | 4.94345 |  | . 55 | 4.95908 |  |
| . 60 | 4.94384 |  | . 60 | 4.95947 |  |
| . 65 | $4.944 \cdot 4$ |  | . 65 | 4.95985 |  |
| .70 | 4.94464 |  | .70 | 4.96023 |  |
| . 75 | 4.94,503 |  | . 75 | 4.96062 |  |
| . 80 | 4.94543 |  | . 80 | 4.96100 |  |
| . 85 | 4.94583 |  | . 85 | 4.96138 |  |
| . 90 | 4.94622 |  | . 90 | 4.96176 |  |
| . 95 | 4.94662 |  | . 95 | 4.96214 |  |
| 55.00 | 4.94701 |  | 57.00 | 4.96253 |  |
| . 05 | 4.94741 |  | . 05 | 4.96291 |  |
| . 10 | 4.94780 |  | . 10 | 4.96329 |  |
| . 15 | 4.94820 |  | . 15 | 4.96367 |  |
| . 20 | 4.94859 |  | . 20 | 4.96405 |  |
| . 25 | 4. 94898 |  | . 25 | 4.96443 |  |
| . 30 | $4.9493 \%$ |  | . 30 | 4.96481 |  |
| . 35 | 4.94977 |  | . 35 | 4.96518 |  |
| . 40 | 4.95016 |  | . 40 | 4.96556 |  |
| . 45 | 4.95055 |  | . 45 | 4.96594 |  |
| . 50 | 4.95094 |  | . 50 | 4.96632 |  |
| . 55 | 4.95133 |  | . 55 | 4.96669 |  |
| . 60 | 4.95172 |  | . 60 | 4.96707 |  |
| . 65 | 4.95212 |  | . 65 | $4.96 \% 45$ |  |
| . 70 | 4.95251 |  | . 70 | 4.96783 |  |
| . 75 | 4. 95289 |  | . 75 | 4.96820 |  |
| . 80 | 4.95328 |  | . 80 | 4.96858 | 7 |
| . 85 | 4. 95367 |  | . 85 | 4.96895 |  |
| . 90 | 4. 95406 |  | . 90 | 4.96933 |  |
| . 95 | 4.95445 |  | . 95 | 4. 96970 |  |

Table for Interconversion of Miles and Logarithms of Meters.

| Miles. | Log. meters. | Diff. log. .01 mile. | Miles. | Log. meters. | Diff. log. .01 mile |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 58.00 | 4.97008 | 7 | 60.00 | 4.98480 | 7 |
| . 05 | 4.97045 |  | . 05 | 4.98516 |  |
| . 10 | 4.97083 |  | . 10 | 4.98552 |  |
| . 15 | 4.97120 |  | . 15 | 4.98589 |  |
| . 20 | 4.97157 |  | . 20 | 4.98625 |  |
| . 25 | 4. 97195 |  | . 25 | 4.98661 |  |
| . 30 | 4.97232 |  | . 30 | 4.98697 |  |
| . 35 | 4.97269 |  | . 35 | 4.98733 |  |
| . 40 | 4.97306 |  | . 40 | 4.98769 |  |
| . 45 | 4.97343 |  | . 45 | 4.98805 |  |
| . 50 | 4.97381 |  | . 50 | 4.98841 |  |
| . 55 | 4.97418 |  | . 55 | 4.98876 |  |
| . 60 | 4.97455 |  | . 60 | 4.98912 |  |
| . 65 | 4.97492 |  | . 65 | 4.98948 |  |
| . 70 | 4.97529 |  | . 70 | 4.98984 |  |
| . 75 | 4.97566 |  | . 75 | 4.99020 |  |
| . 80 | 4.97603 |  | . 80 | 4.99055 |  |
| . 85 | 4.97640 |  | . 85 | 4.99091 |  |
| . 90 | 4.97677 |  | . 90 | 4.99127 |  |
| . 95 | 4.97713 |  | . 95 | 4.99162 | , |
| 59.00 | 4.97750 |  | 61.00 | 4.99198 |  |
| . 05 | 4.97787 |  | . 05 | 4.99234 |  |
| . 10 | 4.97824 |  | . 10 | 4.99269 |  |
| .15 | 4.97861 |  | . 15 | 4.99305 |  |
| . 20 | 4.97897 |  | . 20 | 4.99340 |  |
| . 25 | 4.97934 |  | . 25 | 4.99376 |  |
| . 30 | 4.97971 |  | . 30 | 4.99411 |  |
| . 35 | 4.98007 |  | . 35 | 4.99447 |  |
| . 40 | 4.98044 |  | . 40 | 4.99482 |  |
| .45 | 4.98080 |  | . 45 | 4.99517 |  |
| . 50 | 4.98117 |  | . 50 | 4.99553 |  |
| . 55 | 4.98153 |  | . 55 | 4.99588 |  |
| . 60 | 4.98190 |  | . 60 | 4.99623 |  |
| . 65 | 4.98226 |  | . 65 | 4.99658 |  |
| . 70 | 4.98262 |  | . 70 | 4.99693 |  |
| . 75 | 4.98299 |  | . 75 | 4.99729 |  |
| . 80 | 4.98335 |  | . 80 | 4.99764 |  |
| . 85 | 4.98371 |  | . 85 | 4.99799 |  |
| . 90 | 4.98408 |  | . 90 | 4.99834 |  |
| . 95 | 4.98444 |  | . 95 | 4. 99869 |  |

