

## EXPONENTIAL INTEGRAL FOR COMPLEX ARGUMENTS

Table 5.6

		$ze^z E_1(z)$									
$y \backslash x$		$\mathcal{R}$	$\mathcal{I}$	$\mathcal{R}$	$\mathcal{I}$	$\mathcal{R}$	$\mathcal{I}$	$\mathcal{R}$	$\mathcal{I}$	$\mathcal{R}$	$\mathcal{I}$
		-19		-18		-17		-16		-15	
0	1.059305	0.000000		1.063087	0.000001	1.067394	0.000002	1.072345	0.000006	1.078103	0.000014
1	1.059090	0.003539		1.062827	0.004010	1.067073	0.004584	1.071942	0.005296	1.077584	0.006195
2	1.058456	0.007000		1.062061	0.007918	1.066135	0.009032	1.070774	0.010403	1.076102	0.012118
3	1.057431	0.010310		1.060829	0.011633	1.064636	0.013226	1.068925	0.015172	1.073783	0.017579
4	1.056058	0.013410		1.059190	0.015079	1.062657	0.017075	1.066508	0.019486	1.070793	0.022432
5	1.054391	0.016252		1.057215	0.018202	1.060297	0.020512	1.063659	0.023272	1.067318	0.026598
6	1.052490	0.018806		1.054981	0.020969	1.057655	0.023505	1.060510	0.026499	1.063538	0.030055
7	1.050413	0.021055		1.052565	0.023364	1.054829	0.026044	1.057187	0.029167	1.059610	0.032823
8	1.048217	0.022996		1.050037	0.025391	1.051905	0.028141	1.053795	0.031306	1.055664	0.034957
9	1.045956	0.024637		1.047458	0.027066	1.048958	0.029824	1.050421	0.032960	1.051797	0.036527
10	1.043672	0.025993		1.044880	0.028412	1.046045	0.031130	1.047129	0.034183	1.048081	0.037609
11	1.041402	0.027086		1.042345	0.029461	1.043212	0.032102	1.043967	0.035034	1.044559	0.038282
12	1.039177	0.027940		1.039882	0.030245	1.040490	0.032781	1.040965	0.035567	1.041259	0.038616
13	1.037018	0.028581		1.037515	0.030796	1.037901	0.033211	1.038140	0.035836	1.038192	0.038677
14	1.034942	0.029034		1.035259	0.031148	1.035456	0.033431	1.035501	0.035888	1.035359	0.038520
15	1.032959	0.029326		1.033123	0.031330	1.033162	0.033476	1.033049	0.035765	1.032754	0.038193
16	1.031076	0.029477		1.031110	0.031368	1.031019	0.033377	1.030780	0.035502	1.030365	0.037735
17	1.029296	0.029511		1.029222	0.031288	1.029025	0.033162	1.028685	0.035129	1.028180	0.037179
18	1.027620	0.029445		1.027456	0.031110	1.027174	0.032855	1.026756	0.034672	1.026183	0.036552
19	1.026046	0.029296		1.025809	0.030854	1.025459	0.032474	1.024981	0.034150	1.024360	0.035873
20	1.024570	0.029080		1.024275	0.030534	1.023872	0.032037	1.023349	0.033582	1.022695	0.035160
$y \backslash x$		-14		-13		-12		-11		-10	
0	1.084892	0.000037		1.093027	0.000092	1.102975	0.000232	1.115431	0.000577	1.131470	0.001426
1	1.084200	0.007359		1.092067	0.008913	1.101566	0.011063	1.113230	0.014169	1.127796	0.018879
2	1.082276	0.014306		1.089498	0.017161	1.098025	0.020981	1.108170	0.026241	1.120286	0.033700
3	1.079313	0.020604		1.085635	0.024471	1.092873	0.029507	1.101137	0.036189	1.110462	0.045218
4	1.075560	0.026075		1.080853	0.030637	1.086686	0.036422	1.093013	0.043843	1.099666	0.053451
5	1.071279	0.030642		1.075522	0.035599	1.079985	0.041724	1.084526	0.049336	1.088877	0.058817
6	1.066708	0.034303		1.069960	0.039405	1.073185	0.045552	1.076197	0.052967	1.078701	0.061886
7	1.062046	0.037117		1.064412	0.042169	1.066578	0.048115	1.068350	0.055093	1.069450	0.063225
8	1.057448	0.039174		1.059054	0.044041	1.060352	0.049644	1.061159	0.056057	1.061235	0.063322
