

00° 00' 00''

00° 20' 30''

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
0	0	1	0	$\infty$	1	$\infty$
00° 00' 30''	0.00014544	0.99999999	0.000145444	6875.493493	1.000000011	6875.493566
00° 01' 00''	0.00029089	0.99999996	0.000290888	3437.746674	1.000000042	3437.746819
00° 01' 30''	0.00043633	0.99999990	0.000436332	2291.831035	1.000000095	2291.831253
00° 02' 00''	0.00058178	0.99999983	0.000581776	1718.873191	1.000000169	1718.873482
00° 02' 30''	0.00072722	0.99999974	0.000727221	1375.098466	1.000000264	1375.098830
00° 03' 00''	0.00087266	0.99999962	0.000872665	1145.915299	1.000000381	1145.915736
00° 03' 30''	0.00101811	0.99999948	0.001018109	982.2130237	1.000000518	982.2135328
00° 04' 00''	0.00116355	0.99999932	0.001163553	859.4363048	1.000000677	859.4368866
00° 04' 30''	0.00130900	0.99999914	0.001308998	763.9432905	1.000000857	763.9439450
00° 05' 00''	0.00145444	0.99999894	0.001454442	687.5488693	1.000001058	687.5495966
00° 05' 30''	0.00159988	0.99999872	0.001599887	625.0443341	1.000001280	625.0451341
00° 06' 00''	0.00174533	0.99999848	0.001745331	572.9572134	1.000001523	572.9580860
00° 06' 30''	0.00189077	0.99999821	0.001890776	528.8834883	1.000001788	528.8844337
00° 07' 00''	0.00203622	0.99999793	0.002036220	491.1060028	1.000002073	491.1070209
00° 07' 30''	0.00218166	0.99999762	0.002181665	458.3655089	1.000002380	458.3665997
00° 08' 00''	0.00232710	0.99999729	0.002327110	429.7175706	1.000002708	429.7187342
00° 08' 30''	0.00247255	0.99999694	0.002472555	404.4399724	1.000003057	404.4412087
00° 09' 00''	0.00261799	0.99999657	0.002618000	381.9709908	1.000003427	381.9722998
00° 09' 30''	0.00276343	0.99999618	0.002763445	361.8671600	1.000003818	361.8685417
00° 10' 00''	0.00290888	0.99999577	0.002908890	343.7737075	1.000004231	343.7751619
00° 10' 30''	0.00305432	0.99999534	0.003054336	327.4034363	1.000004664	327.4049634
00° 11' 00''	0.00319976	0.99999488	0.003199781	312.5213671	1.000005119	312.5229670
00° 11' 30''	0.00334521	0.99999440	0.003345227	298.9333867	1.000005595	298.9350593
00° 12' 00''	0.00349065	0.99999391	0.003490673	286.4777340	1.000006092	286.4794793
00° 12' 30''	0.00363609	0.99999339	0.003636119	275.0185296	1.000006611	275.0203477
00° 13' 00''	0.00378154	0.99999285	0.003781565	264.4407988	1.000007150	264.4426895
00° 13' 30''	0.00392698	0.99999229	0.003927011	254.6465999	1.000007711	254.6485634
00° 14' 00''	0.00407242	0.99999171	0.004072457	245.5519833	1.000008292	245.5540195
00° 14' 30''	0.00421787	0.99999110	0.004217904	237.0845782	1.000008895	237.0866872
00° 15' 00''	0.00436331	0.99999048	0.004363351	229.1816636	1.000009519	229.1838453
00° 15' 30''	0.00450875	0.99998984	0.004508798	221.7886113	1.000010165	221.7908657
00° 16' 00''	0.00465419	0.99998917	0.004654245	214.8576218	1.000010831	214.8599489
00° 16' 30''	0.00479964	0.99998848	0.004799692	208.3466893	1.000011518	208.3490891
00° 17' 00''	0.00494508	0.99998777	0.004945140	202.2187499	1.000012227	202.2212225
00° 17' 30''	0.00509052	0.99998704	0.005090588	196.4409758	1.000012957	196.4435210
00° 18' 00''	0.00523596	0.99998629	0.005236036	190.9841864	1.000013708	190.9868044
00° 18' 30''	0.00538141	0.99998552	0.005381484	185.8223560	1.000014480	185.8250467
00° 19' 00''	0.00552685	0.99998473	0.005526932	180.9321983	1.000015273	180.9349617
00° 19' 30''	0.00567229	0.99998391	0.005672381	176.2928154	1.000016088	176.2956516
00° 20' 00''	0.00581773	0.99998308	0.005817830	171.8853993	1.000016923	171.8883082
00° 20' 30''	0.00596317	0.99998222	0.005963279	167.6929767	1.000017780	167.6959583

00° 21' 00"

00° 41' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
00° 21' 00"	0.00610861	0.99998134	0.006108728	163.7001910	1.000018658	163.7032453
00° 21' 30"	0.00625406	0.99998044	0.006254178	159.8931139	1.000019557	159.8962410
00° 22' 00"	0.00639950	0.99997952	0.006399628	156.2590837	1.000020477	156.2622834
00° 22' 30"	0.00654494	0.99997858	0.006545078	152.7865637	1.000021419	152.7898362
00° 23' 00"	0.00669038	0.99997762	0.006690529	149.4650208	1.000022381	149.4683660
00° 23' 30"	0.00683582	0.99997664	0.006835979	146.2848180	1.000023365	146.2882359
00° 24' 00"	0.00698126	0.99997563	0.006981430	143.2371217	1.000024370	143.2406123
00° 24' 30"	0.00712670	0.99997460	0.007126882	140.3138191	1.000025396	140.3173825
00° 25' 00"	0.00727214	0.99997356	0.007272333	137.5074468	1.000026443	137.5110829
00° 25' 30"	0.00741758	0.99997249	0.007417785	134.8111263	1.000027511	134.8148351
00° 26' 00"	0.00756302	0.99997140	0.007563238	132.2185086	1.000028601	132.2222902
00° 26' 30"	0.00770846	0.99997029	0.007708690	129.7237237	1.000029712	129.7275780
00° 27' 00"	0.00785390	0.99996916	0.007854143	127.3213365	1.000030843	127.3252635
00° 27' 30"	0.00799934	0.99996800	0.007999596	125.0063070	1.000031996	125.0103067
00° 28' 00"	0.00814478	0.99996683	0.008145050	122.7739554	1.000033170	122.7780279
00° 28' 30"	0.00829022	0.99996564	0.008290504	120.6199303	1.000034366	120.6240754
00° 29' 00"	0.00843566	0.99996442	0.008435958	118.5401802	1.000035582	118.5443981
00° 29' 30"	0.00858110	0.99996318	0.008581413	116.5309284	1.000036820	116.5352191
00° 30' 00"	0.00872654	0.99996192	0.008726868	114.5886501	1.000038078	114.5930135
00° 30' 30"	0.00887197	0.99996064	0.008872323	112.7100515	1.000039358	112.7144876
00° 31' 00"	0.00901741	0.99995934	0.009017779	110.8920513	1.000040659	110.8965601
00° 31' 30"	0.00916285	0.99995802	0.009163235	109.1317638	1.000041982	109.1363453
00° 32' 00"	0.00930829	0.99995668	0.009308692	107.4264838	1.000043325	107.4311380
00° 32' 30"	0.00945373	0.99995531	0.009454148	105.7736724	1.000044689	105.7783994
00° 33' 00"	0.00959916	0.99995393	0.009599606	104.1709448	1.000046075	104.1757445
00° 33' 30"	0.00974460	0.99995252	0.009745063	102.6160583	1.000047482	102.6209307
00° 34' 00"	0.00989004	0.99995109	0.009890522	101.1069024	1.000048910	101.1118475
00° 34' 30"	0.01003547	0.99994964	0.010035980	99.64148870	1.000050359	99.64650656
00° 35' 00"	0.01018091	0.99994817	0.010181439	98.21794259	1.000051830	98.22303318
00° 35' 30"	0.01032635	0.99994668	0.010326898	96.83449500	1.000053321	96.83965832
00° 36' 00"	0.01047178	0.99994517	0.010472358	95.48947517	1.000054834	95.49471121
00° 36' 30"	0.01061722	0.99994364	0.010617819	94.18130387	1.000056367	94.18661263
00° 37' 00"	0.01076266	0.99994208	0.010763279	92.90848724	1.000057922	92.91386872
00° 37' 30"	0.01090809	0.99994051	0.010908741	91.66961109	1.000059499	91.67506530
00° 38' 00"	0.01105353	0.99993891	0.011054202	90.46333567	1.000061096	90.46886260
00° 38' 30"	0.01119896	0.99993729	0.011199664	89.28839082	1.000062714	89.29399048
00° 39' 00"	0.01134440	0.99993565	0.011345127	88.14357152	1.000064354	88.14924390
00° 39' 30"	0.01148983	0.99993399	0.011490590	87.02773376	1.000066015	87.03347886
00° 40' 00"	0.01163527	0.99993231	0.011636053	85.93979073	1.000067697	85.94560855
00° 40' 30"	0.01178070	0.99993061	0.011781518	84.87870929	1.000069400	84.88459984
00° 41' 00"	0.01192613	0.99992888	0.011926982	83.84350670	1.000071124	83.84946998
00° 41' 30"	0.01207157	0.99992714	0.012072447	82.83324759	1.000072869	82.83928360

00° 42' 00"

01° 02' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
00° 42' 00"	0.01221700	0.99992537	0.012217913	81.84704111	1.000074636	81.85314984
00° 42' 30"	0.01236243	0.99992358	0.012363379	80.88403835	1.000076424	80.89021981
00° 43' 00"	0.01250787	0.99992177	0.012508845	79.94342988	1.000078233	79.94968406
00° 43' 30"	0.01265330	0.99991994	0.012654312	79.02444347	1.000080063	79.03077038
00° 44' 00"	0.01279873	0.99991809	0.012799780	78.12634202	1.000081914	78.13274165
00° 44' 30"	0.01294416	0.99991622	0.012945248	77.24842153	1.000083786	77.25489389
00° 45' 00"	0.01308960	0.99991433	0.013090717	76.39000931	1.000085680	76.39655439
00° 45' 30"	0.01323503	0.99991241	0.013236186	75.55046223	1.000087594	75.55708003
00° 46' 00"	0.01338046	0.99991048	0.013381656	74.72916511	1.000089530	74.73585564
00° 46' 30"	0.01352589	0.99990852	0.013527127	73.92552926	1.000091487	73.93229251
00° 47' 00"	0.01367132	0.99990654	0.013672598	73.13899101	1.000093466	73.14582699
00° 47' 30"	0.01381675	0.99990454	0.013818069	72.36901044	1.000095465	72.37591914
00° 48' 00"	0.01396218	0.99990252	0.013963541	71.61507012	1.000097485	71.62205155
00° 48' 30"	0.01410761	0.99990048	0.014109014	70.87667396	1.000099527	70.88372812
00° 49' 00"	0.01425304	0.99989842	0.014254488	70.15334612	1.000101590	70.16047301
00° 49' 30"	0.01439847	0.99989634	0.014399962	69.44462999	1.000103674	69.45182960
00° 50' 00"	0.01454390	0.99989423	0.014545436	68.75008721	1.000105779	68.75735954
00° 50' 30"	0.01468933	0.99989211	0.014690911	68.06929679	1.000107906	68.07664185
00° 51' 00"	0.01483475	0.99988996	0.014836387	67.40185426	1.000110053	67.40927204
00° 51' 30"	0.01498018	0.99988779	0.014981864	66.74737083	1.000112222	66.75486134
00° 52' 00"	0.01512561	0.99988560	0.015127341	66.10547268	1.000114412	66.11303592
00° 52' 30"	0.01527104	0.99988339	0.015272818	65.47580025	1.000116623	65.48343621
00° 53' 00"	0.01541646	0.99988116	0.015418297	64.85800751	1.000118855	64.86571620
00° 53' 30"	0.01556189	0.99987891	0.015563776	64.25176140	1.000121108	64.25954281
00° 54' 00"	0.01570732	0.99987663	0.015709255	63.65674116	1.000123383	63.66459531
00° 54' 30"	0.01585274	0.99987434	0.015854736	63.07263784	1.000125678	63.08056471
00° 55' 00"	0.01599817	0.99987202	0.016000217	62.49915370	1.000127995	62.50715330
00° 55' 30"	0.01614359	0.99986968	0.016145698	61.93600173	1.000130333	61.94407406
00° 56' 00"	0.01628902	0.99986733	0.016291181	61.38290518	1.000132692	61.39105023
00° 56' 30"	0.01643444	0.99986495	0.016436664	60.83959710	1.000135073	60.84781487
00° 57' 00"	0.01657987	0.99986254	0.016582147	60.30581988	1.000137474	60.31411038
00° 57' 30"	0.01672529	0.99986012	0.016727632	59.78132490	1.000139897	59.78968813
00° 58' 00"	0.01687072	0.99985768	0.016873117	59.26587210	1.000142341	59.27430806
00° 58' 30"	0.01701614	0.99985522	0.017018603	58.75922964	1.000144806	58.76773832
00° 59' 00"	0.01716156	0.99985273	0.017164090	58.26117351	1.000147292	58.26975492
00° 59' 30"	0.01730698	0.99985022	0.017309577	57.77148725	1.000149800	57.78014139
01° 00' 00"	0.01745241	0.99984770	0.017455065	57.28996163	1.000152328	57.29868850
01° 00' 30"	0.01759783	0.99984515	0.017600554	56.81639431	1.000154878	56.82519390
01° 01' 00"	0.01774325	0.99984258	0.017746043	56.35058959	1.000157449	56.35946191
01° 01' 30"	0.01788867	0.99983998	0.017891534	55.89235814	1.000160041	55.90130319
01° 02' 00"	0.01803409	0.99983737	0.018037025	55.44151674	1.000162654	55.45053452
01° 02' 30"	0.01817951	0.99983474	0.018182516	54.99788803	1.000165288	55.00697853

01° 03' 00''

01° 23' 30''

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
01° 03' 00''	0.01832493	0.99983208	0.018328009	54.56130027	1.000167944	54.57046351
01° 03' 30''	0.01847035	0.99982941	0.018473502	54.13158715	1.000170621	54.14082311
01° 04' 00''	0.01861577	0.99982671	0.018618996	53.70858754	1.000173318	53.71789623
01° 04' 30''	0.01876119	0.99982399	0.018764491	53.29214530	1.000176038	53.30152672
01° 05' 00''	0.01890661	0.99982125	0.018909987	52.88210913	1.000178778	52.89156328
01° 05' 30''	0.01905202	0.99981849	0.019055484	52.47833231	1.000181539	52.48785919
01° 06' 00''	0.01919744	0.99981571	0.019200981	52.08067259	1.000184322	52.09027219
01° 06' 30''	0.01934286	0.99981291	0.019346479	51.68899198	1.000187126	51.69866431
01° 07' 00''	0.01948828	0.99981009	0.019491978	51.30315663	1.000189951	51.31290169
01° 07' 30''	0.01963369	0.99980724	0.019637478	50.92303664	1.000192797	50.93285443
01° 08' 00''	0.01977911	0.99980437	0.019782978	50.54850593	1.000195664	50.55839645
01° 08' 30''	0.01992452	0.99980149	0.019928480	50.17944212	1.000198552	50.18940537
01° 09' 00''	0.02006994	0.99979858	0.020073982	49.81572636	1.000201462	49.82576234
01° 09' 30''	0.02021535	0.99979565	0.020219485	49.45724322	1.000204393	49.46735193
01° 10' 00''	0.02036077	0.99979270	0.020364989	49.10388057	1.000207345	49.11406201
01° 10' 30''	0.02050618	0.99978973	0.020510494	48.75552948	1.000210318	48.76578365
01° 11' 00''	0.02065159	0.99978673	0.020656000	48.41208405	1.000213312	48.42241095
01° 11' 30''	0.02079701	0.99978372	0.020801506	48.07344138	1.000216328	48.08384101
01° 12' 00''	0.02094242	0.99978068	0.020947014	47.73950141	1.000219365	47.74997376
01° 12' 30''	0.02108783	0.99977763	0.021092522	47.41016683	1.000222423	47.42071192
01° 13' 00''	0.02123324	0.99977455	0.021238032	47.08534303	1.000225502	47.09596084
01° 13' 30''	0.02137865	0.99977145	0.021383542	46.76493793	1.000228602	46.77562848
01° 14' 00''	0.02152407	0.99976833	0.021529053	46.44886198	1.000231723	46.45962526
01° 14' 30''	0.02166948	0.99976519	0.021674565	46.13702801	1.000234866	46.14786402
01° 15' 00''	0.02181489	0.99976203	0.021820078	45.82935117	1.000238030	45.84025991
01° 15' 30''	0.02196029	0.99975884	0.021965591	45.52574889	1.000241215	45.53673036
01° 16' 00''	0.02210570	0.99975564	0.022111106	45.22614073	1.000244421	45.23719494
01° 16' 30''	0.02225111	0.99975241	0.022256622	44.93044839	1.000247648	44.94157532
01° 17' 00''	0.02239652	0.99974917	0.022402138	44.63859558	1.000250896	44.64979524
01° 17' 30''	0.02254193	0.99974590	0.022547656	44.35050798	1.000254166	44.36178038
01° 18' 00''	0.02268733	0.99974261	0.022693175	44.06611320	1.000257457	44.07745832
01° 18' 30''	0.02283274	0.99973930	0.022838694	43.78534065	1.000260769	43.79675851
01° 19' 00''	0.02297815	0.99973597	0.022984215	43.50812158	1.000264102	43.51961217
01° 19' 30''	0.02312355	0.99973261	0.023129736	43.23438893	1.000267457	43.24595225
01° 20' 00''	0.02326896	0.99972924	0.023275258	42.96407734	1.000270832	42.97571339
01° 20' 30''	0.02341436	0.99972585	0.023420782	42.69712304	1.000274229	42.70883183
01° 21' 00''	0.02355976	0.99972243	0.023566306	42.43346389	1.000277647	42.44524540
01° 21' 30''	0.02370517	0.99971899	0.023711832	42.17303921	1.000281086	42.18489346
01° 22' 00''	0.02385057	0.99971553	0.023857358	41.91578986	1.000284546	41.92771684
01° 22' 30''	0.02399597	0.99971206	0.024002885	41.66165809	1.000288028	41.67365781
01° 23' 00''	0.02414138	0.99970855	0.024148414	41.41058757	1.000291530	41.42266002
01° 23' 30''	0.02428678	0.99970503	0.024293943	41.16252330	1.000295054	41.17466848

01° 24' 00"

01° 44' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
01° 24' 00"	0.02443218	0.99970149	0.024439474	40.91741160	1.000298599	40.92962951
01° 24' 30"	0.02457758	0.99969793	0.024585005	40.67520006	1.000302166	40.68749070
01° 25' 00"	0.02472298	0.99969434	0.024730538	40.43583749	1.000305753	40.44820087
01° 25' 30"	0.02486838	0.99969073	0.024876071	40.19927391	1.000309362	40.21171003
01° 26' 00"	0.02501378	0.99968711	0.025021606	39.96546052	1.000312991	39.97796936
01° 26' 30"	0.02515918	0.99968346	0.025167142	39.73434960	1.000316642	39.74693118
01° 27' 00"	0.02530457	0.99967979	0.025312678	39.50589458	1.000320315	39.51854889
01° 27' 30"	0.02544997	0.99967610	0.025458216	39.28004992	1.000324008	39.29277696
01° 28' 00"	0.02559537	0.99967238	0.025603755	39.05677112	1.000327722	39.06957090
01° 28' 30"	0.02574076	0.99966865	0.025749295	38.83601470	1.000331458	38.84888721
01° 29' 00"	0.02588616	0.99966490	0.025894836	38.61773814	1.000335215	38.63068339
01° 29' 30"	0.02603155	0.99966112	0.026040378	38.40189989	1.000338993	38.41491787
01° 30' 00"	0.02617695	0.99965732	0.026185922	38.18845930	1.000342792	38.20155001
01° 30' 30"	0.02632234	0.99965351	0.026331466	37.97737663	1.000346613	37.99054008
01° 31' 00"	0.02646774	0.99964967	0.026477011	37.76861302	1.000350455	37.78184921
01° 31' 30"	0.02661313	0.99964581	0.026622558	37.56213045	1.000354318	37.57543937
01° 32' 00"	0.02675852	0.99964193	0.026768106	37.35789173	1.000358202	37.37127338
01° 32' 30"	0.02690391	0.99963802	0.026913655	37.15586047	1.000362107	37.16931486
01° 33' 00"	0.02704930	0.99963410	0.027059205	36.95600107	1.000366033	36.96952819
01° 33' 30"	0.02719469	0.99963016	0.027204756	36.75827868	1.000369981	36.77187854
01° 34' 00"	0.02734008	0.99962619	0.027350308	36.56265921	1.000373950	36.57633180
01° 34' 30"	0.02748547	0.99962220	0.027495862	36.36910927	1.000377940	36.38285460
01° 35' 00"	0.02763086	0.99961819	0.027641416	36.17759618	1.000381951	36.19141425
01° 35' 30"	0.02777625	0.99961417	0.027786972	35.98808797	1.000385983	36.00197877
01° 36' 00"	0.02792164	0.99961012	0.027932529	35.80055329	1.000390037	35.81451683
01° 36' 30"	0.02806703	0.99960604	0.028078087	35.61496147	1.000394112	35.62899775
01° 37' 00"	0.02821241	0.99960195	0.028223647	35.43128247	1.000398208	35.44539149
01° 37' 30"	0.02835780	0.99959784	0.028369207	35.24948687	1.000402325	35.26366862
01° 38' 00"	0.02850318	0.99959370	0.028514769	35.06954582	1.000406463	35.08380031
01° 38' 30"	0.02864857	0.99958955	0.028660332	34.89143109	1.000410623	34.90575832
01° 39' 00"	0.02879395	0.99958537	0.028805896	34.71511501	1.000414804	34.72951498
01° 39' 30"	0.02893934	0.99958117	0.028951462	34.54057047	1.000419006	34.55504317
01° 40' 00"	0.02908472	0.99957695	0.029097028	34.36777089	1.000423229	34.38231632
01° 40' 30"	0.02923010	0.99957271	0.029242596	34.19669022	1.000427473	34.21130839
01° 41' 00"	0.02937548	0.99956845	0.029388165	34.02730294	1.000431739	34.04199385
01° 41' 30"	0.02952086	0.99956416	0.029533736	33.85958402	1.000436026	33.87434767
01° 42' 00"	0.02966624	0.99955986	0.029679307	33.69350893	1.000440334	33.70834532
01° 42' 30"	0.02981162	0.99955553	0.029824880	33.52905362	1.000444663	33.54396274
01° 43' 00"	0.02995700	0.99955119	0.029970454	33.36619448	1.000449013	33.38117634
01° 43' 30"	0.03010238	0.99954682	0.030116029	33.20490840	1.000453385	33.21996300
01° 44' 00"	0.03024776	0.99954243	0.030261606	33.04517267	1.000457778	33.06030001
01° 44' 30"	0.03039314	0.99953802	0.030407184	32.88696505	1.000462192	32.90216513

01° 45' 00''

02° 05' 30''

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
01° 45' 00''	0.03053851	0.99953359	0.030552763	32.73026372	1.000466627	32.74553653
01° 45' 30''	0.03068389	0.99952914	0.030698344	32.57504724	1.000471083	32.59039279
01° 46' 00''	0.03082926	0.99952467	0.030843926	32.42129461	1.000475561	32.43671290
01° 46' 30''	0.03097464	0.99952017	0.030989509	32.26898521	1.000480060	32.28447625
01° 47' 00''	0.03112001	0.99951566	0.031135093	32.11809881	1.000484580	32.13366259
01° 47' 30''	0.03126539	0.99951112	0.031280679	31.96861555	1.000489121	31.98425207
01° 48' 00''	0.03141076	0.99950656	0.031426266	31.82051595	1.000493683	31.83622521
01° 48' 30''	0.03155613	0.99950198	0.031571854	31.67378088	1.000498267	31.68956287
01° 49' 00''	0.03170150	0.99949738	0.031717444	31.52839155	1.000502872	31.54424629
01° 49' 30''	0.03184687	0.99949276	0.031863035	31.38432954	1.000507498	31.40025702
01° 50' 00''	0.03199224	0.99948812	0.032008628	31.24157674	1.000512145	31.25757696
01° 50' 30''	0.03213761	0.99948345	0.032154222	31.10011538	1.000516813	31.11618834
01° 51' 00''	0.03228298	0.99947877	0.032299817	30.95992802	1.000521503	30.97607372
01° 51' 30''	0.03242835	0.99947406	0.032445413	30.82099750	1.000526214	30.83721594
01° 52' 00''	0.03257372	0.99946934	0.032591011	30.68330700	1.000530946	30.69959818
01° 52' 30''	0.03271908	0.99946459	0.032736610	30.54683999	1.000535699	30.56320391
01° 53' 00''	0.03286445	0.99945982	0.032882211	30.41158022	1.000540474	30.42801688
01° 53' 30''	0.03300981	0.99945503	0.033027813	30.27751173	1.000545270	30.29402114
01° 54' 00''	0.03315518	0.99945022	0.033173417	30.14461887	1.000550086	30.16120101
01° 54' 30''	0.03330054	0.99944538	0.033319021	30.01288621	1.000554925	30.02954110
01° 55' 00''	0.03344591	0.99944053	0.033464628	29.88229863	1.000559784	29.89902627
01° 55' 30''	0.03359127	0.99943565	0.033610235	29.75284127	1.000564665	29.76964164
01° 56' 00''	0.03373663	0.99943076	0.033755845	29.62449949	1.000569566	29.64137261
01° 56' 30''	0.03388199	0.99942584	0.033901455	29.49725895	1.000574489	29.51420481
01° 57' 00''	0.03402735	0.99942090	0.034047067	29.37110552	1.000579434	29.38812412
01° 57' 30''	0.03417271	0.99941594	0.034192681	29.24602532	1.000584399	29.26311666
01° 58' 00''	0.03431807	0.99941096	0.034338295	29.12200471	1.000589386	29.13916880
01° 58' 30''	0.03446343	0.99940596	0.034483912	28.99903028	1.000594393	29.01626711
01° 59' 00''	0.03460878	0.99940094	0.034629530	28.87708884	1.000599423	28.89439842
01° 59' 30''	0.03475414	0.99939589	0.034775149	28.75616742	1.000604473	28.77354974
02° 00' 00''	0.03489950	0.99939083	0.034920769	28.63625328	1.000609544	28.65370835
02° 00' 30''	0.03504485	0.99938574	0.035066392	28.51733388	1.000614637	28.53486169
02° 01' 00''	0.03519021	0.99938063	0.035212015	28.39939688	1.000619751	28.41699743
02° 01' 30''	0.03533556	0.99937550	0.035357641	28.28243015	1.000624886	28.30010345
02° 02' 00''	0.03548091	0.99937035	0.035503267	28.16642177	1.000630043	28.18416782
02° 02' 30''	0.03562626	0.99936518	0.035648895	28.05136000	1.000635220	28.06917879
02° 03' 00''	0.03577162	0.99935999	0.035794525	27.93723330	1.000640419	27.95512484
02° 03' 30''	0.03591697	0.99935478	0.035940156	27.82403031	1.000645639	27.84199459
02° 04' 00''	0.03606232	0.99934954	0.036085789	27.71173986	1.000650880	27.72977688
02° 04' 30''	0.03620767	0.99934429	0.036231423	27.60035095	1.000656143	27.61846072
02° 05' 00''	0.03635301	0.99933901	0.036377059	27.48985276	1.000661426	27.50803527
02° 05' 30''	0.03649836	0.99933371	0.036522697	27.38023464	1.000666731	27.39848991

02° 06' 00''

02° 26' 30''

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
02° 06' 00''	0.03664371	0.99932839	0.036668335	27.27148613	1.000672058	27.28981414
02° 06' 30''	0.03678905	0.99932305	0.036813976	27.16359691	1.000677405	27.18199766
02° 07' 00''	0.03693440	0.99931769	0.036959618	27.05655682	1.000682774	27.07503033
02° 07' 30''	0.03707974	0.99931231	0.037105261	26.95035589	1.000688163	26.96890214
02° 08' 00''	0.03722509	0.99930691	0.037250907	26.84498427	1.000693574	26.86360327
02° 08' 30''	0.03737043	0.99930148	0.037396553	26.74043229	1.000699007	26.75912403
02° 09' 00''	0.03751577	0.99929604	0.037542202	26.63669041	1.000704460	26.65545490
02° 09' 30''	0.03766111	0.99929057	0.037687851	26.53374925	1.000709935	26.55258649
02° 10' 00''	0.03780646	0.99928508	0.037833503	26.43159957	1.000715431	26.45050956
02° 10' 30''	0.03795179	0.99927957	0.037979156	26.33023228	1.000720948	26.34921501
02° 11' 00''	0.03809713	0.99927404	0.038124811	26.22963841	1.000726487	26.24869390
02° 11' 30''	0.03824247	0.99926849	0.038270467	26.12980915	1.000732046	26.14893738
02° 12' 00''	0.03838781	0.99926292	0.038416125	26.03073580	1.000737627	26.04993678
02° 12' 30''	0.03853315	0.99925732	0.038561785	25.93240981	1.000743229	25.95168354
02° 13' 00''	0.03867848	0.99925171	0.038707446	25.83482275	1.000748853	25.85416923
02° 13' 30''	0.03882382	0.99924607	0.038853109	25.73796631	1.000754497	25.75738554
02° 14' 00''	0.03896915	0.99924041	0.038998773	25.64183232	1.000760163	25.66132430
02° 14' 30''	0.03911448	0.99923474	0.039144439	25.54641273	1.000765850	25.56597745
02° 15' 00''	0.03925982	0.99922904	0.039290107	25.45169958	1.000771559	25.47133706
02° 15' 30''	0.03940515	0.99922332	0.039435776	25.35768506	1.000777288	25.37739529
02° 16' 00''	0.03955048	0.99921757	0.039581448	25.26436148	1.000783039	25.28414446
02° 16' 30''	0.03969581	0.99921181	0.039727120	25.17172122	1.000788811	25.19157695
02° 17' 00''	0.03984114	0.99920603	0.039872795	25.07975682	1.000794604	25.09968530
02° 17' 30''	0.03998647	0.99920022	0.040018471	24.98846090	1.000800419	25.00846213
02° 18' 00''	0.04013179	0.99919440	0.040164149	24.89782619	1.000806254	24.91790017
02° 18' 30''	0.04027712	0.99918855	0.040309829	24.80784553	1.000812111	24.82799226
02° 19' 00''	0.04042244	0.99918268	0.040455510	24.71851187	1.000817990	24.73873135
02° 19' 30''	0.04056777	0.99917679	0.040601193	24.62981824	1.000823889	24.65011048
02° 20' 00''	0.04071309	0.99917088	0.040746878	24.54175779	1.000829810	24.56212278
02° 20' 30''	0.04085842	0.99916495	0.040892564	24.45432376	1.000835752	24.47476151
02° 21' 00''	0.04100374	0.99915899	0.041038252	24.36750949	1.000841715	24.38801999
02° 21' 30''	0.04114906	0.99915302	0.041183942	24.28130841	1.000847699	24.30189165
02° 22' 00''	0.04129438	0.99914702	0.041329634	24.19571403	1.000853705	24.21637003
02° 22' 30''	0.04143970	0.99914101	0.041475327	24.11071997	1.000859732	24.13144872
02° 23' 00''	0.04158502	0.99913497	0.041621022	24.02631994	1.000865780	24.04712144
02° 23' 30''	0.04173034	0.99912891	0.041766719	23.94250772	1.000871849	23.96338198
02° 24' 00''	0.04187565	0.99912283	0.041912418	23.85927720	1.000877940	23.88022421
02° 24' 30''	0.04202097	0.99911673	0.042058119	23.77662233	1.000884052	23.79764209
02° 25' 00''	0.04216629	0.99911061	0.042203821	23.69453715	1.000890185	23.71562968
02° 25' 30''	0.04231160	0.99910446	0.042349525	23.61301581	1.000896339	23.63418109
02° 26' 00''	0.04245691	0.99909830	0.042495231	23.53205250	1.000902515	23.55329053
02° 26' 30''	0.04260223	0.99909211	0.042640938	23.45164150	1.000908712	23.47295229

02° 27' 00"

02° 47' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
02° 27' 00"	0.04274754	0.99908591	0.042786648	23.37177719	1.000914930	23.39316074
02° 27' 30"	0.04289285	0.99907968	0.042932359	23.29245401	1.000921169	23.31391031
02° 28' 00"	0.04303816	0.99907343	0.043078072	23.21366646	1.000927430	23.23519552
02° 28' 30"	0.04318347	0.99906716	0.043223787	23.13540915	1.000933712	23.15701096
02° 29' 00"	0.04332877	0.99906087	0.043369504	23.05767672	1.000940015	23.07935129
02° 29' 30"	0.04347408	0.99905456	0.043515222	22.98046392	1.000946340	23.00221124
02° 30' 00"	0.04361939	0.99904822	0.043660943	22.90376555	1.000952685	22.92558563
02° 30' 30"	0.04376469	0.99904187	0.043806665	22.82757648	1.000959052	22.84946931
02° 31' 00"	0.04391000	0.99903549	0.043952389	22.75189165	1.000965440	22.77385724
02° 31' 30"	0.04405530	0.99902909	0.044098115	22.67670607	1.000971850	22.69874442
02° 32' 00"	0.04420060	0.99902268	0.044243843	22.60201481	1.000978280	22.62412592
02° 32' 30"	0.04434590	0.99901624	0.044389573	22.52781302	1.000984732	22.54999688
02° 33' 00"	0.04449120	0.99900978	0.044535305	22.45409588	1.000991205	22.47635251
02° 33' 30"	0.04463650	0.99900329	0.044681038	22.38085868	1.000997700	22.40318806
02° 34' 00"	0.04478180	0.99899679	0.044826774	22.30809672	1.001004216	22.33049886
02° 34' 30"	0.04492710	0.99899027	0.044972511	22.23580540	1.001010753	22.25828030
02° 35' 00"	0.04507240	0.99898372	0.045118250	22.16398016	1.001017311	22.18652782
02° 35' 30"	0.04521769	0.99897716	0.045263991	22.09261651	1.001023890	22.11523693
02° 36' 00"	0.04536299	0.99897057	0.045409734	22.02171001	1.001030491	22.04440319
02° 36' 30"	0.04550828	0.99896396	0.045555479	21.95125627	1.001037113	21.97402221
02° 37' 00"	0.04565357	0.99895733	0.045701226	21.88125098	1.001043756	21.90408967
02° 37' 30"	0.04579887	0.99895068	0.045846975	21.81168986	1.001050421	21.83460131
02° 38' 00"	0.04594416	0.99894401	0.045992726	21.74256868	1.001057107	21.76555290
02° 38' 30"	0.04608945	0.99893732	0.046138479	21.67388330	1.001063814	21.69694028
02° 39' 00"	0.04623474	0.99893060	0.046284233	21.60562960	1.001070542	21.62875933
02° 39' 30"	0.04638003	0.99892387	0.046429990	21.53780351	1.001077292	21.56100601
02° 40' 00"	0.04652531	0.99891711	0.046575749	21.47040104	1.001084063	21.49367630
02° 40' 30"	0.04667060	0.99891033	0.046721509	21.40341821	1.001090855	21.42676623
02° 41' 00"	0.04681588	0.99890354	0.046867272	21.33685113	1.001097668	21.36027191
02° 41' 30"	0.04696117	0.99889672	0.047013036	21.27069593	1.001104503	21.29418947
02° 42' 00"	0.04710645	0.99888987	0.047158803	21.20494879	1.001111359	21.22851510
02° 42' 30"	0.04725173	0.99888301	0.047304571	21.13960595	1.001118236	21.16324502
02° 43' 00"	0.04739701	0.99887613	0.047450342	21.07466369	1.001125135	21.09837552
02° 43' 30"	0.04754229	0.99886923	0.047596115	21.01011833	1.001132054	21.03390293
02° 44' 00"	0.04768757	0.99886230	0.047741889	20.94596625	1.001138995	20.96982361
02° 44' 30"	0.04783285	0.99885535	0.047887666	20.88220386	1.001145958	20.90613398
02° 45' 00"	0.04797813	0.99884839	0.048033444	20.81882760	1.001152941	20.84283049
02° 45' 30"	0.04812340	0.99884140	0.048179225	20.75583400	1.001159946	20.77990965
02° 46' 00"	0.04826868	0.99883439	0.048325008	20.69321958	1.001166972	20.71736799
02° 46' 30"	0.04841395	0.99882736	0.048470793	20.63098093	1.001174020	20.65520211
02° 47' 00"	0.04855923	0.99882030	0.048616580	20.56911468	1.001181088	20.59340862
02° 47' 30"	0.04870450	0.99881323	0.048762368	20.50761749	1.001188178	20.53198420



02° 48' 00"

03° 08' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
02° 48' 00"	0.04884977	0.99880614	0.048908159	20.44648606	1.001195290	20.47092554
02° 48' 30"	0.04899504	0.99879902	0.049053952	20.38571715	1.001202422	20.41022939
02° 49' 00"	0.04914031	0.99879189	0.049199748	20.32530753	1.001209576	20.34989253
02° 49' 30"	0.04928558	0.99878473	0.049345545	20.26525401	1.001216751	20.28991179
02° 50' 00"	0.04943084	0.99877755	0.049491344	20.20555348	1.001223948	20.23028401
02° 50' 30"	0.04957611	0.99877035	0.049637146	20.14620280	1.001231165	20.17100610
02° 51' 00"	0.04972137	0.99876313	0.049782949	20.08719892	1.001238404	20.11207499
02° 51' 30"	0.04986664	0.99875589	0.049928755	20.02853881	1.001245664	20.05348764
02° 52' 00"	0.05001190	0.99874862	0.050074562	19.97021946	1.001252946	19.99524106
02° 52' 30"	0.05015716	0.99874134	0.050220372	19.91223791	1.001260249	19.93733228
02° 53' 00"	0.05030242	0.99873403	0.050366184	19.85459123	1.001267573	19.87975837
02° 53' 30"	0.05044768	0.99872671	0.050511998	19.79727653	1.001274918	19.82251644
02° 54' 00"	0.05059294	0.99871936	0.050657815	19.74029095	1.001282285	19.76560363
02° 54' 30"	0.05073820	0.99871199	0.050803633	19.68363166	1.001289673	19.70901710
02° 55' 00"	0.05088345	0.99870460	0.050949454	19.62729585	1.001297082	19.65275407
02° 55' 30"	0.05102871	0.99869719	0.051095276	19.57128077	1.001304513	19.59681176
02° 56' 00"	0.05117396	0.99868975	0.051241101	19.51558368	1.001311965	19.54118744
02° 56' 30"	0.05131922	0.99868230	0.051386928	19.46020188	1.001319438	19.48587841
02° 57' 00"	0.05146447	0.99867483	0.051532758	19.40513270	1.001326932	19.43088200
02° 57' 30"	0.05160972	0.99866733	0.051678589	19.35037350	1.001334448	19.37619556
02° 58' 00"	0.05175497	0.99865981	0.051824423	19.29592165	1.001341985	19.32181649
02° 58' 30"	0.05190022	0.99865228	0.051970259	19.24177459	1.001349543	19.26774220
02° 59' 00"	0.05204546	0.99864472	0.052116097	19.18792975	1.001357123	19.21397013
02° 59' 30"	0.05219071	0.99863714	0.052261937	19.13438462	1.001364724	19.16049777
03° 00' 00"	0.05233596	0.99862953	0.052407779	19.08113669	1.001372346	19.10732261
03° 00' 30"	0.05248120	0.99862191	0.052553624	19.02818349	1.001379990	19.05444218
03° 01' 00"	0.05262644	0.99861427	0.052699471	18.97552258	1.001387654	19.00185405
03° 01' 30"	0.05277169	0.99860660	0.052845320	18.92315155	1.001395340	18.94955579
03° 02' 00"	0.05291693	0.99859892	0.052991171	18.87106800	1.001403048	18.89754502
03° 02' 30"	0.05306217	0.99859121	0.053137025	18.81926958	1.001410777	18.84581937
03° 03' 00"	0.05320740	0.99858348	0.053282881	18.76775395	1.001418527	18.79437650
03° 03' 30"	0.05335264	0.99857573	0.053428739	18.71651878	1.001426298	18.74321412
03° 04' 00"	0.05349788	0.99856796	0.053574600	18.66556181	1.001434091	18.69232992
03° 04' 30"	0.05364311	0.99856017	0.053720462	18.61488076	1.001441904	18.64172164
03° 05' 00"	0.05378835	0.99855236	0.053866327	18.56447341	1.001449740	18.59138706
03° 05' 30"	0.05393358	0.99854453	0.054012195	18.51433753	1.001457596	18.54132395
03° 06' 00"	0.05407881	0.99853667	0.054158064	18.46447093	1.001465474	18.49153014
03° 06' 30"	0.05422404	0.99852879	0.054303936	18.41487146	1.001473373	18.44200344
03° 07' 00"	0.05436927	0.99852090	0.054449810	18.36553696	1.001481294	18.39274172
03° 07' 30"	0.05451450	0.99851298	0.054595687	18.31646532	1.001489236	18.34374286
03° 08' 00"	0.05465973	0.99850504	0.054741565	18.26765445	1.001497199	18.29500476
03° 08' 30"	0.05480495	0.99849708	0.054887446	18.21910226	1.001505183	18.24652534

