

HYPERBOLIC FUNCTIONS

Table 4.15

x	$\sinh x$	$\cosh x$	$\tanh x$	$\coth x$
0.00	0.00000 0000	1.00000 0000	0.00000 000	∞
0.01	0.01000 0167	1.00005 0000	0.00999 967	100.00333 33
0.02	0.02000 1333	1.00020 0007	0.01999 733	50.00666 65
0.03	0.03000 4500	1.00045 0034	0.02999 100	33.34333 27
0.04	0.04001 0668	1.00080 0107	0.03997 868	25.01333 19
0.05	0.05002 0836	1.00125 0260	0.04995 838	20.01666 39
0.06	0.06003 6006	1.00180 0540	0.05992 810	16.68666 19
0.07	0.07005 7181	1.00245 1001	0.06988 589	14.30904 00
0.08	0.08008 5361	1.00320 1707	0.07982 977	12.52665 53
0.09	0.09012 1549	1.00405 2734	0.08975 779	11.14109 49
0.10	0.10016 6750	1.00500 4168	0.09966 800	10.03331 11
0.11	0.11022 1968	1.00605 6103	0.10955 847	9.12754 62
0.12	0.12028 8207	1.00720 8644	0.11942 730	8.37329 50
0.13	0.13036 6476	1.00846 1907	0.12927 258	7.73559 23
0.14	0.14045 7782	1.00981 6017	0.13909 245	7.18946 29
0.15	0.15056 3133	1.01127 1110	0.14888 503	6.71659 18
0.16	0.16068 3541	1.01282 7330	0.15864 850	6.30324 25
0.17	0.17082 0017	1.01448 4834	0.16838 105	5.93891 07
0.18	0.18097 3576	1.01624 3787	0.17808 087	5.61542 64
0.19	0.19114 5232	1.01810 4366	0.18774 621	5.32633 93
0.20	0.20133 6003	1.02006 6756	0.19737 532	5.06648 96
0.21	0.21154 6907	1.02213 1153	0.20696 650	4.83169 98
0.22	0.22177 8966	1.02429 7764	0.21651 806	4.61855 23
0.23	0.23203 3204	1.02656 6806	0.22602 835	4.42422 37
0.24	0.24231 0645	1.02893 8506	0.23549 575	4.24636 11
0.25	0.25261 2317	1.03141 3100	0.24491 866	4.08298 82
0.26	0.26293 9250	1.03399 0836	0.25429 553	3.93243 24
0.27	0.27329 2478	1.03667 1973	0.26362 484	3.79326 93
0.28	0.28367 3035	1.03945 6777	0.27290 508	3.66427 77
0.29	0.29408 1960	1.04234 5528	0.28213 481	3.54440 49
0.30	0.30452 0293	1.04533 8514	0.29131 261	3.43273 84
0.31	0.31498 9079	1.04843 6035	0.30043 710	3.32848 38
0.32	0.32548 9364	1.05163 8401	0.30950 692	3.23094 55
0.33	0.33602 2198	1.05494 5931	0.31852 078	3.13951 26
0.34	0.34658 8634	1.05835 8957	0.32747 740	3.05364 59
0.35	0.35718 9729	1.06187 7819	0.33637 554	2.97286 77
0.36	0.36782 6544	1.06550 2870	0.34521 403	2.89675 36
0.37	0.37850 0142	1.06923 4473	0.35399 171	2.82492 49
0.38	0.38921 1590	1.07307 2999	0.36270 747	2.75704 28
0.39	0.39996 1960	1.07701 8834	0.37136 023	2.69280 32
0.40	0.41075 2326	1.08107 2372	0.37994 896	2.63193 24
0.41	0.42158 3767	1.08523 4018	0.38847 268	2.57418 36
0.42	0.43245 7368	1.08950 4188	0.39693 043	2.51933 32
0.43	0.44337 4214	1.09388 3309	0.40532 131	2.46717 85
0.44	0.45433 5399	1.09837 1820	0.41364 444	2.41753 52
0.45	0.46534 2017	1.10297 0169	0.42189 901	2.37023 55
0.46	0.47639 5170	1.10767 8815	0.43008 421	2.32512 60
0.47	0.48749 5962	1.11249 8231	0.43819 932	2.28206 66
0.48	0.49864 5505	1.11742 8897	0.44624 361	2.24092 84
0.49	0.50984 4913	1.12247 1307	0.45421 643	2.20159 36
0.50	0.52109 5305	1.12762 5965	0.46211 716	2.16395 34
	$\begin{bmatrix} (-6)6 \\ 4 \end{bmatrix}$	$\begin{bmatrix} (-5)1 \\ 4 \end{bmatrix}$	$\begin{bmatrix} (-6)9 \\ 4 \end{bmatrix}$	

