

Table 5.6 EXPONENTIAL INTEGRAL FOR COMPLEX ARGUMENTS

y/x	$ze^z E_1(z)$		$ze^z E_1(z)$		$ze^z E_1(z)$		$ze^z E_1(z)$		$ze^z E_1(z)$	
	\Re	\Im	\Re	\Im	\Re	\Im	\Re	\Im	\Re	\Im
	-4		-3		-2		-1		0	
0	1.438208	0.230161	1.483729	0.469232	1.340965	0.850337	0.697175	1.155727	0.577216	0.000000
1	1.287244	0.263705	1.251069	0.410413	1.098808	0.561916	0.813486	0.578697	0.621450	0.343378
2	1.185758	0.247356	1.136171	0.328439	1.032990	0.388428	0.896419	0.378838	0.798042	0.289091
3	1.123282	0.217835	1.080316	0.262814	1.013205	0.289366	0.936283	0.280906	0.875873	0.237665
4	1.085153	0.189003	1.051401	0.215118	1.006122	0.228399	0.957446	0.222612	0.916770	0.198713
5	1.061263	0.164466	1.035185	0.180487	1.003172	0.187857	0.969809	0.183963	0.940714	0.169481
6	1.045719	0.144391	1.025396	0.154746	1.001788	0.159189	0.977582	0.156511	0.955833	0.147129
7	1.035205	0.128073	1.019109	0.135079	1.001077	0.137939	0.982756	0.136042	0.965937	0.129646
8	1.027834	0.114732	1.014861	0.119660	1.000684	0.121599	0.986356	0.120218	0.972994	0.115678
9	1.022501	0.103711	1.011869	0.107294	1.000454	0.108665	0.988955	0.107634	0.978103	0.1104303
10	1.018534	0.094502	1.009688	0.097181	1.000312	0.098184	0.990887	0.097396	0.981910	0.094885
11	1.015513	0.086718	1.008052	0.088770	1.000221	0.089525	0.992361	0.088911	0.984819	0.086975
12	1.013163	0.080069	1.006795	0.081673	1.000161	0.082255	0.993508	0.081769	0.987088	0.080245
13	1.011303	0.074333	1.005809	0.075609	1.000119	0.076067	0.994418	0.075676	0.988891	0.074457
14	1.009806	0.069340	1.005022	0.070371	1.000090	0.070738	0.995151	0.070419	0.990345	0.069429
15	1.008585	0.064959	1.004384	0.065803	1.000070	0.066102	0.995751	0.065838	0.991534	0.065024
16	1.007577	0.061086	1.003859	0.061786	1.000055	0.062032	0.996246	0.061812	0.992518	0.061135
17	1.006735	0.057640	1.003423	0.058227	1.000043	0.058432	0.996661	0.058246	0.993342	0.057677
18	1.006025	0.054555	1.003057	0.055052	1.000035	0.055224	0.997011	0.055066	0.994038	0.054583
19	1.005420	0.051779	1.002747	0.052202	1.000028	0.052349	0.997309	0.052214	0.994631	0.051801
20	1.004902	0.049267	1.002481	0.049631	1.000023	0.049757	0.997565	0.049640	0.995140	0.049284
	1		2		3		4		5	
0	0.596347	0.000000	0.722657	0.000000	0.786251	0.000000	0.825383	0.000000	0.852111	0.000000
1	0.673321	0.147864	0.747012	0.075661	0.797036	0.045686	0.831126	0.030619	0.855544	0.021985
2	0.777514	0.186570	0.796965	0.118228	0.823055	0.078753	0.846097	0.055494	0.864880	0.040999
3	0.847468	0.181226	0.844361	0.132252	0.853176	0.096659	0.865521	0.072180	0.877860	0.055341
4	0.891460	0.165207	0.881036	0.131686	0.880584	0.103403	0.885308	0.081408	0.892143	0.064825
5	0.919826	0.148271	0.907873	0.125136	0.903152	0.103577	0.903231	0.085187	0.906058	0.070209
6	0.938827	0.132986	0.927384	0.116656	0.921006	0.100357	0.918527	0.085460	0.918708	0.072544
7	0.952032	0.119807	0.941722	0.107990	0.934958	0.095598	0.931209	0.083666	0.929765	0.072792
8	0.961512	0.108589	0.952435	0.099830	0.945868	0.090303	0.941594	0.080755	0.939221	0.071700
9	0.968512	0.099045	0.960582	0.092408	0.954457	0.084986	0.950072	0.077313	0.947219	0.069799
10	0.973810	0.090888	0.966885	0.085758	0.961283	0.079898	0.957007	0.073688	0.953955	0.067447