03° 09' 00"

03° 29' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
03° 09' 00"	0.05495018	0.99848910	0.055033330	18.17080670	1.001513189	18.19830256
03° 09' 30"	0.05509540	0.99848109	0.055179216	18.12276575	1.001521216	18.15033439
03° 10' 00"	0.05524063	0.99847307	0.055325104	18.07497738	1.001529264	18.10261880
03° 10' 30"	0.05538585	0.99846503	0.055470994	18.02743962	1.001537334	18.05515382
03° 11' 00"	0.05553107	0.99845696	0.055616887	17.98015050	1.001545425	18.00793747
03° 11' 30"	0.05567629	0.99844887	0.055762782	17.93310806	1.001553537	17.96096781
03° 12' 00"	0.05582150	0.99844076	0.055908680	17.88631038	1.001561671	17.91424291
03° 12' 30"	0.05596672	0.99843263	0.056054580	17.83975555	1.001569826	17.86776086
03° 13' 00"	0.05611194	0.99842448	0.056200482	17.79344169	1.001578002	17.82151978
03° 13' 30"	0.05625715	0.99841631	0.056346387	17.74736693	1.001586200	17.77551780
03° 14' 00"	0.05640236	0.99840812	0.056492294	17.70152941	1.001594419	17.72975306
03° 14' 30"	0.05654758	0.99839991	0.056638203	17.65592732	1.001602659	17.68422374
03° 15' 00"	0.05669279	0.99839167	0.056784115	17.61055883	1.001610920	17.63892804
03° 15' 30"	0.05683800	0.99838341	0.056930029	17.56542216	1.001619203	17.59386414
03° 16' 00"	0.05698321	0.99837514	0.057075946	17.52051552	1.001627507	17.54903029
03° 16' 30"	0.05712841	0.99836684	0.057221865	17.47583718	1.001635833	17.50442473
03° 17' 00"	0.05727362	0.99835852	0.057367787	17.43138538	1.001644180	17.46004571
03° 17' 30"	0.05741882	0.99835018	0.057513711	17.38715841	1.001652548	17.41589152
03° 18' 00"	0.05756403	0.99834182	0.057659637	17.34315456	1.001660938	17.37196046
03° 18' 30"	0.05770923	0.99833343	0.057805566	17.29937215	1.001669348	17.32825083
03° 19' 00"	0.05785443	0.99832503	0.057951497	17.25580950	1.001677781	17.28476097
03° 19' 30"	0.05799963	0.99831660	0.058097431	17.21246498	1.001686234	17.24148922
03° 20' 00"	0.05814483	0.99830816	0.058243367	17.16933693	1.001694709	17.19843396
03° 20' 30"	0.05829003	0.99829969	0.058389306	17.12642374	1.001703205	17.15559355
03° 21' 00"	0.05843522	0.99829120	0.058535247	17.08372381	1.001711723	17.11296641
03° 21' 30"	0.05858042	0.99828269	0.058681191	17.04123555	1.001720261	17.07055093
03° 22' 00"	0.05872561	0.99827416	0.058827137	16.99895739	1.001728822	17.02834555
03° 22' 30"	0.05887080	0.99826561	0.058973086	16.95688777	1.001737403	16.98634872
03° 23' 00"	0.05901599	0.99825704	0.059119037	16.91502514	1.001746006	16.94455888
03° 23' 30"	0.05916118	0.99824844	0.059264991	16.87336800	1.001754630	16.90297452
03° 24' 00"	0.05930637	0.99823983	0.059410947	16.83191481	1.001763276	16.86159412
03° 24' 30"	0.05945156	0.99823119	0.059556906	16.79066410	1.001771943	16.82041619
03° 25' 00"	0.05959675	0.99822253	0.059702867	16.74961437	1.001780631	16.77943925
03° 25' 30"	0.05974193	0.99821386	0.059848831	16.70876416	1.001789340	16.73866182
03° 26' 00"	0.05988712	0.99820516	0.059994797	16.66811201	1.001798071	16.69808247
03° 26' 30"	0.06003230	0.99819644	0.060140766	16.62765650	1.001806824	16.65769974
03° 27' 00"	0.06017748	0.99818769	0.060286738	16.58739618	1.001815597	16.61751221
03° 27' 30"	0.06032266	0.99817893	0.060432712	16.54732966	1.001824392	16.57751848
03° 28' 00"	0.06046784	0.99817015	0.060578688	16.50745553	1.001833208	16.53771714
03° 28' 30"	0.06061302	0.99816134	0.060724667	16.46777241	1.001842046	16.49810681
03° 29' 00"	0.06075819	0.99815251	0.060870649	16.42827894	1.001850905	16.45868612
03° 29' 30"	0.06090337	0.99814367	0.061016633	16.38897374	1.001859785	16.41945371

03° 30' 00"

03° 50' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
03° 30' 00"	0.06104854	0.99813480	0.061162620	16.34985548	1.001868687	16.38040824
03° 30' 30"	0.06119371	0.99812591	0.061308610	16.31092282	1.001877610	16.34154837
03° 31' 00"	0.06133888	0.99811700	0.061454602	16.27217445	1.001886554	16.30287279
03° 31' 30"	0.06148405	0.99810807	0.061600596	16.23360905	1.001895520	16.26438019
03° 32' 00"	0.06162922	0.99809911	0.061746594	16.19522534	1.001904507	16.22606927
03° 32' 30"	0.06177439	0.99809014	0.061892594	16.15702203	1.001913516	16.18793875
03° 33' 00"	0.06191955	0.99808114	0.062038596	16.11899785	1.001922546	16.14998736
03° 33' 30"	0.06206472	0.99807213	0.062184601	16.08115154	1.001931597	16.11221384
03° 34' 00"	0.06220988	0.99806309	0.062330609	16.04348186	1.001940669	16.07461695
03° 34' 30"	0.06235504	0.99805403	0.062476620	16.00598757	1.001949763	16.03719545
03° 35' 00"	0.06250020	0.99804495	0.062622633	15.96866744	1.001958878	15.99994812
03° 35' 30"	0.06264536	0.99803585	0.062768649	15.93152026	1.001968015	15.96287374
03° 36' 00"	0.06279052	0.99802673	0.062914667	15.89454484	1.001977173	15.92597111
03° 36' 30"	0.06293568	0.99801759	0.063060688	15.85773999	1.001986352	15.88923905
03° 37' 00"	0.06308083	0.99800842	0.063206712	15.82110451	1.001995553	15.85267637
03° 37' 30"	0.06322598	0.99799924	0.063352739	15.78463725	1.002004775	15.81628190
03° 38' 00"	0.06337114	0.99799003	0.063498768	15.74833705	1.002014019	15.78005450
03° 38' 30"	0.06351629	0.99798080	0.063644800	15.71220277	1.002023283	15.74399301
03° 39' 00"	0.06366144	0.99797155	0.063790834	15.67623325	1.002032570	15.70809629
03° 39' 30"	0.06380659	0.99796228	0.063936872	15.64042739	1.002041877	15.67236322
03° 40' 00"	0.06395173	0.99795299	0.064082912	15.60478406	1.002051206	15.63679268
03° 40' 30"	0.06409688	0.99794368	0.064228955	15.56930215	1.002060556	15.60138358
03° 41' 00"	0.06424202	0.99793435	0.064375000	15.53398058	1.002069928	15.56613480
03° 41' 30"	0.06438717	0.99792499	0.064521048	15.49881826	1.002079321	15.53104527
03° 42' 00"	0.06453231	0.99791562	0.064667099	15.46381410	1.002088735	15.49611392
03° 42' 30"	0.06467745	0.99790622	0.064813153	15.42896705	1.002098171	15.46133966
03° 43' 00"	0.06482259	0.99789680	0.064959209	15.39427604	1.002107628	15.42672146
03° 43' 30"	0.06496772	0.99788737	0.065105269	15.35974004	1.002117107	15.39225825
03° 44' 00"	0.06511286	0.99787791	0.065251331	15.32535800	1.002126607	15.35794901
03° 44' 30"	0.06525800	0.99786843	0.065397395	15.29112888	1.002136128	15.32379270
03° 45' 00"	0.06540313	0.99785892	0.065543463	15.25705169	1.002145671	15.28978830
03° 45' 30"	0.06554826	0.99784940	0.065689533	15.22312539	1.002155235	15.25593481
03° 46' 00"	0.06569339	0.99783986	0.065835606	15.18934900	1.002164820	15.22223121
03° 46' 30"	0.06583852	0.99783029	0.065981682	15.15572152	1.002174427	15.18867653
03° 47' 00"	0.06598365	0.99782070	0.066127761	15.12224196	1.002184055	15.15526977
03° 47' 30"	0.06612878	0.99781110	0.066273842	15.08890935	1.002193705	15.12200997
03° 48' 00"	0.06627390	0.99780147	0.066419927	15.05572272	1.002203376	15.08889614
03° 48' 30"	0.06641902	0.99779182	0.066566014	15.02268112	1.002213068	15.05592734
03° 49' 00"	0.06656415	0.99778215	0.066712104	14.98978359	1.002222782	15.02310262
03° 49' 30"	0.06670927	0.99777246	0.066858197	14.95702920	1.002232517	14.99042102
03° 50' 00"	0.06685439	0.99776274	0.067004292	14.92441700	1.002242274	14.95788163
03° 50' 30"	0.06699950	0.99775301	0.067150391	14.89194608	1.002252052	14.92548351

03° 51' 00"

04° 11' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
03° 51' 00"	0.06714462	0.99774325	0.067296492	14.85961552	1.002261851	14.89322575
03° 51' 30"	0.06728974	0.99773348	0.067442596	14.82742440	1.002271672	14.86110744
03° 52' 00"	0.06743485	0.99772368	0.067588704	14.79537182	1.002281514	14.82912767
03° 52' 30"	0.06757996	0.99771386	0.067734814	14.76345690	1.002291377	14.79728555
03° 53' 00"	0.06772507	0.99770402	0.067880926	14.73167875	1.002301262	14.76558020
03° 53' 30"	0.06787018	0.99769416	0.068027042	14.70003648	1.002311168	14.73401074
03° 54' 00"	0.06801529	0.99768428	0.068173161	14.66852922	1.002321096	14.70257629
03° 54' 30"	0.06816040	0.99767438	0.068319282	14.63715612	1.002331045	14.67127600
03° 55' 00"	0.06830550	0.99766445	0.068465407	14.60591632	1.002341016	14.64010900
03° 55' 30"	0.06845061	0.99765451	0.068611534	14.57480896	1.002351008	14.60907445
03° 56' 00"	0.06859571	0.99764454	0.068757664	14.54383321	1.002361021	14.57817150
03° 56' 30"	0.06874081	0.99763455	0.068903797	14.51298822	1.002371056	14.54739933
03° 57' 00"	0.06888591	0.99762454	0.069049933	14.48227318	1.002381112	14.51675709
03° 57' 30"	0.06903101	0.99761451	0.069196073	14.45168726	1.002391189	14.48624399
03° 58' 00"	0.06917610	0.99760446	0.069342214	14.42122965	1.002401288	14.45585918
03° 58' 30"	0.06932120	0.99759439	0.069488359	14.39089955	1.002411409	14.42560188
03° 59' 00"	0.06946629	0.99758430	0.069634507	14.36069614	1.002421550	14.39547129
03° 59' 30"	0.06961138	0.99757419	0.069780658	14.33061864	1.002431714	14.36546660
04° 00' 00"	0.06975647	0.99756405	0.069926812	14.30066626	1.002441898	14.33558703
04° 00' 30"	0.06990156	0.99755389	0.070072969	14.27083822	1.002452104	14.30583180
04° 01' 00"	0.07004665	0.99754372	0.070219128	14.24113374	1.002462331	14.27620013
04° 01' 30"	0.07019174	0.99753352	0.070365291	14.21155207	1.002472580	14.24669127
04° 02' 00"	0.07033682	0.99752330	0.070511457	14.18209243	1.002482851	14.21730445
04° 02' 30"	0.07048190	0.99751306	0.070657626	14.15275408	1.002493142	14.18803890
04° 03' 00"	0.07062699	0.99750280	0.070803797	14.12353626	1.002503455	14.15889390
04° 03' 30"	0.07077207	0.99749251	0.070949972	14.09443823	1.002513790	14.12986868
04° 04' 00"	0.07091714	0.99748221	0.071096150	14.06545925	1.002524146	14.10096252
04° 04' 30"	0.07106222	0.99747188	0.071242331	14.03659860	1.002534523	14.07217468
04° 05' 00"	0.07120730	0.99746154	0.071388515	14.00785555	1.002544922	14.04350445
04° 05' 30"	0.07135237	0.99745117	0.071534701	13.97922939	1.002555342	14.01495110
04° 06' 00"	0.07149744	0.99744078	0.071680891	13.95071939	1.002565783	13.98651391
04° 06' 30"	0.07164252	0.99743037	0.071827084	13.92232485	1.002576246	13.95819219
04° 07' 00"	0.07178759	0.99741994	0.071973280	13.89404508	1.002586731	13.92998523
04° 07' 30"	0.07193265	0.99740949	0.072119479	13.86587937	1.002597237	13.90189234
04° 08' 00"	0.07207772	0.99739902	0.072265681	13.83782703	1.002607764	13.87391282
04° 08' 30"	0.07222278	0.99738852	0.072411887	13.80988739	1.002618313	13.84604600
04° 09' 00"	0.07236785	0.99737801	0.072558095	13.78205976	1.002628883	13.81829118
04° 09' 30"	0.07251291	0.99736747	0.072704306	13.75434347	1.002639475	13.79064771
04° 10' 00"	0.07265797	0.99735692	0.072850521	13.72673785	1.002650088	13.76311491
04° 10' 30"	0.07280303	0.99734634	0.072996738	13.69924224	1.002660722	13.73569211
04° 11' 00"	0.07294809	0.99733574	0.073142959	13.67185597	1.002671378	13.70837867
04° 11' 30"	0.07309314	0.99732512	0.073289183	13.64457841	1.002682055	13.68117393

04° 12' 00"

04° 32' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
04° 12' 00"	0.07323820	0.99731448	0.073435410	13.61740890	1.002692754	13.65407723
04° 12' 30"	0.07338325	0.99730381	0.073581640	13.59034680	1.002703474	13.62708795
04° 13' 00"	0.07352830	0.99729313	0.073727873	13.56339147	1.002714216	13.60020544
04° 13' 30"	0.07367335	0.99728243	0.073874109	13.53654228	1.002724979	13.57342907
04° 14' 00"	0.07381840	0.99727170	0.074020348	13.50979860	1.002735764	13.54675822
04° 14' 30"	0.07396345	0.99726095	0.074166591	13.48315982	1.002746570	13.52019226
04° 15' 00"	0.07410849	0.99725019	0.074312837	13.45662531	1.002757397	13.49373057
04° 15' 30"	0.07425353	0.99723940	0.074459086	13.43019447	1.002768246	13.46737255
04° 16' 00"	0.07439858	0.99722859	0.074605338	13.40386668	1.002779116	13.44111759
04° 16' 30"	0.07454362	0.99721775	0.074751593	13.37764135	1.002790008	13.41496508
04° 17' 00"	0.07468865	0.99720690	0.074897851	13.35151787	1.002800921	13.38891442
04° 17' 30"	0.07483369	0.99719603	0.075044113	13.32549565	1.002811856	13.36296502
04° 18' 00"	0.07497873	0.99718513	0.075190378	13.29957410	1.002822812	13.33711630
04° 18' 30"	0.07512376	0.99717422	0.075336646	13.27375265	1.002833790	13.31136767
04° 19' 00"	0.07526879	0.99716328	0.075482917	13.24803070	1.002844789	13.28571855
04° 19' 30"	0.07541382	0.99715232	0.075629191	13.22240768	1.002855809	13.26016836
04° 20' 00"	0.07555885	0.99714134	0.075775469	13.19688303	1.002866851	13.23471654
04° 20' 30"	0.07570388	0.99713034	0.075921750	13.17145618	1.002877915	13.20936251
04° 21' 00"	0.07584891	0.99711932	0.076068034	13.14612656	1.002889000	13.18410572
04° 21' 30"	0.07599393	0.99710828	0.076214321	13.12089362	1.002900106	13.15894560
04° 22' 00"	0.07613895	0.99709722	0.076360612	13.09575680	1.002911234	13.13388161
04° 22' 30"	0.07628397	0.99708613	0.076506906	13.07071556	1.002922383	13.10891320
04° 23' 00"	0.07642899	0.99707503	0.076653203	13.04576934	1.002933554	13.08403981
04° 23' 30"	0.07657401	0.99706390	0.076799503	13.02091761	1.002944746	13.05926091
04° 24' 00"	0.07671903	0.99705275	0.076945806	12.99615984	1.002955960	13.03457596
04° 24' 30"	0.07686404	0.99704158	0.077092113	12.97149548	1.002967195	13.00998444
04° 25' 00"	0.07700906	0.99703039	0.077238423	12.94692401	1.002978451	12.98548580
04° 25' 30"	0.07715407	0.99701918	0.077384737	12.92244491	1.002989730	12.96107953
04° 26' 00"	0.07729908	0.99700795	0.077531054	12.89805765	1.003001029	12.93676510
04° 26' 30"	0.07744408	0.99699670	0.077677374	12.87376172	1.003012350	12.91254200
04° 27' 00"	0.07758909	0.99698542	0.077823697	12.84955660	1.003023693	12.88840971
04° 27' 30"	0.07773410	0.99697413	0.077970024	12.82544179	1.003035057	12.86436773
04° 28' 00"	0.07787910	0.99696281	0.078116354	12.80141678	1.003046442	12.84041555
04° 28' 30"	0.07802410	0.99695147	0.078262687	12.77748106	1.003057849	12.81655267
04° 29' 00"	0.07816910	0.99694011	0.078409024	12.75363414	1.003069277	12.79277858
04° 29' 30"	0.07831410	0.99692873	0.078555364	12.72987553	1.003080727	12.76909281
04° 30' 00"	0.07845910	0.99691733	0.078701707	12.70620474	1.003092198	12.74549484
04° 30' 30"	0.07860409	0.99690591	0.078848053	12.68262127	1.003103691	12.72198421
04° 31' 00"	0.07874908	0.99689447	0.078994403	12.65912464	1.003115206	12.69856042
04° 31' 30"	0.07889408	0.99688300	0.079140757	12.63571439	1.003126741	12.67522300
04° 32' 00"	0.07903907	0.99687152	0.079287114	12.61239001	1.003138299	12.65197146
04° 32' 30"	0.07918405	0.99686001	0.079433474	12.58915106	1.003149878	12.62880534

04° 33' 00"

04° 53' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
04° 33' 00"	0.07932904	0.99684849	0.079579837	12.56599705	1.003161478	12.60572417
04° 33' 30"	0.07947403	0.99683694	0.079726204	12.54292752	1.003173100	12.58272748
04° 34' 00"	0.07961901	0.99682537	0.079872574	12.51994201	1.003184743	12.55981481
04° 34' 30"	0.07976399	0.99681378	0.080018948	12.49704006	1.003196408	12.53698569
04° 35' 00"	0.07990897	0.99680217	0.080165325	12.47422121	1.003208094	12.51423968
04° 35' 30"	0.08005395	0.99679053	0.080311706	12.45148502	1.003219801	12.49157633
04° 36' 00"	0.08019892	0.99677888	0.080458090	12.42883102	1.003231531	12.46899517
04° 36' 30"	0.08034390	0.99676720	0.080604477	12.40625878	1.003243281	12.44649577
04° 37' 00"	0.08048887	0.99675551	0.080750868	12.38376785	1.003255054	12.42407768
04° 37' 30"	0.08063384	0.99674379	0.080897262	12.36135780	1.003266847	12.40174047
04° 38' 00"	0.08077881	0.99673205	0.081043660	12.33902818	1.003278663	12.37948369
04° 38' 30"	0.08092378	0.99672029	0.081190061	12.31677856	1.003290499	12.35730692
04° 39' 00"	0.08106875	0.99670851	0.081336465	12.29460852	1.003302358	12.33520972
04° 39' 30"	0.08121371	0.99669671	0.081482873	12.27251763	1.003314237	12.31319166
04° 40' 00"	0.08135867	0.99668489	0.081629285	12.25050546	1.003326138	12.29125234
04° 40' 30"	0.08150364	0.99667304	0.081775700	12.22857159	1.003338061	12.26939131
04° 41' 00"	0.08164860	0.99666118	0.081922118	12.20671560	1.003350005	12.24760816
04° 41' 30"	0.08179355	0.99664929	0.082068540	12.18493708	1.003361971	12.22590249
04° 42' 00"	0.08193851	0.99663739	0.082214966	12.16323562	1.003373958	12.20427387
04° 42' 30"	0.08208346	0.99662546	0.082361395	12.14161081	1.003385967	12.18272190
04° 43' 00"	0.08222842	0.99661351	0.082507827	12.12006223	1.003397998	12.16124617
04° 43' 30"	0.08237337	0.99660154	0.082654263	12.09858950	1.003410049	12.13984628
04° 44' 00"	0.08251831	0.99658955	0.082800703	12.07719220	1.003422123	12.11852183
04° 44' 30"	0.08266326	0.99657754	0.082947146	12.05586994	1.003434218	12.09727242
04° 45' 00"	0.08280821	0.99656550	0.083093592	12.03462232	1.003446334	12.07609765
04° 45' 30"	0.08295315	0.99655345	0.083240042	12.01344896	1.003458472	12.05499713
04° 46' 00"	0.08309809	0.99654137	0.083386496	11.99234946	1.003470631	12.03397048
04° 46' 30"	0.08324303	0.99652928	0.083532953	11.97132343	1.003482812	12.01301730
04° 47' 00"	0.08338797	0.99651716	0.083679414	11.95037050	1.003495015	11.99213722
04° 47' 30"	0.08353291	0.99650502	0.083825878	11.92949028	1.003507239	11.97132985
04° 48' 00"	0.08367784	0.99649286	0.083972346	11.90868239	1.003519484	11.95059481
04° 48' 30"	0.08382278	0.99648068	0.084118818	11.88794646	1.003531751	11.92993172
04° 49' 00"	0.08396771	0.99646848	0.084265293	11.86728210	1.003544040	11.90934022
04° 49' 30"	0.08411264	0.99645625	0.084411771	11.84668896	1.003556350	11.88881993
04° 50' 00"	0.08425757	0.99644401	0.084558254	11.82616667	1.003568681	11.86837049
04° 50' 30"	0.08440249	0.99643174	0.084704739	11.80571485	1.003581035	11.84799152
04° 51' 00"	0.08454742	0.99641946	0.084851229	11.78533314	1.003593409	11.82768267
04° 51' 30"	0.08469234	0.99640715	0.084997722	11.76502119	1.003605805	11.80744357
04° 52' 00"	0.08483726	0.99639482	0.085144219	11.74477863	1.003618223	11.78727386
04° 52' 30"	0.08498218	0.99638247	0.085290719	11.72460512	1.003630663	11.76717320
04° 53' 00"	0.08512709	0.99637010	0.085437223	11.70450028	1.003643123	11.74714122
04° 53' 30"	0.08527201	0.99635771	0.085583731	11.68446378	1.003655606	11.72717758

04° 54' 00"

05° 14' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
04° 54' 00"	0.08541692	0.99634530	0.085730242	11.66449527	1.003668110	11.70728192
04° 54' 30"	0.08556183	0.99633286	0.085876757	11.64459440	1.003680635	11.68745390
04° 55' 00"	0.08570674	0.99632041	0.086023275	11.62476082	1.003693182	11.66769318
04° 55' 30"	0.08585165	0.99630793	0.086169797	11.60499420	1.003705751	11.64799942
04° 56' 00"	0.08599656	0.99629543	0.086316323	11.58529420	1.003718341	11.62837227
04° 56' 30"	0.08614146	0.99628292	0.086462853	11.56566047	1.003730952	11.60881140
04° 57' 00"	0.08628637	0.99627038	0.086609386	11.54609268	1.003743586	11.58931647
04° 57' 30"	0.08643127	0.99625782	0.086755923	11.52659050	1.003756240	11.56988715
04° 58' 00"	0.08657617	0.99624523	0.086902464	11.50715361	1.003768917	11.55052311
04° 58' 30"	0.08672106	0.99623263	0.087049008	11.48778167	1.003781615	11.53122403
04° 59' 00"	0.08686596	0.99622001	0.087195556	11.46847435	1.003794334	11.51198957
04° 59' 30"	0.08701085	0.99620736	0.087342108	11.44923134	1.003807075	11.49281942
05° 00' 00"	0.08715574	0.99619470	0.087488664	11.43005230	1.003819838	11.47371325
05° 00' 30"	0.08730063	0.99618201	0.087635223	11.41093693	1.003832622	11.45467074
05° 01' 00"	0.08744552	0.99616930	0.087781786	11.39188491	1.003845427	11.43569157
05° 01' 30"	0.08759041	0.99615657	0.087928352	11.37289591	1.003858255	11.41677544
05° 02' 00"	0.08773529	0.99614382	0.088074923	11.35396963	1.003871103	11.39792202
05° 02' 30"	0.08788017	0.99613105	0.088221497	11.33510576	1.003883974	11.37913101
05° 03' 00"	0.08802505	0.99611826	0.088368075	11.31630398	1.003896866	11.36040209
05° 03' 30"	0.08816993	0.99610545	0.088514657	11.29756399	1.003909779	11.34173497
05° 04' 00"	0.08831481	0.99609261	0.088661242	11.27888549	1.003922714	11.32312933
05° 04' 30"	0.08845968	0.99607976	0.088807832	11.26026816	1.003935671	11.30458487
05° 05' 00"	0.08860456	0.99606688	0.088954425	11.24171172	1.003948649	11.28610130
05° 05' 30"	0.08874943	0.99605398	0.089101022	11.22321586	1.003961649	11.26767830
05° 06' 00"	0.08889430	0.99604107	0.089247622	11.20478029	1.003974670	11.24931559
05° 06' 30"	0.08903916	0.99602813	0.089394227	11.18640471	1.003987713	11.23101288
05° 07' 00"	0.08918403	0.99601516	0.089540835	11.16808882	1.004000777	11.21276986
05° 07' 30"	0.08932889	0.99600218	0.089687447	11.14983234	1.004013864	11.19458624
05° 08' 00"	0.08947375	0.99598918	0.089834063	11.13163497	1.004026971	11.17646175
05° 08' 30"	0.08961861	0.99597616	0.089980683	11.11349644	1.004040100	11.15839608
05° 09' 00"	0.08976347	0.99596311	0.090127307	11.09541644	1.004053251	11.14038896
05° 09' 30"	0.08990833	0.99595005	0.090273934	11.07739471	1.004066424	11.12244009
05° 10' 00"	0.09005318	0.99593696	0.090420565	11.05943096	1.004079618	11.10454921
05° 10' 30"	0.09019804	0.99592385	0.090567201	11.04152490	1.004092833	11.08671602
05° 11' 00"	0.09034289	0.99591072	0.090713840	11.02367626	1.004106070	11.06894025
05° 11' 30"	0.09048773	0.99589757	0.090860482	11.00588477	1.004119329	11.05122163
05° 12' 00"	0.09063258	0.99588440	0.091007129	10.98815014	1.004132610	11.03355987
05° 12' 30"	0.09077742	0.99587121	0.091153780	10.97047211	1.004145912	11.01595471
05° 13' 00"	0.09092227	0.99585799	0.091300434	10.95285040	1.004159235	10.99840588
05° 13' 30"	0.09106711	0.99584476	0.091447093	10.93528474	1.004172580	10.98091310
05° 14' 00"	0.09121195	0.99583150	0.091593755	10.91777488	1.004185947	10.96347610
05° 14' 30"	0.09135678	0.99581823	0.091740422	10.90032053	1.004199335	10.94609463

05° 15' 00"

05° 35' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
05° 15' 00"	0.09150162	0.99580493	0.091887092	10.88292144	1.004212745	10.92876842
05° 15' 30"	0.09164645	0.99579161	0.092033766	10.86557734	1.004226177	10.91149719
05° 16' 00"	0.09179128	0.99577827	0.092180444	10.84828798	1.004239630	10.89428070
05° 16' 30"	0.09193611	0.99576491	0.092327126	10.83105309	1.004253105	10.87711869
05° 17' 00"	0.09208094	0.99575153	0.092473812	10.81387241	1.004266601	10.86001089
05° 17' 30"	0.09222576	0.99573812	0.092620501	10.79674569	1.004280119	10.84295705
05° 18' 00"	0.09237059	0.99572470	0.092767195	10.77967268	1.004293659	10.82595692
05° 18' 30"	0.09251541	0.99571125	0.092913893	10.76265312	1.004307220	10.80901023
05° 19' 00"	0.09266023	0.99569779	0.093060595	10.74568676	1.004320802	10.79211675
05° 19' 30"	0.09280505	0.99568430	0.093207300	10.72877335	1.004334407	10.77527622
05° 20' 00"	0.09294986	0.99567079	0.093354010	10.71191265	1.004348033	10.75848839
05° 20' 30"	0.09309467	0.99565726	0.093500724	10.69510439	1.004361681	10.74175302
05° 21' 00"	0.09323949	0.99564371	0.093647441	10.67834835	1.004375350	10.72506986
05° 21' 30"	0.09338430	0.99563014	0.093794163	10.66164428	1.004389041	10.70843867
05° 22' 00"	0.09352910	0.99561655	0.093940889	10.64499193	1.004402753	10.69185920
05° 22' 30"	0.09367391	0.99560293	0.094087618	10.62839107	1.004416487	10.67533122
05° 23' 00"	0.09381871	0.99558930	0.094234352	10.61184145	1.004430243	10.65885448
05° 23' 30"	0.09396351	0.99557564	0.094381089	10.59534283	1.004444020	10.64242875
05° 24' 00"	0.09410831	0.99556196	0.094527831	10.57889499	1.004457819	10.62605380
05° 24' 30"	0.09425311	0.99554827	0.094674577	10.56249769	1.004471640	10.60972938
05° 25' 00"	0.09439791	0.99553455	0.094821327	10.54615069	1.004485482	10.59345526
05° 25' 30"	0.09454270	0.99552081	0.094968081	10.52985376	1.004499346	10.57723122
05° 26' 00"	0.09468749	0.99550705	0.095114838	10.51360667	1.004513232	10.56105702
05° 26' 30"	0.09483228	0.99549326	0.095261600	10.49740920	1.004527139	10.54493243
05° 27' 00"	0.09497707	0.99547946	0.095408366	10.48126111	1.004541068	10.52885722
05° 27' 30"	0.09512185	0.99546564	0.095555136	10.46516218	1.004555018	10.51283118
05° 28' 00"	0.09526664	0.99545179	0.095701911	10.44911218	1.004568990	10.49685407
05° 28' 30"	0.09541142	0.99543792	0.095848689	10.43311089	1.004582984	10.48092567
05° 29' 00"	0.09555620	0.99542404	0.095995471	10.41715810	1.004596999	10.46504576
05° 29' 30"	0.09570098	0.99541013	0.096142258	10.40125356	1.004611036	10.44921412
05° 30' 00"	0.09584575	0.99539620	0.096289048	10.38539708	1.004625095	10.43343052
05° 30' 30"	0.09599053	0.99538225	0.096435843	10.36958843	1.004639175	10.41769476
05° 31' 00"	0.09613530	0.99536828	0.096582642	10.35382739	1.004653277	10.40200661
05° 31' 30"	0.09628007	0.99535428	0.096729445	10.33811374	1.004667400	10.38636586
05° 32' 00"	0.09642483	0.99534027	0.096876252	10.32244729	1.004681546	10.37077229
05° 32' 30"	0.09656960	0.99532623	0.097023063	10.30682780	1.004695712	10.35522570
05° 33' 00"	0.09671436	0.99531218	0.097169878	10.29125507	1.004709901	10.33972586
05° 33' 30"	0.09685912	0.99529810	0.097316698	10.27572889	1.004724111	10.32427258
05° 34' 00"	0.09700388	0.99528400	0.097463521	10.26024905	1.004738343	10.30886563
05° 34' 30"	0.09714864	0.99526988	0.097610349	10.24481534	1.004752597	10.29350482
05° 35' 00"	0.09729340	0.99525574	0.097757181	10.22942756	1.004766872	10.27818993
05° 35' 30"	0.09743815	0.99524158	0.097904017	10.21408550	1.004781168	10.26292076



05° 36' 00"

05° 56' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
05° 36' 00"	0.09758290	0.99522740	0.098050857	10.19878895	1.004795487	10.24769711
05° 36' 30"	0.09772765	0.99521320	0.098197702	10.18353772	1.004809827	10.23251878
05° 37' 00"	0.09787240	0.99519897	0.098344550	10.16833160	1.004824189	10.21738555
05° 37' 30"	0.09801714	0.99518473	0.098491403	10.15317039	1.004838572	10.20229724
05° 38' 00"	0.09816188	0.99517046	0.098638260	10.13805389	1.004852978	10.18725364
05° 38' 30"	0.09830662	0.99515617	0.098785122	10.12298190	1.004867404	10.17225455
05° 39' 00"	0.09845136	0.99514186	0.098931987	10.10795424	1.004881853	10.15729978
05° 39' 30"	0.09859610	0.99512753	0.099078857	10.09297069	1.004896323	10.14238913
05° 40' 00"	0.09874083	0.99511318	0.099225731	10.07803107	1.004910815	10.12752241
05° 40' 30"	0.09888557	0.99509881	0.099372609	10.06313518	1.004925328	10.11269942
05° 41' 00"	0.09903030	0.99508442	0.099519492	10.04828283	1.004939863	10.09791997
05° 41' 30"	0.09917502	0.99507000	0.099666378	10.03347383	1.004954420	10.08318387
05° 42' 00"	0.09931975	0.99505557	0.099813269	10.01870799	1.004968999	10.06849094
05° 42' 30"	0.09946447	0.99504111	0.099960165	10.00398512	1.004983599	10.05384097
05° 43' 00"	0.09960920	0.99502664	0.100107064	9.989305026	1.004998221	10.03923378
05° 43' 30"	0.09975392	0.99501214	0.100253968	9.974667532	1.005012865	10.02466919
05° 44' 00"	0.09989863	0.99499762	0.100400876	9.960072447	1.005027530	10.01014701
05° 44' 30"	0.10004335	0.99498308	0.100547789	9.945519586	1.005042217	9.995667053
05° 45' 00"	0.10018806	0.99496852	0.100694705	9.931008767	1.005056926	9.981229140
05° 45' 30"	0.10033277	0.99495394	0.100841626	9.916539807	1.005071656	9.966833085
05° 46' 00"	0.10047748	0.99493933	0.100988551	9.902112523	1.005086408	9.952478708
05° 46' 30"	0.10062219	0.99492471	0.101135481	9.887726737	1.005101182	9.938165828
05° 47' 00"	0.10076689	0.99491006	0.101282415	9.873382267	1.005115977	9.923894266
05° 47' 30"	0.10091160	0.99489540	0.101429353	9.859078937	1.005130794	9.909663843
05° 48' 00"	0.10105630	0.99488071	0.101576296	9.844816568	1.005145633	9.895474383
05° 48' 30"	0.10120100	0.99486600	0.101723243	9.830594985	1.005160494	9.881325708
05° 49' 00"	0.10134569	0.99485127	0.101870194	9.816414011	1.005175376	9.867217644
05° 49' 30"	0.10149039	0.99483652	0.102017150	9.802273474	1.005190280	9.853150017
05° 50' 00"	0.10163508	0.99482175	0.102164110	9.788173198	1.005205206	9.839122652
05° 50' 30"	0.10177977	0.99480696	0.102311074	9.774113013	1.005220153	9.825135378
05° 51' 00"	0.10192446	0.99479214	0.102458043	9.760092747	1.005235122	9.811188024
05° 51' 30"	0.10206914	0.99477731	0.102605016	9.746112229	1.005250113	9.797280418
05° 52' 00"	0.10221382	0.99476245	0.102751993	9.732171291	1.005265125	9.783412392
05° 52' 30"	0.10235851	0.99474757	0.102898975	9.718269762	1.005280160	9.769583777
05° 53' 00"	0.10250319	0.99473268	0.103045962	9.704407478	1.005295215	9.755794406
05° 53' 30"	0.10264786	0.99471776	0.103192952	9.690584269	1.005310293	9.742044112
05° 54' 00"	0.10279254	0.99470282	0.103339947	9.676799972	1.005325392	9.728332730
05° 54' 30"	0.10293721	0.99468786	0.103486947	9.663054421	1.005340514	9.714660094
05° 55' 00"	0.10308188	0.99467287	0.103633951	9.649347453	1.005355656	9.701026042
05° 55' 30"	0.10322655	0.99465787	0.103780959	9.635678905	1.005370821	9.687430411
05° 56' 00"	0.10337121	0.99464285	0.103927972	9.622048615	1.005386007	9.673873038
05° 56' 30"	0.10351588	0.99462780	0.104074989	9.608456422	1.005401215	9.660353762

05° 57' 00"

06° 17' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
05° 57' 00"	0.10366054	0.99461273	0.104222011	9.594902166	1.005416445	9.646872425
05° 57' 30"	0.10380520	0.99459765	0.104369037	9.581385688	1.005431696	9.633428865
05° 58' 00"	0.10394986	0.99458254	0.104516068	9.567906829	1.005446969	9.620022926
05° 58' 30"	0.10409451	0.99456741	0.104663103	9.554465432	1.005462264	9.606654449
05° 59' 00"	0.10423916	0.99455226	0.104810143	9.541061341	1.005477581	9.593323278
05° 59' 30"	0.10438381	0.99453709	0.104957187	9.527694400	1.005492919	9.580029258
06° 00' 00"	0.10452846	0.99452190	0.105104235	9.514364454	1.005508280	9.566772234
06° 00' 30"	0.10467311	0.99450668	0.105251288	9.501071349	1.005523661	9.553552051
06° 01' 00"	0.10481775	0.99449145	0.105398346	9.487814933	1.005539065	9.540368557
06° 01' 30"	0.10496240	0.99447619	0.105545408	9.474595052	1.005554490	9.527221599
06° 02' 00"	0.10510703	0.99446091	0.105692475	9.461411556	1.005569937	9.514111027
06° 02' 30"	0.10525167	0.99444562	0.105839546	9.448264293	1.005585406	9.501036688
06° 03' 00"	0.10539631	0.99443030	0.105986621	9.435153115	1.005600897	9.487998435
06° 03' 30"	0.10554094	0.99441496	0.106133701	9.422077872	1.005616409	9.474996118
06° 04' 00"	0.10568557	0.99439960	0.106280786	9.409038417	1.005631943	9.462029588
06° 04' 30"	0.10583020	0.99438422	0.106427875	9.396034601	1.005647499	9.449098699
06° 05' 00"	0.10597483	0.99436881	0.106574969	9.383066278	1.005663077	9.436203304
06° 05' 30"	0.10611945	0.99435339	0.106722068	9.370133304	1.005678676	9.423343257
06° 06' 00"	0.10626407	0.99433794	0.106869171	9.357235532	1.005694297	9.410518413
06° 06' 30"	0.10640869	0.99432248	0.107016278	9.344372820	1.005709940	9.397728630
06° 07' 00"	0.10655331	0.99430699	0.107163390	9.331545023	1.005725605	9.384973762
06° 07' 30"	0.10669792	0.99429148	0.107310507	9.318751999	1.005741291	9.372253668
06° 08' 00"	0.10684254	0.99427595	0.107457628	9.305993606	1.005756999	9.359568205
06° 08' 30"	0.10698715	0.99426040	0.107604754	9.293269703	1.005772729	9.346917234
06° 09' 00"	0.10713175	0.99424483	0.107751884	9.280580151	1.005788481	9.334300613
06° 09' 30"	0.10727636	0.99422924	0.107899020	9.267924809	1.005804255	9.321718204
06° 10' 00"	0.10742096	0.99421363	0.108046159	9.255303540	1.005820050	9.309169867
06° 10' 30"	0.10756557	0.99419799	0.108193304	9.242716204	1.005835867	9.296655465
06° 11' 00"	0.10771016	0.99418234	0.108340453	9.230162665	1.005851706	9.284174860
06° 11' 30"	0.10785476	0.99416666	0.108487606	9.217642787	1.005867566	9.271727916
06° 12' 00"	0.10799936	0.99415096	0.108634764	9.205156433	1.005883449	9.259314497
06° 12' 30"	0.10814395	0.99413525	0.108781927	9.192703469	1.005899353	9.246934469
06° 13' 00"	0.10828854	0.99411951	0.108929095	9.180283761	1.005915279	9.234587696
06° 13' 30"	0.10843313	0.99410375	0.109076267	9.167897174	1.005931226	9.222274046
06° 14' 00"	0.10857771	0.99408796	0.109223444	9.155543576	1.005947196	9.209993386
06° 14' 30"	0.10872229	0.99407216	0.109370625	9.143222835	1.005963187	9.197745583
06° 15' 00"	0.10886687	0.99405634	0.109517812	9.130934819	1.005979200	9.185530506
06° 15' 30"	0.10901145	0.99404049	0.109665003	9.118679398	1.005995235	9.173348024
06° 16' 00"	0.10915603	0.99402463	0.109812198	9.106456442	1.006011292	9.161198007
06° 16' 30"	0.10930060	0.99400874	0.109959399	9.094265821	1.006027370	9.149080326
06° 17' 00"	0.10944517	0.99399283	0.110106604	9.082107406	1.006043470	9.136994853
06° 17' 30"	0.10958974	0.99397691	0.110253813	9.069981071	1.006059592	9.124941458