For $\coth x$, $x \leq .1$ use 4.5.67.

Compilation of $\tanh x$ and $\coth x$ from National Bureau of Standards, Table of circular and hyperbolic tangents and cotangents for radian arguments, 2d printing. Columbia Univ. Press, New York, N.Y., 1947 (with permission).

Table 4.15

HYPERBOLIC FUNCTIONS

x	$\sinh x$	$\cosh x$	$\tanh x$	$\coth x$
0.50	0.52109 5305	1.12762 5965	0.46211 716	2.16395 34
0.51	0.53239 7808	1.13289 3387	0.46994 520	2.12790 77
0.52	0.54375 3551	1.13827 4099	0.47770 001	2.09336 40
0.53	0.55516 3669	1.14376 8639	0.48538 109	2.06023 68
0.54	0.56662 9305	1.14937 7557	0.49298 797	2.02844 71
0.55	0.57815 1604	1.15510 1414	0.50052 021	1.99792 13
0.56	0.58973 1718	1.16094 0782	0.50797 743	1.96859 14
0.57	0.60137 0806	1.16689 6245	0.51535 928	1.94039 39
0.58	0.61307 0032	1.17296 8399	0.52266 543	1.91326 98
0.59	0.62483 0565	1.17915 7850	0.52989 561	1.88716 42
0.60	0.63665 3582	1.18546 5218	0.53704 957	1.86202 55
0.61	0.64854 0265	1.19189 1134	0.54412 710	1.83780 59
0.62	0.66049 1802	1.19843 6240	0.55112 803	1.81446 04
0.63	0.67250 9389	1.20510 1190	0.55805 222	1.79194 70
0.64	0.68459 4228	1.21188 6652	0.56489 955	1.77022 62
0.65	0.69674 7526	1.21879 3303	0.57166 997	1.74926 10
0.66	0.70897 0500	1.22582 1834	0.57836 341	1.72901 67
0.67	0.72126 4371	1.23297 2949	0.58497 988	1.70946 05
0.68	0.73363 0370	1.24024 7362	0.59151 940	1.69056 16
0.69	0.74606 9732	1.24764 5801	0.59798 200	1.67229 11
0.70	0.75858 3702	1.25516 9006	0.60436 778	1.65462 16
0.71	0.77117 3531	1.26281 7728	0.61067 683	1.63752 73
0.72	0.78384 0477	1.27059 2733	0.61690 930	1.62098 38
0.73	0.79658 5809	1.27849 4799	0.62306 535	1.60496 81
0.74	0.80941 0799	1.28652 4715	0.62914 516	1.58945 83