Table for Interconversion of Miles and Logarithms of Meters.

| Miles. | Log. meters. | Diff. log. .01 mile. | Miles. | Log. meters. | Diff. log. .01 mile. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 62.00 | 4.99904 | 7 | 64.00 | 5.01283 | 7 |
| . 05 | 4.99939 |  | . 05 | 5.01317 |  |
| . 10 | 4.99974 |  | . 10 | 5.01351 |  |
| . 15 | 5. 00009 |  | . 15 | 5. 01385 |  |
| . 20 | 5.00044 |  | . 20 | 5. 01419 |  |
| . 25 | 5.00079 |  | . 25 | 5.01452 |  |
| . 30 | 5.00114 |  | . 30 | 5. 01486 |  |
| . 35 | 5.00149 |  | . 35 | 5.01520 |  |
| . 40 | 5.00183 |  | . 40 | 5.01554 |  |
| . 45 | 5.00218 |  | . 45 | 5.01587 |  |
| . 50 | 5.00253 |  | . 50 | 5.01621 |  |
| . 55 | 5.00288 |  | . 55 | 5.01655 |  |
| . 60 | 5.00522 |  | . 60 | 5.01688 |  |
| . 65 | 5.00357 |  | . 65 | 5.01722 |  |
| . 70 | 5.00392 |  | . 70 | 5.01755 |  |
| . 75 | 5. 00426 |  | . 75 | 5. 01789 |  |
| . 80 | 5.00461 |  | . 80 | 5.01823 |  |
| . 85 | 5.00495 |  | . 85 | 5.01856 |  |
| . 90 | 5.00530 |  | . 90 | 5.01889 |  |
| . 95 | 5.00565 |  | . 95 | 5.01923 |  |
| 63.00 | 5. 00599 |  | 65.00 | 5.01956 |  |
| . 05 | 5.00633 |  | . 05 | 5. 01990 |  |
| . 10 | 5.00668 |  | . 10 | 5.02023 |  |
| . 15 | 5.00702 |  | . 15 | 5. 02056 |  |
| . 20 | 5.00737 |  | . 20 | 5.02090 |  |
| . 25 | 5. 00771 |  | . 25 | 5.02123 |  |
| . 30 | 5.00805 |  | . 30 | 5.02156 |  |
| . 35 | 5.00840 |  | . 35 | 5.02190 |  |
| . 40 | 5. 00874 |  | . 40 | 5.02223 |  |
| . 45 | 5.00908 |  | . 45 | 5.02256 |  |
| . 50 | 5.00942 |  | . 50 | 5.02289 |  |
| . 55 | 5. 00977 |  | . 55 | 5.02322 |  |
| . 60 | 5.01011 |  | . 60 | 5.02355 |  |
| . 65 | 5.01045 |  | . 65 | 5.02389 |  |
| . 70 | 5.01079 |  | . 70 | 5.02421 |  |
| . 75 | 5.01113 |  | . 75 | 5.02455 |  |
| . 80 | 5.01147 |  | . 80 | 5.02488 |  |
| . 85 | 5.01181 |  | . 85 | 5. 02521 |  |
| . 90 | 5.01215 |  | . 90 | 5.02554 |  |
| . 95 | 5.01249 |  | . 95 | 5.02587 |  |

Table for Interconversion of Miles and Logarithms of Meters.