9	1.053021	0.040580		1.053997	0.045176	1.054606	0.050359	1.054687	0.056158	1.054046	0.062566
10	1.048834	0.041444		1.049303	0.045719	1.049380	0.050452	1.048933	0.055640	1.047807	0.061249
11	1.044928	0.041867		1.044997	0.045801	1.044674	0.050084	1.043853	0.054695	1.042417	0.059584
12	1.041320	0.041938		1.041080	0.045531	1.040464	0.049384	1.039389	0.053465	1.037766	0.057719
13	1.038010	0.041734		1.037537	0.044999	1.036713	0.048452	1.035473	0.052056	1.033752	0.055758
14	1.034989	0.041321		1.034344	0.044277	1.033378	0.047365	1.032040	0.050547	1.030282	0.053773
15	1.032241	0.040751		1.031474	0.043422	1.030414	0.046180	1.029026	0.048991	1.027274	0.051808
16	1.029747	0.040066		1.028895	0.042477	1.027781	0.044941	1.026377	0.047428	1.024658	0.049894
17	1.027486	0.039301		1.026579	0.041475	1.025438	0.043679	1.024043	0.045883	1.022375	0.048049
18	1.025437	0.038481		1.024499	0.040444	1.023352	0.042417	1.021981	0.044374	1.020375	0.046282
19	1.023580	0.037629		1.022628	0.039401	1.021489	0.041170	1.020155	0.042912	1.018617	0.044599
20	1.021896	0.036759		1.020942	0.038361	1.019824	0.039950	1.018533	0.041505	1.017066	0.043001
$y \backslash x$		-9		-8		-7		-6		-5	
0	1.152759	0.003489		1.181848	0.008431	1.222408	0.020053	1.278884	0.046723	1.353831	0.105839
1	1.146232	0.026376		1.169677	0.038841	1.199049	0.060219	1.233798	0.097331	1.268723	0.160826
2	1.134679	0.044579		1.151385	0.060814	1.169639	0.085335	1.186778	0.122162	1.196351	0.175646
3	1.120694	0.057595		1.131255	0.074701	1.140733	0.098259	1.146266	0.130005	1.142853	0.170672
4	1.106249	0.065948		1.111968	0.082156	1.115404	0.102861	1.114273	0.128440	1.105376	0.158134
5	1.092564	0.070592		1.094818	0.085055	1.094475	0.102411	1.089952	0.122397	1.079407	0.143879
6	1.080246	0.072520		1.080188	0.084987	1.077672	0.099188	1.071684	0.114638	1.061236	0.130280
7	1.069494	0.072580		1.067987	0.083120	1.064339	0.094618	1.057935	0.106568	1.048279	0.118116
8	1.060276	0.071425		1.057920	0.080250	1.053778	0.089537	1.047493	0.098840	1.038838	0.107508
9	1.052450	0.069523		1.049645	0.076885	1.045382	0.084405	1.039464	0.091717	1.031806	0.098337
10	1.045832	0.067197		1.042834	0.073340	1.038659	0.079462	1.033205	0.085271	1.026459	0.090413
11	1.040241	0.064664		1.037210	0.069803	1.033231	0.074821	1.028260	0.079488	1.022317	0.083544
12	1.035508	0.062063		1.032539	0.066381	1.028808	0.070524	1.024300	0.074315	1.019052	0.077561
13	1.031490	0.059482		1.028638	0.063128	1.025171	0.066576	1.021090	0.069688	1.016439	0.072320
14	1.028065	0.056975		1.025359	0.060070	1.022152	0.062962	1.018458	0.065542	1.014319	0.067702
15	1.025132	0.054573		1.022583	0.057215	1.019626	0.059658	1.016277	0.061817	1.012577	0.063610
16	1.022608	0.052291		1.020219	0.054559	1.017494	0.056638	1.014452	0.058460	1.011130	0.059962
17	1.020426	0.050135		1.018192	0.052094	1.015681	0.053874	1.012912	0.055424	1.009915	0.056694
18	1.018530	0.048106		1.016444	0.049806	1.014129	0.051341	1.011600	0.052670	1.008887	0.053752
19	1.016874	0.046201		1.014929	0.047684	1.012790	0.049015	1.010476	0.050161	1.008009	0.051092
20	1.015422	0.044413		1.013607	0.045714	1.011629	0.046875	1.009505	0.047870	1.007254	0.048675