0.75	0.82231 6732	1.29468 3285	0.63514 895	1.57443 38
0.76	0.83530 4897	1.30297 1324	0.64107 696	1.55987 51
0.77	0.84837 6593	1.31138 9661	0.64692 945	1.54576 36
0.78	0.86153 3127	1.31993 9138	0.65270 671	1.53208 17
0.79	0.87477 5815	1.32862 0611	0.65840 904	1.51881 27
0.80	0.88810 5982	1.33743 4946	0.66403 677	1.50594 07
0.81	0.90152 4960	1.34638 3026	0.66959 026	1.49345 06
0.82	0.91503 4092	1.35546 5746	0.67506 987	1.48132 81
0.83	0.92863 4727	1.36468 4013	0.68047 601	1.46955 95
0.84	0.94232 8227	1.37403 8750	0.68580 906	1.45813 18
0.85	0.95611 5960	1.38353 0892	0.69106 947	1.44703 25
0.86	0.96999 9306	1.39316 1388	0.69625 767	1.43624 99
0.87	0.98397 9652	1.40293 1201	0.70137 413	1.42577 26
0.88	0.99805 8397	1.41284 1309	0.70641 932	1.41558 98
0.89	1.01223 6949	1.42289 2702	0.71139 373	1.40569 13
0.90	1.02651 6726	1.43308 6385	0.71629 787	1.39606 73
0.91	1.04089 9155	1.44342 3379	0.72113 225	1.38670 82
0.92	1.05538 5674	1.45390 4716	0.72589 742	1.37760 51
0.93	1.06997 7734	1.46453 1444	0.73059 390	1.36874 95
0.94	1.08467 6791	1.47530 4627	0.73522 225	1.36013 29
0.95	1.09948 4318	1.48622 5341	0.73978 305	1.35174 76
0.96	1.11440 1794	1.49729 4680	0.74427 687	1.34358 60
0.97	1.12943 0711	1.50851 3749	0.74870 429	1.33564 08
0.98	1.14457 2572	1.51988 3670	0.75306 591	1.32790 50
0.99	1.15982 8891	1.53140 5582	0.75736 232	1.32037 20
1.00	1.17520 1194 $\left[\begin{smallmatrix} (-5)1 \\ 4 \end{smallmatrix} \right]$	1.54308 0635 $\left[\begin{smallmatrix} (-5)2 \\ 4 \end{smallmatrix} \right]$	0.76159 416 $\left[\begin{smallmatrix} (-6)9 \\ 4 \end{smallmatrix} \right]$	1.31303 53 $\left[\begin{smallmatrix} (-4)2 \\ 5 \end{smallmatrix} \right]$