06° 18' 00"

06° 38' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
06° 18' 00"	0.10973431	0.99396096	0.110401028	9.057886686	1.006075736	9.112920016
06° 18' 30"	0.10987888	0.99394498	0.110548247	9.045824127	1.006091902	9.100930399
06° 19' 00"	0.11002344	0.99392899	0.110695471	9.033793266	1.006108089	9.088972482
06° 19' 30"	0.11016800	0.99391298	0.110842700	9.021793979	1.006124299	9.077046138
06° 20' 00"	0.11031256	0.99389695	0.110989933	9.009826140	1.006140530	9.065151244
06° 20' 30"	0.11045711	0.99388089	0.111137171	8.997889627	1.006156782	9.053287675
06° 21' 00"	0.11060166	0.99386482	0.111284414	8.985984315	1.006173057	9.041455309
06° 21' 30"	0.11074621	0.99384872	0.111431662	8.974110082	1.006189354	9.029654022
06° 22' 00"	0.11089076	0.99383260	0.111578914	8.962266805	1.006205672	9.017883692
06° 22' 30"	0.11103531	0.99381646	0.111726172	8.950454364	1.006222012	9.006144199
06° 23' 00"	0.11117985	0.99380030	0.111873434	8.938672638	1.006238374	8.994435421
06° 23' 30"	0.11132439	0.99378412	0.112020700	8.926921507	1.006254758	8.982757237
06° 24' 00"	0.11146893	0.99376792	0.112167972	8.915200850	1.006271163	8.971109530
06° 24' 30"	0.11161347	0.99375170	0.112315249	8.903510550	1.006287591	8.959492179
06° 25' 00"	0.11175800	0.99373545	0.112462530	8.891850487	1.006304040	8.947905067
06° 25' 30"	0.11190253	0.99371919	0.112609816	8.880220545	1.006320511	8.936348075
06° 26' 00"	0.11204706	0.99370290	0.112757107	8.868620605	1.006337004	8.924821087
06° 26' 30"	0.11219159	0.99368659	0.112904402	8.857050553	1.006353518	8.913323987
06° 27' 00"	0.11233612	0.99367027	0.113051703	8.845510271	1.006370055	8.901856658
06° 27' 30"	0.11248064	0.99365392	0.113199008	8.833999645	1.006386613	8.890418985
06° 28' 00"	0.11262516	0.99363755	0.113346319	8.822518560	1.006403194	8.879010854
06° 28' 30"	0.11276968	0.99362116	0.113493634	8.811066902	1.006419796	8.867632150
06° 29' 00"	0.11291419	0.99360474	0.113640954	8.799644557	1.006436419	8.856282760
06° 29' 30"	0.11305870	0.99358831	0.113788279	8.788251413	1.006453065	8.844962572
06° 30' 00"	0.11320321	0.99357186	0.113935608	8.776887357	1.006469733	8.833671472
06° 30' 30"	0.11334772	0.99355538	0.114082943	8.765552277	1.006486422	8.822409349
06° 31' 00"	0.11349223	0.99353888	0.114230282	8.754246063	1.006503133	8.811176093
06° 31' 30"	0.11363673	0.99352237	0.114377627	8.742968604	1.006519866	8.799971591
06° 32' 00"	0.11378123	0.99350583	0.114524976	8.731719789	1.006536621	8.788795735
06° 32' 30"	0.11392573	0.99348927	0.114672330	8.720499510	1.006553398	8.777648415
06° 33' 00"	0.11407023	0.99347269	0.114819689	8.709307657	1.006570197	8.766529522
06° 33' 30"	0.11421472	0.99345609	0.114967053	8.698144122	1.006587017	8.755438947
06° 34' 00"	0.11435921	0.99343947	0.115114422	8.687008797	1.006603860	8.744376583
06° 34' 30"	0.11450370	0.99342282	0.115261796	8.675901575	1.006620724	8.733342323
06° 35' 00"	0.11464819	0.99340616	0.115409175	8.664822349	1.006637610	8.722336059
06° 35' 30"	0.11479267	0.99338947	0.115556559	8.653771013	1.006654518	8.711357686
06° 36' 00"	0.11493715	0.99337277	0.115703948	8.642747461	1.006671448	8.700407098
06° 36' 30"	0.11508163	0.99335604	0.115851341	8.631751589	1.006688399	8.689484190
06° 37' 00"	0.11522611	0.99333929	0.115998740	8.620783291	1.006705373	8.678588857
06° 37' 30"	0.11537058	0.99332252	0.116146144	8.609842464	1.006722368	8.667720995
06° 38' 00"	0.11551505	0.99330573	0.116293552	8.598929004	1.006739385	8.656880501
06° 38' 30"	0.11565952	0.99328892	0.116440966	8.588042807	1.006756425	8.646067271

06° 39' 00"

06° 59' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
06° 39' 00"	0.11580399	0.99327209	0.116588385	8.577183773	1.006773486	8.635281204
06° 39' 30"	0.11594845	0.99325523	0.116735808	8.566351798	1.006790569	8.624522197
06° 40' 00"	0.11609291	0.99323836	0.116883237	8.555546781	1.006807673	8.613790148
06° 40' 30"	0.11623737	0.99322146	0.117030670	8.544768621	1.006824800	8.603084958
06° 41' 00"	0.11638183	0.99320455	0.117178109	8.534017218	1.006841948	8.592406524
06° 41' 30"	0.11652629	0.99318761	0.117325553	8.523292472	1.006859119	8.581754748
06° 42' 00"	0.11667074	0.99317065	0.117473001	8.512594282	1.006876311	8.571129530
06° 42' 30"	0.11681519	0.99315367	0.117620455	8.501922551	1.006893525	8.560530770
06° 43' 00"	0.11695963	0.99313667	0.117767914	8.491277180	1.006910761	8.549958371
06° 43' 30"	0.11710408	0.99311965	0.117915378	8.480658070	1.006928019	8.539412234
06° 44' 00"	0.11724852	0.99310261	0.118062847	8.470065125	1.006945299	8.528892262
06° 44' 30"	0.11739296	0.99308554	0.118210321	8.459498247	1.006962601	8.518398358
06° 45' 00"	0.11753740	0.99306846	0.118357800	8.448957340	1.006979925	8.507930426
06° 45' 30"	0.11768183	0.99305135	0.118505284	8.438442307	1.006997270	8.497488368
06° 46' 00"	0.11782626	0.99303422	0.118652773	8.427953053	1.007014638	8.487072091
06° 46' 30"	0.11797069	0.99301708	0.118800267	8.417489484	1.007032027	8.476681497
06° 47' 00"	0.11811512	0.99299991	0.118947767	8.407051503	1.007049438	8.466316494
06° 47' 30"	0.11825955	0.99298272	0.119095271	8.396639017	1.007066871	8.455976986
06° 48' 00"	0.11840397	0.99296551	0.119242781	8.386251933	1.007084327	8.445662880
06° 48' 30"	0.11854839	0.99294828	0.119390295	8.375890157	1.007101804	8.435374083
06° 49' 00"	0.11869281	0.99293102	0.119537815	8.365553596	1.007119302	8.425110502
06° 49' 30"	0.11883722	0.99291375	0.119685340	8.355242158	1.007136823	8.414872044
06° 50' 00"	0.11898163	0.99289646	0.119832870	8.344955751	1.007154366	8.404658618
06° 50' 30"	0.11912604	0.99287914	0.119980406	8.334694283	1.007171931	8.394470131
06° 51' 00"	0.11927045	0.99286180	0.120127946	8.324457663	1.007189517	8.384306494
06° 51' 30"	0.11941485	0.99284445	0.120275491	8.314245802	1.007207126	8.374167616
06° 52' 00"	0.11955926	0.99282707	0.120423042	8.304058608	1.007224756	8.364053405
06° 52' 30"	0.11970366	0.99280967	0.120570598	8.293895992	1.007242408	8.353963774
06° 53' 00"	0.11984805	0.99279225	0.120718159	8.283757865	1.007260083	8.343898631
06° 53' 30"	0.11999245	0.99277480	0.120865725	8.273644138	1.007277779	8.333857890
06° 54' 00"	0.12013684	0.99275734	0.121013297	8.263554723	1.007295497	8.323841460
06° 54' 30"	0.12028123	0.99273986	0.121160873	8.253489531	1.007313237	8.313849255
06° 55' 00"	0.12042562	0.99272235	0.121308455	8.243448475	1.007330999	8.303881186
06° 55' 30"	0.12057000	0.99270483	0.121456042	8.233431467	1.007348783	8.293937167
06° 56' 00"	0.12071438	0.99268728	0.121603634	8.223438422	1.007366589	8.284017110
06° 56' 30"	0.12085876	0.99266971	0.121751232	8.213469253	1.007384416	8.274120930
06° 57' 00"	0.12100314	0.99265212	0.121898835	8.203523874	1.007402266	8.264248541
06° 57' 30"	0.12114751	0.99263452	0.122046443	8.193602199	1.007420138	8.254399857
06° 58' 00"	0.12129188	0.99261688	0.122194056	8.183704143	1.007438031	8.244574792
06° 58' 30"	0.12143625	0.99259923	0.122341674	8.173829622	1.007455947	8.234773263
06° 59' 00"	0.12158062	0.99258156	0.122489298	8.163978552	1.007473885	8.224995185
06° 59' 30"	0.12172498	0.99256387	0.122636927	8.154150848	1.007491844	8.215240475

07° 00' 00"

07° 20' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
07° 00' 00"	0.12186934	0.99254615	0.122784561	8.144346428	1.007509825	8.205509048
07° 00' 30"	0.12201370	0.99252842	0.122932200	8.134565208	1.007527829	8.195800822
07° 01' 00"	0.12215806	0.99251066	0.123079845	8.124807105	1.007545854	8.186115714
07° 01' 30"	0.12230241	0.99249288	0.123227495	8.115072037	1.007563901	8.176453642
07° 02' 00"	0.12244676	0.99247508	0.123375150	8.105359922	1.007581971	8.166814524
07° 02' 30"	0.12259111	0.99245726	0.123522811	8.095670680	1.007600062	8.157198279
07° 03' 00"	0.12273546	0.99243942	0.123670477	8.086004228	1.007618175	8.147604824
07° 03' 30"	0.12287980	0.99242156	0.123818148	8.076360486	1.007636310	8.138034081
07° 04' 00"	0.12302414	0.99240368	0.123965825	8.066739374	1.007654467	8.128485967
07° 04' 30"	0.12316848	0.99238577	0.124113507	8.057140811	1.007672647	8.118960404
07° 05' 00"	0.12331281	0.99236785	0.124261194	8.047564718	1.007690848	8.109457312
07° 05' 30"	0.12345715	0.99234990	0.124408886	8.038011017	1.007709071	8.099976611
07° 06' 00"	0.12360148	0.99233194	0.124556584	8.028479627	1.007727316	8.090518223
07° 06' 30"	0.12374580	0.99231395	0.124704288	8.018970471	1.007745583	8.081082069
07° 07' 00"	0.12389013	0.99229594	0.124851996	8.009483470	1.007763872	8.071668072
07° 07' 30"	0.12403445	0.99227791	0.124999710	8.000018547	1.007782183	8.062276152
07° 08' 00"	0.12417877	0.99225986	0.125147430	7.990575625	1.007800516	8.052906234
07° 08' 30"	0.12432309	0.99224179	0.125295154	7.981154625	1.007818870	8.043558240
07° 09' 00"	0.12446740	0.99222370	0.125442884	7.971755473	1.007837247	8.034232092
07° 09' 30"	0.12461171	0.99220558	0.125590620	7.962378090	1.007855646	8.024927716
07° 10' 00"	0.12475602	0.99218745	0.125738361	7.953022402	1.007874067	8.015645035
07° 10' 30"	0.12490033	0.99216929	0.125886107	7.943688333	1.007892510	8.006383974
07° 11' 00"	0.12504463	0.99215112	0.126033859	7.934375808	1.007910975	7.997144457
07° 11' 30"	0.12518894	0.99213292	0.126181616	7.925084751	1.007929462	7.987926409
07° 12' 00"	0.12533323	0.99211470	0.126329378	7.915815088	1.007947971	7.978729756
07° 12' 30"	0.12547753	0.99209646	0.126477146	7.906566746	1.007966502	7.969554423
07° 13' 00"	0.12562182	0.99207820	0.126624920	7.897339649	1.007985055	7.960400337
07° 13' 30"	0.12576611	0.99205992	0.126772699	7.888133725	1.008003630	7.951267425
07° 14' 00"	0.12591040	0.99204162	0.126920483	7.878948900	1.008022226	7.942155612
07° 14' 30"	0.12605469	0.99202329	0.127068273	7.869785102	1.008040845	7.933064827
07° 15' 00"	0.12619897	0.99200495	0.127216068	7.860642258	1.008059486	7.923994997
07° 15' 30"	0.12634325	0.99198658	0.127363869	7.851520296	1.008078149	7.914946049
07° 16' 00"	0.12648753	0.99196820	0.127511675	7.842419143	1.008096834	7.905917911
07° 16' 30"	0.12663180	0.99194979	0.127659487	7.833338730	1.008115541	7.896910513
07° 17' 00"	0.12677607	0.99193136	0.127807304	7.824278983	1.008134270	7.887923783
07° 17' 30"	0.12692034	0.99191291	0.127955126	7.815239833	1.008153021	7.878957650
07° 18' 00"	0.12706461	0.99189444	0.128102954	7.806221209	1.008171794	7.870012044
07° 18' 30"	0.12720887	0.99187595	0.128250788	7.797223041	1.008190589	7.861086894
07° 19' 00"	0.12735313	0.99185744	0.128398627	7.788245258	1.008209407	7.852182130
07° 19' 30"	0.12749739	0.99183891	0.128546472	7.779287792	1.008228246	7.843297683
07° 20' 00"	0.12764165	0.99182035	0.128694322	7.770350573	1.008247107	7.834433484
07° 20' 30"	0.12778590	0.99180178	0.128842178	7.761433531	1.008265990	7.825589464

07° 21' 00"

07° 41' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
07° 21' 00"	0.12793015	0.99178318	0.128990039	7.752536599	1.008284895	7.816765554
07° 21' 30"	0.12807440	0.99176456	0.129137906	7.743659709	1.008303823	7.807961685
07° 22' 00"	0.12821864	0.99174592	0.129285778	7.734802791	1.008322772	7.799177791
07° 22' 30"	0.12836289	0.99172727	0.129433656	7.725965778	1.008341743	7.790413802
07° 23' 00"	0.12850713	0.99170859	0.129581540	7.717148604	1.008360737	7.781669652
07° 23' 30"	0.12865136	0.99168988	0.129729429	7.708351200	1.008379752	7.772945273
07° 24' 00"	0.12879560	0.99167116	0.129877324	7.699573500	1.008398790	7.764240600
07° 24' 30"	0.12893983	0.99165242	0.130025224	7.690815438	1.008417849	7.755555564
07° 25' 00"	0.12908406	0.99163366	0.130173130	7.682076948	1.008436931	7.746890101
07° 25' 30"	0.12922828	0.99161487	0.130321041	7.673357962	1.008456035	7.738244143
07° 26' 00"	0.12937251	0.99159606	0.130468958	7.664658417	1.008475160	7.729617626
07° 26' 30"	0.12951673	0.99157724	0.130616881	7.655978246	1.008494308	7.721010485
07° 27' 00"	0.12966094	0.99155839	0.130764809	7.647317385	1.008513478	7.712422653
07° 27' 30"	0.12980516	0.99153952	0.130912743	7.638675768	1.008532670	7.703854068
07° 28' 00"	0.12994937	0.99152063	0.131060683	7.630053332	1.008551884	7.695304663
07° 28' 30"	0.13009358	0.99150172	0.131208628	7.621450012	1.008571120	7.686774375
07° 29' 00"	0.13023779	0.99148279	0.131356579	7.612865745	1.008590378	7.678263140
07° 29' 30"	0.13038199	0.99146384	0.131504535	7.604300466	1.008609658	7.669770895
07° 30' 00"	0.13052619	0.99144486	0.131652498	7.595754113	1.008628961	7.661297576
07° 30' 30"	0.13067039	0.99142587	0.131800465	7.587226622	1.008648285	7.652843120
07° 31' 00"	0.13081459	0.99140685	0.131948439	7.578717931	1.008667631	7.644407464
07° 31' 30"	0.13095878	0.99138781	0.132096418	7.570227977	1.008687000	7.635990546
07° 32' 00"	0.13110297	0.99136876	0.132244403	7.561756698	1.008706390	7.627592304
07° 32' 30"	0.13124716	0.99134968	0.132392394	7.553304033	1.008725803	7.619212676
07° 33' 00"	0.13139134	0.99133058	0.132540390	7.544869918	1.008745238	7.610851601
07° 33' 30"	0.13153552	0.99131146	0.132688392	7.536454295	1.008764695	7.602509016
07° 34' 00"	0.13167970	0.99129232	0.132836399	7.528057100	1.008784174	7.594184861
07° 34' 30"	0.13182388	0.99127315	0.132984413	7.519678273	1.008803675	7.585879074
07° 35' 00"	0.13196805	0.99125397	0.133132432	7.511317754	1.008823198	7.577591597
07° 35' 30"	0.13211222	0.99123477	0.133280457	7.502975483	1.008842743	7.569322367
07° 36' 00"	0.13225639	0.99121554	0.133428487	7.494651399	1.008862310	7.561071326
07° 36' 30"	0.13240056	0.99119629	0.133576524	7.486345442	1.008881900	7.552838412
07° 37' 00"	0.13254472	0.99117703	0.133724566	7.478057554	1.008901511	7.544623568
07° 37' 30"	0.13268888	0.99115774	0.133872614	7.469787675	1.008921145	7.536426733
07° 38' 00"	0.13283303	0.99113843	0.134020667	7.461535745	1.008940801	7.528247849
07° 38' 30"	0.13297719	0.99111910	0.134168727	7.453301707	1.008960479	7.520086857
07° 39' 00"	0.13312134	0.99109975	0.134316792	7.445085501	1.008980178	7.511943698
07° 39' 30"	0.13326549	0.99108038	0.134464863	7.436887070	1.008999901	7.503818314
07° 40' 00"	0.13340963	0.99106098	0.134612940	7.428706355	1.009019645	7.495710648
07° 40' 30"	0.13355377	0.99104157	0.134761022	7.420543300	1.009039411	7.487620641
07° 41' 00"	0.13369791	0.99102213	0.134909111	7.412397845	1.009059200	7.479548236
07° 41' 30"	0.13384205	0.99100268	0.135057205	7.404269935	1.009079010	7.471493376

07° 42' 00"

08° 02' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
07° 42' 00"	0.13398619	0.99098320	0.135205305	7.396159512	1.009098843	7.463456004
07° 42' 30"	0.13413032	0.99096370	0.135353410	7.388066519	1.009118698	7.455436063
07° 43' 00"	0.13427445	0.99094418	0.135501522	7.379990900	1.009138574	7.447433497
07° 43' 30"	0.13441857	0.99092464	0.135649640	7.371932599	1.009158474	7.439448249
07° 44' 00"	0.13456269	0.99090508	0.135797763	7.363891560	1.009178395	7.431480264
07° 44' 30"	0.13470681	0.99088550	0.135945892	7.355867727	1.009198338	7.423529485
07° 45' 00"	0.13485093	0.99086590	0.136094027	7.347861045	1.009218304	7.415595858
07° 45' 30"	0.13499504	0.99084627	0.136242168	7.339871457	1.009238291	7.407679327
07° 46' 00"	0.13513916	0.99082663	0.136390315	7.331898910	1.009258301	7.399779837
07° 46' 30"	0.13528326	0.99080696	0.136538467	7.323943349	1.009278333	7.391897332
07° 47' 00"	0.13542737	0.99078728	0.136686626	7.316004718	1.009298387	7.384031760
07° 47' 30"	0.13557147	0.99076757	0.136834790	7.308082964	1.009318463	7.376183065
07° 48' 00"	0.13571557	0.99074784	0.136982961	7.300178032	1.009338561	7.368351193
07° 48' 30"	0.13585967	0.99072809	0.137131137	7.292289869	1.009358682	7.360536090
07° 49' 00"	0.13600376	0.99070832	0.137279319	7.284418421	1.009378825	7.352737703
07° 49' 30"	0.13614785	0.99068853	0.137427507	7.276563634	1.009398989	7.344955978
07° 50' 00"	0.13629194	0.99066872	0.137575701	7.268725456	1.009419176	7.337190862
07° 50' 30"	0.13643603	0.99064888	0.137723901	7.260903833	1.009439385	7.329442303
07° 51' 00"	0.13658011	0.99062903	0.137872107	7.253098713	1.009459617	7.321710247
07° 51' 30"	0.13672419	0.99060915	0.138020319	7.245310043	1.009479870	7.313994642
07° 52' 00"	0.13686827	0.99058926	0.138168536	7.237537771	1.009500146	7.306295435
07° 52' 30"	0.13701234	0.99056934	0.138316760	7.229781845	1.009520444	7.298612576
07° 53' 00"	0.13715641	0.99054940	0.138464990	7.222042213	1.009540764	7.290946010
07° 53' 30"	0.13730048	0.99052944	0.138613225	7.214318823	1.009561106	7.283295688
07° 54' 00"	0.13744455	0.99050946	0.138761467	7.206611625	1.009581470	7.275661558
07° 54' 30"	0.13758861	0.99048946	0.138909714	7.198920566	1.009601857	7.268043569
07° 55' 00"	0.13773267	0.99046944	0.139057968	7.191245596	1.009622265	7.260441669
07° 55' 30"	0.13787672	0.99044940	0.139206228	7.183586664	1.009642696	7.252855807
07° 56' 00"	0.13802078	0.99042933	0.139354493	7.175943720	1.009663149	7.245285934
07° 56' 30"	0.13816483	0.99040925	0.139502765	7.168316713	1.009683624	7.237732000
07° 57' 00"	0.13830888	0.99038914	0.139651042	7.160705593	1.009704122	7.230193952
07° 57' 30"	0.13845292	0.99036902	0.139799326	7.153110310	1.009724641	7.222671743
07° 58' 00"	0.13859696	0.99034887	0.139947616	7.145530815	1.009745183	7.215165322
07° 58' 30"	0.13874100	0.99032870	0.140095911	7.137967058	1.009765747	7.207674640
07° 59' 00"	0.13888504	0.99030851	0.140244213	7.130418989	1.009786333	7.200199647
07° 59' 30"	0.13902907	0.99028830	0.140392521	7.122886560	1.009806942	7.192740295
08° 00' 00"	0.13917310	0.99026807	0.140540835	7.115369722	1.009827573	7.185296534
08° 00' 30"	0.13931713	0.99024782	0.140689155	7.107868426	1.009848225	7.177868316
08° 01' 00"	0.13946115	0.99022754	0.140837481	7.100382624	1.009868900	7.170455593
08° 01' 30"	0.13960517	0.99020725	0.140985813	7.092912267	1.009889598	7.163058315
08° 02' 00"	0.13974919	0.99018693	0.141134151	7.085457307	1.009910317	7.155676436
08° 02' 30"	0.13989321	0.99016660	0.141282495	7.078017697	1.009931059	7.148309906

08° 03' 00"

08° 23' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
08° 03' 00"	0.14003722	0.99014624	0.141430845	7.070593388	1.009951823	7.140958680
08° 03' 30"	0.14018123	0.99012586	0.141579202	7.063184334	1.009972609	7.133622708
08° 04' 00"	0.14032524	0.99010546	0.141727564	7.055790487	1.009993417	7.126301944
08° 04' 30"	0.14046924	0.99008504	0.141875933	7.048411800	1.010014248	7.118996340
08° 05' 00"	0.14061324	0.99006460	0.142024308	7.041048225	1.010035100	7.111705851
08° 05' 30"	0.14075724	0.99004414	0.142172689	7.033699717	1.010055975	7.104430428
08° 06' 00"	0.14090123	0.99002366	0.142321076	7.026366229	1.010076873	7.097170026
08° 06' 30"	0.14104522	0.99000315	0.142469469	7.019047714	1.010097792	7.089924599
08° 07' 00"	0.14118921	0.98998263	0.142617868	7.011744127	1.010118734	7.082694099
08° 07' 30"	0.14133320	0.98996208	0.142766274	7.004455421	1.010139698	7.075478482
08° 08' 00"	0.14147718	0.98994152	0.142914685	6.997181551	1.010160684	7.068277701
08° 08' 30"	0.14162116	0.98992093	0.143063103	6.989922471	1.010181692	7.061091711
08° 09' 00"	0.14176514	0.98990032	0.143211527	6.982678136	1.010202723	7.053920467
08° 09' 30"	0.14190911	0.98987969	0.143359957	6.975448501	1.010223776	7.046763923
08° 10' 00"	0.14205308	0.98985904	0.143508394	6.968233520	1.010244851	7.039622035
08° 10' 30"	0.14219705	0.98983837	0.143656836	6.961033149	1.010265948	7.032494756
08° 11' 00"	0.14234101	0.98981768	0.143805285	6.953847343	1.010287068	7.025382044
08° 11' 30"	0.14248498	0.98979696	0.143953740	6.946676058	1.010308210	7.018283854
08° 12' 00"	0.14262893	0.98977623	0.144102201	6.939519249	1.010329374	7.011200140
08° 12' 30"	0.14277289	0.98975548	0.144250669	6.932376873	1.010350561	7.004130860
08° 13' 00"	0.14291684	0.98973470	0.144399142	6.925248885	1.010371769	6.997075969
08° 13' 30"	0.14306079	0.98971390	0.144547622	6.918135241	1.010393000	6.990035423
08° 14' 00"	0.14320474	0.98969309	0.144696108	6.911035899	1.010414254	6.983009179
08° 14' 30"	0.14334868	0.98967225	0.144844601	6.903950815	1.010435529	6.975997194
08° 15' 00"	0.14349262	0.98965139	0.144993099	6.896879945	1.010456827	6.968999424
08° 15' 30"	0.14363656	0.98963051	0.145141604	6.889823246	1.010478147	6.962015826
08° 16' 00"	0.14378049	0.98960960	0.145290116	6.882780677	1.010499489	6.955046358
08° 16' 30"	0.14392443	0.98958868	0.145438633	6.875752193	1.010520854	6.948090976
08° 17' 00"	0.14406835	0.98956774	0.145587157	6.868737753	1.010542241	6.941149639
08° 17' 30"	0.14421228	0.98954677	0.145735687	6.861737313	1.010563650	6.934222304
08° 18' 00"	0.14435620	0.98952579	0.145884223	6.854750833	1.010585081	6.927308928
08° 18' 30"	0.14450012	0.98950478	0.146032766	6.847778270	1.010606535	6.920409470
08° 19' 00"	0.14464404	0.98948376	0.146181315	6.840819581	1.010628011	6.913523888
08° 19' 30"	0.14478795	0.98946271	0.146329870	6.833874727	1.010649509	6.906652140
08° 20' 00"	0.14493186	0.98944164	0.146478432	6.826943664	1.010671030	6.899794185
08° 20' 30"	0.14507577	0.98942055	0.146626999	6.820026352	1.010692573	6.892949981
08° 21' 00"	0.14521967	0.98939944	0.146775574	6.813122749	1.010714138	6.886119487
08° 21' 30"	0.14536357	0.98937831	0.146924154	6.806232814	1.010735726	6.879302662
08° 22' 00"	0.14550747	0.98935715	0.147072741	6.799356507	1.010757335	6.872499466
08° 22' 30"	0.14565136	0.98933598	0.147221335	6.792493787	1.010778968	6.865709858
08° 23' 00"	0.14579525	0.98931478	0.147369934	6.785644614	1.010800622	6.858933796
08° 23' 30"	0.14593914	0.98929357	0.147518540	6.778808946	1.010822299	6.852171242



08° 24' 00''

08° 44' 30''

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
08° 24' 00''	0.14608303	0.98927233	0.147667153	6.771986744	1.010843998	6.845422154
08° 24' 30''	0.14622691	0.98925108	0.147815771	6.765177968	1.010865719	6.838686492
08° 25' 00''	0.14637079	0.98922980	0.147964397	6.758382578	1.010887463	6.831964217
08° 25' 30''	0.14651467	0.98920850	0.148113028	6.751600534	1.010909229	6.825255290
08° 26' 00''	0.14665854	0.98918718	0.148261666	6.744831796	1.010931017	6.818559669
08° 26' 30''	0.14680241	0.98916584	0.148410311	6.738076326	1.010952828	6.811877317
08° 27' 00''	0.14694628	0.98914447	0.148558961	6.731334084	1.010974661	6.805208193
08° 27' 30''	0.14709014	0.98912309	0.148707619	6.724605031	1.010996516	6.798552259
08° 28' 00''	0.14723400	0.98910169	0.148856282	6.717889127	1.011018394	6.791909475
08° 28' 30''	0.14737786	0.98908026	0.149004952	6.711186335	1.011040294	6.785279804
08° 29' 00''	0.14752171	0.98905882	0.149153629	6.704496615	1.011062216	6.778663206
08° 29' 30''	0.14766556	0.98903735	0.149302312	6.697819929	1.011084161	6.772059642
08° 30' 00''	0.14780941	0.98901586	0.149451001	6.691156238	1.011106128	6.765469075
08° 30' 30''	0.14795326	0.98899435	0.149599697	6.684505505	1.011128117	6.758891466
08° 31' 00''	0.14809710	0.98897283	0.149748400	6.677867692	1.011150129	6.752326778
08° 31' 30''	0.14824094	0.98895128	0.149897109	6.671242760	1.011172163	6.745774971
08° 32' 00''	0.14838477	0.98892970	0.150045824	6.664630672	1.011194219	6.739236010
08° 32' 30''	0.14852860	0.98890811	0.150194546	6.658031390	1.011216298	6.732709855
08° 33' 00''	0.14867243	0.98888650	0.150343274	6.651444877	1.011238399	6.726196470
08° 33' 30''	0.14881626	0.98886486	0.150492009	6.644871095	1.011260523	6.719695817
08° 34' 00''	0.14896008	0.98884321	0.150640750	6.638310007	1.011282669	6.713207859
08° 34' 30''	0.14910390	0.98882153	0.150789498	6.631761577	1.011304837	6.706732559
08° 35' 00''	0.14924772	0.98879984	0.150938253	6.625225767	1.011327027	6.700269880
08° 35' 30''	0.14939153	0.98877812	0.151087013	6.618702541	1.011349240	6.693819786
08° 36' 00''	0.14953534	0.98875638	0.151235781	6.612191862	1.011371475	6.687382240
08° 36' 30''	0.14967915	0.98873462	0.151384555	6.605693694	1.011393733	6.680957205
08° 37' 00''	0.14982295	0.98871284	0.151533336	6.599208000	1.011416013	6.674544646
08° 37' 30''	0.14996676	0.98869104	0.151682123	6.592734744	1.011438316	6.668144525
08° 38' 00''	0.15011055	0.98866922	0.151830916	6.586273891	1.011460640	6.661756808
08° 38' 30''	0.15025435	0.98864737	0.151979717	6.579825403	1.011482988	6.655381457
08° 39' 00''	0.15039814	0.98862551	0.152128523	6.573389247	1.011505357	6.649018438
08° 39' 30''	0.15054193	0.98860363	0.152277337	6.566965385	1.011527749	6.642667715
08° 40' 00''	0.15068571	0.98858172	0.152426157	6.560553783	1.011550164	6.636329252
08° 40' 30''	0.15082949	0.98855979	0.152574983	6.554154405	1.011572600	6.630003014
08° 41' 00''	0.15097327	0.98853784	0.152723817	6.547767215	1.011595059	6.623688965
08° 41' 30''	0.15111705	0.98851588	0.152872657	6.541392180	1.011617541	6.617387072
08° 42' 00''	0.15126082	0.98849389	0.153021503	6.535029264	1.011640045	6.611097298
08° 42' 30''	0.15140459	0.98847188	0.153170356	6.528678432	1.011662571	6.604819609
08° 43' 00''	0.15154836	0.98844984	0.153319216	6.522339649	1.011685120	6.598553970
08° 43' 30''	0.15169212	0.98842779	0.153468082	6.516012882	1.011707691	6.592300348
08° 44' 00''	0.15183588	0.98840572	0.153616955	6.509698095	1.011730285	6.586058707
08° 44' 30''	0.15197963	0.98838363	0.153765835	6.503395254	1.011752901	6.579829012

08° 45' 00"

09° 05' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
08° 45' 00"	0.15212339	0.98836151	0.153914721	6.497104326	1.011775539	6.573611231
08° 45' 30"	0.15226714	0.98833937	0.154063614	6.490825276	1.011798200	6.567405329
08° 46' 00"	0.15241088	0.98831722	0.154212514	6.484558070	1.011820883	6.561211272
08° 46' 30"	0.15255463	0.98829504	0.154361420	6.478302674	1.011843589	6.555029027
08° 47' 00"	0.15269837	0.98827284	0.154510333	6.472059056	1.011866317	6.548858559
08° 47' 30"	0.15284210	0.98825062	0.154659253	6.465827181	1.011889067	6.542699835
08° 48' 00"	0.15298584	0.98822838	0.154808179	6.459607016	1.011911840	6.536552823
08° 48' 30"	0.15312957	0.98820612	0.154957112	6.453398528	1.011934636	6.530417488
08° 49' 00"	0.15327329	0.98818384	0.155106052	6.447201684	1.011957453	6.524293797
08° 49' 30"	0.15341702	0.98816153	0.155254999	6.441016451	1.011980294	6.518181719
08° 50' 00"	0.15356074	0.98813921	0.155403952	6.434842795	1.012003156	6.512081219
08° 50' 30"	0.15370446	0.98811687	0.155552912	6.428680685	1.012026041	6.505992265
08° 51' 00"	0.15384817	0.98809450	0.155701879	6.422530087	1.012048949	6.499914824
08° 51' 30"	0.15399188	0.98807211	0.155850852	6.416390969	1.012071879	6.493848864
08° 52' 00"	0.15413559	0.98804971	0.155999832	6.410263299	1.012094831	6.487794353
08° 52' 30"	0.15427929	0.98802728	0.156148819	6.404147045	1.012117806	6.481751258
08° 53' 00"	0.15442299	0.98800483	0.156297813	6.398042173	1.012140804	6.475719547
08° 53' 30"	0.15456669	0.98798236	0.156446814	6.391948653	1.012163823	6.469699188
08° 54' 00"	0.15471039	0.98795987	0.156595821	6.385866453	1.012186866	6.463690150
08° 54' 30"	0.15485408	0.98793735	0.156744835	6.379795540	1.012209930	6.457692400
08° 55' 00"	0.15499777	0.98791482	0.156893856	6.373735883	1.012233018	6.451705907
08° 55' 30"	0.15514145	0.98789227	0.157042884	6.367687450	1.012256127	6.445730639
08° 56' 00"	0.15528513	0.98786969	0.157191918	6.361650211	1.012279259	6.439766565
08° 56' 30"	0.15542881	0.98784710	0.157340960	6.355624133	1.012302414	6.433813653
08° 57' 00"	0.15557248	0.98782448	0.157490008	6.349609186	1.012325591	6.427871873
08° 57' 30"	0.15571616	0.98780184	0.157639063	6.343605339	1.012348791	6.421941194
08° 58' 00"	0.15585982	0.98777918	0.157788125	6.337612560	1.012372013	6.416021583
08° 58' 30"	0.15600349	0.98775650	0.157937193	6.331630819	1.012395257	6.410113012
08° 59' 00"	0.15614715	0.98773380	0.158086269	6.325660084	1.012418524	6.404215448
08° 59' 30"	0.15629081	0.98771108	0.158235351	6.319700327	1.012441814	6.398328861
09° 00' 00"	0.15643447	0.98768834	0.158384440	6.313751515	1.012465126	6.392453221
09° 00' 30"	0.15657812	0.98766558	0.158533536	6.307813618	1.012488460	6.386588498
09° 01' 00"	0.15672177	0.98764279	0.158682639	6.301886607	1.012511817	6.380734661
09° 01' 30"	0.15686541	0.98761999	0.158831749	6.295970451	1.012535197	6.374891679
09° 02' 00"	0.15700905	0.98759716	0.158980866	6.290065120	1.012558599	6.369059524
09° 02' 30"	0.15715269	0.98757432	0.159129990	6.284170585	1.012582023	6.363238164
09° 03' 00"	0.15729633	0.98755145	0.159279120	6.278286814	1.012605470	6.357427571
09° 03' 30"	0.15743996	0.98752856	0.159428258	6.272413779	1.012628940	6.351627714
09° 04' 00"	0.15758359	0.98750565	0.159577402	6.266551451	1.012652432	6.345838564
09° 04' 30"	0.15772721	0.98748272	0.159726553	6.260699798	1.012675946	6.340060091
09° 05' 00"	0.15787083	0.98745977	0.159875712	6.254858793	1.012699483	6.334292267
09° 05' 30"	0.15801445	0.98743680	0.160024877	6.249028406	1.012723043	6.328535061

09° 06' 00"

09° 26' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
09° 06' 00"	0.15815807	0.98741381	0.160174049	6.243208607	1.012746625	6.322788444
09° 06' 30"	0.15830168	0.98739079	0.160323228	6.237399368	1.012770229	6.317052388
09° 07' 00"	0.15844529	0.98736776	0.160472414	6.231600660	1.012793856	6.311326864
09° 07' 30"	0.15858889	0.98734470	0.160621607	6.225812453	1.012817506	6.305611842
09° 08' 00"	0.15873249	0.98732163	0.160770807	6.220034719	1.012841178	6.299907294
09° 08' 30"	0.15887609	0.98729853	0.160920014	6.214267430	1.012864873	6.294213191
09° 09' 00"	0.15901969	0.98727541	0.161069228	6.208510557	1.012888590	6.288529505
09° 09' 30"	0.15916328	0.98725227	0.161218449	6.202764071	1.012912330	6.282856207
09° 10' 00"	0.15930687	0.98722911	0.161367676	6.197027944	1.012936092	6.277193269
09° 10' 30"	0.15945045	0.98720593	0.161516911	6.191302148	1.012959877	6.271540663
09° 11' 00"	0.15959403	0.98718273	0.161666153	6.185586655	1.012983685	6.265898361
09° 11' 30"	0.15973761	0.98715951	0.161815402	6.179881437	1.013007514	6.260266334
09° 12' 00"	0.15988119	0.98713627	0.161964658	6.174186465	1.013031367	6.254644555
09° 12' 30"	0.16002476	0.98711300	0.162113921	6.168501712	1.013055242	6.249032995
09° 13' 00"	0.16016833	0.98708972	0.162263191	6.162827151	1.013079140	6.243431628
09° 13' 30"	0.16031189	0.98706641	0.162412468	6.157162753	1.013103060	6.237840425
09° 14' 00"	0.16045545	0.98704308	0.162561752	6.151508492	1.013127003	6.232259359
09° 14' 30"	0.16059901	0.98701974	0.162711044	6.145864339	1.013150968	6.226688403
09° 15' 00"	0.16074257	0.98699637	0.162860342	6.140230267	1.013174956	6.221127529
09° 15' 30"	0.16088612	0.98697298	0.163009647	6.134606250	1.013198966	6.215576710
09° 16' 00"	0.16102966	0.98694957	0.163158960	6.128992260	1.013222999	6.210035919
09° 16' 30"	0.16117321	0.98692614	0.163308279	6.123388269	1.013247055	6.204505129
09° 17' 00"	0.16131675	0.98690268	0.163457606	6.117794252	1.013271133	6.198984313
09° 17' 30"	0.16146029	0.98687921	0.163606939	6.112210181	1.013295234	6.193473443
09° 18' 00"	0.16160382	0.98685572	0.163756280	6.106636029	1.013319357	6.187972495
09° 18' 30"	0.16174735	0.98683220	0.163905628	6.101071770	1.013343503	6.182481439
09° 19' 00"	0.16189088	0.98680867	0.164054983	6.095517378	1.013367671	6.177000251
09° 19' 30"	0.16203440	0.98678511	0.164204345	6.089972825	1.013391862	6.171528904
09° 20' 00"	0.16217792	0.98676153	0.164353714	6.084438086	1.013416076	6.166067371
09° 20' 30"	0.16232144	0.98673793	0.164503091	6.078913135	1.013440312	6.160615626
09° 21' 00"	0.16246495	0.98671431	0.164652474	6.073397944	1.013464571	6.155173644
09° 21' 30"	0.16260846	0.98669067	0.164801865	6.067892488	1.013488853	6.149741397
09° 22' 00"	0.16275197	0.98666701	0.164951263	6.062396741	1.013513157	6.144318859
09° 22' 30"	0.16289547	0.98664333	0.165100668	6.056910677	1.013537484	6.138906006
09° 23' 00"	0.16303897	0.98661963	0.165250080	6.051434271	1.013561833	6.133502811
09° 23' 30"	0.16318247	0.98659591	0.165399500	6.045967496	1.013586205	6.128109249
09° 24' 00"	0.16332596	0.98657216	0.165548926	6.040510327	1.013610599	6.122725293
09° 24' 30"	0.16346945	0.98654840	0.165698360	6.035062739	1.013635016	6.117350918
09° 25' 00"	0.16361294	0.98652461	0.165847801	6.029624705	1.013659456	6.111986100
09° 25' 30"	0.16375642	0.98650080	0.165997250	6.024196202	1.013683919	6.106630812
09° 26' 00"	0.16389990	0.98647698	0.166146705	6.018777202	1.013708404	6.101285029
09° 26' 30"	0.16404337	0.98645313	0.166296168	6.013367682	1.013732911	6.095948727