For  $|z| > 4$ , linear interpolation will yield about four decimals, eight-point interpolation will yield about six decimals.

See Examples 9 – 10.

Table 5.6 EXPONENTIAL INTEGRAL FOR COMPLEX ARGUMENTS

		$ze^z E_1(z)$															
$y \backslash x$		$-4$		$-3$		$-2$		$-1$		$0$		$1$		$2$		$3$	
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	1.080136	0.262814	1.013205	0.289366	0.936283	0.280906	0.875783	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	0.137939	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	0.104303							
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							
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	0.797703	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							
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	0.050133	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	0.973551	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	0.039392							
18	0.979622	0.046332	0.978009	0.044419	0.976632	0.042456	0.975481	0.040477	0.974540	0.038508							
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])

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

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

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Table 5.6

$y \backslash x$	$ze^z E_1(z)$		$ze^z E_1(z)$		$ze^z E_1(z)$		$ze^z E_1(z)$		$ze^z E_1(z)$	
	$\mathcal{R}$	$\mathcal{I}$	$\mathcal{R}$	$\mathcal{I}$	$\mathcal{R}$	$\mathcal{I}$	$\mathcal{R}$	$\mathcal{I}$	$\mathcal{R}$	$\mathcal{I}$
	11		12		13		14		15	
0	0.922260	0.000000	0.927914	0.000000	0.932796	0.000000	0.937055	0.000000	0.940804	0.000000
1	0.922740	0.006063	0.928295	0.005212	0.933105	0.004528	0.937308	0.003972	0.941014	0.003512
2	0.924143	0.011902	0.929416	0.010258	0.934013	0.008932	0.938055	0.007847	0.941636	0.006949
3	0.926370	0.017321	0.931205	0.014991	0.935473	0.013098	0.939261	0.011540	0.942643	0.010242
4	0.929270	0.022171	0.933560	0.019295	0.937408	0.016934	0.940870	0.014974	0.943994	0.013331
5	0.932672	0.026361	0.936356	0.023091	0.939729	0.020373	0.942816	0.018095	0.945640	0.016169
6	0.936400	0.029857	0.939462	0.026339	0.942338	0.023378	0.945024	0.020867	0.947522	0.018725
7	0.940297	0.032670	0.942757	0.029036	0.945140	0.025934	0.947419	0.023273	0.949582	0.020980
8	0.944229	0.034847	0.946132	0.031205	0.948047	0.028052	0.949933	0.025315	0.951765	0.022931
9	0.948093	0.036453	0.949500	0.032887	0.950985	0.029756	0.952502	0.027004	0.954018	0.024582
10	0.951816	0.037566	0.952792	0.034134	0.953895	0.031081	0.955075	0.028365	0.956296	0.025949
11	0.955347	0.038261	0.955958	0.035004	0.956729	0.032068	0.957610	0.029426	0.958563	0.027052
12	0.958659	0.038612	0.958968	0.035552	0.959454	0.032761	0.960073	0.030221	0.960787	0.027915
13	0.961739	0.038684	0.961800	0.035833	0.962049	0.033201	0.962443	0.030781	0.962947	0.028564
14	0.964583	0.038534	0.964447	0.035893	0.964499	0.033428	0.964702	0.031140	0.965026	0.029024
15	0.967199	0.038211	0.966907	0.035775	0.966799	0.033479	0.966843	0.031327	0.967011	0.029320
16	0.969597	0.037756	0.969184	0.035515	0.968947	0.033384	0.968860	0.031370	0.968897	0.029476
17	0.971789	0.037200	0.971285	0.035144	0.970946	0.033172	0.970752	0.031293	0.970680	0.029512
18	0.973792	0.036572	0.973220	0.034687	0.972802	0.032865	0.972521	0.031117	0.972359	0.029448
19	0.975621	0.035893	0.974999	0.034166	0.974521	0.032485	0.974172	0.030862	0.973936	0.029301
20	0.977290	0.035179	0.976634	0.033597	0.976112	0.032049	0.975709	0.030542	0.975414	0.029086
	16		17		18		19		20	
0	0.944130	0.000000	0.947100	0.000000	0.949769	0.000000	0.952181	0.000000	0.954371	0.000000
1	0.944506	0.003128	0.947250	0.002804	0.949897	0.002527	0.952291	0.002290	0.954467	0.002085
2	0.944829	0.006196	0.947693	0.005560	0.950277	0.005016	0.952619	0.004549	0.954752	0.004144
3	0.945678	0.009150	0.948416	0.008223	0.950898	0.007430	0.953156	0.006745	0.955219	0.006151
4	0.946824	0.011940	0.949395	0.010754	0.951741	0.009735	0.953887	0.008853	0.955856	0.008084
5	0.948226	0.014529	0.950600	0.013121	0.952782	0.011904	0.954793	0.010847	0.956650	0.009922
6	0.949884	0.016886	0.951995	0.015296	0.953995	0.013916	0.955853	0.012709	0.957581	0.011649
7	0.951624	0.018994	0.953545	0.017265	0.955349	0.015753	0.957043	0.014425	0.958631	0.013253
8	0.953527	0.020847	0.955212	0.019019	0.956815	0.017409	0.958337	0.015986	0.959779	0.014723
9	0.955509	0.022445	0.956960	0.020555	0.958363	0.018878	0.959712	0.017387	0.961004	0.016056
10	0.957530	0.023797	0.958758	0.021878	0.959966	0.020163	0.961144	0.018628	0.962288	0.017250
11	0.959559	0.024917	0.960576	0.022998	0.961598	0.021270	0.962612	0.019712	0.963611	0.018305
12	0.961568	0.025823	0.962391	0.023927	0.963238	0.022207	0.964097	0.020645	0.964956	0.019227
13	0.963534	0.026534	0.964181	0.024679	0.964868	0.022984	0.965582	0.021436	0.966310	0.020021
14	0.965443	0.027070	0.965931	0.025271	0.966472	0.023616	0.967052	0.022094	0.967658	0.020694
15	0.967280	0.027453	0.967628	0.025720	0.968039	0.024114	0.968496	0.022629	0.968990	0.021255
16	0.969038	0.027700	0.969264	0.026041	0.969558	0.024493	0.969906	0.023052	0.970297	0.021712
17	0.970712	0.027831	0.970832	0.026249	0.971023	0.024765	0.971273	0.023375	0.971571	0.022075
18	0.972300	0.027862	0.972328	0.026361	0.972430	0.024943	0.972594	0.023607	0.972808	0.022352
19	0.973800	0.027809	0.973751	0.026388	0.973775	0.025038	0.973863	0.023760	0.974004	0.022552
20	0.975215	0.027685	0.975099	0.026343	0.975057	0.025062	0.975079	0.023842	0.975155	0.022684