HYPERBOLIC FUNCTIONS

Table 4.15

x	$\sinh x$	$\cosh x$	$\tanh x$	$\coth x$
1.00	1.17520 1194	1.54308 0635	0.76159 416	1.31303 53
1.01	1.19069 1018	1.55490 9997	0.76576 202	1.30588 87
1.02	1.20629 9912	1.56689 4852	0.76986 654	1.29892 64
1.03	1.22202 9437	1.57903 6398	0.77390 834	1.29214 27
1.04	1.23788 1166	1.59133 5848	0.77788 807	1.28553 20
1.05	1.25385 6684	1.60379 4434	0.78180 636	1.27908 91
1.06	1.26995 7589	1.61641 3400	0.78566 386	1.27280 90
1.07	1.28618 5491	1.62919 4009	0.78946 122	1.26668 67
1.08	1.30254 2013	1.64213 7538	0.79319 910	1.26071 75
1.09	1.31902 8789	1.65524 5283	0.79687 814	1.25489 70
1.10	1.33564 7470	1.66851 8554	0.80049 902	1.24922 08
1.11	1.35239 9717	1.68195 8678	0.80406 239	1.24368 46
1.12	1.36928 7204	1.69556 6999	0.80756 892	1.23828 44
1.13	1.38631 1622	1.70934 4878	0.81101 926	1.23301 63
1.14	1.40347 4672	1.72329 3694	0.81441 409	1.22787 66
1.15	1.42077 8070	1.73741 4840	0.81775 408	1.22286 15
1.16	1.43822 3548	1.75170 9728	0.82103 988	1.21796 76
1.17	1.45581 2849	1.76617 9790	0.82427 217	1.21319 15
1.18	1.47354 7732	1.78082 6471	0.82745 161	1.20852 99
1.19	1.49142 9972	1.79565 1236	0.83057 887	1.20397 96
1.20	1.50946 1355	1.81065 5567	0.83365 461	1.19953 75
1.21	1.52764 3687	1.82584 0966	0.83667 949	1.19520 08
1.22	1.54597 8783	1.84120 8950	0.83965 418	1.19096 65
1.23	1.56446 8479	1.85676 1057	0.84257 933	1.18683 19
1.24	1.58311 4623	1.87249 8841	0.84545 560	1.18279 42
1.25	1.60191 9080	1.88842 3877	0.84828 364	1.17885 10
1.26	1.62088 3730	1.90453 7757	0.85106 411	1.17499 96
1.27	1.64001 0470	1.92084 2092	0.85379 765	1.17123 77
1.28	1.65930 1213	1.93733 8513	0.85648 492	1.16756 29
1.29	1.67875 7886	1.95402 8669	0.85912 654	1.16397 29
1.30	1.69838 2437	1.97091 4230	0.86172 316	1.16046 55
1.31	1.71817 6828	1.98799 6884	0.86427 541	1.15703 86
1.32	1.73814 3038	2.00527 8340	0.86678 393	1.15369 01
1.33	1.75828 3063	2.02276 0324	0.86924 933	1.15041 79
1.34	1.77859 8918	2.04044 4587	0.87167 225	1.14722 02
1.35	1.79909 2635	2.05833 2896	0.87405 329	1.14409 50
1.36	1.81976 6262	2.07642 7039	0.87639 307	1.14104 05
1.37	1.84062 1868	2.09472 8828	0.87869 219	1.13805 50
1.38	1.86166 1537	2.11324 0090	0.88095 127	1.13513 66
1.39	1.88288 7374	2.13196 2679	0.88317 089	1.13228 37
1.40	1.90430 1501	2.15089 8465	0.88535 165	1.12949 47
1.41	1.92590 6060	2.17004 9344	0.88749 413	1.12676 80
1.42	1.94770 3212	2.18941 7229	0.88959 892	1.12410 21
1.43	1.96969 5135	2.20900 4057	0.89166 660	1.12149 54
1.44	1.99188 4029	2.22881 1788	0.89369 773	1.11894 66
1.45	2.01427 2114	2.24884 2402	0.89569 287	1.11645 41
1.46	2.03686 1627	2.26909 7902	0.89765 260	1.11401 67
1.47	2.05965 4828	2.28958 0313	0.89957 745	1.11163 30
1.48	2.08265 3996	2.31029 1685	0.90146 799	1.10930 17
1.49	2.10586 1432	2.33123 4087	0.90332 474	1.10702 16
1.50	2.12927 9455	2.35240 9615	0.90514 825	1.10479 14
	$\begin{bmatrix} (-5)3 \\ 4 \end{bmatrix}$	$\begin{bmatrix} (-5)3 \\ 5 \end{bmatrix}$	$\begin{bmatrix} (-6)8 \\ 4 \end{bmatrix}$	$\begin{bmatrix} (-5)2 \\ 4 \end{bmatrix}$

