MATHEMATICAL TABLES—ERRATA

References have been made to Errata in the introductory article of this issue, by Bickley (Goldstein, Hidaka, Lubkin & Stoker, Morse & Rubenstein), and in RMT 196 (Cayley, Kavan), 199 (Wright), 205 (Buchholz).


A. The great tables of this number of the Transactions do not begin until p. 283. In the earlier pages are various extended preparatory values of constants. Errors in these values in final digits are here summarized.

On p. 258 are 30-place values for $\frac{1}{\sqrt{\pi}}$ and $2/\sqrt{\pi}$, and $\log (2/\sqrt{\pi})$

- $\frac{1}{\sqrt{\pi}}$ for 670, read 671
- $2/\sqrt{\pi}$ for 120, read 122.

These corrections are based on values of $\sqrt{\pi}$ and $1/\sqrt{\pi}$, computed to 317D and 310D, respectively (see MTAC, p. 200). Log $(2/\sqrt{\pi})$ is entirely free from error.

On p. 279 is a table of 31 constants and their logarithms. Of the 62 numbers comprising the table, each to 23D, only 12 were found to be entirely correct. Most of the errata are attributable to the fundamental error in Burgess' approximation to $\rho$. In order to correct this table each of the values was calculated to at least 32D.

<table>
<thead>
<tr>
<th>Constants</th>
<th>for</th>
<th>read</th>
<th>Logarithms</th>
<th>for</th>
<th>read</th>
</tr>
</thead>
<tbody>
<tr>
<td>$p$</td>
<td>3.51</td>
<td>1.42</td>
<td>30.78</td>
<td>28.88</td>
<td></td>
</tr>
<tr>
<td>$1/p$</td>
<td>61578</td>
<td>224.95</td>
<td>69.22</td>
<td>71.12</td>
<td></td>
</tr>
<tr>
<td>$p^2$</td>
<td>3.25</td>
<td>1.26</td>
<td>61.56</td>
<td>57.75</td>
<td></td>
</tr>
<tr>
<td>$\rho/\sqrt{\pi}$</td>
<td>35151103.81</td>
<td>81743202.23</td>
<td>7.65</td>
<td>5.75</td>
<td></td>
</tr>
<tr>
<td>$2p/\sqrt{\pi}$</td>
<td>00980698130</td>
<td>2989127739</td>
<td>20.15</td>
<td>18.25</td>
<td></td>
</tr>
<tr>
<td>$2p/\sqrt{\pi}$</td>
<td>9.82</td>
<td>7.46</td>
<td>8.88</td>
<td>6.98</td>
<td></td>
</tr>
<tr>
<td>$2p^2/\sqrt{\pi}$</td>
<td>5963813762719</td>
<td>0053759598203</td>
<td>45935009449966</td>
<td>35935009449586</td>
<td></td>
</tr>
<tr>
<td>$1/(\rho/\sqrt{\pi})$</td>
<td>1.42</td>
<td>6.60</td>
<td>3.59</td>
<td>5.49</td>
<td></td>
</tr>
<tr>
<td>$1/(2p/\sqrt{\pi})$</td>
<td>0.71</td>
<td>3.30</td>
<td>79.85</td>
<td>81.75</td>
<td></td>
</tr>
<tr>
<td>$\rho/\sqrt{\pi}$</td>
<td>00490349065</td>
<td>14945638696</td>
<td>6.41</td>
<td>4.51</td>
<td></td>
</tr>
</tbody>
</table>

The table on p. 281 was checked by comparison of Burgess’ results with a 15-place table which I computed with the aid of NYMTP, Tables of Probability Functions, v. 1. The great
carelessness displayed in the preparation of the table is illustrated by log .08888591 given instead of log .088885991, and log .272460716 instead of log .272462716.

<table>
<thead>
<tr>
<th>H</th>
<th>t</th>
<th>log t</th>
</tr>
</thead>
<tbody>
<tr>
<td>.1</td>
<td>85991</td>
<td>55990</td>
</tr>
<tr>
<td>.3</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>.4</td>
<td>49</td>
<td>59</td>
</tr>
<tr>
<td>.6</td>
<td>79</td>
<td>81</td>
</tr>
<tr>
<td>.7</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>.9</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

On p. 282 are given 30-place values of $e^x$, and 27-place values (with one exception) of $2e^{-x}/\sqrt{\pi}$, for $x = 0(1)10$, and $\frac{1}{2}$. I recalculated each of these values to at least 38D. The value of $e^x$ for $x = \frac{1}{2}$ should end in 991 instead of 990. If for $x = \frac{1}{2}$ the value of $2e^{-x}/\sqrt{\pi}$ had been given to 27 instead of to 26 places, 367 should be substituted for 37. All other values in this table are correct. The value of $e^{-1}$ was computed to 80D and thus the value to 72D, given by Peters and Stein in the Anhang to Peters' Zehnstellige Logarithmentafel, v. 1, p. 12, was shown to be entirely correct.

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C. Integrand $2e^{-t^2}/\pi^k$. For the following values of $t$ the last figure should be (a) increased, 
(b) decreased, by a unit: (a) .187, 1.43, 3.3; (b) .947, 1.076, 1.077, 1.112, 1.230. P. 295, $t = 3$, 
for . . . .983, read . . . .947.

Integral $H$. For the following values of $t$ the last figure should be (a) increased, (b) 
decreased by a unit: (a).397, 1.274, 1.276, 1.392, 2.504, 2.506, 2.510, 2.514, 2.552, 2.556, 
2.628, 2.630, 2.634, 2.692; (b) .886, .927, .983, 1.260, 1.347, 1.466, 2.524, 2.642, 2.658, 2.662, 
2.666, 2.668, 2.670, 2.898, 3.4.