| Miles. | Log. meters. | Diff. log. . 01 mile. | Miles. | Log. meters. | Diff. log. .01 mile. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 66.00 | 5. 02619 | 7 | 68.00 | 5.03916 | 6 . |
| . 05 | 5.02652 |  | . 05 | 5.03948 |  |
| . 10 | 5.02685 |  | . 10 | 5.03980 |  |
| . 15 | 5. 02718 |  | . 15 | 5.04012 |  |
| . 20 | 5.02751 |  | . 20 | 5.04043 |  |
| . 25 | 5.02784 |  | . 25 | 5.04075 |  |
| . 30 | 5.02816 |  | . 30 | 5.04107 |  |
| . 35 | 5. 02849 |  | . 35 | 5.04139 |  |
| . 40 | 5. 02882 |  | . 40 | 5.04171 |  |
| . 45 | 5. 02915 |  | . 45 | 5.04202 |  |
| . 50 | 5. 02947 |  | . 50 | 5.04234 |  |
| . 55 | 5.02980 |  | . 55 | 5.04266 |  |
| . 60 | 5.03012 |  | . 60 | 5.04297 |  |
| . 65 | 5.03045 |  | . 65 | 5.04329 |  |
| . 70 | 5.03078 |  | . 70 | 5.04361 |  |
| .75 | 5.03110 |  | . 75 | 5.04392 |  |
| . 80 | 5.03143 |  | . 80 | 5.04424 |  |
| . 85 | 5.03175 |  | . 85 | 5.04455 |  |
| . 90 | 5.03208 |  | . 90 | 5. 04487 |  |
| . 95 | 5.03241 |  | . 95 | 5. 04518 |  |
| 67.00 | 5.03273 | 6 | 69.00 | 5. 04550 |  |
| . 05 | 5.03305 |  | . 05 | 5. 04581 |  |
| . 10 | 5.03337 |  | . 10 | 5. 04613 |  |
| . 15 | 5.03370 |  | . 15 | 5. 04644 |  |
| . 20 | 5.03402 |  | . 20 | 5.04676 |  |
| . 25 | 5. 03434 |  | . 25 | 5.04707 |  |
| . 30 | 5.03467 |  | . 30 | 5.04738 |  |
| . 35 | 5.03499 |  | . 35 | 5.04770 |  |
| . 40 | 5.03531 |  | . 40 | 5.04801 |  |
| . 45 | 5.03563 |  | . 45 | 5.04832 |  |
| . 50 | 5.03595 |  | . 50 | 5.04863 |  |
| . 55 | 5.03627 |  | . 55 | 5.04895 |  |
| . 60 | 5. 03660 |  | . 60 | 5.04926 |  |
| . 65 | 5.03692 |  | . 65 | 5.04957 |  |
| . 70 | 5.03724 |  | . 70 | 5. 04988 |  |
| . 75 | 5. 03756 |  | . 75 | 5. 05019 |  |
| . 80 | 5.03788 |  | . 80 | 5.05051 |  |
| . 85 | 5. 03820 |  | . 85 | 5. 05082 |  |
| . 90 | 5.03852 |  | . 90 | 5. 05113 |  |
| . 95 | 5. 03884 |  | . 95 | 5.05144 |  |

Table for Interconversion of Miles and Logarithms of Meters.

| Miles. | Log. meters. | Diff. log. .01 mile. | Miles. | Log. meters. | Diff. log. .01 mile. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 70.00 | 5.05175 | 6 | 72.00 | 5.06398 | 6 |
| . 05 | 5.05206 |  | . 05 | 5.06428 |  |
| . 10 | 5.05237 |  | . 10 | 5. 06459 |  |
| . 15 | 5.05268 |  | 15 | 5.06489 |  |
| . 20 | 5. 05299 |  | . 20 | 5, 06519 |  |
| . 25 | 5. 0.5330 |  | . 25 | 5.06549 |  |
| . 30 | 5. 05361 |  | . 30 | 5.06579 |  |
| . 35 | 5.05391 |  | . 35 | 5.06609 |  |
| . 40 | 5. 05422 |  | . 40 | 5.06639 |  |
| .45 | 5. 05453 |  | . 45 | 5.06669 |  |
| . 50 | 5. 05484 |  | . 50 | 5.06699 |  |
| . 55 | 5.05515 |  | . 55 | 5.06729 |  |
| . 60 | 5.05545 |  | . 60 | 5. 06759 |  |
| . 6.5 | $5.055 \% 6$ |  | . 65 | 5. 06789 |  |
| . 70 | 5. 05607 |  | . 70 | 5.06818 |  |
| . 75 | 5.05538 |  | . 75 | 5.06848 |  |
| . 80 | 5. 05568 |  | . 80 | 5.06878 |  |
| . 85 | 5.0.7699 |  | . 85 | 5.06908 |  |
| . 90 | 5. 05730 |  | . 90 | 5.06938 |  |
| . 95 | 5.05760 |  | . 95 | 5.06967 |  |
| 71.00 | 5.05791 |  | 73.00 | 5.06997 |  |
| . 05 | 5.05821 |  | . 05 | 5. 07027 |  |
| . 10 | 5.05859 |  | . 10 | 5.07057 |  |
| . 15 | 5.05883 |  | . 15 | 5.07086 |  |
| . 20 | 5.05913 |  | . 20 | 5.07116 |  |
| . 25 | 5. 05943 |  | . 25 | 5.07146 |  |
| . 30 | 5.05974 |  | . 30 | 5.07175 |  |
| . 35 | 5.06004 |  | . 35 | 5.07205 |  |
| . 40 | 5. 06035 |  | . 40 | 5.07235 |  |
| . 45 | 5.06065 |  | . 4.5 | 5.07264 |  |
| . 50 | 5. 06096 |  | . 50 | 5. 07294 |  |
| . 55 | 5.06126 |  | . 55 | 5.07323 |  |
| . 60 | 5.06156 |  | . 60 | 5.07353 |  |
| . 65 | 5.06187 |  | . 65 | 5.07382 |  |
| . 70 | 5.06217 |  | . 70 | 5.07412 |  |
| . 75 | 5.06247 |  | . 75 | 5. 07441 |  |
| . 80 | 5.06277 |  | . 80 | 5.07471 |  |
| . 85 | 5.06308 |  | . 85 | 5.07500 |  |
| . 90 | 5.06338 |  | . 90 | 5.07529 |  |
| . 95 | 5.06368 |  | . 95 | 5.07559 |  |