Table 4.15

HYPERBOLIC FUNCTIONS

x	$\sinh x$	$\cosh x$	$\tanh x$	$\coth x$
1.50	2.12927 9455	2.35240 9615	0.90514 825	1.10479 14
1.51	2.15291 0408	2.37382 0386	0.90693 905	1.10260 99
1.52	2.17675 6654	2.39546 8541	0.90869 766	1.10047 60
1.53	2.20082 0577	2.41735 6245	0.91042 459	1.09838 86
1.54	2.22510 4585	2.43948 5686	0.91212 037	1.09634 65
1.55	2.24961 1104	2.46185 9078	0.91378 549	1.09434 87
1.56	2.27434 2587	2.48447 8658	0.91542 046	1.09239 42
1.57	2.29930 1506	2.50734 6688	0.91702 576	1.09048 19
1.58	2.32449 0357	2.53046 5455	0.91860 189	1.08861 09
1.59	2.34991 1658	2.55383 7270	0.92014 933	1.08678 01
1.60	2.37556 7953	2.57746 4471	0.92166 855	1.08498 87
1.61	2.40146 1807	2.60134 9421	0.92316 003	1.08323 58
1.62	2.42759 5809	2.62549 4508	0.92462 422	1.08152 04
1.63	2.45397 2572	2.64990 2146	0.92606 158	1.07984 18
1.64	2.48059 4735	2.67457 4777	0.92747 257	1.07819 90
1.65	2.50746 4959	2.69951 4868	0.92885 762	1.07659 13
1.66	2.53458 5932	2.72472 4912	0.93021 718	1.07501 78
1.67	2.56196 0366	2.75020 7431	0.93155 168	1.07347 77
1.68	2.58959 0998	2.77596 4974	0.93286 155	1.07197 04
1.69	2.61748 0591	2.80200 0115	0.93414 721	1.07049 51
1.70	2.64563 1934	2.82831 5458	0.93540 907	1.06905 10
1.71	2.67404 7843	2.85491 3635	0.93664 754	1.06763 75
1.72	2.70273 1158	2.88179 7306	0.93786 303	1.06625 38
1.73	2.73168 4749	2.90896 9159	0.93905 593	1.06489 93
1.74	2.76091 1511	2.93643 1912	0.94022 664	1.06357 34
1.75	2.79041 4366	2.96418 8310	0.94137 554	1.06227 53
1.76	2.82019 6265	2.99224 1129	0.94250 301	1.06100 46
1.77	2.85026 0186	3.02059 3175	0.94360 942	1.05976 05
1.78	2.88060 9136	3.04924 7283	0.94469 516	1.05854 25
1.79	2.91124 6148	3.07820 6318	0.94576 057	1.05735 01
1.80	2.94217 4288	3.10747 3176	0.94680 601	1.05618 26
1.81	2.97339 6648	3.13705 0785	0.94783 185	1.05503 95
1.82	3.00491 6349	3.16694 2100	0.94883 842	1.05392 02
1.83	3.03673 6545	3.19715 0113	0.94982 608	1.05282 43
1.84	3.06886 0417	3.22767 7844	0.95079 514	1.05175 13
1.85	3.10129 1178	3.25852 8344	0.95174 596	1.05070 05
1.86	3.13403 2071	3.28970 4701	0.95267 884	1.04967 17
1.87	3.16708 6369	3.32121 0031	0.95359 412	1.04866 42
1.88	3.20045 7378	3.35304 7484	0.95449 211	1.04767 76
1.89	3.23414 8436	3.38522 0245	0.95537 312	1.04671 15
1.90	3.26816 2912	3.41773 1531	0.95623 746	1.04576 53
1.91	3.30250 4206	3.45058 4593	0.95708 542	1.04483 88
1.92	3.33717 5754	3.48378 2716	0.95791 731	1.04393 14
1.93	3.37218 1022	3.51732 9220	0.95873 341	1.04304 28
1.94	3.40752 3510	3.55122 7460	0.95953 401	1.04217 25
1.95	3.44320 6754	3.58548 0826	0.96031 939	1.04132 02
1.96	3.47923 4322	3.62009 2743	0.96108 983	1.04048 55
1.97	3.51560 9816	3.65506 6672	0.96184 561	1.03966 79
1.98	3.55233 6874	3.69040 6111	0.96258 698	1.03886 72
1.99	3.58941 9168	3.72611 4594	0.96331 422	1.03808 29
2.00	3.62686 0408	3.76219 5691	0.96402 758	1.03731 47
	$\left[\begin{smallmatrix} (-5)4 \\ 5 \end{smallmatrix} \right]$	$\left[\begin{smallmatrix} (-5)5 \\ 5 \end{smallmatrix} \right]$	$\left[\begin{smallmatrix} (-6)4 \\ 4 \end{smallmatrix} \right]$	$\left[\begin{smallmatrix} (-6)6 \\ 3 \end{smallmatrix} \right]$