11	0.977904	0.083871	0.971842	0.079836	0.966766	0.075147	0.962708	0.070080	0.959626	0.064878
12	0.981127	0.077790	0.975799	0.074567	0.971216	0.070769	0.967423	0.066599	0.964412	0.062242
13	0.983706	0.072484	0.979000	0.069873	0.974865	0.066762	0.971351	0.063300	0.968464	0.059630
14	0.985799	0.067822	0.981621	0.065679	0.977888	0.063104	0.974646	0.060206	0.971911	0.057096
15	0.987519	0.063698	0.983791	0.061921	0.980414	0.059767	0.977430	0.057322	0.974858	0.054671
16	0.988949	0.060029	0.985606	0.058539	0.982544	0.056723	0.979799	0.054644	0.977391	0.052371
17	0.990149	0.056745	0.987138	0.055485	0.984353	0.053941	0.981827	0.052162	0.979579	0.050200
18	0.991167	0.053792	0.988442	0.052717	0.985902	0.051394	0.983574	0.049861	0.981478	0.048160
19	0.992036	0.051122	0.989561	0.050199	0.987237	0.049057	0.985089	0.047728	0.983135	0.046245
20	0.992784	0.048699	0.990527	0.047900	0.988395	0.046909	0.986410	0.045749	0.984587	0.044449
	6		7		8		9		10	
0	0.871606	0.000000	0.886488	0.000000	0.898237	0.000000	0.907758	0.000000	0.915633	0.000000
1	0.873827	0.016570	0.888009	0.012947	0.899327	0.010401	0.908565	0.008543	0.916249	0.007143
2	0.880023	0.031454	0.892327	0.024866	0.902453	0.020140	0.910901	0.016639	0.918040	0.013975
3	0.889029	0.043517	0.898793	0.034995	0.907236	0.028693	0.914531	0.023921	0.920856	0.020230
4	0.899484	0.052380	0.906591	0.042967	0.913167	0.035755	0.919127	0.030145	0.924479	0.025717
5	0.910242	0.058259	0.914952	0.048780	0.919729	0.041242	0.924336	0.035208	0.928664	0.030334
6	0.920534	0.061676	0.923283	0.052667	0.926481	0.045242	0.929836	0.039123	0.933175	0.034063
7	0.929945	0.063220	0.931193	0.054971	0.933096	0.047942	0.935365	0.041986	0.937807	0.036944
8	0.938313	0.063425	0.938469	0.056047	0.939359	0.049570	0.940731	0.043936	0.942398	0.039060
9	0.945629	0.062714	0.945023	0.056211	0.945154	0.050349	0.945812	0.045128	0.946833	0.040514
10	0.951965	0.061408	0.950850	0.055725	0.950427	0.050481	0.950535	0.045711	0.951035	0.041413
11	0.957427	0.059735	0.955987	0.054790	0.955176	0.050135	0.954870	0.045818	0.954959	0.041861
12	0.962128	0.057855	0.960495	0.053560	0.959421	0.049444	0.958814	0.045563	0.958586	0.041948
13	0.966178	0.055877	0.964444	0.052146	0.963201	0.048514	0.962379	0.045038	0.961913	0.041755
14	0.969673	0.053874	0.967903	0.050627	0.966559	0.047425	0.965591	0.044319	0.964949	0.041347
15	0.972699	0.051894	0.970935	0.049062	0.969539	0.046236	0.968477	0.043463	0.967710	0.040780
16	0.975326	0.049966	0.973557	0.047489	0.972185	0.044992	0.971067	0.042516	0.970214	0.040095
17	0.977617	0.048109	0.975940	0.045935	0.974538	0.043724	0.973393	0.041512	0.972484	0.039329
18	0.979622	0.046332	0.978009	0.044419	0.976632	0.042456	0.975481	0.040477	0.974540	0.038580
19	0.981384	0.044641	0.979839	0.042951	0.978500	0.041205	0.977357	0.039431	0.976402	0.037653
20	0.982938	0.043036	0.981465	0.041538	0.980169	0.039980	0.979047	0.038388	0.978090	0.036781

* If $x > 10$ or $y > 10$ then (see [5.15])

$$e^z E_1(z) = \frac{0.711093}{z+0.415775} + \frac{0.278518}{z+2.29428} + \frac{0.010389}{z+6.2900} + \epsilon, |\epsilon| < 3 \times 10^{-6}.$$

$$E_1(iy) = -\text{Ci}(y) + i \text{si}(y) \quad (y \text{ real})$$

*See page II.