09° 27' 00"

09° 47' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
09° 27' 00"	0.16418685	0.98642926	0.166445638	6.007967616	1.013757442	6.090621879
09° 27' 30"	0.16433032	0.98640537	0.166595115	6.002576979	1.013781994	6.085304462
09° 28' 00"	0.16447378	0.98638146	0.166744599	5.997195747	1.013806570	6.079996449
09° 28' 30"	0.16461724	0.98635752	0.166894091	5.991823894	1.013831168	6.074697817
09° 29' 00"	0.16476070	0.98633357	0.167043590	5.986461395	1.013855789	6.069408541
09° 29' 30"	0.16490415	0.98630960	0.167193096	5.981108227	1.013880432	6.064128596
09° 30' 00"	0.16504761	0.98628560	0.167342609	5.975764364	1.013905099	6.058857957
09° 30' 30"	0.16519105	0.98626159	0.167492130	5.970429783	1.013929787	6.053596600
09° 31' 00"	0.16533450	0.98623755	0.167641658	5.965104458	1.013954499	6.048344500
09° 31' 30"	0.16547794	0.98621349	0.167791193	5.959788365	1.013979233	6.043101634
09° 32' 00"	0.16562138	0.98618941	0.167940736	5.954481481	1.014003989	6.037867977
09° 32' 30"	0.16576481	0.98616531	0.168090285	5.949183780	1.014028769	6.032643504
09° 33' 00"	0.16590824	0.98614119	0.168239843	5.943895240	1.014053571	6.027428193
09° 33' 30"	0.16605167	0.98611705	0.168389407	5.938615836	1.014078396	6.022222019
09° 34' 00"	0.16619509	0.98609289	0.168538979	5.933345543	1.014103243	6.017024957
09° 34' 30"	0.16633851	0.98606871	0.168688558	5.928084339	1.014128113	6.011836985
09° 35' 00"	0.16648193	0.98604451	0.168838145	5.922832200	1.014153006	6.006658079
09° 35' 30"	0.16662534	0.98602028	0.168987739	5.917589102	1.014177921	6.001488214
09° 36' 00"	0.16676875	0.98599604	0.169137340	5.912355021	1.014202859	5.996327368
09° 36' 30"	0.16691215	0.98597177	0.169286948	5.907129935	1.014227820	5.991175516
09° 37' 00"	0.16705555	0.98594748	0.169436564	5.901913819	1.014252803	5.986032636
09° 37' 30"	0.16719895	0.98592318	0.169586188	5.896706650	1.014277810	5.980898705
09° 38' 00"	0.16734235	0.98589885	0.169735818	5.891508406	1.014302838	5.975773698
09° 38' 30"	0.16748574	0.98587450	0.169885456	5.886319062	1.014327890	5.970657593
09° 39' 00"	0.16762913	0.98585013	0.170035102	5.881138596	1.014352964	5.965550368
09° 39' 30"	0.16777251	0.98582574	0.170184755	5.875966985	1.014378061	5.960451997
09° 40' 00"	0.16791589	0.98580133	0.170334415	5.870804207	1.014403181	5.955362460
09° 40' 30"	0.16805927	0.98577689	0.170484083	5.865650237	1.014428323	5.950281733
09° 41' 00"	0.16820264	0.98575244	0.170633758	5.860505054	1.014453488	5.945209793
09° 41' 30"	0.16834601	0.98572796	0.170783440	5.855368635	1.014478676	5.940146618
09° 42' 00"	0.16848938	0.98570347	0.170933130	5.850240957	1.014503886	5.935092186
09° 42' 30"	0.16863274	0.98567895	0.171082828	5.845121997	1.014529119	5.930046472
09° 43' 00"	0.16877610	0.98565442	0.171232533	5.840011734	1.014554375	5.925009456
09° 43' 30"	0.16891946	0.98562986	0.171382245	5.834910145	1.014579654	5.919981115
09° 44' 00"	0.16906281	0.98560528	0.171531965	5.829817207	1.014604955	5.914961426
09° 44' 30"	0.16920616	0.98558068	0.171681692	5.824732899	1.014630279	5.909950367
09° 45' 00"	0.16934950	0.98555606	0.171831427	5.819657198	1.014655626	5.904947917
09° 45' 30"	0.16949285	0.98553142	0.171981169	5.814590082	1.014680995	5.899954053
09° 46' 00"	0.16963618	0.98550676	0.172130919	5.809531530	1.014706388	5.894968753
09° 46' 30"	0.16977952	0.98548207	0.172280676	5.804481519	1.014731803	5.889991995
09° 47' 00"	0.16992285	0.98545737	0.172430441	5.799440027	1.014757240	5.885023758
09° 47' 30"	0.17006618	0.98543264	0.172580213	5.794407033	1.014782701	5.880064019

09° 48' 00"

10° 08' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
09° 48' 00"	0.17020950	0.98540790	0.172729993	5.789382516	1.014808184	5.875112758
09° 48' 30"	0.17035282	0.98538313	0.172879780	5.784366453	1.014833690	5.870169951
09° 49' 00"	0.17049614	0.98535834	0.173029575	5.779358822	1.014859219	5.865235579
09° 49' 30"	0.17063945	0.98533354	0.173179377	5.774359603	1.014884770	5.860309619
09° 50' 00"	0.17078276	0.98530871	0.173329187	5.769368775	1.014910344	5.855392050
09° 50' 30"	0.17092606	0.98528386	0.173479005	5.764386315	1.014935941	5.850482851
09° 51' 00"	0.17106936	0.98525899	0.173628830	5.759412203	1.014961561	5.845582000
09° 51' 30"	0.17121266	0.98523410	0.173778662	5.754446417	1.014987204	5.840689477
09° 52' 00"	0.17135596	0.98520918	0.173928502	5.749488936	1.015012869	5.835805259
09° 52' 30"	0.17149925	0.98518425	0.174078350	5.744539740	1.015038557	5.830929327
09° 53' 00"	0.17164254	0.98515930	0.174228205	5.739598807	1.015064268	5.826061659
09° 53' 30"	0.17178582	0.98513432	0.174378068	5.734666116	1.015090001	5.821202235
09° 54' 00"	0.17192910	0.98510933	0.174527939	5.729741647	1.015115758	5.816351033
09° 54' 30"	0.17207238	0.98508431	0.174677817	5.724825378	1.015141537	5.811508033
09° 55' 00"	0.17221565	0.98505927	0.174827703	5.719917290	1.015167339	5.806673214
09° 55' 30"	0.17235892	0.98503421	0.174977596	5.715017362	1.015193163	5.801846555
09° 56' 00"	0.17250218	0.98500914	0.175127497	5.710125572	1.015219011	5.797028036
09° 56' 30"	0.17264545	0.98498404	0.175277406	5.705241901	1.015244881	5.792217637
09° 57' 00"	0.17278870	0.98495891	0.175427322	5.700366329	1.015270774	5.787415337
09° 57' 30"	0.17293196	0.98493377	0.175577246	5.695498834	1.015296690	5.782621115
09° 58' 00"	0.17307521	0.98490861	0.175727178	5.690639396	1.015322629	5.777834953
09° 58' 30"	0.17321846	0.98488343	0.175877117	5.685787996	1.015348591	5.773056828
09° 59' 00"	0.17336170	0.98485822	0.176027064	5.680944614	1.015374575	5.768286722
09° 59' 30"	0.17350494	0.98483300	0.176177018	5.676109228	1.015400582	5.763524613
10° 00' 00"	0.17364818	0.98480775	0.176326981	5.671281820	1.015426612	5.758770483
10° 00' 30"	0.17379141	0.98478249	0.176476951	5.666462368	1.015452665	5.754024311
10° 01' 00"	0.17393464	0.98475720	0.176626928	5.661650855	1.015478740	5.749286077
10° 01' 30"	0.17407786	0.98473189	0.176776914	5.656847259	1.015504839	5.744555762
10° 02' 00"	0.17422109	0.98470656	0.176926907	5.652051560	1.015530960	5.739833346
10° 02' 30"	0.17436430	0.98468121	0.177076908	5.647263740	1.015557104	5.735118809
10° 03' 00"	0.17450752	0.98465584	0.177226916	5.642483779	1.015583271	5.730412131
10° 03' 30"	0.17465073	0.98463045	0.177376933	5.637711656	1.015609460	5.725713294
10° 04' 00"	0.17479394	0.98460504	0.177526957	5.632947353	1.015635673	5.721022276
10° 04' 30"	0.17493714	0.98457960	0.177676988	5.628190851	1.015661908	5.716339060
10° 05' 00"	0.17508034	0.98455415	0.177827028	5.623442129	1.015688167	5.711663626
10° 05' 30"	0.17522353	0.98452868	0.177977075	5.618701169	1.015714448	5.706995955
10° 06' 00"	0.17536673	0.98450318	0.178127130	5.613967951	1.015740752	5.702336026
10° 06' 30"	0.17550991	0.98447766	0.178277193	5.609242457	1.015767078	5.697683822
10° 07' 00"	0.17565310	0.98445213	0.178427264	5.604524666	1.015793428	5.693039323
10° 07' 30"	0.17579628	0.98442657	0.178577342	5.599814561	1.015819800	5.688402510
10° 08' 00"	0.17593946	0.98440099	0.178727428	5.595112121	1.015846196	5.683773364
10° 08' 30"	0.17608263	0.98437539	0.178877522	5.590417329	1.015872614	5.679151866

10° 09' 00"

10° 29' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
10° 09' 00"	0.17622580	0.98434977	0.179027624	5.585730166	1.015899055	5.674537998
10° 09' 30"	0.17636897	0.98432413	0.179177734	5.581050612	1.015925519	5.669931740
10° 10' 00"	0.17651213	0.98429847	0.179327851	5.576378649	1.015952006	5.665333074
10° 10' 30"	0.17665529	0.98427278	0.179477976	5.571714258	1.015978516	5.660741981
10° 11' 00"	0.17679844	0.98424708	0.179628109	5.567057421	1.016005048	5.656158443
10° 11' 30"	0.17694159	0.98422135	0.179778250	5.562408119	1.016031604	5.651582441
10° 12' 00"	0.17708474	0.98419561	0.179928399	5.557766334	1.016058182	5.647013956
10° 12' 30"	0.17722788	0.98416984	0.180078556	5.553132047	1.016084783	5.642452971
10° 13' 00"	0.17737102	0.98414405	0.180228720	5.548505240	1.016111407	5.637899466
10° 13' 30"	0.17751416	0.98411825	0.180378893	5.543885894	1.016138054	5.633353425
10° 14' 00"	0.17765729	0.98409242	0.180529073	5.539273992	1.016164724	5.628814827
10° 14' 30"	0.17780042	0.98406657	0.180679261	5.534669515	1.016191417	5.624283656
10° 15' 00"	0.17794355	0.98404070	0.180829457	5.530072445	1.016218132	5.619759893
10° 15' 30"	0.17808667	0.98401481	0.180979661	5.525482765	1.016244871	5.615243519
10° 16' 00"	0.17822978	0.98398889	0.181129873	5.520900455	1.016271632	5.610734518
10° 16' 30"	0.17837290	0.98396296	0.181280093	5.516325498	1.016298417	5.606232871
10° 17' 00"	0.17851601	0.98393701	0.181430321	5.511757877	1.016325224	5.601738560
10° 17' 30"	0.17865911	0.98391103	0.181580556	5.507197573	1.016352054	5.597251568
10° 18' 00"	0.17880222	0.98388504	0.181730800	5.502644569	1.016378908	5.592771876
10° 18' 30"	0.17894531	0.98385902	0.181881052	5.498098847	1.016405784	5.588299467
10° 19' 00"	0.17908841	0.98383298	0.182031311	5.493560389	1.016432683	5.583834323
10° 19' 30"	0.17923150	0.98380693	0.182181578	5.489029178	1.016459604	5.579376427
10° 20' 00"	0.17937459	0.98378085	0.182331854	5.484505196	1.016486549	5.574925761
10° 20' 30"	0.17951767	0.98375475	0.182482137	5.479988425	1.016513517	5.570482308
10° 21' 00"	0.17966075	0.98372863	0.182632429	5.475478849	1.016540508	5.566046050
10° 21' 30"	0.17980382	0.98370249	0.182782728	5.470976450	1.016567521	5.561616970
10° 22' 00"	0.17994690	0.98367633	0.182933035	5.466481211	1.016594558	5.557195050
10° 22' 30"	0.18008996	0.98365014	0.183083351	5.461993113	1.016621618	5.552780274
10° 23' 00"	0.18023303	0.98362394	0.183233674	5.457512141	1.016648700	5.548372624
10° 23' 30"	0.18037609	0.98359772	0.183384005	5.453038277	1.016675805	5.543972083
10° 24' 00"	0.18051915	0.98357147	0.183534345	5.448571504	1.016702934	5.539578634
10° 24' 30"	0.18066220	0.98354520	0.183684692	5.444111805	1.016730085	5.535192259
10° 25' 00"	0.18080525	0.98351892	0.183835047	5.439659163	1.016757259	5.530812943
10° 25' 30"	0.18094829	0.98349261	0.183985411	5.435213561	1.016784457	5.526440668
10° 26' 00"	0.18109133	0.98346628	0.184135782	5.430774982	1.016811677	5.522075416
10° 26' 30"	0.18123437	0.98343993	0.184286162	5.426343409	1.016838920	5.517717172
10° 27' 00"	0.18137740	0.98341356	0.184436550	5.421918826	1.016866186	5.513365919
10° 27' 30"	0.18152043	0.98338717	0.184586945	5.417501215	1.016893475	5.509021639
10° 28' 00"	0.18166346	0.98336076	0.184737349	5.413090561	1.016920788	5.504684316
10° 28' 30"	0.18180648	0.98333433	0.184887761	5.408686846	1.016948123	5.500353934
10° 29' 00"	0.18194950	0.98330788	0.185038181	5.404290055	1.016975481	5.496030476
10° 29' 30"	0.18209251	0.98328140	0.185188609	5.399900169	1.017002862	5.491713925

10° 30' 00"

10° 50' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
10° 30' 00"	0.18223553	0.98325491	0.185339045	5.395517174	1.017030266	5.487404266
10° 30' 30"	0.18237853	0.98322839	0.185489489	5.391141053	1.017057693	5.483101481
10° 31' 00"	0.18252154	0.98320186	0.185639942	5.386771789	1.017085143	5.478805555
10° 31' 30"	0.18266453	0.98317530	0.185790402	5.382409366	1.017112616	5.474516470
10° 32' 00"	0.18280753	0.98314872	0.185940871	5.378053768	1.017140112	5.470234211
10° 32' 30"	0.18295052	0.98312212	0.186091347	5.373704978	1.017167631	5.465958762
10° 33' 00"	0.18309351	0.98309550	0.186241832	5.369362981	1.017195173	5.461690107
10° 33' 30"	0.18323649	0.98306886	0.186392325	5.365027760	1.017222738	5.457428229
10° 34' 00"	0.18337947	0.98304220	0.186542827	5.360699300	1.017250326	5.453173112
10° 34' 30"	0.18352245	0.98301552	0.186693336	5.356377584	1.017277937	5.448924740
10° 35' 00"	0.18366542	0.98298882	0.186843854	5.352062597	1.017305571	5.444683098
10° 35' 30"	0.18380839	0.98296209	0.186994379	5.347754322	1.017333229	5.440448170
10° 36' 00"	0.18395135	0.98293535	0.187144913	5.343452744	1.017360909	5.436219939
10° 36' 30"	0.18409431	0.98290858	0.187295455	5.339157847	1.017388612	5.431998390
10° 37' 00"	0.18423727	0.98288180	0.187446006	5.334869615	1.017416338	5.427783508
10° 37' 30"	0.18438022	0.98285499	0.187596564	5.330588032	1.017444087	5.423575275
10° 38' 00"	0.18452317	0.98282816	0.187747131	5.326313084	1.017471860	5.419373678
10° 38' 30"	0.18466611	0.98280132	0.187897706	5.322044753	1.017499655	5.415178700
10° 39' 00"	0.18480905	0.98277445	0.188048289	5.317783026	1.017527473	5.410990326
10° 39' 30"	0.18495199	0.98274756	0.188198881	5.313527886	1.017555315	5.406808541
10° 40' 00"	0.18509492	0.98272065	0.188349480	5.309279318	1.017583179	5.402633328
10° 40' 30"	0.18523785	0.98269372	0.188500088	5.305037306	1.017611067	5.398464672
10° 41' 00"	0.18538078	0.98266676	0.188650704	5.300801835	1.017638977	5.394302559
10° 41' 30"	0.18552370	0.98263979	0.188801329	5.296572890	1.017666911	5.390146972
10° 42' 00"	0.18566662	0.98261280	0.188951962	5.292350456	1.017694868	5.385997897
10° 42' 30"	0.18580953	0.98258578	0.189102603	5.288134517	1.017722847	5.381855318
10° 43' 00"	0.18595244	0.98255875	0.189253252	5.283925058	1.017750850	5.377719221
10° 43' 30"	0.18609534	0.98253169	0.189403909	5.279722064	1.017778876	5.373589589
10° 44' 00"	0.18623824	0.98250461	0.189554575	5.275525521	1.017806925	5.369466409
10° 44' 30"	0.18638114	0.98247752	0.189705250	5.271335412	1.017834997	5.365349665
10° 45' 00"	0.18652404	0.98245040	0.189855932	5.267151723	1.017863092	5.361239342
10° 45' 30"	0.18666693	0.98242326	0.190006623	5.262974440	1.017891211	5.357135424
10° 46' 00"	0.18680981	0.98239610	0.190157322	5.258803547	1.017919352	5.353037899
10° 46' 30"	0.18695269	0.98236892	0.190308030	5.254639029	1.017947516	5.348946749
10° 47' 00"	0.18709557	0.98234172	0.190458745	5.250480872	1.017975704	5.344861962
10° 47' 30"	0.18723844	0.98231449	0.190609470	5.246329061	1.018003914	5.340783521
10° 48' 00"	0.18738131	0.98228725	0.190760202	5.242183581	1.018032148	5.336711412
10° 48' 30"	0.18752418	0.98225999	0.190910943	5.238044418	1.018060405	5.332645621
10° 49' 00"	0.18766704	0.98223270	0.191061692	5.233911556	1.018088685	5.328586133
10° 49' 30"	0.18780990	0.98220540	0.191212450	5.229784983	1.018116988	5.324532934
10° 50' 00"	0.18795275	0.98217807	0.191363216	5.225664682	1.018145314	5.320486008
10° 50' 30"	0.18809560	0.98215072	0.191513991	5.221550639	1.018173663	5.316445342

10° 51' 00"

11° 11' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
10° 51' 00"	0.18823845	0.98212336	0.191664773	5.217442840	1.018202036	5.312410921
10° 51' 30"	0.18838129	0.98209597	0.191815565	5.213341272	1.018230431	5.308382731
10° 52' 00"	0.18852413	0.98206856	0.191966364	5.209245918	1.018258850	5.304360756
10° 52' 30"	0.18866696	0.98204113	0.192117172	5.205156766	1.018287291	5.300344984
10° 53' 00"	0.18880979	0.98201368	0.192267989	5.201073800	1.018315756	5.296335400
10° 53' 30"	0.18895262	0.98198621	0.192418814	5.196997007	1.018344244	5.292331989
10° 54' 00"	0.18909544	0.98195871	0.192569647	5.192926372	1.018372755	5.288334738
10° 54' 30"	0.18923826	0.98193120	0.192720489	5.188861881	1.018401290	5.284343632
10° 55' 00"	0.18938108	0.98190367	0.192871339	5.184803521	1.018429847	5.280358658
10° 55' 30"	0.18952389	0.98187611	0.193022198	5.180751277	1.018458428	5.276379800
10° 56' 00"	0.18966669	0.98184854	0.193173065	5.176705135	1.018487031	5.272407046
10° 56' 30"	0.18980949	0.98182094	0.193323941	5.172665082	1.018515658	5.268440381
10° 57' 00"	0.18995229	0.98179332	0.193474825	5.168631103	1.018544308	5.264479791
10° 57' 30"	0.19009509	0.98176568	0.193625718	5.164603184	1.018572982	5.260525263
10° 58' 00"	0.19023788	0.98173803	0.193776619	5.160581312	1.018601678	5.256576783
10° 58' 30"	0.19038066	0.98171035	0.193927529	5.156565473	1.018630397	5.252634337
10° 59' 00"	0.19052344	0.98168265	0.194078447	5.152555653	1.018659140	5.248697911
10° 59' 30"	0.19066622	0.98165493	0.194229374	5.148551839	1.018687906	5.244767491
11° 00' 00"	0.19080900	0.98162718	0.194380309	5.144554016	1.018716695	5.240843064
11° 00' 30"	0.19095177	0.98159942	0.194531253	5.140562172	1.018745507	5.236924617
11° 01' 00"	0.19109453	0.98157164	0.194682205	5.136576292	1.018774343	5.233012135
11° 01' 30"	0.19123729	0.98154383	0.194833166	5.132596363	1.018803201	5.229105605
11° 02' 00"	0.19138005	0.98151601	0.194984136	5.128622373	1.018832083	5.225205014
11° 02' 30"	0.19152280	0.98148816	0.195135114	5.124654306	1.018860988	5.221310348
11° 03' 00"	0.19166555	0.98146030	0.195286100	5.120692150	1.018889916	5.217421594
11° 03' 30"	0.19180830	0.98143241	0.195437095	5.116735891	1.018918867	5.213538739
11° 04' 00"	0.19195104	0.98140450	0.195588099	5.112785517	1.018947842	5.209661769
11° 04' 30"	0.19209378	0.98137657	0.195739111	5.108841014	1.018976840	5.205790670
11° 05' 00"	0.19223651	0.98134862	0.195890132	5.104902368	1.019005861	5.201925430
11° 05' 30"	0.19237924	0.98132065	0.196041162	5.100969566	1.019034905	5.198066036
11° 06' 00"	0.19252197	0.98129266	0.196192200	5.097042596	1.019063972	5.194212474
11° 06' 30"	0.19266469	0.98126465	0.196343247	5.093121443	1.019093063	5.190364731
11° 07' 00"	0.19280740	0.98123662	0.196494302	5.089206096	1.019122177	5.186522794
11° 07' 30"	0.19295012	0.98120857	0.196645366	5.085296541	1.019151314	5.182686650
11° 08' 00"	0.19309283	0.98118049	0.196796439	5.081392764	1.019180474	5.178856286
11° 08' 30"	0.19323553	0.98115240	0.196947520	5.077494754	1.019209657	5.175031689
11° 09' 00"	0.19337823	0.98112428	0.197098610	5.073602497	1.019238864	5.171212846
11° 09' 30"	0.19352093	0.98109615	0.197249709	5.069715980	1.019268094	5.167399744
11° 10' 00"	0.19366362	0.98106799	0.197400816	5.065835190	1.019297347	5.163592371
11° 10' 30"	0.19380631	0.98103981	0.197551932	5.061960114	1.019326624	5.159790713
11° 11' 00"	0.19394899	0.98101161	0.197703057	5.058090741	1.019355923	5.155994758
11° 11' 30"	0.19409168	0.98098340	0.197854190	5.054227056	1.019385246	5.152204492



11° 12' 00"

11° 32' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
11° 12' 00"	0.19423435	0.98095516	0.198005332	5.050369047	1.019414593	5.148419905
11° 12' 30"	0.19437702	0.98092689	0.198156483	5.046516703	1.019443962	5.144640982
11° 13' 00"	0.19451969	0.98089861	0.198307642	5.042670009	1.019473355	5.140867711
11° 13' 30"	0.19466236	0.98087031	0.198458810	5.038828953	1.019502771	5.137100079
11° 14' 00"	0.19480501	0.98084199	0.198609987	5.034993524	1.019532210	5.133338074
11° 14' 30"	0.19494767	0.98081364	0.198761173	5.031163708	1.019561672	5.129581684
11° 15' 00"	0.19509032	0.98078528	0.198912367	5.027339492	1.019591158	5.125830895
11° 15' 30"	0.19523297	0.98075690	0.199063571	5.023520865	1.019620667	5.122085697
11° 16' 00"	0.19537561	0.98072849	0.199214782	5.019707814	1.019650200	5.118346075
11° 16' 30"	0.19551825	0.98070006	0.199366003	5.015900327	1.019679755	5.114612018
11° 17' 00"	0.19566089	0.98067162	0.199517233	5.012098391	1.019709334	5.110883513
11° 17' 30"	0.19580352	0.98064315	0.199668471	5.008301994	1.019738936	5.107160548
11° 18' 00"	0.19594614	0.98061466	0.199819718	5.004511124	1.019768562	5.103443111
11° 18' 30"	0.19608877	0.98058615	0.199970973	5.000725768	1.019798211	5.099731190
11° 19' 00"	0.19623139	0.98055762	0.200122238	4.996945915	1.019827883	5.096024772
11° 19' 30"	0.19637400	0.98052907	0.200273511	4.993171552	1.019857578	5.092323846
11° 20' 00"	0.19651661	0.98050050	0.200424794	4.989402667	1.019887297	5.088628398
11° 20' 30"	0.19665922	0.98047190	0.200576085	4.985639248	1.019917039	5.084938418
11° 21' 00"	0.19680182	0.98044329	0.200727385	4.981881284	1.019946804	5.081253893
11° 21' 30"	0.19694441	0.98041466	0.200878693	4.978128761	1.019976593	5.077574811
11° 22' 00"	0.19708701	0.98038600	0.201030011	4.974381668	1.020006404	5.073901160
11° 22' 30"	0.19722960	0.98035733	0.201181337	4.970639993	1.020036240	5.070232928
11° 23' 00"	0.19737218	0.98032863	0.201332672	4.966903724	1.020066098	5.066570103
11° 23' 30"	0.19751476	0.98029991	0.201484016	4.963172850	1.020095980	5.062912674
11° 24' 00"	0.19765734	0.98027117	0.201635369	4.959447358	1.020125885	5.059260628
11° 24' 30"	0.19779991	0.98024242	0.201786731	4.955727237	1.020155814	5.055613954
11° 25' 00"	0.19794248	0.98021364	0.201938102	4.952012475	1.020185766	5.051972640
11° 25' 30"	0.19808505	0.98018484	0.202089482	4.948303060	1.020215741	5.048336674
11° 26' 00"	0.19822761	0.98015602	0.202240870	4.944598981	1.020245740	5.044706045
11° 26' 30"	0.19837016	0.98012717	0.202392267	4.940900225	1.020275762	5.041080741
11° 27' 00"	0.19851271	0.98009831	0.202543674	4.937206782	1.020305807	5.037460750
11° 27' 30"	0.19865526	0.98006943	0.202695089	4.933518639	1.020335876	5.033846061
11° 28' 00"	0.19879780	0.98004053	0.202846513	4.929835785	1.020365968	5.030236661
11° 28' 30"	0.19894034	0.98001160	0.202997946	4.926158209	1.020396083	5.026632541
11° 29' 00"	0.19908288	0.97998266	0.203149388	4.922485899	1.020426222	5.023033687
11° 29' 30"	0.19922541	0.97995369	0.203300839	4.918818843	1.020456384	5.019440090
11° 30' 00"	0.19936793	0.97992470	0.203452299	4.915157031	1.020486569	5.015851736
11° 30' 30"	0.19951046	0.97989570	0.203603768	4.911500450	1.020516778	5.012268616
11° 31' 00"	0.19965297	0.97986667	0.203755246	4.907849090	1.020547010	5.008690716
11° 31' 30"	0.19979549	0.97983762	0.203906733	4.904202939	1.020577266	5.005118028
11° 32' 00"	0.19993800	0.97980855	0.204058229	4.900561986	1.020607545	5.001550537
11° 32' 30"	0.20008050	0.97977946	0.204209734	4.896926219	1.020637847	4.997988235

11° 33' 00"

11° 53' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
11° 33' 00"	0.20022300	0.97975035	0.204361248	4.893295628	1.020668173	4.994431109
11° 33' 30"	0.20036550	0.97972122	0.204512771	4.889670201	1.020698522	4.990879148
11° 34' 00"	0.20050799	0.97969207	0.204664302	4.886049926	1.020728895	4.987332341
11° 34' 30"	0.20065048	0.97966289	0.204815843	4.882434794	1.020759291	4.983790677
11° 35' 00"	0.20079297	0.97963370	0.204967393	4.878824792	1.020789710	4.980254145
11° 35' 30"	0.20093545	0.97960448	0.205118952	4.875219910	1.020820153	4.976722734
11° 36' 00"	0.20107792	0.97957525	0.205270520	4.871620136	1.020850619	4.973196432
11° 36' 30"	0.20122039	0.97954599	0.205422097	4.868025460	1.020881109	4.969675229
11° 37' 00"	0.20136286	0.97951672	0.205573683	4.864435871	1.020911622	4.966159114
11° 37' 30"	0.20150532	0.97948742	0.205725279	4.860851357	1.020942158	4.962648075
11° 38' 00"	0.20164778	0.97945810	0.205876883	4.857271909	1.020972718	4.959142103
11° 38' 30"	0.20179024	0.97942876	0.206028496	4.853697514	1.021003301	4.955641185
11° 39' 00"	0.20193269	0.97939940	0.206180119	4.850128162	1.021033908	4.952145312
11° 39' 30"	0.20207513	0.97937002	0.206331750	4.846563842	1.021064538	4.948654472
11° 40' 00"	0.20221757	0.97934062	0.206483391	4.843004544	1.021095192	4.945168654
11° 40' 30"	0.20236001	0.97931120	0.206635041	4.839450257	1.021125869	4.941687848
11° 41' 00"	0.20250244	0.97928176	0.206786699	4.835900970	1.021156569	4.938212044
11° 41' 30"	0.20264487	0.97925229	0.206938367	4.832356672	1.021187293	4.934741229
11° 42' 00"	0.20278730	0.97922281	0.207090044	4.828817352	1.021218041	4.931275395
11° 42' 30"	0.20292972	0.97919331	0.207241731	4.825283001	1.021248811	4.927814530
11° 43' 00"	0.20307213	0.97916378	0.207393426	4.821753607	1.021279606	4.924358623
11° 43' 30"	0.20321454	0.97913423	0.207545131	4.818229160	1.021310424	4.920907664
11° 44' 00"	0.20335695	0.97910467	0.207696844	4.814709649	1.021341265	4.917461642
11° 44' 30"	0.20349935	0.97907508	0.207848567	4.811195063	1.021372129	4.914020547
11° 45' 00"	0.20364175	0.97904547	0.208000299	4.807685394	1.021403018	4.910584369
11° 45' 30"	0.20378415	0.97901584	0.208152040	4.804180629	1.021433929	4.907153096
11° 46' 00"	0.20392654	0.97898619	0.208303791	4.800680758	1.021464864	4.903726720
11° 46' 30"	0.20406892	0.97895652	0.208455550	4.797185771	1.021495823	4.900305228
11° 47' 00"	0.20421130	0.97892683	0.208607319	4.793695659	1.021526805	4.896888611
11° 47' 30"	0.20435368	0.97889712	0.208759097	4.790210409	1.021557811	4.893476858
11° 48' 00"	0.20449605	0.97886739	0.208910884	4.786730012	1.021588840	4.890069960
11° 48' 30"	0.20463842	0.97883764	0.209062681	4.783254459	1.021619892	4.886667905
11° 49' 00"	0.20478078	0.97880786	0.209214486	4.779783737	1.021650968	4.883270684
11° 49' 30"	0.20492314	0.97877807	0.209366301	4.776317838	1.021682068	4.879878287
11° 50' 00"	0.20506550	0.97874825	0.209518126	4.772856751	1.021713191	4.876490702
11° 50' 30"	0.20520785	0.97871842	0.209669959	4.769400466	1.021744338	4.873107921
11° 51' 00"	0.20535020	0.97868856	0.209821802	4.765948973	1.021775508	4.869729932
11° 51' 30"	0.20549254	0.97865868	0.209973654	4.762502261	1.021806701	4.866356727
11° 52' 00"	0.20563488	0.97862878	0.210125515	4.759060322	1.021837919	4.862988294
11° 52' 30"	0.20577721	0.97859887	0.210277385	4.755623143	1.021869159	4.859624623
11° 53' 00"	0.20591954	0.97856893	0.210429265	4.752190716	1.021900424	4.856265706
11° 53' 30"	0.20606186	0.97853897	0.210581154	4.748763031	1.021931711	4.852911531

11° 54' 00"

12° 14' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
11° 54' 00"	0.20620419	0.97850899	0.210733053	4.745340077	1.021963023	4.849562089
11° 54' 30"	0.20634650	0.97847898	0.210884960	4.741921845	1.021994357	4.846217369
11° 55' 00"	0.20648881	0.97844896	0.211036877	4.738508325	1.022025716	4.842877363
11° 55' 30"	0.20663112	0.97841892	0.211188804	4.735099507	1.022057098	4.839542059
11° 56' 00"	0.20677342	0.97838885	0.211340739	4.731695381	1.022088503	4.836211448
11° 56' 30"	0.20691572	0.97835877	0.211492684	4.728295936	1.022119932	4.832885521
11° 57' 00"	0.20705802	0.97832867	0.211644639	4.724901165	1.022151385	4.829564268
11° 57' 30"	0.20720031	0.97829854	0.211796602	4.721511056	1.022182861	4.826247678
11° 58' 00"	0.20734259	0.97826839	0.211948576	4.718125599	1.022214360	4.822935742
11° 58' 30"	0.20748487	0.97823823	0.212100558	4.714744786	1.022245884	4.819628450
11° 59' 00"	0.20762715	0.97820804	0.212252550	4.711368607	1.022277431	4.816325793
11° 59' 30"	0.20776942	0.97817783	0.212404551	4.707997051	1.022309001	4.813027761
12° 00' 00"	0.20791169	0.97814760	0.212556562	4.704630109	1.022340595	4.809734345
12° 00' 30"	0.20805395	0.97811735	0.212708582	4.701267773	1.022372212	4.806445534
12° 01' 00"	0.20819621	0.97808708	0.212860611	4.697910031	1.022403854	4.803161319
12° 01' 30"	0.20833847	0.97805679	0.213012650	4.694556874	1.022435518	4.799881691
12° 02' 00"	0.20848072	0.97802648	0.213164698	4.691208293	1.022467207	4.796606639
12° 02' 30"	0.20862296	0.97799614	0.213316756	4.687864279	1.022498919	4.793336156
12° 03' 00"	0.20876521	0.97796579	0.213468823	4.684524822	1.022530654	4.790070230
12° 03' 30"	0.20890744	0.97793542	0.213620900	4.681189912	1.022562413	4.786808853
12° 04' 00"	0.20904968	0.97790502	0.213772986	4.677859541	1.022594196	4.783552015
12° 04' 30"	0.20919190	0.97787461	0.213925081	4.674533698	1.022626002	4.780299707
12° 05' 00"	0.20933413	0.97784417	0.214077186	4.671212374	1.022657832	4.777051919
12° 05' 30"	0.20947635	0.97781371	0.214229300	4.667895560	1.022689686	4.773808643
12° 06' 00"	0.20961856	0.97778324	0.214381424	4.664583247	1.022721563	4.770569868
12° 06' 30"	0.20976077	0.97775274	0.214533558	4.661275425	1.022753464	4.767335586
12° 07' 00"	0.20990298	0.97772222	0.214685700	4.657972085	1.022785388	4.764105787
12° 07' 30"	0.21004518	0.97769168	0.214837853	4.654673218	1.022817336	4.760880462
12° 08' 00"	0.21018738	0.97766112	0.214990015	4.651378815	1.022849308	4.757659601
12° 08' 30"	0.21032957	0.97763054	0.215142186	4.648088866	1.022881303	4.754443197
12° 09' 00"	0.21047176	0.97759994	0.215294367	4.644803363	1.022913322	4.751231238
12° 09' 30"	0.21061394	0.97756932	0.215446557	4.641522295	1.022945365	4.748023717
12° 10' 00"	0.21075612	0.97753867	0.215598757	4.638245655	1.022977431	4.744820624
12° 10' 30"	0.21089830	0.97750801	0.215750967	4.634973432	1.023009521	4.741621950
12° 11' 00"	0.21104047	0.97747732	0.215903186	4.631705618	1.023041634	4.738427686
12° 11' 30"	0.21118263	0.97744662	0.216055415	4.628442204	1.023073772	4.735237823
12° 12' 00"	0.21132480	0.97741589	0.216207653	4.625183181	1.023105933	4.732052352
12° 12' 30"	0.21146695	0.97738515	0.216359901	4.621928540	1.023138117	4.728871263
12° 13' 00"	0.21160911	0.97735438	0.216512158	4.618678271	1.023170325	4.725694549
12° 13' 30"	0.21175125	0.97732359	0.216664425	4.615432366	1.023202557	4.722522200
12° 14' 00"	0.21189340	0.97729279	0.216816702	4.612190816	1.023234813	4.719354206
12° 14' 30"	0.21203554	0.97726196	0.216968988	4.608953612	1.023267092	4.716190560

12° 15' 00"

12° 35' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
12° 15' 00"	0.21217767	0.97723111	0.217121284	4.605720746	1.023299395	4.713031253
12° 15' 30"	0.21231980	0.97720024	0.217273589	4.602492208	1.023331722	4.709876275
12° 16' 00"	0.21246193	0.97716935	0.217425904	4.599267989	1.023364072	4.706725617
12° 16' 30"	0.21260405	0.97713843	0.217578229	4.596048081	1.023396446	4.703579271
12° 17' 00"	0.21274617	0.97710750	0.217730563	4.592832475	1.023428844	4.700437229
12° 17' 30"	0.21288828	0.97707655	0.217882907	4.589621162	1.023461265	4.697299480
12° 18' 00"	0.21303039	0.97704557	0.218035260	4.586414133	1.023493710	4.694166018
12° 18' 30"	0.21317249	0.97701458	0.218187624	4.583211381	1.023526179	4.691036832
12° 19' 00"	0.21331459	0.97698357	0.218339997	4.580012895	1.023558672	4.687911914
12° 19' 30"	0.21345668	0.97695253	0.218492379	4.576818668	1.023591188	4.684791257
12° 20' 00"	0.21359877	0.97692147	0.218644772	4.573628690	1.023623728	4.681674850
12° 20' 30"	0.21374086	0.97689040	0.218797174	4.570442954	1.023656292	4.678562685
12° 21' 00"	0.21388294	0.97685930	0.218949585	4.567261450	1.023688879	4.675454754
12° 21' 30"	0.21402501	0.97682818	0.219102007	4.564084171	1.023721490	4.672351048
12° 22' 00"	0.21416709	0.97679704	0.219254438	4.560911106	1.023754125	4.669251559
12° 22' 30"	0.21430915	0.97676588	0.219406879	4.557742249	1.023786784	4.666156278
12° 23' 00"	0.21445122	0.97673470	0.219559329	4.554577590	1.023819466	4.663065197
12° 23' 30"	0.21459327	0.97670350	0.219711789	4.551417122	1.023852172	4.659978306
12° 24' 00"	0.21473533	0.97667228	0.219864259	4.548260834	1.023884902	4.656895599
12° 24' 30"	0.21487738	0.97664104	0.220016739	4.545108720	1.023917656	4.653817066
12° 25' 00"	0.21501942	0.97660977	0.220169229	4.541960771	1.023950433	4.650742698
12° 25' 30"	0.21516146	0.97657849	0.220321728	4.538816978	1.023983234	4.647672488
12° 26' 00"	0.21530350	0.97654719	0.220474237	4.535677333	1.024016059	4.644606428
12° 26' 30"	0.21544553	0.97651586	0.220626756	4.532541827	1.024048908	4.641544508
12° 27' 00"	0.21558755	0.97648451	0.220779285	4.529410453	1.024081780	4.638486720
12° 27' 30"	0.21572957	0.97645315	0.220931823	4.526283202	1.024114676	4.635433057
12° 28' 00"	0.21587159	0.97642176	0.221084371	4.523160066	1.024147596	4.632383510
12° 28' 30"	0.21601360	0.97639035	0.221236929	4.520041036	1.024180540	4.629338070
12° 29' 00"	0.21615561	0.97635893	0.221389497	4.516926105	1.024213508	4.626296730
12° 29' 30"	0.21629762	0.97632748	0.221542075	4.513815263	1.024246499	4.623259481
12° 30' 00"	0.21643961	0.97629601	0.221694663	4.510708504	1.024279514	4.620226315
12° 30' 30"	0.21658161	0.97626452	0.221847260	4.507605818	1.024312553	4.617197224
12° 31' 00"	0.21672360	0.97623301	0.221999867	4.504507198	1.024345616	4.614172200
12° 31' 30"	0.21686558	0.97620147	0.222152484	4.501412635	1.024378703	4.611151235
12° 32' 00"	0.21700756	0.97616992	0.222305111	4.498322122	1.024411813	4.608134320
12° 32' 30"	0.21714954	0.97613835	0.222457748	4.495235650	1.024444947	4.605121448
12° 33' 00"	0.21729151	0.97610676	0.222610395	4.492153211	1.024478105	4.602112610
12° 33' 30"	0.21743348	0.97607514	0.222763051	4.489074798	1.024511287	4.599107798
12° 34' 00"	0.21757544	0.97604351	0.222915718	4.486000401	1.024544493	4.596107005
12° 34' 30"	0.21771740	0.97601185	0.223068394	4.482930014	1.024577722	4.593110222
12° 35' 00"	0.21785935	0.97598018	0.223221081	4.479863629	1.024610975	4.590117442
12° 35' 30"	0.21800130	0.97594848	0.223373777	4.476801236	1.024644252	4.587128656