P. 317, 
\begin{align*}
& t = 2.644, \text{ for } \ldots 263, \text{ read } \ldots 261, \\
& t = 2.646, \text{ for } \ldots 857, \text{ read } \ldots 855, \\
& t = 2.648, \text{ for } \ldots 153, \text{ read } \ldots 150, \\
& t = 2.650, \text{ for } \ldots 978, \text{ read } \ldots 976, \\
& t = 2.652, \text{ for } \ldots 264, \text{ read } \ldots 262, \\
& t = 2.654, \text{ for } \ldots 056, \text{ read } \ldots 054, \\
& t = 2.656, \text{ for } \ldots 529, \text{ read } \ldots 527, \\
& t = 2.660, \text{ for } \ldots 963, \text{ read } \ldots 961, \\
& \text{p. 321, H, } \\
& t = 6, \text{ for } \ldots .516 075, \text{ read } \ldots .519 737, \\
& \text{p. 321, G, } \\
& t = 4.7, \text{ for } \ldots .544, \text{ read } \ldots .545, \\
& t = 6.0, \text{ for } \ldots .069, \text{ read } \ldots .071.
\end{align*}

On p. 314 the argument 2.880 should read 2.380.

NYMTP

Editorial Note: In the above lists four errors in the 96 entries on p. 321 are noted (if two 
unit errors and one two-unit error, in the last figure are omitted). But a report of J. W. 
WRENCH JR. (to be published in our next issue) on the 24 entries of the L-column, shows 
that 13 are in error, several seriously. Accordingly J. O. IRWIN, (BAASMT, Mathematical 
Tables, volume VII, The Probability Integral, by W. F. SHEPPARD, Cambridge, 1939, p. x), 
perhaps correctly states that this table is "seriously infested with error." In the value of 
$H$ given by Burgess in his footnote on p. 321, for \ldots 483 925, read \ldots 480 263.


On p. 131–191 is Table I which gives the exponent $y$ of $2 \mod p$, for $p < 300,000$. For 
$p > 100,000$ I have discovered the following errata (p. 159–186):

\begin{align*}
\begin{array}{|c|c|c|}
\hline
\nu & \gamma & \text{read} \\
\hline
104161 & 60 & 30 \\
114601 & 2 & 6 \\
121081 & 4 & 20 \\
127681 & 8 & 152 \\
267481 & 1 & 2 \\
\hline
\end{array}
\end{align*}

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v. 15, 1886, p. 648, T.IIIa, Maxima and minima of the Fresnel integrals; also G. N. WATSON, A Treatise on the Theory of Bessel Functions, 1922 and 

The 32 values of this table have been completely checked and only the following 
four errata were found: 

\begin{align*}
& S(2x/\pi)^{\frac{1}{2}} \text{ for } \ldots .343415, \text{ read } \ldots .343416 \\
& C(2x/\pi)^{\frac{1}{2}} \text{ for } \ldots .380389, \text{ read } \ldots .380391 \\
& 6.283185(=2\pi) \text{ for } \ldots .380391 \\
& 15.707963(=5\pi) \text{ for } \ldots .559088, \text{ read } \ldots .559087
\end{align*}

J. W. WRENCH JR.

P. 391, the entry corresponding to \( n = 8, m = 1, \) and \( k = -2 \), should be negative.

A. N. Lowan


In MTE 53, p. 326f, I gave a long list of the errors in this table found by Mr. S. Johnston. We had hoped that the list would prove to be complete, but now Mr. F. Lancaster, of Huddersfield, writes that he has checked Table 4, and found the following additional errors:

<table>
<thead>
<tr>
<th>Page</th>
<th>N</th>
<th>For</th>
<th>Read</th>
</tr>
</thead>
<tbody>
<tr>
<td>371</td>
<td>621</td>
<td>23 \times 37</td>
<td>23 \times 27</td>
</tr>
<tr>
<td>388</td>
<td>3904</td>
<td>59 \times 66</td>
<td>Delete</td>
</tr>
<tr>
<td>391</td>
<td>4901</td>
<td>67 \times 73</td>
<td>Delete</td>
</tr>
<tr>
<td>393</td>
<td>5432</td>
<td>46 \times 118</td>
<td>Delete</td>
</tr>
<tr>
<td>400</td>
<td>9682</td>
<td>94 \times 113</td>
<td>94 \times 103</td>
</tr>
</tbody>
</table>

There are also three errors of position—less serious because they are unlikely to be misleading.

<table>
<thead>
<tr>
<th>Page</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>384</td>
<td>2860</td>
</tr>
<tr>
<td>398</td>
<td>8100</td>
</tr>
<tr>
<td>401</td>
<td>10192</td>
</tr>
</tbody>
</table>

The most important of the design innovations is the electronic arrangement used to relieve the integrator disc of mechanical load, and thus to minimize slipping of the integrator disc with respect to the wheel upon which it rolls. The arrangement uses two beams of light which pass through a polaroid disc mounted upon the integrator disc and through crossed

L. J. C.

**UNPUBLISHED MATHEMATICAL TABLES**

Reference has been made to an unpublished table in RMT 202 (Bishopp); also to results by Ince and Bickley, MTAC, p. 412, 417.

34[A, B].—*Table of \( x^n/n! \)*, Manuscript prepared by, and in possession of, the NYMTP.

This table is for \( x = 0(0.05)5, n = 1(1)20, \) to 10S.