Table for Interconversion of Miles and Logarithms of Meters.

| Miles. | Log. meters. | Diff. log. .01 mile. | Miles. | Log. neters. | Diff. log. .01 mile. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 74.00 | 5.07588 | 6 | 76.00 | 5.08746 | 6 |
| . 05 | 5.07617 |  | . 05 | 5.08775 |  |
| . 10 | 5.07647 |  | . 10 | 5.08803 |  |
| . 15 | 5.07676 |  | . 15 | 5. 08832 |  |
| . 20 | 5.07705 |  | . 20 | 5. 08 s 61 |  |
| . 25 | 5.07735 |  | . 25 | 5.08889 |  |
| . 30 | 5.07764 |  | . 30 | 5.08917 |  |
| . 35 | 5.07793 |  | . 35 | 5.08946 |  |
| . 40 | 5.07822 |  | . 40 | 5.08974 |  |
| . 45 | 5.07851 |  | . 45 | 5.09003 |  |
| . 50 | 5.07881 |  | . 50 | 5. 09031 |  |
| . 55 | 5.07910 |  | . 55 | 5. 09059 |  |
| . 60 | 5.07939 |  | . 60 | 5. 09088 |  |
| . 65 | 5. 07968 |  | . 65 | 5. 09117 |  |
| . 70 | 5. 07997 |  | . 70 | 5.09145 |  |
| . 75 | 5.08026 |  | . 75 | 5.09173 |  |
| . 80 | 5.08055 |  | . 80 | 5.09201 |  |
| . 85 | 5.08084 |  | . 85 | 5.09229 |  |
| . 90 | 5.08113 |  | . 90 | 5.09258 |  |
| . 95 | 5.08142 |  | . 95 | 5.09286 |  |
| 75.00 | 5.08171 |  | 77.00 | 5.09314 |  |
| . 05 | 5.08200 , |  | . 05 | 5.09342 |  |
| . 10 | 5.0822! |  | . 10 | 5.09370 |  |
| . 15 | 5.08258 |  | . 15 | 5.09399 |  |
| . 20 | 5.08287 |  | . 20 | 5.09427 |  |
| . 25 | 5.08316 |  | . $25{ }^{\circ}$ | 5.09455 |  |
| . 30 | 5.08345 |  | . 30 | 5. 09483 | - |
| . 35 | 5.08373 |  | . 35 | 5. 09511 |  |
| . 40 | 5. 08402 |  | . 40 | 5.09539 |  |
| . 45 | 5.08431 |  | . 45 | 5.09567 |  |
| . 50 | 5. 08460 |  | . 50 | 5.09595 |  |
| . 55 | 5.08188 |  | . 55 | 5. 09623 |  |
| . 60 | 5.08517 |  | . 60 | 5.09651 |  |
| . 65 | 5. 08546 |  | . 65 | $5.096 \% 9$ |  |
| . 70 | 5.08575 |  | . 70 | 5.09707 |  |
| . 75 | 5. 08603 |  | . 75 | 5.09735 |  |
| . 80 | 5. 08632 |  | . 80 | 5.09763 |  |
| . 85 | 5. 08661 |  | . 85 | 5. 097791 |  |
| . 90 | 5. 08689 |  | . 90 | 5. 09819 |  |
| . 95 | 5.08718 |  | . 95 | 5.09847 |  |

