

DIGAMMA FUNCTION FOR COMPLEX ARGUMENTS

Table 6.8

$x=1.9$			$x=2.0$			$x=1.9$			$x=2.0$		
y	$\Re\psi(z)$	$\Im\psi(z)$	y	$\Re\psi(z)$	$\Im\psi(z)$	y	$\Re\psi(z)$	$\Im\psi(z)$	y	$\Re\psi(z)$	$\Im\psi(z)$
0.0	0.35618	0.00000	5.0	1.64585	1.29698	0.0	0.42278	0.00000	5.0	1.65125	1.27849
0.1	0.35847	0.06870	5.1	1.66428	1.30212	0.1	0.42480	0.06441	5.1	1.66948	1.28394
0.2	0.36528	0.13681	5.2	1.68240	1.30707	0.2	0.43081	0.12833	5.2	1.68742	1.28919
0.3	0.37644	0.20377	5.3	1.70022	1.31185	0.3	0.44068	0.19130	5.3	1.70506	1.29426
0.4	0.39169	0.26908	5.4	1.71775	1.31647	0.4	0.45420	0.25288	5.4	1.72242	1.29916
0.5	0.41071	0.33229	5.5	1.73500	1.32092	0.5	0.47111	0.31269	5.5	1.73951	1.30389
0.6	0.43309	0.39306	5.6	1.75197	1.32522	0.6	0.49110	0.37042	5.6	1.75633	1.30846
0.7	0.45842	0.45110	5.7	1.76868	1.32938	0.7	0.51380	0.42583	5.7	1.77290	1.31288
0.8	0.48625	0.50624	5.8	1.78513	1.33341	0.8	0.53887	0.47874	5.8	1.78921	1.31715
0.9	0.51614	0.55838	5.9	1.80133	1.33730	0.9	0.56594	0.52904	5.9	1.80528	1.32129
1.0	0.54770	0.60749	6.0	1.81728	1.34107	1.0	0.59465	0.57667	6.0	1.82111	1.32530
1.1	0.58053	0.65359	6.1	1.83300	1.34473	1.1	0.62468	0.62165	6.1	1.83671	1.32918
1.2	0.61431	0.69677	6.2	1.84848	1.34827	1.2	0.65572	0.66400	6.2	1.85208	1.33295
1.3	0.64872	0.73714	6.3	1.86374	1.35170	1.3	0.68751	0.70380	6.3	1.86723	1.33660
1.4	0.68351	0.77483	6.4	1.87878	1.35503	1.4	0.71980	0.74116	6.4	1.88217	1.34015
1.5	0.71846	0.80999	6.5	1.89361	1.35826	1.5	0.75239	0.77618	6.5	1.89690	1.34358
1.6	0.75338	0.84278	6.6	1.90824	1.36140	1.6	0.78510	0.80899	6.6	1.91143	1.34692
1.7	0.78814	0.87335	6.7	1.92266	1.36445	1.7	0.81779	0.83973	6.7	1.92576	1.35017
1.8	0.82261	0.90188	6.8	1.93688	1.36741	1.8	0.85033	0.86853	6.8	1.93990	1.35332
1.9	0.85669	0.92851	6.9	1.95092	1.37029	1.9	0.88262	0.89551	6.9	1.95385	1.35639
2.0	0.89031	0.95338	7.0	1.96476	1.37308	2.0	0.91459	0.92081	7.0	1.96761	1.35937
2.1	0.92342	0.97664	7.1	1.97843	1.37581	2.1	0.94617	0.94454	7.1	1.98120	1.36227
2.2	0.95598	0.99840	7.2	1.99192	1.37846	2.2	0.97731	0.96681	7.2	1.99462	1.36509
2.3	0.98795	1.01879	7.3	2.00523	1.38104	2.3	1.00798	0.98775	7.3	2.00786	1.36784
2.4	1.01932	1.03792	7.4	2.01838	1.38355	2.4	1.03814	1.00743	7.4	2.02094	1.37052
2.5	1.05008	1.05588	7.5	2.03136	1.38599	2.5	1.06779	1.02597	7.5	2.03385	1.37313
2.6	1.08022	1.07278	7.6	2.04418	1.38838	2.6	1.09690	1.04344	7.6	2.04661	1.37567