HYPERBOLIC FUNCTIONS

Table 4.15

x	$\sinh x$	$\cosh x$	$\tanh x$	$\coth x$
2.0	3.62686 0408	3.76219 5691	0.96402 75801	1.03731 47207
2.1	4.02185 6742	4.14431 3170	0.97045 19366	1.03044 77350
2.2	4.45710 5171	4.56790 8329	0.97574 31300	1.02485 98932
2.3	4.93696 1806	5.03722 0649	0.98009 63963	1.02030 78022
2.4	5.46622 9214	5.55694 7167	0.98367 48577	1.01659 60756
2.5	6.05020 4481	6.13228 9480	0.98661 42982	1.01356 73098
2.6	6.69473 2228	6.76900 5807	0.98902 74022	1.01109 43314
2.7	7.40626 3106	7.47346 8619	0.99100 74537	1.00907 41460
2.8	8.19191 8354	8.25272 8417	0.99263 15202	1.00742 31773
2.9	9.05956 1075	9.11458 4295	0.99396 31674	1.00607 34973
3.0	10.01787 4927	10.06766 1996	0.99505 47537	1.00496 98233
3.1	11.07645 1040	11.12150 0242	0.99594 93592	1.00406 71152
3.2	12.24588 3997	12.28664 6201	0.99668 23978	1.00332 86453
3.3	13.53787 7877	13.57476 1044	0.99728 29601	1.00272 44423
3.4	14.96536 3389	14.99873 6659	0.99777 49279	1.00223 00341
3.5	16.54262 7288	16.57282 4671	0.99817 78976	1.00182 54285
3.6	18.28545 5361	18.31277 9083	0.99850 79423	1.00149 42872
3.7	20.21129 0417	20.23601 3943	0.99877 82413	1.00122 32532
3.8	22.33940 6861	22.36177 7633	0.99899 95978	1.00100 14040
3.9	24.69110 3597	24.71134 5508	0.99918 08657	1.00081 98059
4.0	27.28991 7197	27.30823 2836	0.99932 92997	1.00067 11504
4.1	30.16185 7461	30.17843 0136	0.99945 08437	1.00054 94581
4.2	33.33566 7732	33.35066 3309	0.99955 03665	1.00044 98358
4.3	36.84311 2570	36.85668 1129	0.99963 18562	1.00036 82794
4.4	40.71929 5663	40.73157 3002	0.99969 85793	1.00030 15116
4.5	45.00301 1152	45.01412 0149	0.99975 32108	1.00024 68501
4.6	49.73713 1903	49.74718 3739	0.99979 79416	1.00020 20992
4.7	54.96903 8588	54.97813 3865	0.99983 45656	1.00016 54618
4.8	60.75109 3886	60.75932 3633	0.99986 45517	1.00013 54666
4.9	67.14116 6551	67.14861 3134	0.99988 91030	1.00011 09093
5.0	74.20321 0578	74.20994 8525	0.99990 92043	1.00009 08040
5.1	82.00790 5277	82.01400 2023	0.99992 56621	1.00007 43434
5.2	90.63336 2655	90.63887 9220	0.99993 91369	1.00006 08668
5.3	100.16590 9190	100.17090 0784	0.99995 01692	1.00004 98333
5.4	110.70094 9812	110.70546 6393	0.99995 92018	1.00004 07998
5.5	122.34392 2746	122.34800 9518	0.99996 65972	1.00003 34040
5.6	135.21135 4781	135.21505 2645	0.99997 26520	1.00002 73488
5.7	149.43202 7501	149.43537 3466	0.99997 76093	1.00002 23912
5.8	165.14826 6177	165.15129 3732	0.99998 16680	1.00001 83323
5.9	182.51736 4210	182.52010 3655	0.99998 49910	1.00001 50092
6.0	201.71315 7370	201.71563 6122	0.99998 77117	1.00001 22885
			$\left[\begin{smallmatrix} (-4)1 \\ 6 \end{smallmatrix} \right]$	$\left[\begin{smallmatrix} (-4)2 \\ 9 \end{smallmatrix} \right]$

