

Table 6.4

LOGARITHMS OF THE GAMMA FUNCTION

n	$\log_{10} \Gamma(n)$	$\log_{10} \Gamma(n+\frac{1}{3})$	$\log_{10} \Gamma(n+\frac{1}{2})$	$\log_{10} \Gamma(n+\frac{2}{3})$	$f_2(n)$
1	0.00000 000	-0.04915 851	-0.05245 506	-0.04443 477	1.00000 000
2	0.00000 000	+0.07578 023	+0.12363 620	+0.17741 398	0.96027 923
3	0.30103 000	0.44375 702	0.52157 621	0.60338 271	0.94661 646
4	0.77815 125	0.96663 576	1.06564 43	1.16765 41	0.93972 921
5	1.38021 12	1.60345 79	1.71885 68	1.83666 09	0.93558 323
6	2.07918 12	2.33045 66	2.45921 95	2.58998 86	0.93281 466
7	2.85733 25	3.13208 89	3.27213 28	3.41389 73	0.93083 524
8	3.70243 05	3.99739 04	4.14719 41	4.29850 39	0.92934 980
9	4.60552 05	4.91820 91	5.07661 30	5.23635 60	0.92819 400
10	5.55976 30	5.88824 59	6.05433 66	6.22163 27	0.92726 910
11	6.55976 30	6.90248 63	7.07552 59	7.24966 15	0.92651 221
12	7.60115 57	7.95684 40	8.13622 37	8.31660 83	0.92588 137
13	8.68033 70	9.04792 45	9.23313 38	9.41927 06	0.92534 753
14	9.79428 03	10.17286 3	10.36346 8	10.55493 3	0.92488 990
15	10.94040 8	11.32921 0	11.52483 6	11.72126 5	0.92449 327
16	12.116500	12.514847	12.715167	12.916241	0.92414 619
17	13.320620	13.727922	13.932651	14.138090	0.92383 993
18	14.551069	14.966804	15.175689	15.385245	0.92356 769
19	15.806341	16.230045	16.442861	16.656311	0.92332 409
20	17.085095	17.516352	17.732896	17.950042	0.92310 485
21	18.386125	18.824561	19.044649	19.265313	0.92290 649
22	19.708344	20.153619	20.377088	20.601105	0.92272 615
23	21.050767	21.502573	21.729270	21.956492	0.92256 149
24	22.412494	22.870550	23.100338	23.330629	0.92241 055
25	23.792706	24.256751	24.489504	24.722740	0.92227 169
26	25.190646	25.660444	25.896045	26.132109	0.92214 350
27	26.605619	27.080949	27.319290	27.558078	0.92202 481
28	28.036983	28.517642	28.758623	29.000035	0.92191 460
29	29.484141	29.969940	30.213468	30.457412	0.92181 198
30	30.946539	31.437301	31.683290	31.929681	0.92171 621
31	32.423660	32.919221	33.167590	33.416347	0.92162 661
32	33.915022	34.415228	34.665900	34.916950	0.92154 262
33	35.420172	35.924878	36.177784	36.431055	0.92146 371
34	36.938686	37.447757	37.702829	37.958255	0.92138 944
35	38.470165	38.983473	39.240648	39.498167	0.92131 942
36	40.014233	40.531658	40.790876	41.050429	0.92125 329
37	41.570535	42.091963	42.353169	42.614701	0.92119 073
38	43.138737	43.664060	43.927200	44.190658	0.92113 146
39	44.718520	45.247636	45.512661	45.777995	0.92107 524
40	46.309585	46.842397	47.109258	47.376420	0.92102 182
41	47.911645	48.448061	48.716713	48.985659	0.92097 101
42	49.524429	50.064362	50.334761	50.605448	0.92092 262
43	51.147678	51.691044	51.963150	52.235536	0.92087 648
44	52.781147	53.327866	53.601639	53.875686	0.92083 244
45	54.424599	54.974597	55.249999	55.525670	0.92079 035
46	56.077812	56.631014	56.908011	57.185269	0.92075 010
47	57.740570	58.296908	58.575464	58.854276	0.92071 156
48	59.412668	59.972075	60.252157	60.532491	0.92067 462
49	61.093909	61.656322	61.937899	62.219723	0.92063 919
50	62.784105	63.349462	63.632504	63.915788	0.92060 518
51	64.483075	65.051318	65.335796	65.620510	0.92057 250
	$\log_{10} (n-1)!$	$\log_{10} (n-\frac{2}{3})!$	$\log_{10} (n-\frac{1}{2})!$	$\log_{10} (n-\frac{1}{3})!$	

$$\ln \Gamma(n) = \ln (n-1)! - (n-\frac{1}{2}) \ln n - n + f_2(n)$$

$$\ln 10 = 2.30258 509299$$

$\log_{10} \Gamma(n)$ compiled from E. S. Pearson, Table of the logarithms of the complete Γ -function, arguments 2 to 1200. Tracts for Computers No. VIII (Cambridge Univ. Press, Cambridge, England, 1922) (with permission).