2.7	1.10975	1.08868	7.7	2.05684	1.39070	2.7	1.12548	1.05992	7.7	2.05921	1.37815
2.8	1.13867	1.10367	7.8	2.06935	1.39297	2.8	1.15352	1.07548	7.8	2.07167	1.38056
2.9	1.16698	1.11782	7.9	2.08171	1.39518	2.9	1.18102	1.09020	7.9	2.08397	1.38292
3.0	1.19470	1.13119	8.0	2.09393	1.39734	3.0	1.20798	1.10413	8.0	2.09613	1.38522
3.1	1.22184	1.14384	8.1	2.10600	1.39944	3.1	1.23442	1.11733	8.1	2.10815	1.38746
3.2	1.24841	1.15583	8.2	2.11793	1.40149	3.2	1.26034	1.12985	8.2	2.12003	1.38966
3.3	1.27442	1.16719	8.3	2.12973	1.40350	3.3	1.28575	1.14174	8.3	2.13178	1.39180
3.4	1.29990	1.17798	8.4	2.14139	1.40546	3.4	1.31067	1.15304	8.4	2.14339	1.39389
3.5	1.32485	1.18823	8.5	2.15292	1.40738	3.5	1.33510	1.16379	8.5	2.15487	1.39593
3.6	1.34929	1.19798	8.6	2.16432	1.40925	3.6	1.35905	1.17403	8.6	2.16623	1.39793
3.7	1.37324	1.20727	8.7	2.17560	1.41108	3.7	1.38254	1.18379	8.7	2.17746	1.39988
3.8	1.39670	1.21613	8.8	2.18675	1.41286	3.8	1.40558	1.19310	8.8	2.18858	1.40179
3.9	1.41970	1.22458	8.9	2.19778	1.41461	3.9	1.42818	1.20200	8.9	2.19957	1.40366
4.0	1.44226	1.23265	9.0	2.20870	1.41632	4.0	1.45036	1.21050	9.0	2.21045	1.40548
4.1	1.46437	1.24037	9.1	2.21950	1.41800	4.1	1.47212	1.21864	9.1	2.22121	1.40727
4.2	1.48606	1.24775	9.2	2.23019	1.41964	4.2	1.49348	1.22643	9.2	2.23187	1.40902
4.3	1.50734	1.25482	9.3	2.24077	1.42124	4.3	1.51446	1.23389	9.3	2.24241	1.41074
4.4	1.52822	1.26160	9.4	2.25124	1.42281	4.4	1.53505	1.24105	9.4	2.25284	1.41241
4.5	1.54872	1.26810	9.5	2.26160	1.42435	4.5	1.55527	1.24792	9.5	2.26318	1.41406
4.6	1.56885	1.27434	9.6	2.27186	1.42586	4.6	1.57514	1.25452	9.6	2.27340	1.41566
4.7	1.58861	1.28033	9.7	2.28202	1.42733	4.7	1.59466	1.26086	9.7	2.28353	1.41724
4.8	1.60803	1.28610	9.8	2.29207	1.42878	4.8	1.61385	1.26696	9.8	2.29356	1.41879
4.9	1.62710	1.29164	9.9	2.30203	1.43020	4.9	1.63270	1.27283	9.9	2.30349	1.42030
5.0	1.64585	1.29698	10.0	2.31190	1.43159	5.0	1.65125	1.27849	10.0	2.31332	1.42179
	$\begin{bmatrix} (-4)6 \\ 4 \end{bmatrix}$	$\begin{bmatrix} (-4)4 \\ 4 \end{bmatrix}$		$\begin{bmatrix} (-5)4 \\ 3 \end{bmatrix}$	$\begin{bmatrix} (-5)2 \\ 3 \end{bmatrix}$		$\begin{bmatrix} (-4)5 \\ 4 \end{bmatrix}$	$\begin{bmatrix} (-4)3 \\ 4 \end{bmatrix}$		$\begin{bmatrix} (-5)4 \\ 3 \end{bmatrix}$	$\begin{bmatrix} (-5)3 \\ 3 \end{bmatrix}$

$$\Im\psi(2+iy) = \frac{1}{2}\pi \coth \pi y - \frac{1+3y^2}{2y(1+y^2)}$$