12° 36' 00"

12° 56' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
12° 36' 00"	0.21814324	0.97591676	0.223526483	4.473742829	1.024677553	4.584143857
12° 36' 30"	0.21828518	0.97588502	0.223679199	4.470688400	1.024710878	4.581163037
12° 37' 00"	0.21842711	0.97585327	0.223831925	4.467637940	1.024744227	4.578186187
12° 37' 30"	0.21856904	0.97582149	0.223984661	4.464591442	1.024777599	4.575213300
12° 38' 00"	0.21871097	0.97578969	0.224137407	4.461548897	1.024810996	4.572244368
12° 38' 30"	0.21885289	0.97575787	0.224290163	4.458510299	1.024844416	4.569279384
12° 39' 00"	0.21899481	0.97572602	0.224442928	4.455475639	1.024877860	4.566318339
12° 39' 30"	0.21913672	0.97569416	0.224595704	4.452444910	1.024911328	4.563361226
12° 40' 00"	0.21927862	0.97566228	0.224748490	4.449418104	1.024944820	4.560408037
12° 40' 30"	0.21942053	0.97563038	0.224901286	4.446395212	1.024978336	4.557458764
12° 41' 00"	0.21956242	0.97559845	0.225054091	4.443376228	1.025011875	4.554513399
12° 41' 30"	0.21970432	0.97556651	0.225206907	4.440361143	1.025045439	4.551571935
12° 42' 00"	0.21984620	0.97553454	0.225359733	4.437349950	1.025079026	4.548634364
12° 42' 30"	0.21998809	0.97550256	0.225512569	4.434342642	1.025112637	4.545700679
12° 43' 00"	0.22012997	0.97547055	0.225665415	4.431339210	1.025146272	4.542770872
12° 43' 30"	0.22027184	0.97543853	0.225818270	4.428339647	1.025179931	4.539844934
12° 44' 00"	0.22041371	0.97540648	0.225971136	4.425343945	1.025213614	4.536922860
12° 44' 30"	0.22055557	0.97537441	0.226124012	4.422352098	1.025247321	4.534004640
12° 45' 00"	0.22069744	0.97534232	0.226276898	4.419364096	1.025281052	4.531090268
12° 45' 30"	0.22083929	0.97531021	0.226429794	4.416379934	1.025314806	4.528179736
12° 46' 00"	0.22098114	0.97527808	0.226582700	4.413399602	1.025348585	4.525273036
12° 46' 30"	0.22112299	0.97524593	0.226735617	4.410423095	1.025382387	4.522370161
12° 47' 00"	0.22126483	0.97521376	0.226888543	4.407450403	1.025416214	4.519471104
12° 47' 30"	0.22140667	0.97518157	0.227041479	4.404481520	1.025450064	4.516575856
12° 48' 00"	0.22154850	0.97514935	0.227194426	4.401516439	1.025483938	4.513684411
12° 48' 30"	0.22169033	0.97511712	0.227347382	4.398555152	1.025517836	4.510796761
12° 49' 00"	0.22183215	0.97508487	0.227500349	4.395597651	1.025551758	4.507912899
12° 49' 30"	0.22197397	0.97505259	0.227653326	4.392643929	1.025585704	4.505032817
12° 50' 00"	0.22211578	0.97502030	0.227806313	4.389693979	1.025619674	4.502156508
12° 50' 30"	0.22225759	0.97498798	0.227959310	4.386747793	1.025653668	4.499283965
12° 51' 00"	0.22239939	0.97495565	0.228112317	4.383805364	1.025687686	4.496415180
12° 51' 30"	0.22254119	0.97492329	0.228265335	4.380866686	1.025721728	4.493550146
12° 52' 00"	0.22268299	0.97489091	0.228418362	4.377931749	1.025755794	4.490688856
12° 52' 30"	0.22282477	0.97485851	0.228571400	4.375000548	1.025789883	4.487831302
12° 53' 00"	0.22296656	0.97482609	0.228724448	4.372073075	1.025823997	4.484977478
12° 53' 30"	0.22310834	0.97479365	0.228877506	4.369149323	1.025858135	4.482127375
12° 54' 00"	0.22325012	0.97476119	0.229030574	4.366229284	1.025892296	4.479280987
12° 54' 30"	0.22339189	0.97472871	0.229183653	4.363312952	1.025926482	4.476438307
12° 55' 00"	0.22353365	0.97469621	0.229336741	4.360400318	1.025960692	4.473599327
12° 55' 30"	0.22367541	0.97466369	0.229489840	4.357491377	1.025994925	4.470764040
12° 56' 00"	0.22381717	0.97463115	0.229642949	4.354586121	1.026029183	4.467932439
12° 56' 30"	0.22395892	0.97459858	0.229796069	4.351684542	1.026063465	4.465104518

12° 57' 00"

13° 17' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
12° 57' 00"	0.22410067	0.97456600	0.229949198	4.348786634	1.026097770	4.462280268
12° 57' 30"	0.22424241	0.97453340	0.230102338	4.345892390	1.026132100	4.459459683
12° 58' 00"	0.22438415	0.97450077	0.230255488	4.343001802	1.026166453	4.456642755
12° 58' 30"	0.22452588	0.97446813	0.230408649	4.340114863	1.026200831	4.453829479
12° 59' 00"	0.22466761	0.97443546	0.230561819	4.337231567	1.026235233	4.451019846
12° 59' 30"	0.22480934	0.97440277	0.230715000	4.334351906	1.026269658	4.448213849
13° 00' 00"	0.22495105	0.97437006	0.230868191	4.331475874	1.026304108	4.445411483
13° 00' 30"	0.22509277	0.97433734	0.231021393	4.328603464	1.026338581	4.442612739
13° 01' 00"	0.22523448	0.97430459	0.231174604	4.325734667	1.026373079	4.439817610
13° 01' 30"	0.22537618	0.97427182	0.231327826	4.322869479	1.026407601	4.437026091
13° 02' 00"	0.22551788	0.97423903	0.231481059	4.320007890	1.026442147	4.434238173
13° 02' 30"	0.22565958	0.97420622	0.231634301	4.317149896	1.026476717	4.431453850
13° 03' 00"	0.22580127	0.97417339	0.231787554	4.314295489	1.026511310	4.428673115
13° 03' 30"	0.22594295	0.97414054	0.231940818	4.311444661	1.026545928	4.425895962
13° 04' 00"	0.22608463	0.97410766	0.232094091	4.308597407	1.026580570	4.423122383
13° 04' 30"	0.22622631	0.97407477	0.232247375	4.305753718	1.026615236	4.420352371
13° 05' 00"	0.22636798	0.97404186	0.232400670	4.302913590	1.026649926	4.417585920
13° 05' 30"	0.22650965	0.97400892	0.232553974	4.300077014	1.026684640	4.414823023
13° 06' 00"	0.22665131	0.97397597	0.232707290	4.297243984	1.026719379	4.412063673
13° 06' 30"	0.22679296	0.97394299	0.232860615	4.294414493	1.026754141	4.409307864
13° 07' 00"	0.22693462	0.97391000	0.233013951	4.291588534	1.026788927	4.406555588
13° 07' 30"	0.22707626	0.97387698	0.233167297	4.288766101	1.026823738	4.403806838
13° 08' 00"	0.22721791	0.97384394	0.233320654	4.285947187	1.026858572	4.401061610
13° 08' 30"	0.22735954	0.97381088	0.233474021	4.283131785	1.026893431	4.398319894
13° 09' 00"	0.22750118	0.97377781	0.233627398	4.280319889	1.026928314	4.395581685
13° 09' 30"	0.22764280	0.97374471	0.233780786	4.277511492	1.026963220	4.392846977
13° 10' 00"	0.22778443	0.97371159	0.233934185	4.274706587	1.026998151	4.390115762
13° 10' 30"	0.22792604	0.97367845	0.234087593	4.271905167	1.027033106	4.387388034
13° 11' 00"	0.22806766	0.97364529	0.234241013	4.269107227	1.027068085	4.384663786
13° 11' 30"	0.22820927	0.97361210	0.234394442	4.266312759	1.027103089	4.381943012
13° 12' 00"	0.22835087	0.97357890	0.234547882	4.263521757	1.027138116	4.379225704
13° 12' 30"	0.22849247	0.97354568	0.234701333	4.260734214	1.027173167	4.376511858
13° 13' 00"	0.22863406	0.97351244	0.234854794	4.257950124	1.027208243	4.373801465
13° 13' 30"	0.22877565	0.97347917	0.235008266	4.255169480	1.027243343	4.371094520
13° 14' 00"	0.22891724	0.97344589	0.235161748	4.252392275	1.027278466	4.368391015
13° 14' 30"	0.22905882	0.97341258	0.235315240	4.249618504	1.027313614	4.365690946
13° 15' 00"	0.22920039	0.97337926	0.235468743	4.246848160	1.027348787	4.362994304
13° 15' 30"	0.22934196	0.97334591	0.235622257	4.244081236	1.027383983	4.360301083
13° 16' 00"	0.22948353	0.97331255	0.235775781	4.241317726	1.027419203	4.357611278
13° 16' 30"	0.22962509	0.97327916	0.235929316	4.238557623	1.027454448	4.354924881
13° 17' 00"	0.22976664	0.97324575	0.236082861	4.235800921	1.027489716	4.352241887
13° 17' 30"	0.22990819	0.97321232	0.236236417	4.233047613	1.027525009	4.349562288

13° 18' 00"

13° 38' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
13° 18' 00"	0.23004974	0.97317887	0.236389983	4.230297694	1.027560326	4.346886079
13° 18' 30"	0.23019128	0.97314540	0.236543560	4.227551157	1.027595667	4.344213253
13° 19' 00"	0.23033281	0.97311191	0.236697147	4.224807995	1.027631033	4.341543803
13° 19' 30"	0.23047434	0.97307840	0.236850745	4.222068202	1.027666422	4.338877724
13° 20' 00"	0.23061587	0.97304487	0.237004354	4.219331772	1.027701836	4.336215009
13° 20' 30"	0.23075739	0.97301132	0.237157973	4.216598699	1.027737274	4.333555652
13° 21' 00"	0.23089891	0.97297775	0.237311603	4.213868975	1.027772736	4.330899646
13° 21' 30"	0.23104042	0.97294415	0.237465243	4.211142596	1.027808222	4.328246985
13° 22' 00"	0.23118193	0.97291054	0.237618894	4.208419554	1.027843733	4.325597664
13° 22' 30"	0.23132343	0.97287690	0.237772556	4.205699844	1.027879267	4.322951675
13° 23' 00"	0.23146492	0.97284325	0.237926228	4.202983459	1.027914826	4.320309012
13° 23' 30"	0.23160642	0.97280957	0.238079911	4.200270394	1.027950409	4.317669670
13° 24' 00"	0.23174790	0.97277588	0.238233604	4.197560640	1.027986017	4.315033642
13° 24' 30"	0.23188939	0.97274216	0.238387308	4.194854194	1.028021648	4.312400922
13° 25' 00"	0.23203086	0.97270842	0.238541023	4.192151048	1.028057304	4.309771503
13° 25' 30"	0.23217233	0.97267467	0.238694749	4.189451196	1.028092984	4.307145380
13° 26' 00"	0.23231380	0.97264089	0.238848485	4.186754633	1.028128688	4.304522547
13° 26' 30"	0.23245526	0.97260709	0.239002232	4.184061352	1.028164416	4.301902997
13° 27' 00"	0.23259672	0.97257327	0.239155989	4.181371346	1.028200169	4.299286724
13° 27' 30"	0.23273817	0.97253943	0.239309757	4.178684611	1.028235946	4.296673722
13° 28' 00"	0.23287962	0.97250557	0.239463536	4.176001139	1.028271747	4.294063986
13° 28' 30"	0.23302107	0.97247169	0.239617326	4.173320925	1.028307572	4.291457508
13° 29' 00"	0.23316250	0.97243779	0.239771126	4.170643963	1.028343422	4.288854284
13° 29' 30"	0.23330394	0.97240386	0.239924937	4.167970247	1.028379296	4.286254306
13° 30' 00"	0.23344536	0.97236992	0.240078759	4.165299770	1.028415194	4.283657570
13° 30' 30"	0.23358679	0.97233596	0.240232592	4.162632527	1.028451116	4.281064068
13° 31' 00"	0.23372820	0.97230197	0.240386435	4.159968512	1.028487063	4.278473795
13° 31' 30"	0.23386962	0.97226797	0.240540289	4.157307718	1.028523034	4.275886746
13° 32' 00"	0.23401103	0.97223394	0.240694154	4.154650140	1.028559029	4.273302913
13° 32' 30"	0.23415243	0.97219990	0.240848029	4.151995772	1.028595048	4.270722292
13° 33' 00"	0.23429383	0.97216583	0.241001916	4.149344608	1.028631092	4.268144875
13° 33' 30"	0.23443522	0.97213174	0.241155813	4.146696642	1.028667160	4.265570658
13° 34' 00"	0.23457661	0.97209764	0.241309721	4.144051868	1.028703252	4.262999635
13° 34' 30"	0.23471799	0.97206351	0.241463640	4.141410280	1.028739369	4.260431799
13° 35' 00"	0.23485937	0.97202936	0.241617569	4.138771873	1.028775510	4.257867144
13° 35' 30"	0.23500074	0.97199519	0.241771510	4.136136640	1.028811675	4.255305666
13° 36' 00"	0.23514211	0.97196100	0.241925461	4.133504576	1.028847865	4.252747357
13° 36' 30"	0.23528348	0.97192679	0.242079423	4.130875675	1.028884079	4.250192212
13° 37' 00"	0.23542484	0.97189256	0.242233396	4.128249931	1.028920317	4.247640226
13° 37' 30"	0.23556619	0.97185831	0.242387380	4.125627338	1.028956579	4.245091392
13° 38' 00"	0.23570754	0.97182404	0.242541374	4.123007890	1.028992866	4.242545706
13° 38' 30"	0.23584888	0.97178974	0.242695380	4.120391583	1.029029177	4.240003160

13° 39' 00"

13° 59' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
13° 39' 00"	0.23599022	0.97175543	0.242849396	4.117778409	1.029065513	4.237463749
13° 39' 30"	0.23613155	0.97172110	0.243003423	4.115168363	1.029101872	4.234927468
13° 40' 00"	0.23627288	0.97168674	0.243157461	4.112561440	1.029138257	4.232394310
13° 40' 30"	0.23641421	0.97165237	0.243311511	4.109957634	1.029174665	4.229864271
13° 41' 00"	0.23655552	0.97161797	0.243465570	4.107356939	1.029211098	4.227337344
13° 41' 30"	0.23669684	0.97158356	0.243619641	4.104759349	1.029247555	4.224813524
13° 42' 00"	0.23683815	0.97154912	0.243773723	4.102164859	1.029284037	4.222292805
13° 42' 30"	0.23697945	0.97151466	0.243927816	4.099573463	1.029320543	4.219775181
13° 43' 00"	0.23712075	0.97148019	0.244081919	4.096985155	1.029357073	4.217260647
13° 43' 30"	0.23726204	0.97144569	0.244236034	4.094399930	1.029393627	4.214749197
13° 44' 00"	0.23740333	0.97141117	0.244390159	4.091817783	1.029430206	4.212240825
13° 44' 30"	0.23754461	0.97137663	0.244544296	4.089238707	1.029466810	4.209735527
13° 45' 00"	0.23768589	0.97134207	0.244698443	4.086662697	1.029503438	4.207233295
13° 45' 30"	0.23782717	0.97130749	0.244852602	4.084089748	1.029540090	4.204734126
13° 46' 00"	0.23796843	0.97127289	0.245006771	4.081519853	1.029576766	4.202238012
13° 46' 30"	0.23810970	0.97123827	0.245160951	4.078953008	1.029613467	4.199744949
13° 47' 00"	0.23825096	0.97120363	0.245315143	4.076389206	1.029650193	4.197254932
13° 47' 30"	0.23839221	0.97116896	0.245469345	4.073828443	1.029686942	4.194767954
13° 48' 00"	0.23853346	0.97113428	0.245623558	4.071270713	1.029723717	4.192284010
13° 48' 30"	0.23867470	0.97109958	0.245777783	4.068716010	1.029760515	4.189803094
13° 49' 00"	0.23881594	0.97106485	0.245932018	4.066164329	1.029797338	4.187325202
13° 49' 30"	0.23895717	0.97103011	0.246086265	4.063615664	1.029834186	4.184850327
13° 50' 00"	0.23909840	0.97099534	0.246240522	4.061070010	1.029871057	4.182378465
13° 50' 30"	0.23923962	0.97096056	0.246394791	4.058527361	1.029907954	4.179909609
13° 51' 00"	0.23938084	0.97092575	0.246549070	4.055987713	1.029944874	4.177443755
13° 51' 30"	0.23952205	0.97089092	0.246703361	4.053451059	1.029981819	4.174980896
13° 52' 00"	0.23966326	0.97085608	0.246857663	4.050917394	1.030018789	4.172521028
13° 52' 30"	0.23980446	0.97082121	0.247011976	4.048386713	1.030055783	4.170064146
13° 53' 00"	0.23994566	0.97078632	0.247166300	4.045859011	1.030092801	4.167610242
13° 53' 30"	0.24008685	0.97075141	0.247320635	4.043334281	1.030129844	4.165159314
13° 54' 00"	0.24022804	0.97071648	0.247474981	4.040812520	1.030166912	4.162711354
13° 54' 30"	0.24036922	0.97068153	0.247629338	4.038293720	1.030204004	4.160266358
13° 55' 00"	0.24051040	0.97064656	0.247783706	4.035777878	1.030241120	4.157824321
13° 55' 30"	0.24065157	0.97061157	0.247938086	4.033264988	1.030278261	4.155385236
13° 56' 00"	0.24079274	0.97057656	0.248092476	4.030755044	1.030315426	4.152949099
13° 56' 30"	0.24093390	0.97054153	0.248246878	4.028248041	1.030352616	4.150515905
13° 57' 00"	0.24107506	0.97050647	0.248401291	4.025743974	1.030389830	4.148085648
13° 57' 30"	0.24121621	0.97047140	0.248555715	4.023242838	1.030427068	4.145658323
13° 58' 00"	0.24135736	0.97043631	0.248710150	4.020744627	1.030464332	4.143233925
13° 58' 30"	0.24149850	0.97040119	0.248864597	4.018249337	1.030501619	4.140812448
13° 59' 00"	0.24163964	0.97036606	0.249019054	4.015756961	1.030538931	4.138393888
13° 59' 30"	0.24178077	0.97033090	0.249173523	4.013267495	1.030576268	4.135978238



14° 00' 00"

14° 20' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
14° 00' 00"	0.24192190	0.97029573	0.249328003	4.010780934	1.030613629	4.133565494
14° 00' 30"	0.24206302	0.97026053	0.249482494	4.008297271	1.030651015	4.131155651
14° 01' 00"	0.24220413	0.97022531	0.249636996	4.005816504	1.030688425	4.128748704
14° 01' 30"	0.24234524	0.97019008	0.249791510	4.003338625	1.030725860	4.126344647
14° 02' 00"	0.24248635	0.97015482	0.249946035	4.000863630	1.030763319	4.123943475
14° 02' 30"	0.24262745	0.97011954	0.250100571	3.998391514	1.030800803	4.121545183
14° 03' 00"	0.24276855	0.97008424	0.250255118	3.995922271	1.030838311	4.119149766
14° 03' 30"	0.24290964	0.97004892	0.250409677	3.993455897	1.030875844	4.116757219
14° 04' 00"	0.24305072	0.97001358	0.250564247	3.990992386	1.030913402	4.114367536
14° 04' 30"	0.24319180	0.96997822	0.250718828	3.988531734	1.030950984	4.111980714
14° 05' 00"	0.24333288	0.96994284	0.250873420	3.986073934	1.030988590	4.109596745
14° 05' 30"	0.24347395	0.96990744	0.251028024	3.983618983	1.031026221	4.107215627
14° 06' 00"	0.24361501	0.96987202	0.251182638	3.981166875	1.031063877	4.104837352
14° 06' 30"	0.24375607	0.96983657	0.251337265	3.978717606	1.031101557	4.102461918
14° 07' 00"	0.24389713	0.96980111	0.251491902	3.976271169	1.031139262	4.100089317
14° 07' 30"	0.24403818	0.96976563	0.251646551	3.973827560	1.031176991	4.097719546
14° 08' 00"	0.24417922	0.96973012	0.251801211	3.971386774	1.031214745	4.095352599
14° 08' 30"	0.24432026	0.96969460	0.251955883	3.968948807	1.031252523	4.092988472
14° 09' 00"	0.24446129	0.96965905	0.252110566	3.966513652	1.031290326	4.090627159
14° 09' 30"	0.24460232	0.96962349	0.252265260	3.964081306	1.031328154	4.088268655
14° 10' 00"	0.24474334	0.96958790	0.252419965	3.961651762	1.031366006	4.085912956
14° 10' 30"	0.24488436	0.96955229	0.252574682	3.959225017	1.031403883	4.083560057
14° 11' 00"	0.24502538	0.96951667	0.252729410	3.956801065	1.031441785	4.081209952
14° 11' 30"	0.24516638	0.96948102	0.252884150	3.954379902	1.031479711	4.078862636
14° 12' 00"	0.24530739	0.96944535	0.253038901	3.951961521	1.031517661	4.076518106
14° 12' 30"	0.24544838	0.96940966	0.253193663	3.949545920	1.031555636	4.074176355
14° 13' 00"	0.24558938	0.96937395	0.253348437	3.947133092	1.031593636	4.071837379
14° 13' 30"	0.24573036	0.96933822	0.253503222	3.944723032	1.031631661	4.069501174
14° 14' 00"	0.24587134	0.96930247	0.253658019	3.942315737	1.031669710	4.067167733
14° 14' 30"	0.24601232	0.96926670	0.253812827	3.939911201	1.031707784	4.064837053
14° 15' 00"	0.24615329	0.96923091	0.253967646	3.937509419	1.031745882	4.062509129
14° 15' 30"	0.24629426	0.96919510	0.254122477	3.935110386	1.031784005	4.060183955
14° 16' 00"	0.24643522	0.96915927	0.254277320	3.932714098	1.031822153	4.057861527
14° 16' 30"	0.24657618	0.96912341	0.254432174	3.930320549	1.031860325	4.055541840
14° 17' 00"	0.24671713	0.96908754	0.254587039	3.927929736	1.031898522	4.053224890
14° 17' 30"	0.24685807	0.96905165	0.254741916	3.925541652	1.031936744	4.050910671
14° 18' 00"	0.24699901	0.96901573	0.254896804	3.923156294	1.031974990	4.048599179
14° 18' 30"	0.24713995	0.96897980	0.255051703	3.920773657	1.032013261	4.046290408
14° 19' 00"	0.24728088	0.96894384	0.255206615	3.918393735	1.032051557	4.043984355
14° 19' 30"	0.24742180	0.96890787	0.255361537	3.916016525	1.032089877	4.041681014
14° 20' 00"	0.24756272	0.96887187	0.255516472	3.913642021	1.032128222	4.039380382
14° 20' 30"	0.24770364	0.96883585	0.255671417	3.911270218	1.032166592	4.037082452

14° 21' 00"

14° 41' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
14° 21' 00"	0.24784454	0.96879982	0.255826374	3.908901113	1.032204986	4.034787220
14° 21' 30"	0.24798545	0.96876376	0.255981343	3.906534700	1.032243405	4.032494682
14° 22' 00"	0.24812635	0.96872768	0.256136324	3.904170975	1.032281849	4.030204833
14° 22' 30"	0.24826724	0.96869158	0.256291315	3.901809932	1.032320318	4.027917669
14° 23' 00"	0.24840813	0.96865546	0.256446319	3.899451568	1.032358811	4.025633183
14° 23' 30"	0.24854901	0.96861932	0.256601334	3.897095877	1.032397329	4.023351373
14° 24' 00"	0.24868989	0.96858316	0.256756360	3.894742855	1.032435871	4.021072233
14° 24' 30"	0.24883076	0.96854698	0.256911398	3.892392497	1.032474439	4.018795759
14° 25' 00"	0.24897163	0.96851078	0.257066448	3.890044800	1.032513031	4.016521946
14° 25' 30"	0.24911249	0.96847456	0.257221510	3.887699757	1.032551648	4.014250789
14° 26' 00"	0.24925334	0.96843832	0.257376582	3.885357365	1.032590289	4.011982284
14° 26' 30"	0.24939419	0.96840205	0.257531667	3.883017618	1.032628955	4.009716427
14° 27' 00"	0.24953504	0.96836577	0.257686763	3.880680513	1.032667646	4.007453212
14° 27' 30"	0.24967588	0.96832947	0.257841871	3.878346045	1.032706362	4.005192635
14° 28' 00"	0.24981672	0.96829314	0.257996990	3.876014209	1.032745103	4.002934692
14° 28' 30"	0.24995755	0.96825680	0.258152121	3.873685000	1.032783868	4.000679377
14° 29' 00"	0.25009837	0.96822043	0.258307264	3.871358415	1.032822658	3.998426687
14° 29' 30"	0.25023919	0.96818405	0.258462418	3.869034448	1.032861473	3.996176617
14° 30' 00"	0.25038000	0.96814764	0.258617584	3.866713095	1.032900312	3.993929163
14° 30' 30"	0.25052081	0.96811121	0.258772762	3.864394352	1.032939177	3.991684319
14° 31' 00"	0.25066162	0.96807477	0.258927951	3.862078213	1.032978066	3.989442082
14° 31' 30"	0.25080241	0.96803830	0.259083152	3.859764676	1.033016979	3.987202447
14° 32' 00"	0.25094321	0.96800181	0.259238365	3.857453734	1.033055918	3.984965409
14° 32' 30"	0.25108399	0.96796530	0.259393590	3.855145384	1.033094882	3.982730964
14° 33' 00"	0.25122478	0.96792877	0.259548826	3.852839622	1.033133870	3.980499108
14° 33' 30"	0.25136555	0.96789222	0.259704074	3.850536441	1.033172883	3.978269836
14° 34' 00"	0.25150633	0.96785565	0.259859333	3.848235840	1.033211921	3.976043143
14° 34' 30"	0.25164709	0.96781906	0.260014605	3.845937812	1.033250983	3.973819026
14° 35' 00"	0.25178785	0.96778245	0.260169888	3.843642353	1.033290071	3.971597480
14° 35' 30"	0.25192861	0.96774582	0.260325183	3.841349460	1.033329183	3.969378500
14° 36' 00"	0.25206936	0.96770917	0.260480489	3.839059127	1.033368320	3.967162082
14° 36' 30"	0.25221010	0.96767250	0.260635808	3.836771351	1.033407482	3.964948221
14° 37' 00"	0.25235084	0.96763581	0.260791138	3.834486126	1.033446669	3.962736914
14° 37' 30"	0.25249158	0.96759909	0.260946480	3.832203449	1.033485881	3.960528156
14° 38' 00"	0.25263231	0.96756236	0.261101834	3.829923315	1.033525117	3.958321943
14° 38' 30"	0.25277303	0.96752560	0.261257199	3.827645720	1.033564378	3.956118269
14° 39' 00"	0.25291375	0.96748883	0.261412576	3.825370660	1.033603664	3.953917132
14° 39' 30"	0.25305446	0.96745203	0.261567966	3.823098130	1.033642975	3.951718526
14° 40' 00"	0.25319517	0.96741522	0.261723367	3.820828125	1.033682311	3.949522447
14° 40' 30"	0.25333587	0.96737838	0.261878779	3.818560642	1.033721672	3.947328892
14° 41' 00"	0.25347657	0.96734153	0.262034204	3.816295677	1.033761058	3.945137855
14° 41' 30"	0.25361726	0.96730465	0.262189641	3.814033224	1.033800468	3.942949332

14° 42' 00"

15° 02' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
14° 42' 00"	0.25375794	0.96726775	0.262345089	3.811773280	1.033839903	3.940763319
14° 42' 30"	0.25389863	0.96723083	0.262500549	3.809515841	1.033879364	3.938579813
14° 43' 00"	0.25403930	0.96719390	0.262656021	3.807260901	1.033918849	3.936398807
14° 43' 30"	0.25417997	0.96715694	0.262811505	3.805008458	1.033958359	3.934220299
14° 44' 00"	0.25432064	0.96711996	0.262967001	3.802758506	1.033997893	3.932044285
14° 44' 30"	0.25446129	0.96708296	0.263122509	3.800511042	1.034037453	3.929870759
14° 45' 00"	0.25460195	0.96704594	0.263278028	3.798266061	1.034077038	3.927699717
14° 45' 30"	0.25474260	0.96700890	0.263433560	3.796023559	1.034116647	3.925531156
14° 46' 00"	0.25488324	0.96697184	0.263589103	3.793783532	1.034156282	3.923365072
14° 46' 30"	0.25502388	0.96693476	0.263744659	3.791545975	1.034195941	3.921201459
14° 47' 00"	0.25516451	0.96689765	0.263900226	3.789310886	1.034235626	3.919040315
14° 47' 30"	0.25530514	0.96686053	0.264055806	3.787078258	1.034275335	3.916881634
14° 48' 00"	0.25544576	0.96682339	0.264211397	3.784848088	1.034315069	3.914725412
14° 48' 30"	0.25558637	0.96678623	0.264367000	3.782620373	1.034354828	3.912571646
14° 49' 00"	0.25572698	0.96674904	0.264522615	3.780395107	1.034394612	3.910420331
14° 49' 30"	0.25586759	0.96671184	0.264678242	3.778172287	1.034434421	3.908271463
14° 50' 00"	0.25600819	0.96667461	0.264833881	3.775951909	1.034474255	3.906125039
14° 50' 30"	0.25614878	0.96663737	0.264989533	3.773733968	1.034514114	3.903981053
14° 51' 00"	0.25628937	0.96660010	0.265145196	3.771518461	1.034553998	3.901839502
14° 51' 30"	0.25642996	0.96656282	0.265300871	3.769305382	1.034593907	3.899700381
14° 52' 00"	0.25657053	0.96652551	0.265456558	3.767094729	1.034633841	3.897563688
14° 52' 30"	0.25671111	0.96648818	0.265612257	3.764886497	1.034673799	3.895429416
14° 53' 00"	0.25685167	0.96645084	0.265767968	3.762680683	1.034713783	3.893297564
14° 53' 30"	0.25699224	0.96641347	0.265923691	3.760477281	1.034753792	3.891168125
14° 54' 00"	0.25713279	0.96637608	0.266079427	3.758276288	1.034793826	3.889041097
14° 54' 30"	0.25727334	0.96633867	0.266235174	3.756077700	1.034833884	3.886916475
14° 55' 00"	0.25741389	0.96630124	0.266390933	3.753881513	1.034873968	3.884794256
14° 55' 30"	0.25755443	0.96626379	0.266546705	3.751687722	1.034914077	3.882674435
14° 56' 00"	0.25769496	0.96622632	0.266702488	3.749496325	1.034954210	3.880557008
14° 56' 30"	0.25783549	0.96618883	0.266858284	3.747307316	1.034994369	3.878441971
14° 57' 00"	0.25797602	0.96615132	0.267014092	3.745120692	1.035034553	3.876329320
14° 57' 30"	0.25811654	0.96611379	0.267169912	3.742936449	1.035074761	3.874219052
14° 58' 00"	0.25825705	0.96607624	0.267325743	3.740754583	1.035114995	3.872111162
14° 58' 30"	0.25839756	0.96603867	0.267481588	3.738575090	1.035155254	3.870005646
14° 59' 00"	0.25853806	0.96600107	0.267637444	3.736397965	1.035195538	3.867902501
14° 59' 30"	0.25867855	0.96596346	0.267793312	3.734223206	1.035235847	3.865801722
15° 00' 00"	0.25881905	0.96592583	0.267949192	3.732050808	1.035276180	3.863703305
15° 00' 30"	0.25895953	0.96588817	0.268105085	3.729880766	1.035316539	3.861607247
15° 01' 00"	0.25910001	0.96585050	0.268260990	3.727713078	1.035356923	3.859513544
15° 01' 30"	0.25924049	0.96581280	0.268416907	3.725547739	1.035397332	3.857422191
15° 02' 00"	0.25938095	0.96577509	0.268572836	3.723384746	1.035437766	3.855333185
15° 02' 30"	0.25952142	0.96573735	0.268728777	3.721224094	1.035478226	3.853246522

15° 03' 00"

15° 23' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
15° 03' 00"	0.25966188	0.96569960	0.268884731	3.719065779	1.035518710	3.851162198
15° 03' 30"	0.25980233	0.96566182	0.269040696	3.716909799	1.035559219	3.849080208
15° 04' 00"	0.25994278	0.96562402	0.269196674	3.714756148	1.035599753	3.847000551
15° 04' 30"	0.26008322	0.96558621	0.269352664	3.712604822	1.035640313	3.844923220
15° 05' 00"	0.26022365	0.96554837	0.269508666	3.710455819	1.035680897	3.842848213
15° 05' 30"	0.26036408	0.96551051	0.269664681	3.708309135	1.035721507	3.840775526
15° 06' 00"	0.26050451	0.96547263	0.269820708	3.706164764	1.035762142	3.838705154
15° 06' 30"	0.26064493	0.96543473	0.269976747	3.704022704	1.035802802	3.836637095
15° 07' 00"	0.26078534	0.96539681	0.270132798	3.701882951	1.035843487	3.834571343
15° 07' 30"	0.26092575	0.96535887	0.270288862	3.699745501	1.035884197	3.832507896
15° 08' 00"	0.26106615	0.96532091	0.270444937	3.697610350	1.035924932	3.830446750
15° 08' 30"	0.26120655	0.96528293	0.270601026	3.695477494	1.035965692	3.828387900
15° 09' 00"	0.26134694	0.96524493	0.270757126	3.693346930	1.036006477	3.826331343
15° 09' 30"	0.26148733	0.96520691	0.270913239	3.691218654	1.036047288	3.824277075
15° 10' 00"	0.26162771	0.96516887	0.271069364	3.689092661	1.036088124	3.822225093
15° 10' 30"	0.26176809	0.96513080	0.271225501	3.686968949	1.036128984	3.820175393
15° 11' 00"	0.26190846	0.96509272	0.271381651	3.684847513	1.036169870	3.818127970
15° 11' 30"	0.26204882	0.96505462	0.271537812	3.682728350	1.036210781	3.816082821
15° 12' 00"	0.26218918	0.96501649	0.271693987	3.680611456	1.036251718	3.814039943
15° 12' 30"	0.26232953	0.96497835	0.271850173	3.678496827	1.036292679	3.811999332
15° 13' 00"	0.26246988	0.96494019	0.272006372	3.676384459	1.036333666	3.809960983
15° 13' 30"	0.26261022	0.96490200	0.272162584	3.674274350	1.036374677	3.807924894
15° 14' 00"	0.26275056	0.96486380	0.272318807	3.672166494	1.036415714	3.805891060
15° 14' 30"	0.26289089	0.96482557	0.272475043	3.670060889	1.036456776	3.803859478
15° 15' 00"	0.26303121	0.96478732	0.272631292	3.667957531	1.036497864	3.801830144
15° 15' 30"	0.26317153	0.96474906	0.272787553	3.665856415	1.036538976	3.799803055
15° 16' 00"	0.26331185	0.96471077	0.272943826	3.663757539	1.036580114	3.797778206
15° 16' 30"	0.26345216	0.96467246	0.273100112	3.661660898	1.036621277	3.795755595
15° 17' 00"	0.26359246	0.96463414	0.273256410	3.659566490	1.036662465	3.793735217
15° 17' 30"	0.26373276	0.96459579	0.273412720	3.657474310	1.036703678	3.791717069
15° 18' 00"	0.26387305	0.96455742	0.273569043	3.655384355	1.036744916	3.789701147
15° 18' 30"	0.26401334	0.96451903	0.273725378	3.653296620	1.036786180	3.787687447
15° 19' 00"	0.26415362	0.96448062	0.273881726	3.651211104	1.036827469	3.785675966
15° 19' 30"	0.26429389	0.96444219	0.274038087	3.649127801	1.036868783	3.783666701
15° 20' 00"	0.26443416	0.96440374	0.274194459	3.647046708	1.036910122	3.781659648
15° 20' 30"	0.26457443	0.96436527	0.274350844	3.644967822	1.036951487	3.779654802
15° 21' 00"	0.26471468	0.96432678	0.274507242	3.642891139	1.036992877	3.777652161
15° 21' 30"	0.26485494	0.96428827	0.274663652	3.640816655	1.037034292	3.775651721
15° 22' 00"	0.26499518	0.96424974	0.274820075	3.638744367	1.037075732	3.773653478
15° 22' 30"	0.26513543	0.96421118	0.274976510	3.636674272	1.037117197	3.771657429
15° 23' 00"	0.26527566	0.96417261	0.275132958	3.634606365	1.037158688	3.769663570
15° 23' 30"	0.26541589	0.96413402	0.275289418	3.632540643	1.037200204	3.767671897

15° 24' 00"

15° 44' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
15° 24' 00"	0.26555612	0.96409540	0.275445891	3.630477104	1.037241746	3.765682408
15° 24' 30"	0.26569634	0.96405677	0.275602376	3.628415742	1.037283312	3.763695098
15° 25' 00"	0.26583655	0.96401812	0.275758874	3.626356554	1.037324904	3.761709965
15° 25' 30"	0.26597676	0.96397944	0.275915384	3.624299538	1.037366521	3.759727003
15° 26' 00"	0.26611696	0.96394075	0.276071907	3.622244689	1.037408164	3.757746211
15° 26' 30"	0.26625716	0.96390203	0.276228443	3.620192004	1.037449831	3.755767584
15° 27' 00"	0.26639735	0.96386330	0.276384991	3.618141480	1.037491524	3.753791119
15° 27' 30"	0.26653753	0.96382454	0.276541552	3.616093113	1.037533243	3.751816813
15° 28' 00"	0.26667771	0.96378576	0.276698125	3.614046899	1.037574986	3.749844662
15° 28' 30"	0.26681789	0.96374697	0.276854711	3.612002835	1.037616755	3.747874662
15° 29' 00"	0.26695806	0.96370815	0.277011309	3.609960918	1.037658550	3.745906810
15° 29' 30"	0.26709822	0.96366931	0.277167920	3.607921143	1.037700369	3.743941102
15° 30' 00"	0.26723838	0.96363045	0.277324544	3.605883509	1.037742214	3.741977536
15° 30' 30"	0.26737853	0.96359157	0.277481180	3.603848010	1.037784084	3.740016107
15° 31' 00"	0.26751867	0.96355268	0.277637829	3.601814645	1.037825980	3.738056813
15° 31' 30"	0.26765881	0.96351376	0.277794491	3.599783408	1.037867901	3.736099649
15° 32' 00"	0.26779895	0.96347482	0.277951165	3.597754298	1.037909847	3.734144612
15° 32' 30"	0.26793908	0.96343586	0.278107852	3.595727310	1.037951819	3.732191700
15° 33' 00"	0.26807920	0.96339688	0.278264552	3.593702441	1.037993815	3.730240908
15° 33' 30"	0.26821932	0.96335788	0.278421264	3.591679687	1.038035838	3.728292233
15° 34' 00"	0.26835943	0.96331886	0.278577989	3.589659046	1.038077885	3.726345672
15° 34' 30"	0.26849954	0.96327981	0.278734727	3.587640514	1.038119958	3.724401221
15° 35' 00"	0.26863964	0.96324075	0.278891478	3.585624087	1.038162057	3.722458877
15° 35' 30"	0.26877973	0.96320167	0.279048241	3.583609762	1.038204181	3.720518637
15° 36' 00"	0.26891982	0.96316257	0.279205017	3.581597536	1.038246330	3.718580496
15° 36' 30"	0.26905990	0.96312344	0.279361805	3.579587405	1.038288504	3.716644453
15° 37' 00"	0.26919998	0.96308430	0.279518607	3.577579366	1.038330704	3.714710503
15° 37' 30"	0.26934005	0.96304514	0.279675421	3.575573416	1.038372930	3.712778643
15° 38' 00"	0.26948012	0.96300595	0.279832248	3.573569551	1.038415180	3.710848870
15° 38' 30"	0.26962018	0.96296675	0.279989087	3.571567768	1.038457457	3.708921180
15° 39' 00"	0.26976024	0.96292752	0.280145940	3.569568063	1.038499758	3.706995571
15° 39' 30"	0.26990029	0.96288828	0.280302805	3.567570434	1.038542085	3.705072038
15° 40' 00"	0.27004033	0.96284901	0.280459683	3.565574877	1.038584437	3.703150578
15° 40' 30"	0.27018037	0.96280973	0.280616574	3.563581389	1.038626815	3.701231189
15° 41' 00"	0.27032040	0.96277042	0.280773477	3.561589966	1.038669219	3.699313867
15° 41' 30"	0.27046043	0.96273109	0.280930394	3.559600605	1.038711647	3.697398608
15° 42' 00"	0.27060045	0.96269175	0.281087323	3.557613303	1.038754101	3.695485410
15° 42' 30"	0.27074046	0.96265238	0.281244265	3.555628057	1.038796581	3.693574268
15° 43' 00"	0.27088047	0.96261299	0.281401220	3.553644862	1.038839086	3.691665181
15° 43' 30"	0.27102047	0.96257358	0.281558188	3.551663717	1.038881617	3.689758144
15° 44' 00"	0.27116047	0.96253415	0.281715168	3.549684617	1.038924172	3.687853154
15° 44' 30"	0.27130046	0.96249471	0.281872162	3.547707560	1.038966754	3.685950208