Table 4.15

HYPERBOLIC FUNCTIONS

x	$\sinh x$		$\cosh x$		$\tanh x$		$\coth x$	
6.0	201.71315	7370	201.71563	6122	0.99998	77117	1.00001	22885
6.1	222.92776	3607	222.93000	6475	0.99998	99391	1.00001	00610
6.2	246.37350	5831	246.37553	5262	0.99999	17629	1.00000	82372
6.3	272.28503	6911	272.28687	3215	0.99999	32560	1.00000	67441
6.4	300.92168	8157	300.92334	9715	0.99999	44785	1.00000	55216
6.5	332.57006	4803	332.57156	8242	0.99999	54794	1.00000	45207
6.6	367.54691	4437	367.54827	4805	0.99999	62988	1.00000	37012
6.7	406.20229	7128	406.20352	8040	0.99999	69697	1.00000	30303
6.8	448.92308	8938	448.92420	2713	0.99999	75190	1.00000	24810
6.9	496.13685	3910	496.13786	1695	0.99999	79687	1.00000	20313
7.0	548.31612	3273	548.31703	5155	0.99999	83369	1.00000	16631
7.1	605.98312	4694	605.98394	9799	0.99999	86384	1.00000	13616
7.2	669.71500	8904	669.71575	5490	0.99999	88852	1.00000	11148
7.3	740.14962	6023	740.15030	1562	0.99999	90873	1.00000	09127
7.4	817.99190	9372	817.99252	0624	0.99999	92527	1.00000	07473
7.5	904.02093	0686	904.02148	3770	0.99999	93882	1.00000	06118
7.6	999.09769	7326	999.09819	7778	0.99999	94991	1.00000	05009
7.7	1104.17376	9530	1104.17422	2357	0.99999	95899	1.00000	04101
7.8	1220.30078	3945	1220.30119	3680	0.99999	96642	1.00000	03358
7.9	1348.64097	8762	1348.64134	9506	0.99999	97251	1.00000	02749
8.0	1490.47882	5790	1490.47916	1252	0.99999	97749	1.00000	02251
8.1	1647.23388	5872	1647.23418	9411	0.99999	98157	1.00000	01843
8.2	1820.47501	6339	1820.47529	0993	0.99999	98491	1.00000	01509
8.3	2011.93607	2653	2011.93632	1170	0.99999	98765	1.00000	01235
8.4	2223.53326	1416	2223.53348	6284	0.99999	98989	1.00000	01011
8.5	2457.38431	8415	2457.38452	1884	0.99999	99172	1.00000	00828
8.6	2715.82970	3629	2715.82988	7734	0.99999	99322	1.00000	00678
8.7	3001.45602	5338	3001.45619	1923	0.99999	99445	1.00000	00555
8.8	3317.12192	7772	3317.12207	8505	0.99999	99546	1.00000	00454
8.9	3665.98670	1384	3665.98683	7772	0.99999	99628	1.00000	00372
9.0	4051.54190	2083	4051.54202	5493	0.99999	99695	1.00000	00305
9.1	4477.64629	5908	4477.64640	7574	0.99999	99751	1.00000	00249
9.2	4948.56447	8852	4948.56457	9892	0.99999	99796	1.00000	00204
9.3	5469.00955	8370	5469.00964	9795	0.99999	99833	1.00000	00167
9.4	6044.19032	3746	6044.19040	6471	0.99999	99863	1.00000	00137
9.5	6679.86337	7405	6679.86345	2257	0.99999	99888	1.00000	00112
9.6	7382.39074	8924	7382.39081	6653	0.99999	99908	1.00000	00092
9.7	8158.80356	8366	8158.80362	9649	0.99999	99925	1.00000	00075
9.8	9016.87243	6188	9016.87249	1640	0.99999	99939	1.00000	00061
9.9	9965.18519	4028	9965.18524	4202	0.99999	99950	1.00000	00050
10.0	11013.23287	4703	11013.23292	0103	0.99999	99959	1.00000	00041
					* $\left[\begin{smallmatrix} (-8)5 \\ 5 \end{smallmatrix} \right]$		$\left[\begin{smallmatrix} (-8)7 \\ 5 \end{smallmatrix} \right]$	

For $x \gg 0$, $\sinh x \sim \cosh x \sim \frac{1}{2} e^x$. For $x > 10$, $\tanh x \sim 1 - 2e^{-2x}$, $\coth x \sim 1 + 2e^{-2x}$ to 10D.