## Table for Interconversion of Miles and Logarithms of Meters.

| Miles. | Log. meters. | Diff. log. .01 mile. | Miles. | Log. meters. | Diff. log. .01 mile |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 78.00 | 5.09875 | 6 | 80.00 | 5.10974 | 5 |
| . 05 | 5.09902 |  | . 05 | 5.11001 |  |
| . 10 | 5. 09930 |  | . 10 | 5.11028 |  |
| . 15 | 5. 09958 |  | . 15 | 5.11055 |  |
| . 20 | 5.09986 |  | . 20 | 5.11082 |  |
| . 25 | 5.10013 |  | . 25 | 5.11109 |  |
| . 30 | 5.10041 |  | . 30 | 5.11137 |  |
| . 35 | 5.10069 |  | . 35 | 5.11164 |  |
| . 40 | 5.10097 |  | . 40 | 5.11191 |  |
| . 45 | 5.10124 |  | .45 | 5.11218 |  |
| . 50 | 5.10152 |  | . 50 | 5.11245 |  |
| . 55 | 5.10180 |  | . 55 | 5.11272 |  |
| . 60 | 5.10207 |  | . 60 | 5.11299 |  |
| . 65 | 5.1023\% |  | . 65 | 5.11325 |  |
| .70 | 5.10263 |  | . 70 | 5.11352 |  |
| . 75 | 5.10290 |  | . 75 | 5.11379 |  |
| . 80 | 5.10318 |  | . 80 | 5.11406 |  |
| . 85 | 5.10345 |  | . 85 | 5.11433 |  |
| . 90 | 5. 10373 |  | . 90 | 5.11460 |  |
| . 95 | 5.10400 |  | . 95 | 5.11487 |  |
| 79.00 | 5. 10428 | 5 | 81.00 | 5.11513 |  |
| . 05 | 5.1045\% |  | . . 05 | 5.11540 |  |
| . 10 | 5.10483 |  | . 10 | 5.11567 |  |
| . 15 | 5.10510 |  | . 15 | 5.11594 |  |
| . 20 | 5.10537 |  | . 20 | 5.11621 |  |
| . 25 | 5. 10565 |  | . 25 | 5.11647 |  |
| . 30 | 5.10592 |  | . 30 | 5.11674 |  |
| . 35 | i. 10620 |  | . 35 | 5.11701 |  |
| . 40 | 5.10647 |  | . 40 | 5.11727 |  |
| .45 | 5.10674 |  | . 45 | 5. 11754 |  |
| . 50 | 5. 10702 |  | . 50 | 5.11781 |  |
| . 55 | 5.107:9 |  | . 55 | $5.1180 \%$ |  |
| . 60 | 5. $10 \% 56$ |  | . 60 | 5.11834 |  |
| . 65 | 5. 10784 |  | . 65 | 5.11861 |  |
| . 70 | 5.10811 |  | . 70 | 5.11887 |  |
| . 75 | 5.10838 |  | . 75 | 5.11913 |  |
| . 80 | 5. 10865 |  | . 80 | 5.11940 |  |
| . 85 | 5. 10893 |  | . 85 | 5.11967 |  |
| . 90 | 5.10920 |  | -. 90 | 5.11993 |  |
| . 95 | 5.10947 |  | . 95 | 5.12020 |  |

Table for Interconversion of Miles and Logarithms of Meters.