15° 45' 00"

16° 05' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
15° 45' 00"	0.27144045	0.96245524	0.282029168	3.545732543	1.039009361	3.684049303
15° 45' 30"	0.27158043	0.96241575	0.282186188	3.543759561	1.039051993	3.682150435
15° 46' 00"	0.27172041	0.96237624	0.282343220	3.541788612	1.039094651	3.680253601
15° 46' 30"	0.27186037	0.96233671	0.282500265	3.539819692	1.039137334	3.678358799
15° 47' 00"	0.27200034	0.96229716	0.282657323	3.537852799	1.039180043	3.676466024
15° 47' 30"	0.27214030	0.96225758	0.282814393	3.535887929	1.039222777	3.674575274
15° 48' 00"	0.27228025	0.96221799	0.282971477	3.533925079	1.039265537	3.672686546
15° 48' 30"	0.27242019	0.96217838	0.283128574	3.531964246	1.039308323	3.670799836
15° 49' 00"	0.27256013	0.96213875	0.283285684	3.530005426	1.039351133	3.668915140
15° 49' 30"	0.27270007	0.96209910	0.283442806	3.528048616	1.039393970	3.667032457
15° 50' 00"	0.27284000	0.96205942	0.283599942	3.526093814	1.039436832	3.665151782
15° 50' 30"	0.27297992	0.96201973	0.283757090	3.524141016	1.039479719	3.663273113
15° 51' 00"	0.27311984	0.96198002	0.283914252	3.522190218	1.039522632	3.661396446
15° 51' 30"	0.27325975	0.96194028	0.284071426	3.520241419	1.039565570	3.659521778
15° 52' 00"	0.27339965	0.96190053	0.284228614	3.518294613	1.039608534	3.657649107
15° 52' 30"	0.27353955	0.96186076	0.284385814	3.516349800	1.039651524	3.655778428
15° 53' 00"	0.27367945	0.96182096	0.284543027	3.514406974	1.039694539	3.653909739
15° 53' 30"	0.27381934	0.96178115	0.284700254	3.512466134	1.039737580	3.652043037
15° 54' 00"	0.27395922	0.96174131	0.284857493	3.510527275	1.039780646	3.650178318
15° 54' 30"	0.27409910	0.96170145	0.285014746	3.508590396	1.039823738	3.648315579
15° 55' 00"	0.27423897	0.96166158	0.285172011	3.506655492	1.039866855	3.646454818
15° 55' 30"	0.27437883	0.96162168	0.285329290	3.504722561	1.039909998	3.644596031
15° 56' 00"	0.27451869	0.96158176	0.285486582	3.502791600	1.039953166	3.642739215
15° 56' 30"	0.27465854	0.96154183	0.285643886	3.500862605	1.039996360	3.640884368
15° 57' 00"	0.27479839	0.96150187	0.285801204	3.498935573	1.040039580	3.639031485
15° 57' 30"	0.27493823	0.96146189	0.285958535	3.497010502	1.040082825	3.637180564
15° 58' 00"	0.27507807	0.96142189	0.286115879	3.495087388	1.040126096	3.635331601
15° 58' 30"	0.27521790	0.96138187	0.286273236	3.493166228	1.040169393	3.633484595
15° 59' 00"	0.27535772	0.96134183	0.286430606	3.491247020	1.040212715	3.631639541
15° 59' 30"	0.27549754	0.96130178	0.286587989	3.489329759	1.040256063	3.629796436
16° 00' 00"	0.27563736	0.96126170	0.286745386	3.487414444	1.040299436	3.627955279
16° 00' 30"	0.27577716	0.96122160	0.286902795	3.485501070	1.040342835	3.626116064
16° 01' 00"	0.27591696	0.96118148	0.287060218	3.483589636	1.040386259	3.624278791
16° 01' 30"	0.27605676	0.96114133	0.287217654	3.481680137	1.040429710	3.622443454
16° 02' 00"	0.27619655	0.96110117	0.287375103	3.479772572	1.040473185	3.620610052
16° 02' 30"	0.27633633	0.96106099	0.287532565	3.477866936	1.040516687	3.618778582
16° 03' 00"	0.27647611	0.96102079	0.287690040	3.475963227	1.040560214	3.616949040
16° 03' 30"	0.27661588	0.96098057	0.287847528	3.474061442	1.040603767	3.615121423
16° 04' 00"	0.27675565	0.96094033	0.288005030	3.472161578	1.040647345	3.613295729
16° 04' 30"	0.27689541	0.96090006	0.288162545	3.470263632	1.040690949	3.611471954
16° 05' 00"	0.27703516	0.96085978	0.288320073	3.468367601	1.040734579	3.609650096
16° 05' 30"	0.27717491	0.96081948	0.288477614	3.466473482	1.040778235	3.607830151

16° 06' 00"

16° 26' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
16° 06' 00"	0.27731465	0.96077915	0.288635169	3.464581272	1.040821916	3.606012117
16° 06' 30"	0.27745439	0.96073881	0.288792736	3.462690967	1.040865623	3.604195990
16° 07' 00"	0.27759412	0.96069845	0.288950317	3.460802566	1.040909355	3.602381768
16° 07' 30"	0.27773385	0.96065806	0.289107912	3.458916065	1.040953114	3.600569447
16° 08' 00"	0.27787356	0.96061766	0.289265519	3.457031461	1.040996897	3.598759026
16° 08' 30"	0.27801328	0.96057723	0.289423140	3.455148752	1.041040707	3.596950500
16° 09' 00"	0.27815299	0.96053679	0.289580774	3.453267933	1.041084542	3.595143866
16° 09' 30"	0.27829269	0.96049632	0.289738421	3.451389003	1.041128404	3.593339123
16° 10' 00"	0.27843238	0.96045583	0.289896082	3.449511959	1.041172290	3.591536266
16° 10' 30"	0.27857207	0.96041533	0.290053755	3.447636797	1.041216203	3.589735294
16° 11' 00"	0.27871176	0.96037480	0.290211443	3.445763514	1.041260141	3.587936203
16° 11' 30"	0.27885143	0.96033425	0.290369143	3.443892109	1.041304105	3.586138990
16° 12' 00"	0.27899111	0.96029369	0.290526857	3.442022577	1.041348095	3.584343652
16° 12' 30"	0.27913077	0.96025310	0.290684584	3.440154916	1.041392110	3.582550187
16° 13' 00"	0.27927043	0.96021249	0.290842324	3.438289123	1.041436151	3.580758592
16° 13' 30"	0.27941009	0.96017186	0.291000078	3.436425195	1.041480218	3.578968863
16° 14' 00"	0.27954974	0.96013121	0.291157845	3.434563129	1.041524311	3.577180998
16° 14' 30"	0.27968938	0.96009054	0.291315626	3.432702923	1.041568430	3.575394994
16° 15' 00"	0.27982901	0.96004985	0.291473420	3.430844574	1.041612574	3.573610848
16° 15' 30"	0.27996864	0.96000914	0.291631227	3.428988078	1.041656744	3.571828557
16° 16' 00"	0.28010827	0.95996841	0.291789047	3.427133433	1.041700940	3.570048118
16° 16' 30"	0.28024789	0.95992766	0.291946882	3.425280636	1.041745162	3.568269529
16° 17' 00"	0.28038750	0.95988689	0.292104729	3.423429684	1.041789409	3.566492787
16° 17' 30"	0.28052711	0.95984610	0.292262590	3.421580575	1.041833682	3.564717889
16° 18' 00"	0.28066671	0.95980529	0.292420464	3.419733305	1.041877981	3.562944832
16° 18' 30"	0.28080630	0.95976446	0.292578352	3.417887871	1.041922306	3.561173613
16° 19' 00"	0.28094589	0.95972361	0.292736253	3.416044272	1.041966657	3.559404229
16° 19' 30"	0.28108548	0.95968274	0.292894168	3.414202503	1.042011033	3.557636678
16° 20' 00"	0.28122505	0.95964184	0.293052096	3.412362563	1.042055436	3.555870957
16° 20' 30"	0.28136462	0.95960093	0.293210037	3.410524448	1.042099864	3.554107063
16° 21' 00"	0.28150419	0.95956000	0.293367992	3.408688156	1.042144318	3.552344993
16° 21' 30"	0.28164375	0.95951905	0.293525961	3.406853684	1.042188797	3.550584744
16° 22' 00"	0.28178330	0.95947807	0.293683942	3.405021029	1.042233303	3.548826314
16° 22' 30"	0.28192285	0.95943708	0.293841938	3.403190188	1.042277835	3.547069700
16° 23' 00"	0.28206239	0.95939606	0.293999947	3.401361159	1.042322392	3.545314899
16° 23' 30"	0.28220193	0.95935503	0.294157969	3.399533938	1.042366975	3.543561908
16° 24' 00"	0.28234146	0.95931397	0.294316005	3.397708524	1.042411584	3.541810725
16° 24' 30"	0.28248098	0.95927290	0.294474055	3.395884913	1.042456219	3.540061347
16° 25' 00"	0.28262050	0.95923180	0.294632118	3.394063102	1.042500880	3.538313771
16° 25' 30"	0.28276001	0.95919069	0.294790195	3.392243089	1.042545567	3.536567994
16° 26' 00"	0.28289952	0.95914955	0.294948285	3.390424871	1.042590279	3.534824013
16° 26' 30"	0.28303901	0.95910840	0.295106388	3.388608445	1.042635018	3.533081827

16° 27' 00"

16° 47' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
16° 27' 00"	0.28317851	0.95906722	0.295264506	3.386793809	1.042679782	3.531341432
16° 27' 30"	0.28331800	0.95902602	0.295422637	3.384980960	1.042724573	3.529602825
16° 28' 00"	0.28345748	0.95898481	0.295580781	3.383169895	1.042769389	3.527866004
16° 28' 30"	0.28359695	0.95894357	0.295738939	3.381360612	1.042814231	3.526130966
16° 29' 00"	0.28373642	0.95890231	0.295897111	3.379553107	1.042859099	3.524397708
16° 29' 30"	0.28387589	0.95886103	0.296055296	3.377747378	1.042903993	3.522666227
16° 30' 00"	0.28401534	0.95881973	0.296213495	3.375943423	1.042948913	3.520936522
16° 30' 30"	0.28415480	0.95877842	0.296371708	3.374141238	1.042993859	3.519208589
16° 31' 00"	0.28429424	0.95873708	0.296529934	3.372340821	1.043038830	3.517482425
16° 31' 30"	0.28443368	0.95869572	0.296688174	3.370542169	1.043083828	3.515758029
16° 32' 00"	0.28457312	0.95865434	0.296846427	3.368745280	1.043128852	3.514035396
16° 32' 30"	0.28471254	0.95861294	0.297004694	3.366950152	1.043173901	3.512314525
16° 33' 00"	0.28485196	0.95857152	0.297162975	3.365156780	1.043218977	3.510595413
16° 33' 30"	0.28499138	0.95853008	0.297321269	3.363365163	1.043264078	3.508878057
16° 34' 00"	0.28513079	0.95848862	0.297479578	3.361575298	1.043309206	3.507162455
16° 34' 30"	0.28527019	0.95844714	0.297637900	3.359787182	1.043354359	3.505448603
16° 35' 00"	0.28540959	0.95840564	0.297796235	3.358000813	1.043399539	3.503736500
16° 35' 30"	0.28554898	0.95836412	0.297954585	3.356216188	1.043444744	3.502026143
16° 36' 00"	0.28568837	0.95832257	0.298112948	3.354433305	1.043489976	3.500317528
16° 36' 30"	0.28582775	0.95828101	0.298271324	3.352652160	1.043535233	3.498610654
16° 37' 00"	0.28596712	0.95823943	0.298429715	3.350872752	1.043580517	3.496905518
16° 37' 30"	0.28610649	0.95819783	0.298588119	3.349095077	1.043625826	3.495202117
16° 38' 00"	0.28624585	0.95815621	0.298746537	3.347319133	1.043671162	3.493500448
16° 38' 30"	0.28638520	0.95811456	0.298904969	3.345544918	1.043716523	3.491800510
16° 39' 00"	0.28652455	0.95807290	0.299063415	3.343772428	1.043761911	3.490102298
16° 39' 30"	0.28666390	0.95803122	0.299221874	3.342001662	1.043807324	3.488405812
16° 40' 00"	0.28680323	0.95798951	0.299380347	3.340232616	1.043852764	3.486711048
16° 40' 30"	0.28694256	0.95794779	0.299538834	3.338465288	1.043898229	3.485018003
16° 41' 00"	0.28708189	0.95790604	0.299697335	3.336699676	1.043943721	3.483326675
16° 41' 30"	0.28722121	0.95786428	0.299855849	3.334935777	1.043989239	3.481637062
16° 42' 00"	0.28736052	0.95782249	0.300014378	3.333173587	1.044034782	3.479949161
16° 42' 30"	0.28749983	0.95778069	0.300172920	3.331413106	1.044080352	3.478262969
16° 43' 00"	0.28763913	0.95773886	0.300331476	3.329654330	1.044125948	3.476578484
16° 43' 30"	0.28777842	0.95769702	0.300490046	3.327897256	1.044171570	3.474895703
16° 44' 00"	0.28791771	0.95765515	0.300648630	3.326141883	1.044217218	3.473214624
16° 44' 30"	0.28805699	0.95761327	0.300807228	3.324388207	1.044262892	3.471535244
16° 45' 00"	0.28819627	0.95757136	0.300965839	3.322636226	1.044308592	3.469857561
16° 45' 30"	0.28833554	0.95752943	0.301124465	3.320885938	1.044354319	3.468181572
16° 46' 00"	0.28847480	0.95748749	0.301283104	3.319137340	1.044400071	3.466507274
16° 46' 30"	0.28861406	0.95744552	0.301441757	3.317390429	1.044445850	3.464834665
16° 47' 00"	0.28875331	0.95740353	0.301600424	3.315645203	1.044491654	3.463163743
16° 47' 30"	0.28889256	0.95736153	0.301759105	3.313901659	1.044537485	3.461494505



16° 48' 00"

17° 08' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
16° 48' 00"	0.28903180	0.95731950	0.301917800	3.312159796	1.044583342	3.459826948
16° 48' 30"	0.28917103	0.95727745	0.302076509	3.310419610	1.044629225	3.458161071
16° 49' 00"	0.28931026	0.95723538	0.302235232	3.308681098	1.044675134	3.456496870
16° 49' 30"	0.28944948	0.95719329	0.302393969	3.306944260	1.044721069	3.454834343
16° 50' 00"	0.28958869	0.95715118	0.302552720	3.305209091	1.044767031	3.453173487
16° 50' 30"	0.28972790	0.95710905	0.302711485	3.303475589	1.044813018	3.451514301
16° 51' 00"	0.28986711	0.95706691	0.302870263	3.301743753	1.044859032	3.449856781
16° 51' 30"	0.29000630	0.95702474	0.303029056	3.300013579	1.044905072	3.448200925
16° 52' 00"	0.29014549	0.95698255	0.303187863	3.298285065	1.044951138	3.446546731
16° 52' 30"	0.29028468	0.95694034	0.303346684	3.296558209	1.044997230	3.444894196
16° 53' 00"	0.29042386	0.95689811	0.303505518	3.294833008	1.045043348	3.443243318
16° 53' 30"	0.29056303	0.95685585	0.303664367	3.293109459	1.045089493	3.441594095
16° 54' 00"	0.29070219	0.95681358	0.303823230	3.291387561	1.045135663	3.439946523
16° 54' 30"	0.29084135	0.95677129	0.303982107	3.289667311	1.045181860	3.438300600
16° 55' 00"	0.29098051	0.95672898	0.304140998	3.287948706	1.045228083	3.436656325
16° 55' 30"	0.29111965	0.95668665	0.304299903	3.286231744	1.045274333	3.435013694
16° 56' 00"	0.29125880	0.95664430	0.304458822	3.284516422	1.045320608	3.433372705
16° 56' 30"	0.29139793	0.95660193	0.304617755	3.282802739	1.045366910	3.431733355
16° 57' 00"	0.29153706	0.95655953	0.304776702	3.281090691	1.045413238	3.430095643
16° 57' 30"	0.29167618	0.95651712	0.304935663	3.279380277	1.045459592	3.428459566
16° 58' 00"	0.29181530	0.95647469	0.305094639	3.277671493	1.045505973	3.426825122
16° 58' 30"	0.29195441	0.95643224	0.305253628	3.275964338	1.045552379	3.425192307
16° 59' 00"	0.29209351	0.95638976	0.305412632	3.274258808	1.045598812	3.423561120
16° 59' 30"	0.29223261	0.95634727	0.305571650	3.272554903	1.045645271	3.421931559
17° 00' 00"	0.29237170	0.95630476	0.305730681	3.270852618	1.045691756	3.420303620
17° 00' 30"	0.29251079	0.95626222	0.305889727	3.269151953	1.045738268	3.418677302
17° 01' 00"	0.29264987	0.95621967	0.306048788	3.267452904	1.045784806	3.417052601
17° 01' 30"	0.29278894	0.95617709	0.306207862	3.265755469	1.045831370	3.415429517
17° 02' 00"	0.29292801	0.95613450	0.306366950	3.264059646	1.045877961	3.413808046
17° 02' 30"	0.29306707	0.95609188	0.306526053	3.262365432	1.045924577	3.412188186
17° 03' 00"	0.29320613	0.95604925	0.306685170	3.260672826	1.045971220	3.410569934
17° 03' 30"	0.29334518	0.95600659	0.306844301	3.258981824	1.046017889	3.408953289
17° 04' 00"	0.29348422	0.95596392	0.307003446	3.257292424	1.046064585	3.407338248
17° 04' 30"	0.29362325	0.95592122	0.307162606	3.255604624	1.046111307	3.405724808
17° 05' 00"	0.29376228	0.95587851	0.307321780	3.253918422	1.046158055	3.404112968
17° 05' 30"	0.29390131	0.95583577	0.307480967	3.252233815	1.046204830	3.402502724
17° 06' 00"	0.29404033	0.95579301	0.307640170	3.250550801	1.046251630	3.400894075
17° 06' 30"	0.29417934	0.95575024	0.307799386	3.248869378	1.046298457	3.399287019
17° 07' 00"	0.29431834	0.95570744	0.307958617	3.247189543	1.046345311	3.397681552
17° 07' 30"	0.29445734	0.95566462	0.308117862	3.245511294	1.046392191	3.396077673
17° 08' 00"	0.29459633	0.95562179	0.308277121	3.243834629	1.046439097	3.394475379
17° 08' 30"	0.29473532	0.95557893	0.308436394	3.242159545	1.046486029	3.392874668

17° 09' 00"

17° 29' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
17° 09' 00"	0.29487430	0.95553605	0.308595682	3.240486040	1.046532988	3.391275538
17° 09' 30"	0.29501327	0.95549315	0.308754984	3.238814111	1.046579973	3.389677986
17° 10' 00"	0.29515224	0.95545024	0.308914301	3.237143757	1.046626985	3.388082010
17° 10' 30"	0.29529120	0.95540730	0.309073631	3.235474976	1.046674023	3.386487608
17° 11' 00"	0.29543016	0.95536434	0.309232976	3.233807764	1.046721087	3.384894777
17° 11' 30"	0.29556911	0.95532136	0.309392336	3.232142120	1.046768178	3.383303516
17° 12' 00"	0.29570805	0.95527836	0.309551710	3.230478041	1.046815295	3.381713822
17° 12' 30"	0.29584699	0.95523534	0.309711098	3.228815525	1.046862438	3.380125692
17° 13' 00"	0.29598592	0.95519230	0.309870500	3.227154570	1.046909608	3.378539124
17° 13' 30"	0.29612484	0.95514924	0.310029917	3.225495173	1.046956804	3.376954117
17° 14' 00"	0.29626376	0.95510616	0.310189348	3.223837332	1.047004027	3.375370668
17° 14' 30"	0.29640267	0.95506306	0.310348794	3.222181046	1.047051276	3.373788774
17° 15' 00"	0.29654157	0.95501994	0.310508253	3.220526311	1.047098551	3.372208433
17° 15' 30"	0.29668047	0.95497680	0.310667728	3.218873125	1.047145853	3.370629644
17° 16' 00"	0.29681937	0.95493364	0.310827217	3.217221487	1.047193181	3.369052404
17° 16' 30"	0.29695825	0.95489046	0.310986720	3.215571394	1.047240536	3.367476710
17° 17' 00"	0.29709713	0.95484726	0.311146237	3.213922843	1.047287917	3.365902560
17° 17' 30"	0.29723601	0.95480404	0.311305769	3.212275833	1.047335325	3.364329953
17° 18' 00"	0.29737487	0.95476080	0.311465316	3.210630362	1.047382759	3.362758885
17° 18' 30"	0.29751374	0.95471754	0.311624877	3.208986426	1.047430219	3.361189355
17° 19' 00"	0.29765259	0.95467426	0.311784452	3.207344024	1.047477706	3.359621361
17° 19' 30"	0.29779144	0.95463095	0.311944042	3.205703154	1.047525219	3.358054900
17° 20' 00"	0.29793028	0.95458763	0.312103647	3.204063813	1.047572759	3.356489970
17° 20' 30"	0.29806912	0.95454429	0.312263265	3.202425999	1.047620326	3.354926569
17° 21' 00"	0.29820795	0.95450093	0.312422899	3.200789711	1.047667919	3.353364694
17° 21' 30"	0.29834677	0.95445754	0.312582547	3.199154945	1.047715538	3.351804344
17° 22' 00"	0.29848559	0.95441414	0.312742209	3.197521699	1.047763184	3.350245516
17° 22' 30"	0.29862440	0.95437072	0.312901886	3.195889973	1.047810856	3.348688208
17° 23' 00"	0.29876320	0.95432728	0.313061578	3.194259762	1.047858555	3.347132418
17° 23' 30"	0.29890200	0.95428381	0.313221284	3.192631065	1.047906280	3.345578144
17° 24' 00"	0.29904079	0.95424033	0.313381004	3.191003880	1.047954032	3.344025383
17° 24' 30"	0.29917958	0.95419682	0.313540739	3.189378205	1.048001811	3.342474134
17° 25' 00"	0.29931836	0.95415330	0.313700489	3.187754038	1.048049616	3.340924394
17° 25' 30"	0.29945713	0.95410976	0.313860253	3.186131376	1.048097447	3.339376161
17° 26' 00"	0.29959590	0.95406619	0.314020032	3.184510217	1.048145305	3.337829433
17° 26' 30"	0.29973466	0.95402261	0.314179825	3.182890559	1.048193190	3.336284207
17° 27' 00"	0.29987341	0.95397900	0.314339633	3.181272400	1.048241101	3.334740482
17° 27' 30"	0.30001216	0.95393538	0.314499456	3.179655738	1.048289038	3.333198255
17° 28' 00"	0.30015090	0.95389173	0.314659293	3.178040570	1.048337003	3.331657525
17° 28' 30"	0.30028963	0.95384807	0.314819145	3.176426895	1.048384993	3.330118289
17° 29' 00"	0.30042836	0.95380438	0.314979012	3.174814710	1.048433011	3.328580544
17° 29' 30"	0.30056708	0.95376068	0.315138893	3.173204013	1.048481055	3.327044290

17° 30' 00"

17° 50' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
17° 30' 00"	0.30070580	0.95371695	0.315298789	3.171594802	1.048529125	3.325509523
17° 30' 30"	0.30084451	0.95367320	0.315458699	3.169987076	1.048577222	3.323976242
17° 31' 00"	0.30098321	0.95362944	0.315618625	3.168380831	1.048625346	3.322444445
17° 31' 30"	0.30112191	0.95358565	0.315778564	3.166776066	1.048673496	3.320914129
17° 32' 00"	0.30126060	0.95354185	0.315938519	3.165172778	1.048721673	3.319385292
17° 32' 30"	0.30139928	0.95349802	0.316098488	3.163570966	1.048769877	3.317857932
17° 33' 00"	0.30153796	0.95345417	0.316258472	3.161970627	1.048818107	3.316332047
17° 33' 30"	0.30167663	0.95341031	0.316418471	3.160371760	1.048866364	3.314807635
17° 34' 00"	0.30181530	0.95336642	0.316578484	3.158774361	1.048914647	3.313284694
17° 34' 30"	0.30195395	0.95332251	0.316738513	3.157178430	1.048962957	3.311763222
17° 35' 00"	0.30209261	0.95327858	0.316898555	3.155583964	1.049011294	3.310243217
17° 35' 30"	0.30223125	0.95323464	0.317058613	3.153990961	1.049059657	3.308724676
17° 36' 00"	0.30236989	0.95319067	0.317218686	3.152399419	1.049108047	3.307207598
17° 36' 30"	0.30250852	0.95314668	0.317378773	3.150809335	1.049156464	3.305691980
17° 37' 00"	0.30264715	0.95310267	0.317538875	3.149220708	1.049204907	3.304177820
17° 37' 30"	0.30278577	0.95305864	0.317698992	3.147633536	1.049253377	3.302665117
17° 38' 00"	0.30292438	0.95301459	0.317859123	3.146047816	1.049301874	3.301153868
17° 38' 30"	0.30306299	0.95297053	0.318019269	3.144463547	1.049350397	3.299644071
17° 39' 00"	0.30320159	0.95292644	0.318179431	3.142880726	1.049398947	3.298135725
17° 39' 30"	0.30334019	0.95288233	0.318339607	3.141299352	1.049447524	3.296628826
17° 40' 00"	0.30347877	0.95283820	0.318499797	3.139719422	1.049496127	3.295123374
17° 40' 30"	0.30361736	0.95279405	0.318660003	3.138140934	1.049544757	3.293619365
17° 41' 00"	0.30375593	0.95274988	0.318820224	3.136563886	1.049593414	3.292116798
17° 41' 30"	0.30389450	0.95270569	0.318980459	3.134988277	1.049642098	3.290615672
17° 42' 00"	0.30403306	0.95266148	0.319140709	3.133414104	1.049690808	3.289115983
17° 42' 30"	0.30417162	0.95261725	0.319300975	3.131841365	1.049739545	3.287617730
17° 43' 00"	0.30431017	0.95257300	0.319461255	3.130270059	1.049788309	3.286120911
17° 43' 30"	0.30444871	0.95252873	0.319621549	3.128700182	1.049837099	3.284625523
17° 44' 00"	0.30458725	0.95248444	0.319781859	3.127131733	1.049885916	3.283131566
17° 44' 30"	0.30472578	0.95244013	0.319942184	3.125564711	1.049934760	3.281639036
17° 45' 00"	0.30486430	0.95239580	0.320102524	3.123999113	1.049983631	3.280147932
17° 45' 30"	0.30500282	0.95235145	0.320262878	3.122434936	1.050032529	3.278658252
17° 46' 00"	0.30514133	0.95230708	0.320423248	3.120872180	1.050081453	3.277169993
17° 46' 30"	0.30527983	0.95226269	0.320583632	3.119310842	1.050130404	3.275683155
17° 47' 00"	0.30541833	0.95221828	0.320744032	3.117750920	1.050179382	3.274197734
17° 47' 30"	0.30555682	0.95217384	0.320904446	3.116192412	1.050228386	3.272713728
17° 48' 00"	0.30569530	0.95212939	0.321064876	3.114635316	1.050277418	3.271231137
17° 48' 30"	0.30583378	0.95208492	0.321225320	3.113079630	1.050326476	3.269749957
17° 49' 00"	0.30597226	0.95204043	0.321385779	3.111525352	1.050375561	3.268270187
17° 49' 30"	0.30611072	0.95199592	0.321546254	3.109972481	1.050424673	3.266791826
17° 50' 00"	0.30624918	0.95195139	0.321706743	3.108421013	1.050473811	3.265314869
17° 50' 30"	0.30638763	0.95190683	0.321867247	3.106870948	1.050522977	3.263839317

17° 51' 00"

18° 11' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
17° 51' 00"	0.30652608	0.95186226	0.322027767	3.105322283	1.050572169	3.262365167
17° 51' 30"	0.30666452	0.95181767	0.322188301	3.103775017	1.050621388	3.260892417
17° 52' 00"	0.30680295	0.95177306	0.322348851	3.102229146	1.050670634	3.259421065
17° 52' 30"	0.30694138	0.95172842	0.322509415	3.100684670	1.050719907	3.257951109
17° 53' 00"	0.30707980	0.95168377	0.322669995	3.099141587	1.050769207	3.256482547
17° 53' 30"	0.30721821	0.95163910	0.322830590	3.097599894	1.050818533	3.255015377
17° 54' 00"	0.30735662	0.95159440	0.322991199	3.096059589	1.050867886	3.253549597
17° 54' 30"	0.30749502	0.95154969	0.323151824	3.094520671	1.050917267	3.252085206
17° 55' 00"	0.30763341	0.95150496	0.323312464	3.092983138	1.050966674	3.250622201
17° 55' 30"	0.30777180	0.95146020	0.323473119	3.091446987	1.051016108	3.249160580
17° 56' 00"	0.30791018	0.95141543	0.323633789	3.089912218	1.051065569	3.247700342
17° 56' 30"	0.30804856	0.95137064	0.323794475	3.088378827	1.051115056	3.246241485
17° 57' 00"	0.30818692	0.95132582	0.323955175	3.086846813	1.051164571	3.244784006
17° 57' 30"	0.30832528	0.95128099	0.324115891	3.085316174	1.051214113	3.243327904
17° 58' 00"	0.30846364	0.95123613	0.324276622	3.083786908	1.051263681	3.241873177
17° 58' 30"	0.30860199	0.95119126	0.324437367	3.082259013	1.051313277	3.240419822
17° 59' 00"	0.30874033	0.95114637	0.324598129	3.080732488	1.051362899	3.238967839
17° 59' 30"	0.30887867	0.95110145	0.324758905	3.079207330	1.051412548	3.237517225
18° 00' 00"	0.30901699	0.95105652	0.324919696	3.077683537	1.051462224	3.236067977
18° 00' 30"	0.30915532	0.95101156	0.325080503	3.076161108	1.051511927	3.234620096
18° 01' 00"	0.30929363	0.95096659	0.325241325	3.074640041	1.051561657	3.233173577
18° 01' 30"	0.30943194	0.95092159	0.325402162	3.073120333	1.051611414	3.231728421
18° 02' 00"	0.30957024	0.95087658	0.325563014	3.071601984	1.051661198	3.230284623
18° 02' 30"	0.30970854	0.95083154	0.325723882	3.070084990	1.051711009	3.228842184
18° 03' 00"	0.30984683	0.95078649	0.325884764	3.068569351	1.051760847	3.227401100
18° 03' 30"	0.30998511	0.95074141	0.326045662	3.067055064	1.051810712	3.225961371
18° 04' 00"	0.31012339	0.95069631	0.326206576	3.065542127	1.051860604	3.224522993
18° 04' 30"	0.31026166	0.95065120	0.326367504	3.064030539	1.051910523	3.223085966
18° 05' 00"	0.31039992	0.95060606	0.326528448	3.062520297	1.051960469	3.221650287
18° 05' 30"	0.31053818	0.95056091	0.326689407	3.061011401	1.052010441	3.220215955
18° 06' 00"	0.31067643	0.95051573	0.326850382	3.059503847	1.052060441	3.218782967
18° 06' 30"	0.31081467	0.95047054	0.327011371	3.057997634	1.052110468	3.217351322
18° 07' 00"	0.31095291	0.95042532	0.327172376	3.056492761	1.052160522	3.215921018
18° 07' 30"	0.31109114	0.95038008	0.327333397	3.054989225	1.052210603	3.214492054
18° 08' 00"	0.31122936	0.95033483	0.327494432	3.053487024	1.052260711	3.213064426
18° 08' 30"	0.31136758	0.95028955	0.327655483	3.051986157	1.052310846	3.211638134
18° 09' 00"	0.31150579	0.95024425	0.327816550	3.050486622	1.052361008	3.210213176
18° 09' 30"	0.31164400	0.95019894	0.327977632	3.048988418	1.052411197	3.208789549
18° 10' 00"	0.31178219	0.95015360	0.328138729	3.047491541	1.052461413	3.207367252
18° 10' 30"	0.31192039	0.95010824	0.328299841	3.045995990	1.052511656	3.205946284
18° 11' 00"	0.31205857	0.95006287	0.328460969	3.044501765	1.052561926	3.204526641
18° 11' 30"	0.31219675	0.95001747	0.328622112	3.043008861	1.052612223	3.203108323

18° 12' 00"

18° 32' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
18° 12' 00"	0.31233492	0.94997205	0.328783271	3.041517279	1.052662548	3.201691328
18° 12' 30"	0.31247308	0.94992661	0.328944445	3.040027016	1.052712899	3.200275653
18° 13' 00"	0.31261124	0.94988116	0.329105635	3.038538070	1.052763278	3.198861298
18° 13' 30"	0.31274939	0.94983568	0.329266840	3.037050440	1.052813683	3.197448260
18° 14' 00"	0.31288754	0.94979018	0.329428060	3.035564123	1.052864116	3.196036537
18° 14' 30"	0.31302568	0.94974466	0.329589296	3.034079118	1.052914576	3.194626127
18° 15' 00"	0.31316381	0.94969913	0.329750547	3.032595423	1.052965063	3.193217030
18° 15' 30"	0.31330193	0.94965357	0.329911814	3.031113036	1.053015577	3.191809242
18° 16' 00"	0.31344005	0.94960799	0.330073096	3.029631956	1.053066118	3.190402763
18° 16' 30"	0.31357816	0.94956239	0.330234394	3.028152181	1.053116686	3.188997590
18° 17' 00"	0.31371627	0.94951677	0.330395707	3.026673708	1.053167282	3.187593722
18° 17' 30"	0.31385436	0.94947114	0.330557036	3.025196537	1.053217904	3.186191157
18° 18' 00"	0.31399246	0.94942548	0.330718380	3.023720665	1.053268554	3.184789892
18° 18' 30"	0.31413054	0.94937980	0.330879740	3.022246090	1.053319231	3.183389927
18° 19' 00"	0.31426862	0.94933410	0.331041115	3.020772811	1.053369935	3.181991260
18° 19' 30"	0.31440669	0.94928838	0.331202506	3.019300826	1.053420666	3.180593888
18° 20' 00"	0.31454476	0.94924264	0.331363912	3.017830134	1.053471425	3.179197810
18° 20' 30"	0.31468281	0.94919688	0.331525334	3.016360732	1.053522210	3.177803025
18° 21' 00"	0.31482087	0.94915111	0.331686772	3.014892618	1.053573023	3.176409530
18° 21' 30"	0.31495891	0.94910531	0.331848225	3.013425792	1.053623863	3.175017324
18° 22' 00"	0.31509695	0.94905949	0.332009694	3.011960251	1.053674730	3.173626404
18° 22' 30"	0.31523498	0.94901365	0.332171178	3.010495993	1.053725624	3.172236770
18° 23' 00"	0.31537301	0.94896779	0.332332678	3.009033017	1.053776546	3.170848419
18° 23' 30"	0.31551103	0.94892191	0.332494193	3.007571321	1.053827495	3.169461351
18° 24' 00"	0.31564904	0.94887601	0.332655724	3.006110903	1.053878471	3.168075562
18° 24' 30"	0.31578704	0.94883009	0.332817271	3.004651762	1.053929474	3.166691051
18° 25' 00"	0.31592504	0.94878415	0.332978833	3.003193896	1.053980504	3.165307817
18° 25' 30"	0.31606303	0.94873819	0.333140411	3.001737302	1.054031562	3.163925857
18° 26' 00"	0.31620102	0.94869221	0.333302005	3.000281980	1.054082647	3.162545171
18° 26' 30"	0.31633900	0.94864621	0.333463615	2.998827927	1.054133759	3.161165756
18° 27' 00"	0.31647697	0.94860019	0.333625240	2.997375143	1.054184899	3.159787611
18° 27' 30"	0.31661493	0.94855415	0.333786880	2.995923624	1.054236065	3.158410733
18° 28' 00"	0.31675289	0.94850810	0.333948537	2.994473370	1.054287259	3.157035122
18° 28' 30"	0.31689084	0.94846202	0.334110209	2.993024378	1.054338481	3.155660775
18° 29' 00"	0.31702879	0.94841592	0.334271897	2.991576648	1.054389729	3.154287691
18° 29' 30"	0.31716672	0.94836980	0.334433600	2.990130176	1.054441005	3.152915868
18° 30' 00"	0.31730466	0.94832366	0.334595320	2.988684963	1.054492308	3.151545305
18° 30' 30"	0.31744258	0.94827750	0.334757055	2.987241005	1.054543639	3.150175999
18° 31' 00"	0.31758050	0.94823131	0.334918805	2.985798301	1.054594996	3.148807949
18° 31' 30"	0.31771841	0.94818511	0.335080572	2.984356850	1.054646381	3.147441153
18° 32' 00"	0.31785632	0.94813889	0.335242354	2.982916650	1.054697794	3.146075610
18° 32' 30"	0.31799421	0.94809265	0.335404152	2.981477699	1.054749233	3.144711317

18° 33' 00"

18° 53' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
18° 33' 00"	0.31813210	0.94804639	0.335565966	2.980039995	1.054800700	3.143348274
18° 33' 30"	0.31826999	0.94800011	0.335727796	2.978603537	1.054852195	3.141986478
18° 34' 00"	0.31840787	0.94795381	0.335889641	2.977168323	1.054903717	3.140625929
18° 34' 30"	0.31854574	0.94790749	0.336051503	2.975734352	1.054955266	3.139266623
18° 35' 00"	0.31868360	0.94786115	0.336213380	2.974301621	1.055006842	3.137908560
18° 35' 30"	0.31882146	0.94781479	0.336375273	2.972870129	1.055058446	3.136551738
18° 36' 00"	0.31895931	0.94776841	0.336537181	2.971439875	1.055110077	3.135196155
18° 36' 30"	0.31909715	0.94772201	0.336699106	2.970010856	1.055161735	3.133841809
18° 37' 00"	0.31923499	0.94767559	0.336861047	2.968583071	1.055213421	3.132488699
18° 37' 30"	0.31937282	0.94762915	0.337023003	2.967156519	1.055265135	3.131136824
18° 38' 00"	0.31951064	0.94758269	0.337184975	2.965731198	1.055316875	3.129786181
18° 38' 30"	0.31964846	0.94753621	0.337346963	2.964307105	1.055368643	3.128436768
18° 39' 00"	0.31978627	0.94748970	0.337508967	2.962884240	1.055420439	3.127088585
18° 39' 30"	0.31992408	0.94744318	0.337670987	2.961462601	1.055472262	3.125741630
18° 40' 00"	0.32006187	0.94739664	0.337833023	2.960042186	1.055524112	3.124395900
18° 40' 30"	0.32019966	0.94735008	0.337995075	2.958622993	1.055575990	3.123051395
18° 41' 00"	0.32033744	0.94730350	0.338157143	2.957205022	1.055627895	3.121708113
18° 41' 30"	0.32047522	0.94725690	0.338319226	2.955788269	1.055679828	3.120366051
18° 42' 00"	0.32061299	0.94721028	0.338481326	2.954372735	1.055731788	3.119025209
18° 42' 30"	0.32075075	0.94716364	0.338643441	2.952958416	1.055783775	3.117685585
18° 43' 00"	0.32088851	0.94711698	0.338805573	2.951545311	1.055835790	3.116347177
18° 43' 30"	0.32102626	0.94707029	0.338967720	2.950133420	1.055887833	3.115009983
18° 44' 00"	0.32116400	0.94702359	0.339129884	2.948722739	1.055939903	3.113674002
18° 44' 30"	0.32130174	0.94697687	0.339292063	2.947313268	1.055992000	3.112339233
18° 45' 00"	0.32143947	0.94693013	0.339454259	2.945905005	1.056044125	3.111005673
18° 45' 30"	0.32157719	0.94688337	0.339616470	2.944497948	1.056096277	3.109673321
18° 46' 00"	0.32171490	0.94683659	0.339778698	2.943092095	1.056148457	3.108342176
18° 46' 30"	0.32185261	0.94678978	0.339940942	2.941687446	1.056200665	3.107012235
18° 47' 00"	0.32199031	0.94674296	0.340103201	2.940283998	1.056252899	3.105683498
18° 47' 30"	0.32212801	0.94669612	0.340265477	2.938881750	1.056305162	3.104355962
18° 48' 00"	0.32226570	0.94664926	0.340427769	2.937480700	1.056357452	3.103029627
18° 48' 30"	0.32240338	0.94660238	0.340590076	2.936080847	1.056409769	3.101704490
18° 49' 00"	0.32254105	0.94655548	0.340752400	2.934682189	1.056462114	3.100380549
18° 49' 30"	0.32267872	0.94650856	0.340914740	2.933284725	1.056514486	3.099057805
18° 50' 00"	0.32281638	0.94646161	0.341077096	2.931888452	1.056566887	3.097736253
18° 50' 30"	0.32295403	0.94641465	0.341239469	2.930493370	1.056619314	3.096415894
18° 51' 00"	0.32309168	0.94636767	0.341401857	2.929099476	1.056671769	3.095096726
18° 51' 30"	0.32322932	0.94632067	0.341564261	2.927706770	1.056724252	3.093778746
18° 52' 00"	0.32336695	0.94627365	0.341726682	2.926315249	1.056776762	3.092461954
18° 52' 30"	0.32350458	0.94622660	0.341889119	2.924924912	1.056829300	3.091146347
18° 53' 00"	0.32364220	0.94617954	0.342051571	2.923535757	1.056881865	3.089831925
18° 53' 30"	0.32377981	0.94613246	0.342214041	2.922147784	1.056934458	3.088518685