## EXPONENTIAL INTEGRAL FOR SMALL COMPLEX ARGUMENTS Table 5.7

$y \backslash x$	$e^z E_1(z)$		$e^z E_1(z)$		$e^z E_1(z)$		$e^z E_1(z)$		$e^z E_1(z)$	
	$\mathcal{R}$	$\mathcal{I}$	$\mathcal{R}$	$\mathcal{I}$	$\mathcal{R}$	$\mathcal{I}$	$\mathcal{R}$	$\mathcal{I}$	$\mathcal{R}$	$\mathcal{I}$
	-4.0		-3.5		-3.0		-2.5		-2.0	
0.0	-0.359552	-0.057540	-0.420509	-0.094868	-0.494576	-0.156411	-0.580650	-0.257878	-0.670483	-0.425168
0.2	-0.347179	-0.078283	-0.400596	-0.119927	-0.462493	-0.185573	-0.528987	-0.289009	-0.587558	-0.451225
0.4	-0.333373	-0.096648	-0.379278	-0.141221	-0.429554	-0.208800	-0.478303	-0.310884	-0.510543	-0.463193
0.6	-0.318556	-0.112633	-0.357202	-0.158890	-0.396370	-0.226575	-0.429978	-0.324774	-0.441128	-0.464163
0.8	-0.303109	-0.126301	-0.334923	-0.173169	-0.364785	-0.239500	-0.384941	-0.323047	-0.380013	-0.457088
1.0	-0.287369	-0.137768	-0.312894	-0.184355	-0.334280	-0.248231	-0.343719	-0.334043	-0.327140	-0.444528
	-2.0		-1.5		-1.0		-0.5		0	
0.0	-4.261087	0.000000	-2.895820	0.000000	-1.895118	0.000000	-1.147367	0.000000	-0.577216	0.000000
0.2	-4.219228	0.636779	-2.867070	0.462804	-1.875155	0.342700	-1.133341	0.258840	-0.567232	0.199556
0.4	-4.094686	1.260867	-2.781497	0.917127	-1.815717	0.679691	-1.091560	0.513806	-0.537482	0.396461
0.6	-3.890531	1.859922	-2.641121	1.354712	-1.718135	1.005410	-1.022911	0.761122	-0.488555	0.588128
0.8	-3.611783	2.422284	-2.449241	1.767748	-1.584591	1.314586	-0.928842	0.997200	-0.421423	0.772095
1.0	-3.265262	2.937296	-2.210344	2.149077	-1.418052	1.602372	-0.811327	1.218731	-0.337404	0.946083
	0.5		1.0		1.5		2.0		2.5	
0.0	-0.133374	0.000000	0.219384	0.000000	0.505485	0.000000	0.742048	0.000000	0.941206	0.000000
0.2	-0.126168	0.157081	0.224661	0.126210	0.509410	0.103432	0.745014	0.086359	0.943484	0.073355
0.4	-0.104687	0.312331	0.240402	0.251143	0.521123	0.205962	0.753871	0.172075	0.950289	0.146246
0.6	-0.069328	0.463961	0.266336	0.373547	0.540441	0.306707	0.768490	0.256515	0.961532	0.218215
0.8	-0.020743	0.610264	0.302022	0.492229	0.567061	0.404823	0.788664	0.339075	0.977068	0.288822
1.0	+0.040177	0.749655	0.346856	0.606074	0.600568	0.499516	0.814107	0.419185	0.996699	0.357653