| Miles. | Log. meters. | Diff. log. .01 mile. | Miles. | Log. meters. | Diff. log. .01 mile. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 82.00 | 5. 12046 | 5 | 84.00 | 5. 13093 | 5 |
| . 05 | 5. 12073 |  | . 05 | 5. 13119 * |  |
| . 10 | 5. 12099 |  | . 10 | 5. 13145 |  |
| . 15 | 5. $1^{9} 1 \times 6$ |  | . 15 | 5.131\%0 |  |
| . 20 | 5. 12152 |  | . 20 | 5. 18196 |  |
| . 25 | 5. 12179 |  | . 25 | 5. 13202 |  |
| . 30 | 5. 12205 |  | . 30 | 5. 13248 |  |
| . 35 | 5. 12231 |  | . 35 | 5. 13273 |  |
| . 40 | 5.12258 |  | . 40 | 5. 13299 |  |
| . 45 | 5.12284 |  | . 45 | 5.13325 |  |
| . 50 | 5. 12310 |  | . 50 | 5. 13351 |  |
| . 55 | 5. 12337 |  | . 55 | 5. 13376 |  |
| . 60 | 5.12363 |  | . 60 | 5.13402 |  |
| . 65 | 5. 12389 |  | . 65 | 5.13428 |  |
| . 70 | 5. 12416 |  | . 70 | 5.13453 |  |
| . 75 | 5.12442 |  | . 75 | 5. 13479 |  |
| . 80 | 5. 12468 |  | . 80 | 5. 13505 |  |
| . 85 | 5. 12494 |  | . 85 | 5. 13530 |  |
| . 90 | 5.12521 |  | . 90 | 5.13556 |  |
| . 95 | 5.12547 |  | . 95 | 5. 13581 |  |
| 83.00 | 5. 12573 |  | 85.00 | 5. 13607 |  |
| . 05 | 5.12599 |  | . 05 | 5.13632 |  |
| . 10 | 5. 12625 |  | . 10 | 5.13658 |  |
| . 15 | 5. 12651 |  | . 15 | 5. 13683 |  |
| . 20 | 5.1 2677 |  | . 20 | 5.13709 |  |
| . 25 | 5.12703 |  | . 25 | 5. 13734 |  |
| . 30 | 5. 12729 |  | . 30 | 5. 13760 |  |
| . 35 | 5.12756 |  | . 35 | 5. 13785 |  |
| . 40 | 5. 12782 |  | . 40 | 5.13811 |  |
| . 45 | 5. 12808 |  | . 45 | 5.13836 |  |
| . 50 | 5. 12834 |  | . 50 | 5. 13862 |  |
| . 55 | 5. 12860 |  | . 55 | 5. 13887 |  |
| . 60 | 5. 12886 |  | . 60 | 5. 13912 |  |
| . 65 | 5. 12912 |  | . 65 | 5. 13938 |  |
| . 70 | 5. 12937 |  | . 70 | 5. 13963 |  |
| . 75 | 5. 12963 |  | . 75 | 5. 13988 |  |
| . 80 | 5. 12989 |  | . 80 | 5.14014 |  |
| . 85 | 5. 13015 |  | . 85 | 5. 14039 |  |
| . 90 | 5. 13041 | - | . 90 | 5. 14064 |  |
| . 95 | 5. 13067 |  | . 95 | 5. 14090 |  |

Table for Interconversion of Miles and Logarithms of Meters.

| Miles. | Log. meters. | Diff. log. .01 mile. | Miles. | Lo.r. meters. | Diff. log. . 01 mile. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 86.00 | 5.14115 | 5 | 88.00 | 5.15113 | 5 |
| . 05 | 5.14140 |  | . 05 | 5. 15138 |  |
| . 10 | 5.14165 |  | . 10 | 5.15163 |  |
| . 15 | 5.14191 |  | . 15 | 5.15187 |  |
| . 20 | 5. 14216 |  | . 20 | 5.15212 |  |
| . 25 | 5.14241 |  | . 25 | 5.15237 |  |
| . 30 | 5.14266 |  | . 30 | 5.15261 |  |
| . 35 | 5.14291 |  | . 35 | 5.15286 |  |
| . 40 | 5.14316 |  | . 40 | 5.15310 |  |
| .45 | 5.14341 |  | . 45 | 5.15335 |  |
| . 50 | 5. 14367 |  | . 50 | 5.15359 |  |
| . 55 | 5.14392 |  | . 55 | 5.15384 |  |
| -60 | 5.14417 |  | . 60 | 5.15408 |  |
| . 65 | 5.14442 |  | . 65 | 5.15433 |  |
| . 70 | 5.14467 |  | .70 | 5.15457 |  |
| . 75 | 5. 14492 |  | . 75 | 5.15482 |  |
| . 80 | 5.14517 |  | . 80 | 5.15506 |  |
| . 85 | 5. 14542 |  | . 85 | 5.15531 |  |
| . 90 | 5.14567 |  | . 90 | 5.15555 |  |
| . 95 | 5.14592 |  | . 95 | 5.15580 |  |
| 87.00 | 5.14617 |  | 89.00 | 5.15604 |  |
| . 05 | 5.14642 |  | . 05 | 5.15628 |  |
| . 10 | 5.14667 |  | . 10 | 5.15653 |  |
| . 15 | 5.14692 |  | . 15 | 5.15677 |  |
| . 20 | 5.14717 |  | . 20 | 5.15701 |  |
| . 25 | 5. 14741 |  | . 25 | 5.15726 |  |
| . 30 | 5.14766 |  | . 30 | 5.15750 |  |
| . 35 | 5.14791 |  | . 35 | 5.15775 |  |
| . 40 | 5.14816 |  | . 40 | ธ. 15799 |  |
| .45 | 5. 14841 |  | . 45 | 5.15823 |  |
| . 50 | 5. 14866 |  | . 50 | 5.15847 |  |
| . 55 | 5.14891 |  | . 55 | 5.15872 |  |
| . 60 | 5. 14915 |  | . 60 | 5.1589 ( |  |
| . 65 | 5.14940 |  | . 65 | 5.15920 |  |
| . 70 | 5.14965 |  | .70 | 5.15944 |  |
| . 75 | 5. 14990 |  | . 75 | 5.15968 |  |
| . 80 | 5.15014 |  | . 80 | 5.15993 |  |
| . 85 | 5.15039 |  | . 85 | 5.16017 |  |
| . 90 | 5. 15064 |  | . 90 | $5.16041$ |  |
| . 95 | 5.15089 |  | . 95 | 5.16065 |  |