18° 54' 00"

19° 14' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
18° 54' 00"	0.32391742	0.94608536	0.342376526	2.920760989	1.056987079	3.087206627
18° 54' 30"	0.32405502	0.94603824	0.342539027	2.919375373	1.057039727	3.085895748
18° 55' 00"	0.32419261	0.94599110	0.342701545	2.917990932	1.057092403	3.084586047
18° 55' 30"	0.32433019	0.94594393	0.342864079	2.916607667	1.057145107	3.083277523
18° 56' 00"	0.32446777	0.94589675	0.343026629	2.915225574	1.057197838	3.081970173
18° 56' 30"	0.32460535	0.94584955	0.343189195	2.913844653	1.057250596	3.080663997
18° 57' 00"	0.32474291	0.94580233	0.343351777	2.912464902	1.057303383	3.079358992
18° 57' 30"	0.32488047	0.94575509	0.343514376	2.911086319	1.057356197	3.078055158
18° 58' 00"	0.32501802	0.94570782	0.343676991	2.909708903	1.057409038	3.076752492
18° 58' 30"	0.32515556	0.94566054	0.343839622	2.908332652	1.057461907	3.075450994
18° 59' 00"	0.32529310	0.94561324	0.344002270	2.906957566	1.057514804	3.074150661
18° 59' 30"	0.32543063	0.94556592	0.344164933	2.905583641	1.057567729	3.072851493
19° 00' 00"	0.32556815	0.94551858	0.344327613	2.904210878	1.057620681	3.071553487
19° 00' 30"	0.32570567	0.94547121	0.344490310	2.902839273	1.057673661	3.070256642
19° 01' 00"	0.32584318	0.94542383	0.344653022	2.901468826	1.057726669	3.068960956
19° 01' 30"	0.32598068	0.94537643	0.344815751	2.900099536	1.057779704	3.067666429
19° 02' 00"	0.32611818	0.94532901	0.344978496	2.898731400	1.057832767	3.066373058
19° 02' 30"	0.32625567	0.94528157	0.345141258	2.897364417	1.057885858	3.065080842
19° 03' 00"	0.32639315	0.94523410	0.345304036	2.895998586	1.057938976	3.063789779
19° 03' 30"	0.32653063	0.94518662	0.345466830	2.894633905	1.057992122	3.062499868
19° 04' 00"	0.32666809	0.94513912	0.345629641	2.893270373	1.058045296	3.061211108
19° 04' 30"	0.32680556	0.94509160	0.345792468	2.891907987	1.058098498	3.059923497
19° 05' 00"	0.32694301	0.94504406	0.345955311	2.890546747	1.058151727	3.058637033
19° 05' 30"	0.32708046	0.94499649	0.346118171	2.889186652	1.058204984	3.057351715
19° 06' 00"	0.32721790	0.94494891	0.346281047	2.887827699	1.058258269	3.056067541
19° 06' 30"	0.32735533	0.94490131	0.346443940	2.886469887	1.058311581	3.054784511
19° 07' 00"	0.32749276	0.94485369	0.346606849	2.885113214	1.058364922	3.053502621
19° 07' 30"	0.32763018	0.94480605	0.346769774	2.883757680	1.058418290	3.052221872
19° 08' 00"	0.32776759	0.94475838	0.346932716	2.882403282	1.058471686	3.050942261
19° 08' 30"	0.32790500	0.94471070	0.347095675	2.881050020	1.058525109	3.049663787
19° 09' 00"	0.32804240	0.94466300	0.347258649	2.879697891	1.058578561	3.048386449
19° 09' 30"	0.32817979	0.94461528	0.347421641	2.878346894	1.058632040	3.047110244
19° 10' 00"	0.32831718	0.94456754	0.347584648	2.876997028	1.058685547	3.045835172
19° 10' 30"	0.32845455	0.94451978	0.347747672	2.875648291	1.058739082	3.044561232
19° 11' 00"	0.32859192	0.94447199	0.347910713	2.874300682	1.058792645	3.043288420
19° 11' 30"	0.32872929	0.94442419	0.348073770	2.872954199	1.058846235	3.042016737
19° 12' 00"	0.32886665	0.94437637	0.348236844	2.871608841	1.058899853	3.040746181
19° 12' 30"	0.32900400	0.94432853	0.348399934	2.870264606	1.058953500	3.039476749
19° 13' 00"	0.32914134	0.94428067	0.348563041	2.868921493	1.059007174	3.038208442
19° 13' 30"	0.32927868	0.94423279	0.348726164	2.867579501	1.059060875	3.036941256
19° 14' 00"	0.32941601	0.94418488	0.348889304	2.866238627	1.059114605	3.035675192
19° 14' 30"	0.32955333	0.94413696	0.349052460	2.864898871	1.059168363	3.034410246

19° 15' 00"

19° 35' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
19° 15' 00"	0.32969065	0.94408902	0.349215633	2.863560231	1.059222148	3.033146419
19° 15' 30"	0.32982795	0.94404106	0.349378823	2.862222706	1.059275961	3.031883708
19° 16' 00"	0.32996526	0.94399308	0.349542029	2.860886294	1.059329802	3.030622112
19° 16' 30"	0.33010255	0.94394508	0.349705252	2.859550993	1.059383671	3.029361629
19° 17' 00"	0.33023984	0.94389705	0.349868491	2.858216803	1.059437568	3.028102259
19° 17' 30"	0.33037712	0.94384901	0.350031747	2.856883721	1.059491493	3.026843999
19° 18' 00"	0.33051439	0.94380095	0.350195020	2.855551747	1.059545446	3.025586849
19° 18' 30"	0.33065166	0.94375287	0.350358309	2.854220879	1.059599426	3.024330806
19° 19' 00"	0.33078892	0.94370477	0.350521615	2.852891115	1.059653435	3.023075870
19° 19' 30"	0.33092617	0.94365665	0.350684937	2.851562455	1.059707471	3.021822039
19° 20' 00"	0.33106342	0.94360851	0.350848276	2.850234896	1.059761536	3.020569311
19° 20' 30"	0.33120066	0.94356035	0.351011632	2.848908437	1.059815628	3.019317685
19° 21' 00"	0.33133789	0.94351216	0.351175005	2.847583077	1.059869749	3.018067160
19° 21' 30"	0.33147511	0.94346396	0.351338394	2.846258815	1.059923897	3.016817734
19° 22' 00"	0.33161233	0.94341574	0.351501800	2.844935648	1.059978073	3.015569406
19° 22' 30"	0.33174954	0.94336750	0.351665222	2.843613576	1.060032277	3.014322174
19° 23' 00"	0.33188675	0.94331924	0.351828661	2.842292597	1.060086509	3.013076038
19° 23' 30"	0.33202394	0.94327096	0.351992118	2.840972710	1.060140769	3.011830994
19° 24' 00"	0.33216113	0.94322266	0.352155590	2.839653913	1.060195057	3.010587043
19° 24' 30"	0.33229831	0.94317434	0.352319080	2.838336205	1.060249373	3.009344183
19° 25' 00"	0.33243549	0.94312600	0.352482586	2.837019585	1.060303718	3.008102413
19° 25' 30"	0.33257266	0.94307764	0.352646109	2.835704050	1.060358090	3.006861730
19° 26' 00"	0.33270982	0.94302925	0.352809649	2.834389601	1.060412490	3.005622133
19° 26' 30"	0.33284697	0.94298085	0.352973206	2.833076234	1.060466918	3.004383622
19° 27' 00"	0.33298412	0.94293243	0.353136779	2.831763950	1.060521374	3.003146195
19° 27' 30"	0.33312126	0.94288399	0.353300369	2.830452746	1.060575858	3.001909850
19° 28' 00"	0.33325840	0.94283553	0.353463976	2.829142621	1.060630370	3.000674586
19° 28' 30"	0.33339552	0.94278705	0.353627600	2.827833574	1.060684911	2.999440402
19° 29' 00"	0.33353264	0.94273855	0.353791241	2.826525603	1.060739479	2.998207296
19° 29' 30"	0.33366975	0.94269003	0.353954898	2.825218708	1.060794075	2.996975266
19° 30' 00"	0.33380686	0.94264149	0.354118573	2.823912886	1.060848700	2.995744312
19° 30' 30"	0.33394396	0.94259293	0.354282264	2.822608136	1.060903352	2.994514433
19° 31' 00"	0.33408105	0.94254435	0.354445972	2.821304457	1.060958033	2.993285626
19° 31' 30"	0.33421813	0.94249575	0.354609697	2.820001847	1.061012741	2.992057890
19° 32' 00"	0.33435521	0.94244713	0.354773439	2.818700306	1.061067478	2.990831224
19° 32' 30"	0.33449228	0.94239849	0.354937197	2.817399831	1.061122243	2.989605627
19° 33' 00"	0.33462934	0.94234983	0.355100973	2.816100421	1.061177036	2.988381097
19° 33' 30"	0.33476640	0.94230115	0.355264766	2.814802076	1.061231857	2.987157633
19° 34' 00"	0.33490345	0.94225245	0.355428575	2.813504793	1.061286706	2.985935234
19° 34' 30"	0.33504049	0.94220373	0.355592402	2.812208572	1.061341583	2.984713898
19° 35' 00"	0.33517752	0.94215499	0.355756245	2.810913410	1.061396489	2.983493623
19° 35' 30"	0.33531455	0.94210623	0.355920105	2.809619307	1.061451422	2.982274409



19° 36' 00"

19° 56' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
19° 36' 00"	0.33545157	0.94205745	0.356083983	2.808326261	1.061506384	2.981056254
19° 36' 30"	0.33558858	0.94200865	0.356247877	2.807034272	1.061561374	2.979839157
19° 37' 00"	0.33572559	0.94195983	0.356411788	2.805743336	1.061616392	2.978623116
19° 37' 30"	0.33586259	0.94191099	0.356575717	2.804453454	1.061671438	2.977408131
19° 38' 00"	0.33599958	0.94186214	0.356739662	2.803164624	1.061726512	2.976194199
19° 38' 30"	0.33613656	0.94181326	0.356903624	2.801876844	1.061781615	2.974981319
19° 39' 00"	0.33627354	0.94176436	0.357067603	2.800590113	1.061836745	2.973769490
19° 39' 30"	0.33641051	0.94171544	0.357231600	2.799304430	1.061891904	2.972558711
19° 40' 00"	0.33654748	0.94166650	0.357395613	2.798019794	1.061947091	2.971348981
19° 40' 30"	0.33668443	0.94161754	0.357559644	2.796736203	1.062002306	2.970140298
19° 41' 00"	0.33682138	0.94156856	0.357723691	2.795453655	1.062057550	2.968932660
19° 41' 30"	0.33695832	0.94151956	0.357887756	2.794172150	1.062112822	2.967726066
19° 42' 00"	0.33709526	0.94147054	0.358051837	2.792891687	1.062168121	2.966520516
19° 42' 30"	0.33723219	0.94142151	0.358215936	2.791612263	1.062223450	2.965316008
19° 43' 00"	0.33736911	0.94137245	0.358380052	2.790333877	1.062278806	2.964112539
19° 43' 30"	0.33750602	0.94132337	0.358544185	2.789056529	1.062334191	2.962910110
19° 44' 00"	0.33764293	0.94127427	0.358708335	2.787780217	1.062389603	2.961708719
19° 44' 30"	0.33777983	0.94122515	0.358872502	2.786504939	1.062445045	2.960508364
19° 45' 00"	0.33791672	0.94117602	0.359036687	2.785230695	1.062500514	2.959309045
19° 45' 30"	0.33805360	0.94112686	0.359200888	2.783957482	1.062556012	2.958110759
19° 46' 00"	0.33819048	0.94107768	0.359365107	2.782685301	1.062611538	2.956913506
19° 46' 30"	0.33832735	0.94102848	0.359529343	2.781414148	1.062667092	2.955717284
19° 47' 00"	0.33846421	0.94097926	0.359693596	2.780144024	1.062722674	2.954522092
19° 47' 30"	0.33860107	0.94093003	0.359857866	2.778874926	1.062778285	2.953327929
19° 48' 00"	0.33873792	0.94088077	0.360022153	2.777606854	1.062833924	2.952134793
19° 48' 30"	0.33887476	0.94083149	0.360186458	2.776339806	1.062889592	2.950942683
19° 49' 00"	0.33901160	0.94078219	0.360350779	2.775073781	1.062945288	2.949751598
19° 49' 30"	0.33914842	0.94073288	0.360515119	2.773808777	1.063001012	2.948561536
19° 50' 00"	0.33928525	0.94068354	0.360679475	2.772544794	1.063056764	2.947372497
19° 50' 30"	0.33942206	0.94063418	0.360843848	2.771281829	1.063112545	2.946184478
19° 51' 00"	0.33955886	0.94058481	0.361008239	2.770019883	1.063168354	2.944997479
19° 51' 30"	0.33969566	0.94053541	0.361172647	2.768758953	1.063224191	2.943811498
19° 52' 00"	0.33983246	0.94048599	0.361337072	2.767499038	1.063280057	2.942626535
19° 52' 30"	0.33996924	0.94043656	0.361501515	2.766240136	1.063335951	2.941442587
19° 53' 00"	0.34010602	0.94038710	0.361665975	2.764982248	1.063391874	2.940259654
19° 53' 30"	0.34024279	0.94033762	0.361830452	2.763725371	1.063447825	2.939077734
19° 54' 00"	0.34037955	0.94028813	0.361994946	2.762469503	1.063503804	2.937896825
19° 54' 30"	0.34051631	0.94023861	0.362159458	2.761214645	1.063559812	2.936716928
19° 55' 00"	0.34065305	0.94018907	0.362323987	2.759960794	1.063615848	2.935538040
19° 55' 30"	0.34078980	0.94013952	0.362488534	2.758707949	1.063671912	2.934360160
19° 56' 00"	0.34092653	0.94008994	0.362653098	2.757456109	1.063728005	2.933183287
19° 56' 30"	0.34106326	0.94004035	0.362817679	2.756205273	1.063784127	2.932007420

19° 57' 00"

20° 17' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
19° 57' 00"	0.34119998	0.93999073	0.362982278	2.754955440	1.063840276	2.930832557
19° 57' 30"	0.34133669	0.93994110	0.363146893	2.753706607	1.063896455	2.929658697
19° 58' 00"	0.34147339	0.93989144	0.363311527	2.752458775	1.063952661	2.928485839
19° 58' 30"	0.34161009	0.93984177	0.363476178	2.751211941	1.064008896	2.927313981
19° 59' 00"	0.34174678	0.93979207	0.363640846	2.749966105	1.064065160	2.926143123
19° 59' 30"	0.34188347	0.93974236	0.363805531	2.748721265	1.064121452	2.924973263
20° 00' 00"	0.34202014	0.93969262	0.363970234	2.747477419	1.064177772	2.923804400
20° 00' 30"	0.34215681	0.93964287	0.364134955	2.746234568	1.064234121	2.922636533
20° 01' 00"	0.34229347	0.93959309	0.364299693	2.744992709	1.064290499	2.921469660
20° 01' 30"	0.34243013	0.93954330	0.364464448	2.743751841	1.064346905	2.920303780
20° 02' 00"	0.34256678	0.93949348	0.364629221	2.742511963	1.064403339	2.919138892
20° 02' 30"	0.34270342	0.93944365	0.364794011	2.741273074	1.064459802	2.917974994
20° 03' 00"	0.34284005	0.93939379	0.364958819	2.740035172	1.064516294	2.916812086
20° 03' 30"	0.34297668	0.93934392	0.365123644	2.738798257	1.064572814	2.915650166
20° 04' 00"	0.34311329	0.93929403	0.365288487	2.737562327	1.064629362	2.914489234
20° 04' 30"	0.34324990	0.93924411	0.365453347	2.736327380	1.064685939	2.913329286
20° 05' 00"	0.34338651	0.93919418	0.365618225	2.735093416	1.064742545	2.912170324
20° 05' 30"	0.34352311	0.93914423	0.365783120	2.733860434	1.064799179	2.911012345
20° 06' 00"	0.34365969	0.93909425	0.365948033	2.732628431	1.064855841	2.909855347
20° 06' 30"	0.34379628	0.93904426	0.366112964	2.731397408	1.064912533	2.908699331
20° 07' 00"	0.34393285	0.93899425	0.366277912	2.730167362	1.064969252	2.907544294
20° 07' 30"	0.34406942	0.93894421	0.366442877	2.728938293	1.065026001	2.906390236
20° 08' 00"	0.34420598	0.93889416	0.366607861	2.727710198	1.065082778	2.905237155
20° 08' 30"	0.34434253	0.93884409	0.366772861	2.726483078	1.065139583	2.904085050
20° 09' 00"	0.34447908	0.93879399	0.366937880	2.725256931	1.065196417	2.902933920
20° 09' 30"	0.34461562	0.93874388	0.367102916	2.724031756	1.065253280	2.901783763
20° 10' 00"	0.34475215	0.93869375	0.367267969	2.722807551	1.065310171	2.900634578
20° 10' 30"	0.34488867	0.93864360	0.367433041	2.721584315	1.065367091	2.899486365
20° 11' 00"	0.34502519	0.93859343	0.367598129	2.720362047	1.065424040	2.898339122
20° 11' 30"	0.34516170	0.93854323	0.367763236	2.719140746	1.065481017	2.897192848
20° 12' 00"	0.34529820	0.93849302	0.367928360	2.717920410	1.065538023	2.896047541
20° 12' 30"	0.34543469	0.93844279	0.368093502	2.716701040	1.065595057	2.894903200
20° 13' 00"	0.34557118	0.93839254	0.368258662	2.715482632	1.065652121	2.893759825
20° 13' 30"	0.34570766	0.93834227	0.368423839	2.714265186	1.065709212	2.892617413
20° 14' 00"	0.34584413	0.93829198	0.368589034	2.713048701	1.065766333	2.891475965
20° 14' 30"	0.34598060	0.93824167	0.368754247	2.711833176	1.065823482	2.890335478
20° 15' 00"	0.34611706	0.93819134	0.368919477	2.710618609	1.065880660	2.889195951
20° 15' 30"	0.34625351	0.93814099	0.369084725	2.709405000	1.065937866	2.888057384
20° 16' 00"	0.34638995	0.93809061	0.369249991	2.708192347	1.065995101	2.886919775
20° 16' 30"	0.34652639	0.93804022	0.369415275	2.706980648	1.066052365	2.885783122
20° 17' 00"	0.34666282	0.93798981	0.369580576	2.705769904	1.066109658	2.884647426
20° 17' 30"	0.34679924	0.93793938	0.369745895	2.704560112	1.066166979	2.883512684

20° 18' 00"

20° 38' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
20° 18' 00"	0.34693565	0.93788893	0.369911232	2.703351271	1.066224329	2.882378895
20° 18' 30"	0.34707206	0.93783846	0.370076587	2.702143381	1.066281708	2.881246058
20° 19' 00"	0.34720846	0.93778798	0.370241960	2.700936439	1.066339115	2.880114173
20° 19' 30"	0.34734485	0.93773747	0.370407350	2.699730446	1.066396551	2.878983237
20° 20' 00"	0.34748123	0.93768694	0.370572758	2.698525399	1.066454016	2.877853250
20° 20' 30"	0.34761761	0.93763639	0.370738184	2.697321298	1.066511510	2.876724210
20° 21' 00"	0.34775398	0.93758582	0.370903628	2.696118141	1.066569033	2.875596117
20° 21' 30"	0.34789034	0.93753523	0.371069090	2.694915927	1.066626584	2.874468969
20° 22' 00"	0.34802670	0.93748462	0.371234569	2.693714656	1.066684164	2.873342765
20° 22' 30"	0.34816305	0.93743399	0.371400067	2.692514325	1.066741773	2.872217504
20° 23' 00"	0.34829939	0.93738335	0.371565582	2.691314934	1.066799410	2.871093185
20° 23' 30"	0.34843572	0.93733268	0.371731115	2.690116482	1.066857077	2.869969806
20° 24' 00"	0.34857205	0.93728199	0.371896666	2.688918967	1.066914772	2.868847367
20° 24' 30"	0.34870837	0.93723128	0.372062235	2.687722389	1.066972496	2.867725865
20° 25' 00"	0.34884468	0.93718055	0.372227822	2.686526745	1.067030249	2.866605301
20° 25' 30"	0.34898098	0.93712981	0.372393427	2.685332036	1.067088030	2.865485673
20° 26' 00"	0.34911728	0.93707904	0.372559050	2.684138260	1.067145841	2.864366980
20° 26' 30"	0.34925357	0.93702825	0.372724691	2.682945415	1.067203680	2.863249221
20° 27' 00"	0.34938985	0.93697745	0.372890349	2.681753501	1.067261548	2.862132394
20° 27' 30"	0.34952612	0.93692662	0.373056026	2.680562516	1.067319445	2.861016498
20° 28' 00"	0.34966239	0.93687577	0.373221721	2.679372459	1.067377371	2.859901533
20° 28' 30"	0.34979865	0.93682491	0.373387433	2.678183330	1.067435326	2.858787496
20° 29' 00"	0.34993490	0.93677402	0.373553164	2.676995127	1.067493310	2.857674388
20° 29' 30"	0.35007114	0.93672311	0.373718913	2.675807849	1.067551322	2.856562207
20° 30' 00"	0.35020738	0.93667219	0.373884679	2.674621494	1.067609364	2.855450951
20° 30' 30"	0.35034361	0.93662124	0.374050464	2.673436062	1.067667434	2.854340620
20° 31' 00"	0.35047983	0.93657028	0.374216267	2.672251552	1.067725533	2.853231213
20° 31' 30"	0.35061605	0.93651929	0.374382088	2.671067962	1.067783661	2.852122728
20° 32' 00"	0.35075226	0.93646829	0.374547927	2.669885291	1.067841819	2.851015164
20° 32' 30"	0.35088846	0.93641726	0.374713784	2.668703538	1.067900004	2.849908520
20° 33' 00"	0.35102465	0.93636622	0.374879659	2.667522703	1.067958219	2.848802796
20° 33' 30"	0.35116083	0.93631515	0.375045552	2.666342783	1.068016463	2.847697989
20° 34' 00"	0.35129701	0.93626407	0.375211463	2.665163778	1.068074736	2.846594099
20° 34' 30"	0.35143318	0.93621297	0.375377392	2.663985687	1.068133038	2.845491125
20° 35' 00"	0.35156934	0.93616184	0.375543340	2.662808508	1.068191369	2.844389065
20° 35' 30"	0.35170550	0.93611070	0.375709305	2.661632241	1.068249728	2.843287919
20° 36' 00"	0.35184165	0.93605954	0.375875289	2.660456884	1.068308117	2.842187685
20° 36' 30"	0.35197779	0.93600835	0.376041291	2.659282437	1.068366535	2.841088362
20° 37' 00"	0.35211392	0.93595715	0.376207311	2.658108898	1.068424981	2.839989949
20° 37' 30"	0.35225005	0.93590593	0.376373349	2.656936265	1.068483457	2.838892446
20° 38' 00"	0.35238617	0.93585468	0.376539405	2.655764539	1.068541962	2.837795850
20° 38' 30"	0.35252228	0.93580342	0.376705480	2.654593717	1.068600495	2.836700161

20° 39' 00"

20° 59' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
20° 39' 00"	0.35265838	0.93575214	0.376871573	2.653423800	1.068659058	2.835605378
20° 39' 30"	0.35279448	0.93570084	0.377037684	2.652254784	1.068717650	2.834511500
20° 40' 00"	0.35293056	0.93564952	0.377203813	2.651086671	1.068776270	2.833418525
20° 40' 30"	0.35306665	0.93559817	0.377369960	2.649919458	1.068834920	2.832326452
20° 41' 00"	0.35320272	0.93554681	0.377536126	2.648753144	1.068893599	2.831235281
20° 41' 30"	0.35333879	0.93549543	0.377702310	2.647587729	1.068952307	2.830145010
20° 42' 00"	0.35347484	0.93544403	0.377868512	2.646423210	1.069011044	2.829055639
20° 42' 30"	0.35361089	0.93539261	0.378034732	2.645259588	1.069069810	2.827967165
20° 43' 00"	0.35374694	0.93534117	0.378200971	2.644096861	1.069128605	2.826879589
20° 43' 30"	0.35388297	0.93528971	0.378367228	2.642935028	1.069187429	2.825792909
20° 44' 00"	0.35401900	0.93523823	0.378533503	2.641774088	1.069246283	2.824707123
20° 44' 30"	0.35415502	0.93518673	0.378699797	2.640614039	1.069305165	2.823622231
20° 45' 00"	0.35429104	0.93513521	0.378866109	2.639454881	1.069364077	2.822538232
20° 45' 30"	0.35442704	0.93508367	0.379032439	2.638296613	1.069423017	2.821455125
20° 46' 00"	0.35456304	0.93503211	0.379198788	2.637139234	1.069481987	2.820372908
20° 46' 30"	0.35469903	0.93498053	0.379365154	2.635982742	1.069540986	2.819291580
20° 47' 00"	0.35483502	0.93492893	0.379531540	2.634827136	1.069600014	2.818211141
20° 47' 30"	0.35497099	0.93487731	0.379697943	2.633672416	1.069659071	2.817131590
20° 48' 00"	0.35510696	0.93482568	0.379864365	2.632518580	1.069718157	2.816052925
20° 48' 30"	0.35524292	0.93477402	0.380030806	2.631365627	1.069777273	2.814975144
20° 49' 00"	0.35537888	0.93472234	0.380197265	2.630213557	1.069836417	2.813898249
20° 49' 30"	0.35551482	0.93467064	0.380363742	2.629062367	1.069895591	2.812822236
20° 50' 00"	0.35565076	0.93461893	0.380530238	2.627912058	1.069954794	2.811747105
20° 50' 30"	0.35578669	0.93456719	0.380696752	2.626762627	1.070014026	2.810672856
20° 51' 00"	0.35592262	0.93451543	0.380863284	2.625614075	1.070073288	2.809599486
20° 51' 30"	0.35605853	0.93446365	0.381029835	2.624466399	1.070132578	2.808526995
20° 52' 00"	0.35619444	0.93441186	0.381196405	2.623319600	1.070191898	2.807455382
20° 52' 30"	0.35633034	0.93436004	0.381362993	2.622173675	1.070251247	2.806384646
20° 53' 00"	0.35646624	0.93430821	0.381529599	2.621028623	1.070310625	2.805314785
20° 53' 30"	0.35660212	0.93425635	0.381696224	2.619884445	1.070370033	2.804245800
20° 54' 00"	0.35673800	0.93420447	0.381862867	2.618741138	1.070429470	2.803177688
20° 54' 30"	0.35687387	0.93415258	0.382029529	2.617598702	1.070488936	2.802110448
20° 55' 00"	0.35700973	0.93410066	0.382196210	2.616457135	1.070548431	2.801044080
20° 55' 30"	0.35714559	0.93404873	0.382362909	2.615316437	1.070607955	2.799978583
20° 56' 00"	0.35728144	0.93399677	0.382529626	2.614176606	1.070667509	2.798913955
20° 56' 30"	0.35741728	0.93394480	0.382696362	2.613037642	1.070727092	2.797850196
20° 57' 00"	0.35755311	0.93389281	0.382863117	2.611899543	1.070786704	2.796787304
20° 57' 30"	0.35768894	0.93384079	0.383029890	2.610762308	1.070846346	2.795725278
20° 58' 00"	0.35782475	0.93378876	0.383196682	2.609625937	1.070906017	2.794664118
20° 58' 30"	0.35796056	0.93373671	0.383363492	2.608490428	1.070965717	2.793603822
20° 59' 00"	0.35809637	0.93368463	0.383530321	2.607355780	1.071025447	2.792544389
20° 59' 30"	0.35823216	0.93363254	0.383697169	2.606221993	1.071085205	2.791485819

21° 00' 00"

21° 20' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
21° 00' 00"	0.35836795	0.93358043	0.383864035	2.605089065	1.071144994	2.790428110
21° 00' 30"	0.35850373	0.93352829	0.384030920	2.603956995	1.071204811	2.789371261
21° 01' 00"	0.35863950	0.93347614	0.384197823	2.602825782	1.071264658	2.788315271
21° 01' 30"	0.35877527	0.93342397	0.384364746	2.601695425	1.071324534	2.787260140
21° 02' 00"	0.35891102	0.93337178	0.384531686	2.600565924	1.071384440	2.786205865
21° 02' 30"	0.35904677	0.93331957	0.384698646	2.599437276	1.071444375	2.785152447
21° 03' 00"	0.35918252	0.93326734	0.384865624	2.598309482	1.071504339	2.784099884
21° 03' 30"	0.35931825	0.93321509	0.385032621	2.597182540	1.071564333	2.783048175
21° 04' 00"	0.35945398	0.93316281	0.385199636	2.596056449	1.071624356	2.781997319
21° 04' 30"	0.35958970	0.93311052	0.385366671	2.594931207	1.071684408	2.780947315
21° 05' 00"	0.35972541	0.93305821	0.385533724	2.593806815	1.071744490	2.779898163
21° 05' 30"	0.35986111	0.93300588	0.385700795	2.592683271	1.071804601	2.778849860
21° 06' 00"	0.35999681	0.93295353	0.385867886	2.591560574	1.071864742	2.777802407
21° 06' 30"	0.36013250	0.93290117	0.386034995	2.590438723	1.071924912	2.776755801
21° 07' 00"	0.36026818	0.93284878	0.386202123	2.589317718	1.071985112	2.775710043
21° 07' 30"	0.36040385	0.93279637	0.386369270	2.588197556	1.072045341	2.774665131
21° 08' 00"	0.36053952	0.93274394	0.386536436	2.587078237	1.072105599	2.773621063
21° 08' 30"	0.36067518	0.93269149	0.386703620	2.585959760	1.072165887	2.772577840
21° 09' 00"	0.36081083	0.93263902	0.386870823	2.584842124	1.072226205	2.771535460
21° 09' 30"	0.36094647	0.93258654	0.387038045	2.583725328	1.072286551	2.770493922
21° 10' 00"	0.36108210	0.93253403	0.387205286	2.582609372	1.072346928	2.769453225
21° 10' 30"	0.36121773	0.93248150	0.387372546	2.581494253	1.072407334	2.768413368
21° 11' 00"	0.36135335	0.93242895	0.387539824	2.580379971	1.072467769	2.767374351
21° 11' 30"	0.36148897	0.93237639	0.387707121	2.579266526	1.072528234	2.766336171
21° 12' 00"	0.36162457	0.93232380	0.387874438	2.578153915	1.072588728	2.765298828
21° 12' 30"	0.36176017	0.93227120	0.388041773	2.577042139	1.072649252	2.764262322
21° 13' 00"	0.36189576	0.93221857	0.388209127	2.575931196	1.072709805	2.763226651
21° 13' 30"	0.36203134	0.93216592	0.388376500	2.574821084	1.072770388	2.762191814
21° 14' 00"	0.36216691	0.93211326	0.388543891	2.573711804	1.072831000	2.761157810
21° 14' 30"	0.36230248	0.93206057	0.388711302	2.572603355	1.072891642	2.760124639
21° 15' 00"	0.36243804	0.93200787	0.388878732	2.571495734	1.072952314	2.759092298
21° 15' 30"	0.36257359	0.93195514	0.389046180	2.570388942	1.073013015	2.758060788
21° 16' 00"	0.36270913	0.93190240	0.389213648	2.569282976	1.073073746	2.757030107
21° 16' 30"	0.36284467	0.93184964	0.389381135	2.568177837	1.073134506	2.756000255
21° 17' 00"	0.36298020	0.93179685	0.389548640	2.567073524	1.073195296	2.754971230
21° 17' 30"	0.36311572	0.93174405	0.389716164	2.565970034	1.073256115	2.753943031
21° 18' 00"	0.36325123	0.93169123	0.389883708	2.564867368	1.073316964	2.752915658
21° 18' 30"	0.36338674	0.93163838	0.390051270	2.563765525	1.073377843	2.751889109
21° 19' 00"	0.36352223	0.93158552	0.390218852	2.562664503	1.073438751	2.750863383
21° 19' 30"	0.36365772	0.93153264	0.390386452	2.561564301	1.073499689	2.749838480
21° 20' 00"	0.36379320	0.93147974	0.390554072	2.560464919	1.073560656	2.748814399
21° 20' 30"	0.36392868	0.93142682	0.390721711	2.559366355	1.073621654	2.747791138

21° 21' 00"

21° 41' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
21° 21' 00"	0.36406415	0.93137388	0.390889368	2.558268609	1.073682680	2.746768697
21° 21' 30"	0.36419961	0.93132092	0.391057045	2.557171679	1.073743737	2.745747074
21° 22' 00"	0.36433506	0.93126793	0.391224741	2.556075565	1.073804823	2.744726270
21° 22' 30"	0.36447050	0.93121493	0.391392455	2.554980266	1.073865939	2.743706282
21° 23' 00"	0.36460594	0.93116191	0.391560189	2.553885781	1.073927084	2.742687109
21° 23' 30"	0.36474136	0.93110888	0.391727942	2.552792108	1.073988259	2.741668752
21° 24' 00"	0.36487678	0.93105582	0.391895715	2.551699247	1.074049464	2.740651209
21° 24' 30"	0.36501220	0.93100274	0.392063506	2.550607197	1.074110699	2.739634478
21° 25' 00"	0.36514760	0.93094964	0.392231316	2.549515957	1.074171963	2.738618560
21° 25' 30"	0.36528300	0.93089652	0.392399146	2.548425526	1.074233257	2.737603452
21° 26' 00"	0.36541839	0.93084338	0.392566995	2.547335903	1.074294580	2.736589155
21° 26' 30"	0.36555377	0.93079022	0.392734863	2.546247087	1.074355934	2.735575667
21° 27' 00"	0.36568914	0.93073705	0.392902750	2.545159077	1.074417317	2.734562987
21° 27' 30"	0.36582451	0.93068385	0.393070656	2.544071873	1.074478730	2.733551114
21° 28' 00"	0.36595987	0.93063063	0.393238581	2.542985473	1.074540172	2.732540048
21° 28' 30"	0.36609522	0.93057740	0.393406526	2.541899876	1.074601645	2.731529787
21° 29' 00"	0.36623056	0.93052414	0.393574490	2.540815081	1.074663147	2.730520331
21° 29' 30"	0.36636590	0.93047086	0.393742473	2.539731088	1.074724679	2.729511678
21° 30' 00"	0.36650123	0.93041757	0.393910476	2.538647896	1.074786241	2.728503828
21° 30' 30"	0.36663655	0.93036425	0.394078497	2.537565503	1.074847832	2.727496779
21° 31' 00"	0.36677186	0.93031092	0.394246538	2.536483909	1.074909453	2.726490531
21° 31' 30"	0.36690716	0.93025756	0.394414598	2.535403112	1.074971104	2.725485084
21° 32' 00"	0.36704246	0.93020419	0.394582678	2.534323112	1.075032785	2.724480434
21° 32' 30"	0.36717775	0.93015079	0.394750777	2.533243909	1.075094496	2.723476583
21° 33' 00"	0.36731303	0.93009738	0.394918895	2.532165500	1.075156237	2.722473529
21° 33' 30"	0.36744830	0.93004395	0.395087032	2.531087885	1.075218007	2.721471271
21° 34' 00"	0.36758357	0.92999049	0.395255189	2.530011063	1.075279807	2.720469809
21° 34' 30"	0.36771883	0.92993702	0.395423365	2.528935034	1.075341637	2.719469140
21° 35' 00"	0.36785408	0.92988353	0.395591560	2.527859796	1.075403497	2.718469265
21° 35' 30"	0.36798932	0.92983002	0.395759775	2.526785348	1.075465387	2.717470183
21° 36' 00"	0.36812455	0.92977649	0.395928009	2.525711689	1.075527307	2.716471892
21° 36' 30"	0.36825978	0.92972293	0.396096262	2.524638820	1.075589257	2.715474391
21° 37' 00"	0.36839500	0.92966936	0.396264535	2.523566737	1.075651236	2.714477680
21° 37' 30"	0.36853021	0.92961577	0.396432827	2.522495442	1.075713246	2.713481759
21° 38' 00"	0.36866541	0.92956216	0.396601139	2.521424932	1.075775285	2.712486624
21° 38' 30"	0.36880061	0.92950853	0.396769470	2.520355207	1.075837354	2.711492277
21° 39' 00"	0.36893580	0.92945488	0.396937821	2.519286266	1.075899453	2.710498716
21° 39' 30"	0.36907098	0.92940121	0.397106191	2.518218108	1.075961582	2.709505940
21° 40' 00"	0.36920615	0.92934752	0.397274580	2.517150733	1.076023741	2.708513949
21° 40' 30"	0.36934131	0.92929382	0.397442989	2.516084138	1.076085930	2.707522741
21° 41' 00"	0.36947647	0.92924009	0.397611417	2.515018324	1.076148149	2.706532315
21° 41' 30"	0.36961162	0.92918634	0.397779865	2.513953290	1.076210398	2.705542671

21° 42' 00"

22° 02' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
21° 42' 00"	0.36974676	0.92913257	0.397948332	2.512889034	1.076272677	2.704553807
21° 42' 30"	0.36988189	0.92907878	0.398116819	2.511825555	1.076334986	2.703565723
21° 43' 00"	0.37001702	0.92902498	0.398285325	2.510762853	1.076397325	2.702578418
21° 43' 30"	0.37015213	0.92897115	0.398453851	2.509700928	1.076459693	2.701591891
21° 44' 00"	0.37028724	0.92891730	0.398622397	2.508639777	1.076522092	2.700606141
21° 44' 30"	0.37042234	0.92886344	0.398790961	2.507579400	1.076584521	2.699621167
21° 45' 00"	0.37055744	0.92880955	0.398959546	2.506519797	1.076646980	2.698636969
21° 45' 30"	0.37069252	0.92875565	0.399128150	2.505460965	1.076709469	2.697653545
21° 46' 00"	0.37082760	0.92870172	0.399296774	2.504402905	1.076771988	2.696670894
21° 46' 30"	0.37096267	0.92864778	0.399465417	2.503345616	1.076834537	2.695689016
21° 47' 00"	0.37109773	0.92859381	0.399634080	2.502289096	1.076897116	2.694707910
21° 47' 30"	0.37123279	0.92853983	0.399802762	2.501233345	1.076959725	2.693727575
21° 48' 00"	0.37136784	0.92848583	0.399971464	2.500178362	1.077022364	2.692748010
21° 48' 30"	0.37150287	0.92843180	0.400140186	2.499124146	1.077085033	2.691769213
21° 49' 00"	0.37163791	0.92837776	0.400308927	2.498070696	1.077147732	2.690791185
21° 49' 30"	0.37177293	0.92832370	0.400477688	2.497018011	1.077210462	2.689813925
21° 50' 00"	0.37190794	0.92826962	0.400646469	2.495966091	1.077273221	2.688837430
21° 50' 30"	0.37204295	0.92821552	0.400815269	2.494914934	1.077336011	2.687861702
21° 51' 00"	0.37217795	0.92816139	0.400984089	2.493864539	1.077398830	2.686886738
21° 51' 30"	0.37231294	0.92810725	0.401152928	2.492814907	1.077461680	2.685912538
21° 52' 00"	0.37244793	0.92805309	0.401321788	2.491766035	1.077524560	2.684939100
21° 52' 30"	0.37258290	0.92799891	0.401490667	2.490717923	1.077587470	2.683966425
21° 53' 00"	0.37271787	0.92794471	0.401659566	2.489670570	1.077650410	2.682994511
21° 53' 30"	0.37285283	0.92789049	0.401828484	2.488623976	1.077713381	2.682023358
21° 54' 00"	0.37298778	0.92783625	0.401997423	2.487578139	1.077776381	2.681052964
21° 54' 30"	0.37312273	0.92778200	0.402166381	2.486533058	1.077839412	2.680083329
21° 55' 00"	0.37325766	0.92772772	0.402335358	2.485488733	1.077902473	2.679114451
21° 55' 30"	0.37339259	0.92767342	0.402504356	2.484445163	1.077965564	2.678146330
21° 56' 00"	0.37352751	0.92761910	0.402673373	2.483402346	1.078028685	2.677178966
21° 56' 30"	0.37366243	0.92756476	0.402842410	2.482360283	1.078091836	2.676212356
21° 57' 00"	0.37379733	0.92751041	0.403011467	2.481318972	1.078155018	2.675246501
21° 57' 30"	0.37393223	0.92745603	0.403180544	2.480278412	1.078218230	2.674281399
21° 58' 00"	0.37406712	0.92740163	0.403349641	2.479238603	1.078281472	2.673317050
21° 58' 30"	0.37420200	0.92734722	0.403518757	2.478199543	1.078344744	2.672353453
21° 59' 00"	0.37433687	0.92729278	0.403687894	2.477161232	1.078408047	2.671390606
21° 59' 30"	0.37447174	0.92723833	0.403857050	2.476123669	1.078471380	2.670428510
22° 00' 00"	0.37460659	0.92718385	0.404026226	2.475086853	1.078534743	2.669467163
22° 00' 30"	0.37474144	0.92712936	0.404195422	2.474050784	1.078598136	2.668506564
22° 01' 00"	0.37487628	0.92707485	0.404364638	2.473015459	1.078661560	2.667546712
22° 01' 30"	0.37501112	0.92702031	0.404533873	2.471980880	1.078725013	2.666587608
22° 02' 00"	0.37514594	0.92696576	0.404703129	2.470947043	1.078788498	2.665629249
22° 02' 30"	0.37528076	0.92691119	0.404872405	2.469913950	1.078852012	2.664671635