Table for Interconversion of Miles and Logarithms of Meters.

| Miles. | Log. meters. | Diff. log. .01 mile. | Miles. | Log. meters. | Diff. log. .01 mile |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 90.00 | 5. 16089 | 5 | 92.00 | 5.17044 | 5 |
| . 05 | 5. 16113 |  | . 05 | 5.17067 |  |
| . 10 | 5. 15137 |  | . 10 | 5.17091 |  |
| . 15 | 5.16162 |  | . 15 | 5. 17115 |  |
| . 20 | 5.16186 |  | . 20 | 5.17138 |  |
| . 25 | 5.16210 |  | . 25 | 5.17162 |  |
| . 30 | 5. 16234 |  | . 30 | 5.17285 |  |
| . 35 | 5.16258 |  | . 35 | 5.17209 |  |
| . 40 | 5. 16282 |  | . 40 | 5.17232 |  |
| . 45 | 5.16306 |  | . 45 | 5.17256 |  |
| . 50 | 5. 16330 |  | . 50 | 5. 17279 |  |
| . 55 | 5.16354 |  | . 55 | 5.17303 |  |
| . 60 | 5.16378 |  | . 60 | 5.17326 |  |
| . 65 | 5.16402 |  | . 65 | 5. 17349 |  |
| . 70 | 5.16426 |  | . 70 | 5.17373 |  |
| . 75 | 5.16450 |  | . 75 | 5.17396 |  |
| . 80 | 5. 16474 |  | . 80 | 5.17420 |  |
| . 85 | 5.16497 |  | . 85 | 5.17443 |  |
| . 90 | 5.16521 |  | . 90 | 5.17467 |  |
| . 95 | 5. 16545 |  | . 95 | 5.17490 |  |
| 91.00 | 6.16569 ${ }^{\text {- }}$ |  | 93.00 | 5.17513 |  |
| . 05 | 5. 16593 |  | . 05 | 5.17537 |  |
| . 10 | 5.16617 |  | . 10 | 5.17560 |  |
| . 15 | 5. 16641 |  | . 15 | 5.17583 |  |
| . 20 | 5.16665 |  | . 20 | 5.17607 |  |
| . 25 | 5. 16688 |  | . 25 | 5.17630 |  |
| . 30 | 5.16712 |  | . 30 | 5. 17653 |  |
| . 35 | 5. 16736 |  | . 35 | 5.17676 |  |
| . 40 | 5. 16760 |  | . 40 | 5. 17700 |  |
| . 45 | 5.16783 |  | . 45 | 5.19723 |  |
| . 50 | 5. 16807 |  | . 50 | 5.17746 |  |
| . 55 | 5.16831 |  | . 55 | 5.17769 |  |
| . 60 | 5.16855 |  | . 60 | 5.17793 |  |
| . 65 | 5.16878 |  | . 65 | 5.17816 |  |
| . 70 | 5.16902 |  | . 70 | 5.17839 |  |
| .75 | 5.16926 |  | . 75 | 5.17862 |  |
| . 80 | 5. 16949 |  | . 80 | 5.17885 |  |
| . 85 | 5.16973 |  | . 85 | 5.17908 |  |
| . 90 | 5.16997 |  | . 90 | 5.17932 |  |
| . 95 | 5.17020 |  | . 95 | 5.17955 |  |

Table for Interconversion of Miles and Logarithms of Meters.

| Miles. | Log. meters. | Diff. log. .01 mile. | Miles. | Log. meters. | Diff. log. . 01 mile. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 94.00 | 5.17978 | 5 | 96.00 | 5. 18892 | 5 |
| . 05 | 5.18001 |  | . 05 | 5.18915 |  |
| . 10 | 5.18024 |  | . 10 | 5.18937 |  |
| . 15 | 5. 18047 |  | . 15 | 5.18960 |  |
| . 20 | 5.18170 |  | . 20 | 5.18983 |  |
| . 25 | 5.18193 |  | . 25 | 5.19005 |  |
| . 30 | 5.18116 |  | . 30 | 5.19028 |  |
| . 35 | 5.18139 |  | . 35 | 5.19050 |  |
| . 40 | 5. 18162 |  | . 40 | 5.19073 |  |
| . 45 | 5.18185 |  | . 45 | 5.19095 |  |
| . 50 | 5. 18208 |  | . 50 | 5.19118 |  |
| . 55 | 5.18231 |  | . 55 | 5.19140 |  |
| - 60 | 5.18254 |  | . 60 | 5.19163 |  |
| . 65 | 5.18277 |  | . 65 | 5.19185 |  |
| . 70 | 5.18300 |  | . 70 | 5.19208 |  |
| . 75 | 5.18323 |  | . 75 | 5.19230 |  |
| . 80 | 5.18346 |  | . 80 | 5. 19253 |  |
| . 85 | 5.18369 |  | . 85 | 5. 19275 |  |
| . 90 | 5.18392 |  | . 90 | 5. 19297 |  |
| . 95 | 5.18415 |  | . 95 | 5.19320 |  |
| 95.00 | 5.18437 |  | 97.00 | 5.19342 | 4 |
| . 05 | 5.18460 |  | . 05 | 5.19365 |  |
| . 10 | 5.18483 |  | . 10 | 5.19387 |  |
| .15 | 5. 18506 |  | . 15 | 5. 19409 |  |
| . 20 | 5.18529 |  | . 20 | 5.19432 |  |
| . 25 | 5.18551 |  | . 25 | 5. 19454 |  |
| . 30 | 5.18574 |  | . 30 | 5.19476 |  |
| . 35 | 5.18597 |  | . 35 | 5.19499 |  |
| . 40 | 5.18620 |  | . 40 | 5. 19521 |  |
| . 45 | 5.18643 |  | . 45 | 5.19543 |  |
| . 50 | 5.18665 |  | . 50 | 5.19565 |  |
| . 55 | 5.18688 |  | . 55 | 5.19588 |  |
| . 60 | 5.18711 |  | . 60 | 5. 19610 |  |
| . 65 | 5.18733 |  | . 65 | 5.19632 |  |
| . 70 | 5.18756 |  | . 70 | 5.19655 |  |
| . 75 | 5.18779 |  | . 75 | 5.19677 |  |
| . 80 | 5.18802 |  | . 80 | 5.19699 |  |
| . 85 | 5.18824 |  | . 85 | 5.19721 |  |
| . 90 | 5.18847 |  | . 90 | 5.19743 |  |
| . 95 | 5.18869 |  | . 95 | 5.19765 |  |

Table for Interconversion of Miles and Logarithms of Meters.

| Miles. | Log. meters. | Diff. log. .01 mile. | Miles. | Log. meters. | Diff. log. .01 mile. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 98.00 | 5.19788 | 4 | 99.00 | 5.20229 | 4 |
| . 05 | 5.19810 |  | . 05 | 5.20250 |  |
| . 10 | 5.19832 |  | . 10 | 5.20272 |  |
| . 15 | 5.19854 |  | . 15 | 5. 20294 |  |
| . 20 | 5.19876 |  | . 20 | 5.20316 |  |
| . 25 | 5.19898 |  | . 25 | 5.20338 |  |
| . 30 | 5.19920 |  | . 30 | 5.20360 |  |
| . 35 | 5. 19942 |  | . 35 | 5.20382 |  |
| . 40 | 5. 19965 |  | . 40 | 5.20404 |  |
| . 45 | 5.19987 |  | . 45 | 5.20425 |  |
| . 50 | 5.20009 |  | . 50 | 5.20447 |  |
| . 55 | 5. 20031 |  | . 55 | 5.20469 |  |
| . 60 | 5. 20053 |  | . 60 | 5.20491 |  |
| . 65 | 5.20075 |  | . 65 | 5.20513 |  |
| . 70 | 5.20097 |  | . 70 | 5.20535 |  |
| . 75 | 5. 20119 |  | . 75 | 5. 20556 |  |
| . 80 | 5. 20141 |  | . 80 | 5.20578 |  |
| . 85 | 5. 20163 |  | . 85 | 5.20600 |  |
| . 90 | 5. 20185 |  | . 90 | 5.20621 |  |
| . 95 | 5.20207 |  | . 95 | 5.20643 |  |

Gaylord Bros.
Makers
Syracuse, N. Y.
Pat. JAN. 21, 1208