22° 03' 00"

22° 23' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
22° 03' 00"	0.37541557	0.92685660	0.405041700	2.468881599	1.078915557	2.663714765
22° 03' 30"	0.37555037	0.92680198	0.405211016	2.467849988	1.078979132	2.662758638
22° 04' 00"	0.37568517	0.92674735	0.405380351	2.466819118	1.079042737	2.661803254
22° 04' 30"	0.37581995	0.92669270	0.405549706	2.465788988	1.079106373	2.660848611
22° 05' 00"	0.37595473	0.92663803	0.405719082	2.464759596	1.079170039	2.659894710
22° 05' 30"	0.37608950	0.92658334	0.405888477	2.463730942	1.079233735	2.658941548
22° 06' 00"	0.37622426	0.92652863	0.406057892	2.462703025	1.079297462	2.657989125
22° 06' 30"	0.37635902	0.92647390	0.406227328	2.461675844	1.079361219	2.657037441
22° 07' 00"	0.37649376	0.92641915	0.406396783	2.460649398	1.079425007	2.656086493
22° 07' 30"	0.37662850	0.92636438	0.406566259	2.459623687	1.079488825	2.655136283
22° 08' 00"	0.37676323	0.92630960	0.406735754	2.458598709	1.079552673	2.654186808
22° 08' 30"	0.37689795	0.92625479	0.406905270	2.457574464	1.079616552	2.653238068
22° 09' 00"	0.37703267	0.92619996	0.407074805	2.456550951	1.079680461	2.652290062
22° 09' 30"	0.37716737	0.92614511	0.407244361	2.455528169	1.079744400	2.651342790
22° 10' 00"	0.37730207	0.92609025	0.407413937	2.454506118	1.079808370	2.650396250
22° 10' 30"	0.37743676	0.92603536	0.407583533	2.453484796	1.079872370	2.649450442
22° 11' 00"	0.37757145	0.92598046	0.407753148	2.452464202	1.079936401	2.648505364
22° 11' 30"	0.37770612	0.92592553	0.407922785	2.451444337	1.080000462	2.647561016
22° 12' 00"	0.37784079	0.92587058	0.408092441	2.450425198	1.080064554	2.646617398
22° 12' 30"	0.37797545	0.92581562	0.408262117	2.449406785	1.080128676	2.645674508
22° 13' 00"	0.37811010	0.92576064	0.408431814	2.448389098	1.080192828	2.644732345
22° 13' 30"	0.37824474	0.92570563	0.408601530	2.447372136	1.080257011	2.643790909
22° 14' 00"	0.37837937	0.92565061	0.408771267	2.446355897	1.080321225	2.642850199
22° 14' 30"	0.37851400	0.92559557	0.408941024	2.445340381	1.080385469	2.641910214
22° 15' 00"	0.37864862	0.92554050	0.409110801	2.444325587	1.080449743	2.640970953
22° 15' 30"	0.37878323	0.92548542	0.409280599	2.443311515	1.080514048	2.640032416
22° 16' 00"	0.37891783	0.92543032	0.409450417	2.442298163	1.080578384	2.639094602
22° 16' 30"	0.37905242	0.92537520	0.409620254	2.441285530	1.080642750	2.638157509
22° 17' 00"	0.37918701	0.92532006	0.409790112	2.440273617	1.080707146	2.637221137
22° 17' 30"	0.37932159	0.92526490	0.409959991	2.439262422	1.080771574	2.636285486
22° 18' 00"	0.37945616	0.92520972	0.410129889	2.438251943	1.080836031	2.635350553
22° 18' 30"	0.37959072	0.92515452	0.410299808	2.437242182	1.080900519	2.634416340
22° 19' 00"	0.37972528	0.92509930	0.410469748	2.436233135	1.080965038	2.633482844
22° 19' 30"	0.37985982	0.92504406	0.410639707	2.435224804	1.081029587	2.632550065
22° 20' 00"	0.37999436	0.92498880	0.410809687	2.434217187	1.081094167	2.631618003
22° 20' 30"	0.38012889	0.92493353	0.410979687	2.433210283	1.081158778	2.630686656
22° 21' 00"	0.38026341	0.92487823	0.411149707	2.432204091	1.081223419	2.629756023
22° 21' 30"	0.38039793	0.92482291	0.411319748	2.431198611	1.081288091	2.628826104
22° 22' 00"	0.38053243	0.92476757	0.411489809	2.430193842	1.081352793	2.627896899
22° 22' 30"	0.38066693	0.92471222	0.411659890	2.429189783	1.081417526	2.626968405
22° 23' 00"	0.38080142	0.92465684	0.411829992	2.428186433	1.081482290	2.626040623
22° 23' 30"	0.38093590	0.92460145	0.412000114	2.427183792	1.081547084	2.625113551



22° 24' 00"

22° 44' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
22° 24' 00"	0.38107038	0.92454603	0.412170257	2.426181858	1.081611909	2.624187190
22° 24' 30"	0.38120484	0.92449060	0.412340420	2.425180631	1.081676764	2.623261537
22° 25' 00"	0.38133930	0.92443515	0.412510603	2.424180110	1.081741650	2.622336593
22° 25' 30"	0.38147375	0.92437967	0.412680807	2.423180294	1.081806567	2.621412356
22° 26' 00"	0.38160819	0.92432418	0.412851032	2.422181183	1.081871515	2.620488826
22° 26' 30"	0.38174262	0.92426867	0.413021276	2.421182776	1.081936493	2.619566001
22° 27' 00"	0.38187705	0.92421313	0.413191541	2.420185071	1.082001502	2.618643882
22° 27' 30"	0.38201147	0.92415758	0.413361827	2.419188069	1.082066541	2.617722467
22° 28' 00"	0.38214588	0.92410201	0.413532133	2.418191768	1.082131612	2.616801756
22° 28' 30"	0.38228028	0.92404642	0.413702460	2.417196168	1.082196713	2.615881747
22° 29' 00"	0.38241467	0.92399081	0.413872807	2.416201267	1.082261845	2.614962440
22° 29' 30"	0.38254906	0.92393518	0.414043174	2.415207066	1.082327007	2.614043835
22° 30' 00"	0.38268343	0.92387953	0.414213562	2.414213562	1.082392200	2.613125930
22° 30' 30"	0.38281780	0.92382386	0.414383971	2.413220757	1.082457424	2.612208724
22° 31' 00"	0.38295216	0.92376818	0.414554400	2.412228647	1.082522679	2.611292218
22° 31' 30"	0.38308651	0.92371247	0.414724850	2.411237234	1.082587965	2.610376409
22° 32' 00"	0.38322086	0.92365674	0.414895320	2.410246516	1.082653281	2.609461298
22° 32' 30"	0.38335520	0.92360099	0.415065811	2.409256492	1.082718628	2.608546884
22° 33' 00"	0.38348952	0.92354523	0.415236323	2.408267162	1.082784006	2.607633165
22° 33' 30"	0.38362384	0.92348944	0.415406855	2.407278525	1.082849415	2.606720141
22° 34' 00"	0.38375816	0.92343363	0.415577407	2.406290579	1.082914854	2.605807812
22° 34' 30"	0.38389246	0.92337781	0.415747981	2.405303325	1.082980325	2.604896176
22° 35' 00"	0.38402676	0.92332197	0.415918574	2.404316762	1.083045826	2.603985232
22° 35' 30"	0.38416104	0.92326610	0.416089189	2.403330888	1.083111358	2.603074981
22° 36' 00"	0.38429532	0.92321022	0.416259824	2.402345703	1.083176921	2.602165421
22° 36' 30"	0.38442959	0.92315431	0.416430480	2.401361207	1.083242514	2.601256551
22° 37' 00"	0.38456386	0.92309839	0.416601157	2.400377397	1.083308139	2.600348371
22° 37' 30"	0.38469811	0.92304245	0.416771854	2.399394275	1.083373794	2.599440880
22° 38' 00"	0.38483236	0.92298649	0.416942572	2.398411839	1.083439481	2.598534077
22° 38' 30"	0.38496660	0.92293051	0.417113310	2.397430087	1.083505198	2.597627961
22° 39' 00"	0.38510083	0.92287450	0.417284070	2.396449020	1.083570946	2.596722532
22° 39' 30"	0.38523505	0.92281848	0.417454850	2.395468637	1.083636725	2.595817789
22° 40' 00"	0.38536927	0.92276244	0.417625651	2.394488937	1.083702535	2.594913730
22° 40' 30"	0.38550347	0.92270638	0.417796472	2.393509919	1.083768376	2.594010357
22° 41' 00"	0.38563767	0.92265031	0.417967314	2.392531582	1.083834247	2.593107667
22° 41' 30"	0.38577186	0.92259421	0.418138178	2.391553926	1.083900150	2.592205659
22° 42' 00"	0.38590604	0.92253809	0.418309061	2.390576950	1.083966084	2.591304334
22° 42' 30"	0.38604022	0.92248195	0.418479966	2.389600652	1.084032048	2.590403690
22° 43' 00"	0.38617438	0.92242579	0.418650892	2.388625034	1.084098044	2.589503727
22° 43' 30"	0.38630854	0.92236962	0.418821838	2.387650093	1.084164071	2.588604444
22° 44' 00"	0.38644269	0.92231342	0.418992805	2.386675829	1.084230128	2.587705839
22° 44' 30"	0.38657683	0.92225721	0.419163793	2.385702241	1.084296217	2.586807913

22° 45' 00''

23° 05' 30''

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
22° 45' 00''	0.38671096	0.92220097	0.419334802	2.384729328	1.084362336	2.585910665
22° 45' 30''	0.38684509	0.92214472	0.419505831	2.383757090	1.084428487	2.585014094
22° 46' 00''	0.38697920	0.92208844	0.419676882	2.382785526	1.084494668	2.584118198
22° 46' 30''	0.38711331	0.92203215	0.419847953	2.381814635	1.084560881	2.583222979
22° 47' 00''	0.38724741	0.92197584	0.420019046	2.380844417	1.084627124	2.582328433
22° 47' 30''	0.38738150	0.92191950	0.420190159	2.379874870	1.084693399	2.581434562
22° 48' 00''	0.38751559	0.92186315	0.420361293	2.378905995	1.084759705	2.580541364
22° 48' 30''	0.38764966	0.92180678	0.420532448	2.377937789	1.084826041	2.579648838
22° 49' 00''	0.38778373	0.92175039	0.420703624	2.376970253	1.084892409	2.578756984
22° 49' 30''	0.38791779	0.92169398	0.420874821	2.376003386	1.084958808	2.577865801
22° 50' 00''	0.38805184	0.92163755	0.421046039	2.375037187	1.085025238	2.576975289
22° 50' 30''	0.38818588	0.92158110	0.421217278	2.374071655	1.085091699	2.576085445
22° 51' 00''	0.38831992	0.92152463	0.421388538	2.373106789	1.085158191	2.575196271
22° 51' 30''	0.38845394	0.92146814	0.421559819	2.372142590	1.085224714	2.574307764
22° 52' 00''	0.38858796	0.92141163	0.421731121	2.371179055	1.085291269	2.573419925
22° 52' 30''	0.38872197	0.92135511	0.421902443	2.370216185	1.085357854	2.572532753
22° 53' 00''	0.38885597	0.92129856	0.422073787	2.369253979	1.085424471	2.571646246
22° 53' 30''	0.38898997	0.92124199	0.422245152	2.368292435	1.085491119	2.570760405
22° 54' 00''	0.38912395	0.92118541	0.422416538	2.367331554	1.085557798	2.569875228
22° 54' 30''	0.38925793	0.92112880	0.422587945	2.366371334	1.085624508	2.568990714
22° 55' 00''	0.38939190	0.92107218	0.422759373	2.365411775	1.085691249	2.568106864
22° 55' 30''	0.38952586	0.92101553	0.422930823	2.364452876	1.085758021	2.567223676
22° 56' 00''	0.38965981	0.92095887	0.423102293	2.363494636	1.085824825	2.566341149
22° 56' 30''	0.38979375	0.92090218	0.423273784	2.362537055	1.085891660	2.565459283
22° 57' 00''	0.38992769	0.92084548	0.423445297	2.361580131	1.085958526	2.564578078
22° 57' 30''	0.39006162	0.92078876	0.423616831	2.360623865	1.086025423	2.563697531
22° 58' 00''	0.39019553	0.92073202	0.423788385	2.359668255	1.086092351	2.562817644
22° 58' 30''	0.39032945	0.92067525	0.423959961	2.358713301	1.086159311	2.561938414
22° 59' 00''	0.39046335	0.92061847	0.424131558	2.357759002	1.086226302	2.561059841
22° 59' 30''	0.39059724	0.92056167	0.424303177	2.356805357	1.086293324	2.560181925
23° 00' 00''	0.39073113	0.92050485	0.424474816	2.355852366	1.086360377	2.559304665
23° 00' 30''	0.39086501	0.92044801	0.424646477	2.354900027	1.086427462	2.558428060
23° 01' 00''	0.39099888	0.92039116	0.424818159	2.353948341	1.086494578	2.557552109
23° 01' 30''	0.39113274	0.92033428	0.424989862	2.352997306	1.086561725	2.556676812
23° 02' 00''	0.39126659	0.92027738	0.425161586	2.352046922	1.086628904	2.555802168
23° 02' 30''	0.39140044	0.92022046	0.425333332	2.351097188	1.086696113	2.554928176
23° 03' 00''	0.39153427	0.92016353	0.425505098	2.350148103	1.086763355	2.554054836
23° 03' 30''	0.39166810	0.92010657	0.425676887	2.349199667	1.086830627	2.553182147
23° 04' 00''	0.39180192	0.92004959	0.425848696	2.348251878	1.086897931	2.552310108
23° 04' 30''	0.39193573	0.91999260	0.426020526	2.347304737	1.086965266	2.551438718
23° 05' 00''	0.39206953	0.91993558	0.426192378	2.346358243	1.087032632	2.550567977
23° 05' 30''	0.39220333	0.91987855	0.426364252	2.345412394	1.087100030	2.549697884

23° 06' 00"

23° 26' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
23° 06' 00"	0.39233712	0.91982150	0.426536146	2.344467190	1.087167459	2.548828438
23° 06' 30"	0.39247090	0.91976442	0.426708062	2.343522631	1.087234919	2.547959639
23° 07' 00"	0.39260467	0.91970733	0.426879999	2.342578715	1.087302411	2.547091486
23° 07' 30"	0.39273843	0.91965022	0.427051958	2.341635442	1.087369935	2.546223978
23° 08' 00"	0.39287218	0.91959309	0.427223938	2.340692812	1.087437489	2.545357114
23° 08' 30"	0.39300593	0.91953594	0.427395939	2.339750823	1.087505075	2.544490895
23° 09' 00"	0.39313966	0.91947877	0.427567962	2.338809475	1.087572693	2.543625319
23° 09' 30"	0.39327339	0.91942158	0.427740006	2.337868767	1.087640342	2.542760385
23° 10' 00"	0.39340711	0.91936437	0.427912071	2.336928699	1.087708022	2.541896093
23° 10' 30"	0.39354082	0.91930714	0.428084158	2.335989270	1.087775734	2.541032442
23° 11' 00"	0.39367453	0.91924989	0.428256266	2.335050479	1.087843477	2.540169431
23° 11' 30"	0.39380822	0.91919263	0.428428396	2.334112325	1.087911251	2.539307060
23° 12' 00"	0.39394191	0.91913534	0.428600547	2.333174808	1.087979057	2.538445328
23° 12' 30"	0.39407559	0.91907803	0.428772720	2.332237927	1.088046895	2.537584235
23° 13' 00"	0.39420926	0.91902071	0.428944914	2.331301681	1.088114764	2.536723779
23° 13' 30"	0.39434292	0.91896336	0.429117130	2.330366071	1.088182664	2.535863960
23° 14' 00"	0.39447657	0.91890600	0.429289367	2.329431094	1.088250596	2.535004777
23° 14' 30"	0.39461022	0.91884861	0.429461626	2.328496750	1.088318560	2.534146230
23° 15' 00"	0.39474386	0.91879121	0.429633906	2.327563039	1.088386555	2.533288318
23° 15' 30"	0.39487748	0.91873379	0.429806208	2.326629960	1.088454582	2.532431040
23° 16' 00"	0.39501111	0.91867634	0.429978531	2.325697513	1.088522640	2.531574396
23° 16' 30"	0.39514472	0.91861888	0.430150876	2.324765696	1.088590729	2.530718384
23° 17' 00"	0.39527832	0.91856140	0.430323242	2.323834509	1.088658850	2.529863005
23° 17' 30"	0.39541192	0.91850390	0.430495630	2.322903951	1.088727003	2.529008257
23° 18' 00"	0.39554550	0.91844638	0.430668040	2.321974022	1.088795188	2.528154140
23° 18' 30"	0.39567908	0.91838884	0.430840471	2.321044720	1.088863403	2.527300654
23° 19' 00"	0.39581265	0.91833128	0.431012924	2.320116046	1.088931651	2.526447796
23° 19' 30"	0.39594621	0.91827370	0.431185398	2.319187999	1.088999930	2.525595568
23° 20' 00"	0.39607977	0.91821611	0.431357894	2.318260577	1.089068241	2.524743968
23° 20' 30"	0.39621331	0.91815849	0.431530412	2.317333780	1.089136583	2.523892995
23° 21' 00"	0.39634685	0.91810085	0.431702951	2.316407608	1.089204957	2.523042649
23° 21' 30"	0.39648038	0.91804320	0.431875512	2.315482060	1.089273362	2.522192929
23° 22' 00"	0.39661390	0.91798552	0.432048095	2.314557135	1.089341799	2.521343835
23° 22' 30"	0.39674741	0.91792783	0.432220699	2.313632833	1.089410268	2.520495365
23° 23' 00"	0.39688091	0.91787011	0.432393325	2.312709152	1.089478769	2.519647519
23° 23' 30"	0.39701440	0.91781238	0.432565973	2.311786093	1.089547301	2.518800297
23° 24' 00"	0.39714789	0.91775463	0.432738642	2.310863654	1.089615865	2.517953698
23° 24' 30"	0.39728137	0.91769685	0.432911333	2.309941835	1.089684460	2.517107721
23° 25' 00"	0.39741484	0.91763906	0.433084046	2.309020635	1.089753087	2.516262366
23° 25' 30"	0.39754830	0.91758125	0.433256781	2.308100054	1.089821746	2.515417631
23° 26' 00"	0.39768175	0.91752342	0.433429538	2.307180090	1.089890437	2.514573516
23° 26' 30"	0.39781520	0.91746557	0.433602316	2.306260744	1.089959159	2.513730021

23° 27' 00"

23° 47' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
23° 27' 00"	0.39794863	0.91740770	0.433775116	2.305342014	1.090027913	2.512887145
23° 27' 30"	0.39808206	0.91734981	0.433947938	2.304423901	1.090096699	2.512044887
23° 28' 00"	0.39821548	0.91729190	0.434120782	2.303506402	1.090165516	2.511203246
23° 28' 30"	0.39834889	0.91723397	0.434293647	2.302589518	1.090234366	2.510362223
23° 29' 00"	0.39848229	0.91717603	0.434466535	2.301673248	1.090303247	2.509521815
23° 29' 30"	0.39861568	0.91711806	0.434639444	2.300757591	1.090372159	2.508682023
23° 30' 00"	0.39874907	0.91706007	0.434812375	2.299842547	1.090441104	2.507842846
23° 30' 30"	0.39888245	0.91700207	0.434985328	2.298928115	1.090510080	2.507004284
23° 31' 00"	0.39901581	0.91694404	0.435158303	2.298014294	1.090579089	2.506166334
23° 31' 30"	0.39914917	0.91688600	0.435331300	2.297101084	1.090648129	2.505328998
23° 32' 00"	0.39928253	0.91682794	0.435504318	2.296188484	1.090717200	2.504492274
23° 32' 30"	0.39941587	0.91676985	0.435677359	2.295276493	1.090786304	2.503656162
23° 33' 00"	0.39954920	0.91671175	0.435850421	2.294365111	1.090855439	2.502820661
23° 33' 30"	0.39968253	0.91665363	0.436023506	2.293454336	1.090924607	2.501985770
23° 34' 00"	0.39981585	0.91659549	0.436196612	2.292544170	1.090993806	2.501151489
23° 34' 30"	0.39994916	0.91653733	0.436369741	2.291634610	1.091063037	2.500317817
23° 35' 00"	0.40008246	0.91647915	0.436542891	2.290725656	1.091132300	2.499484753
23° 35' 30"	0.40021575	0.91642095	0.436716063	2.289817308	1.091201595	2.498652297
23° 36' 00"	0.40034903	0.91636273	0.436889258	2.288909564	1.091270921	2.497820448
23° 36' 30"	0.40048231	0.91630449	0.437062474	2.288002425	1.091340280	2.496989206
23° 37' 00"	0.40061557	0.91624623	0.437235712	2.287095889	1.091409670	2.496158570
23° 37' 30"	0.40074883	0.91618796	0.437408973	2.286189956	1.091479093	2.495328538
23° 38' 00"	0.40088208	0.91612966	0.437582255	2.285284625	1.091548547	2.494499112
23° 38' 30"	0.40101532	0.91607135	0.437755560	2.284379896	1.091618033	2.493670289
23° 39' 00"	0.40114856	0.91601301	0.437928886	2.283475768	1.091687551	2.492842070
23° 39' 30"	0.40128178	0.91595466	0.438102235	2.282572241	1.091757101	2.492014453
23° 40' 00"	0.40141500	0.91589628	0.438275606	2.281669313	1.091826683	2.491187438
23° 40' 30"	0.40154821	0.91583789	0.438448999	2.280766984	1.091896297	2.490361025
23° 41' 00"	0.40168140	0.91577948	0.438622414	2.279865254	1.091965943	2.489535213
23° 41' 30"	0.40181459	0.91572104	0.438795851	2.278964121	1.092035621	2.488710000
23° 42' 00"	0.40194778	0.91566259	0.438969310	2.278063586	1.092105331	2.487885387
23° 42' 30"	0.40208095	0.91560412	0.439142791	2.277163647	1.092175073	2.487061373
23° 43' 00"	0.40221412	0.91554563	0.439316295	2.276264304	1.092244847	2.486237958
23° 43' 30"	0.40234727	0.91548712	0.439489821	2.275365556	1.092314654	2.485415139
23° 44' 00"	0.40248042	0.91542859	0.439663368	2.274467403	1.092384492	2.484592918
23° 44' 30"	0.40261356	0.91537005	0.439836939	2.273569844	1.092454362	2.483771293
23° 45' 00"	0.40274669	0.91531148	0.440010531	2.272672879	1.092524264	2.482950264
23° 45' 30"	0.40287981	0.91525289	0.440184145	2.271776506	1.092594198	2.482129830
23° 46' 00"	0.40301293	0.91519429	0.440357782	2.270880726	1.092664164	2.481309991
23° 46' 30"	0.40314603	0.91513566	0.440531441	2.269985537	1.092734163	2.480490745
23° 47' 00"	0.40327913	0.91507702	0.440705123	2.269090938	1.092804193	2.479672093
23° 47' 30"	0.40341222	0.91501835	0.440878826	2.268196931	1.092874256	2.478854033

23° 48' 00"

24° 08' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
23° 48' 00"	0.40354530	0.91495967	0.441052552	2.267303512	1.092944351	2.478036565
23° 48' 30"	0.40367837	0.91490096	0.441226300	2.266410683	1.093014477	2.477219689
23° 49' 00"	0.40381143	0.91484224	0.441400070	2.265518443	1.093084636	2.476403403
23° 49' 30"	0.40394448	0.91478350	0.441573863	2.264626790	1.093154827	2.475587707
23° 50' 00"	0.40407753	0.91472474	0.441747678	2.263735724	1.093225051	2.474772601
23° 50' 30"	0.40421057	0.91466596	0.441921516	2.262845245	1.093295306	2.473958084
23° 51' 00"	0.40434360	0.91460716	0.442095375	2.261955352	1.093365593	2.473144155
23° 51' 30"	0.40447662	0.91454834	0.442269257	2.261066044	1.093435913	2.472330814
23° 52' 00"	0.40460963	0.91448950	0.442443162	2.260177321	1.093506265	2.471518060
23° 52' 30"	0.40474263	0.91443064	0.442617089	2.259289182	1.093576649	2.470705892
23° 53' 00"	0.40487562	0.91437177	0.442791038	2.258401626	1.093647065	2.469894310
23° 53' 30"	0.40500861	0.91431287	0.442965010	2.257514653	1.093717514	2.469083314
23° 54' 00"	0.40514159	0.91425396	0.443139004	2.256628263	1.093787994	2.468272902
23° 54' 30"	0.40527456	0.91419502	0.443313020	2.255742454	1.093858507	2.467463074
23° 55' 00"	0.40540752	0.91413607	0.443487059	2.254857227	1.093929052	2.466653829
23° 55' 30"	0.40554047	0.91407709	0.443661120	2.253972579	1.093999630	2.465845167
23° 56' 00"	0.40567341	0.91401810	0.443835204	2.253088512	1.094070239	2.465037087
23° 56' 30"	0.40580634	0.91395909	0.444009311	2.252205024	1.094140881	2.464229589
23° 57' 00"	0.40593927	0.91390005	0.444183439	2.251322114	1.094211555	2.463422672
23° 57' 30"	0.40607219	0.91384100	0.444357591	2.250439783	1.094282262	2.462616335
23° 58' 00"	0.40620510	0.91378193	0.444531765	2.249558028	1.094353001	2.461810578
23° 58' 30"	0.40633799	0.91372284	0.444705961	2.248676851	1.094423772	2.461005400
23° 59' 00"	0.40647089	0.91366373	0.444880180	2.247796250	1.094494575	2.460200801
23° 59' 30"	0.40660377	0.91360461	0.445054421	2.246916224	1.094565411	2.459396780
24° 00' 00"	0.40673664	0.91354546	0.445228685	2.246036774	1.094636279	2.458593336
24° 00' 30"	0.40686951	0.91348629	0.445402972	2.245157898	1.094707179	2.457790468
24° 01' 00"	0.40700237	0.91342710	0.445577281	2.244279595	1.094778111	2.456988177
24° 01' 30"	0.40713521	0.91336790	0.445751613	2.243401866	1.094849076	2.456186461
24° 02' 00"	0.40726805	0.91330867	0.445925967	2.242524710	1.094920074	2.455385321
24° 02' 30"	0.40740088	0.91324943	0.446100344	2.241648125	1.094991104	2.454584755
24° 03' 00"	0.40753371	0.91319017	0.446274744	2.240772112	1.095062166	2.453784762
24° 03' 30"	0.40766652	0.91313088	0.446449166	2.239896670	1.095133260	2.452985343
24° 04' 00"	0.40779933	0.91307158	0.446623611	2.239021798	1.095204387	2.452186496
24° 04' 30"	0.40793212	0.91301226	0.446798078	2.238147495	1.095275547	2.451388221
24° 05' 00"	0.40806491	0.91295292	0.446972569	2.237273762	1.095346738	2.450590518
24° 05' 30"	0.40819769	0.91289356	0.447147082	2.236400597	1.095417962	2.449793385
24° 06' 00"	0.40833046	0.91283418	0.447321617	2.235528000	1.095489219	2.448996822
24° 06' 30"	0.40846322	0.91277478	0.447496176	2.234655970	1.095560508	2.448200830
24° 07' 00"	0.40859598	0.91271536	0.447670757	2.233784506	1.095631830	2.447405406
24° 07' 30"	0.40872872	0.91265592	0.447845360	2.232913609	1.095703184	2.446610551
24° 08' 00"	0.40886146	0.91259647	0.448019987	2.232043277	1.095774570	2.445816263
24° 08' 30"	0.40899418	0.91253699	0.448194636	2.231173511	1.095845989	2.445022543

24° 09' 00"

24° 29' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
24° 09' 00"	0.40912690	0.91247749	0.448369308	2.230304308	1.095917441	2.444229389
24° 09' 30"	0.40925961	0.91241798	0.448544003	2.229435670	1.095988925	2.443436802
24° 10' 00"	0.40939231	0.91235845	0.448718721	2.228567594	1.096060441	2.442644780
24° 10' 30"	0.40952501	0.91229889	0.448893461	2.227700081	1.096131990	2.441853323
24° 11' 00"	0.40965769	0.91223932	0.449068225	2.226833130	1.096203572	2.441062430
24° 11' 30"	0.40979037	0.91217973	0.449243011	2.225966740	1.096275186	2.440272101
24° 12' 00"	0.40992303	0.91212012	0.449417820	2.225100911	1.096346832	2.439482336
24° 12' 30"	0.41005569	0.91206049	0.449592651	2.224235643	1.096418511	2.438693132
24° 13' 00"	0.41018834	0.91200084	0.449767506	2.223370934	1.096490223	2.437904491
24° 13' 30"	0.41032098	0.91194117	0.449942384	2.222506784	1.096561968	2.437116412
24° 14' 00"	0.41045361	0.91188148	0.450117284	2.221643192	1.096633744	2.436328893
24° 14' 30"	0.41058624	0.91182177	0.450292207	2.220780159	1.096705554	2.435541934
24° 15' 00"	0.41071885	0.91176204	0.450467154	2.219917683	1.096777396	2.434755536
24° 15' 30"	0.41085146	0.91170230	0.450642123	2.219055763	1.096849271	2.433969696
24° 16' 00"	0.41098406	0.91164253	0.450817115	2.218194400	1.096921178	2.433184415
24° 16' 30"	0.41111664	0.91158275	0.450992130	2.217333593	1.096993118	2.432399692
24° 17' 00"	0.41124922	0.91152294	0.451167168	2.216473340	1.097065091	2.431615526
24° 17' 30"	0.41138180	0.91146312	0.451342229	2.215613642	1.097137096	2.430831917
24° 18' 00"	0.41151436	0.91140328	0.451517313	2.214754498	1.097209134	2.430048865
24° 18' 30"	0.41164691	0.91134341	0.451692420	2.213895907	1.097281205	2.429266368
24° 19' 00"	0.41177946	0.91128353	0.451867550	2.213037869	1.097353308	2.428484426
24° 19' 30"	0.41191199	0.91122363	0.452042703	2.212180383	1.097425444	2.427703039
24° 20' 00"	0.41204452	0.91116371	0.452217879	2.211323449	1.097497613	2.426922206
24° 20' 30"	0.41217704	0.91110377	0.452393078	2.210467065	1.097569814	2.426141926
24° 21' 00"	0.41230955	0.91104382	0.452568300	2.209611232	1.097642048	2.425362200
24° 21' 30"	0.41244205	0.91098384	0.452743546	2.208755950	1.097714315	2.424583025
24° 22' 00"	0.41257455	0.91092384	0.452918814	2.207901216	1.097786615	2.423804402
24° 22' 30"	0.41270703	0.91086382	0.453094105	2.207047031	1.097858947	2.423026331
24° 23' 00"	0.41283951	0.91080379	0.453269420	2.206193395	1.097931312	2.422248809
24° 23' 30"	0.41297197	0.91074373	0.453444757	2.205340306	1.098003710	2.421471838
24° 24' 00"	0.41310443	0.91068366	0.453620118	2.204487764	1.098076141	2.420695417
24° 24' 30"	0.41323688	0.91062357	0.453795502	2.203635769	1.098148605	2.419919544
24° 25' 00"	0.41336932	0.91056346	0.453970909	2.202784319	1.098221101	2.419144220
24° 25' 30"	0.41350175	0.91050332	0.454146339	2.201933415	1.098293630	2.418369444
24° 26' 00"	0.41363417	0.91044317	0.454321793	2.201083056	1.098366192	2.417595214
24° 26' 30"	0.41376659	0.91038300	0.454497269	2.200233242	1.098438787	2.416821532
24° 27' 00"	0.41389899	0.91032281	0.454672769	2.199383971	1.098511414	2.416048396
24° 27' 30"	0.41403139	0.91026260	0.454848292	2.198535243	1.098584074	2.415275805
24° 28' 00"	0.41416378	0.91020238	0.455023838	2.197687057	1.098656768	2.414503759
24° 28' 30"	0.41429616	0.91014213	0.455199408	2.196839414	1.098729494	2.413732258
24° 29' 00"	0.41442853	0.91008186	0.455375000	2.195992312	1.098802253	2.412961300
24° 29' 30"	0.41456089	0.91002158	0.455550616	2.195145752	1.098875045	2.412190886

24° 30' 00"

24° 50' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
24° 30' 00"	0.41469324	0.90996127	0.455726256	2.194299731	1.098947870	2.411421015
24° 30' 30"	0.41482559	0.90990095	0.455901918	2.193454251	1.099020727	2.410651686
24° 31' 00"	0.41495792	0.90984060	0.456077604	2.192609309	1.099093618	2.409882898
24° 31' 30"	0.41509025	0.90978024	0.456253313	2.191764907	1.099166541	2.409114652
24° 32' 00"	0.41522257	0.90971986	0.456429045	2.190921042	1.099239498	2.408346946
24° 32' 30"	0.41535488	0.90965946	0.456604801	2.190077716	1.099312487	2.407579781
24° 33' 00"	0.41548718	0.90959904	0.456780580	2.189234926	1.099385510	2.406813155
24° 33' 30"	0.41561947	0.90953860	0.456956383	2.188392673	1.099458565	2.406047068
24° 34' 00"	0.41575175	0.90947814	0.457132209	2.187550956	1.099531653	2.405281519
24° 34' 30"	0.41588402	0.90941766	0.457308058	2.186709774	1.099604774	2.404516508
24° 35' 00"	0.41601629	0.90935716	0.457483931	2.185869127	1.099677929	2.403752034
24° 35' 30"	0.41614854	0.90929665	0.457659827	2.185029015	1.099751116	2.402988097
24° 36' 00"	0.41628079	0.90923611	0.457835746	2.184189436	1.099824336	2.402224697
24° 36' 30"	0.41641303	0.90917555	0.458011689	2.183350391	1.099897589	2.401461832
24° 37' 00"	0.41654526	0.90911498	0.458187655	2.182511878	1.099970876	2.400699502
24° 37' 30"	0.41667748	0.90905439	0.458363645	2.181673898	1.100044195	2.399937707
24° 38' 00"	0.41680969	0.90899377	0.458539658	2.180836449	1.100117547	2.399176446
24° 38' 30"	0.41694190	0.90893314	0.458715695	2.179999531	1.100190933	2.398415718
24° 39' 00"	0.41707409	0.90887249	0.458891755	2.179163144	1.100264351	2.397655523
24° 39' 30"	0.41720628	0.90881182	0.459067839	2.178327287	1.100337803	2.396895861
24° 40' 00"	0.41733845	0.90875113	0.459243946	2.177491959	1.100411288	2.396136731
24° 40' 30"	0.41747062	0.90869042	0.459420077	2.176657161	1.100484805	2.395378132
24° 41' 00"	0.41760278	0.90862969	0.459596231	2.175822890	1.100558356	2.394620064
24° 41' 30"	0.41773493	0.90856894	0.459772409	2.174989148	1.100631940	2.393862526
24° 42' 00"	0.41786707	0.90850818	0.459948610	2.174155933	1.100705557	2.393105518
24° 42' 30"	0.41799921	0.90844739	0.460124835	2.173323244	1.100779208	2.392349039
24° 43' 00"	0.41813133	0.90838659	0.460301084	2.172491082	1.100852891	2.391593089
24° 43' 30"	0.41826345	0.90832576	0.460477356	2.171659446	1.100926608	2.390837667
24° 44' 00"	0.41839555	0.90826492	0.460653652	2.170828334	1.101000357	2.390082772
24° 44' 30"	0.41852765	0.90820406	0.460829971	2.169997748	1.101074140	2.389328405
24° 45' 00"	0.41865974	0.90814317	0.461006314	2.169167685	1.101147956	2.388574564
24° 45' 30"	0.41879182	0.90808227	0.461182681	2.168338146	1.101221806	2.387821249
24° 46' 00"	0.41892389	0.90802135	0.461359071	2.167509131	1.101295688	2.387068460
24° 46' 30"	0.41905595	0.90796041	0.461535486	2.166680637	1.101369604	2.386316195
24° 47' 00"	0.41918800	0.90789945	0.461711923	2.165852666	1.101443553	2.385564456
24° 47' 30"	0.41932005	0.90783848	0.461888385	2.165025216	1.101517535	2.384813240
24° 48' 00"	0.41945208	0.90777748	0.462064870	2.164198288	1.101591550	2.384062547
24° 48' 30"	0.41958411	0.90771646	0.462241379	2.163371879	1.101665599	2.383312377
24° 49' 00"	0.41971613	0.90765543	0.462417911	2.162545991	1.101739681	2.382562730
24° 49' 30"	0.41984814	0.90759437	0.462594468	2.161720621	1.101813796	2.381813604
24° 50' 00"	0.41998013	0.90753330	0.462771048	2.160895771	1.101887945	2.381065000
24° 50' 30"	0.42011213	0.90747220	0.462947652	2.160071439	1.101962126	2.380316916

24° 51' 00"

25° 11' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
24° 51' 00"	0.42024411	0.90741109	0.463124279	2.159247625	1.102036342	2.379569353
24° 51' 30"	0.42037608	0.90734996	0.463300931	2.158424328	1.102110590	2.378822309
24° 52' 00"	0.42050805	0.90728881	0.463477606	2.157601548	1.102184872	2.378075785
24° 52' 30"	0.42064000	0.90722764	0.463654305	2.156779284	1.102259187	2.377329779
24° 53' 00"	0.42077195	0.90716645	0.463831028	2.155957536	1.102333535	2.376584292
24° 53' 30"	0.42090388	0.90710524	0.464007775	2.155136303	1.102407917	2.375839322
24° 54' 00"	0.42103581	0.90704401	0.464184545	2.154315584	1.102482332	2.375094869
24° 54' 30"	0.42116773	0.90698277	0.464361340	2.153495380	1.102556780	2.374350933
24° 55' 00"	0.42129964	0.90692150	0.464538158	2.152675690	1.102631262	2.373607513
24° 55' 30"	0.42143155	0.90686022	0.464715000	2.151856512	1.102705777	2.372864608
24° 56' 00"	0.42156344	0.90679891	0.464891867	2.151037847	1.102780326	2.372122219
24° 56' 30"	0.42169532	0.90673759	0.465068757	2.150219695	1.102854908	2.371380344
24° 57' 00"	0.42182720	0.90667625	0.465245671	2.149402053	1.102929524	2.370638983
24° 57' 30"	0.42195906	0.90661488	0.465422609	2.148584923	1.103004173	2.369898135
24° 58' 00"	0.42209092	0.90655350	0.465599571	2.147768304	1.103078855	2.369157801
24° 58' 30"	0.42222277	0.90649210	0.465776557	2.146952194	1.103153571	2.368417979
24° 59' 00"	0.42235461	0.90643068	0.465953566	2.146136594	1.103228320	2.367678669
24° 59' 30"	0.42248644	0.90636924	0.466130600	2.145321503	1.103303103	2.366939871
25° 00' 00"	0.42261826	0.90630779	0.466307658	2.144506921	1.103377919	2.366201583
25° 00' 30"	0.42275007	0.90624631	0.466484740	2.143692846	1.103452769	2.365463806
25° 01' 00"	0.42288188	0.90618481	0.466661846	2.142879279	1.103527652	2.364726539
25° 01' 30"	0.42301367	0.90612330	0.466838976	2.142066219	1.103602569	2.363989781
25° 02' 00"	0.42314546	0.90606176	0.467016130	2.141253665	1.103677519	2.363253532
25° 02' 30"	0.42327724	0.90600021	0.467193308	2.140441618	1.103752503	2.362517792
25° 03' 00"	0.42340900	0.90593864	0.467370510	2.139630075	1.103827520	2.361782560
25° 03' 30"	0.42354076	0.90587705	0.467547736	2.138819038	1.103902571	2.361047835
25° 04' 00"	0.42367251	0.90581543	0.467724987	2.138008505	1.103977655	2.360313617
25° 04' 30"	0.42380425	0.90575380	0.467902261	2.137198476	1.104052773	2.359579905
25° 05' 00"	0.42393599	0.90569216	0.468079560	2.136388951	1.104127925	2.358846699
25° 05' 30"	0.42406771	0.90563049	0.468256883	2.135579928	1.104203110	2.358113999
25° 06' 00"	0.42419942	0.90556880	0.468434230	2.134771408	1.104278329	2.357381803
25° 06' 30"	0.42433113	0.90550709	0.468611601	2.133963390	1.104353581	2.356650112
25° 07' 00"	0.42446282	0.90544537	0.468788996	2.133155873	1.104428867	2.355918925
25° 07' 30"	0.42459451	0.90538362	0.468966415	2.132348857	1.104504187	2.355188241
25° 08' 00"	0.42472619	0.90532186	0.469143859	2.131542342	1.104579540	2.354458060
25° 08' 30"	0.42485786	0.90526007	0.469321327	2.130736326	1.104654927	2.353728381
25° 09' 00"	0.42498952	0.90519827	0.469498819	2.129930810	1.104730348	2.352999204
25° 09' 30"	0.42512117	0.90513645	0.469676335	2.129125793	1.104805802	2.352270529
25° 10' 00"	0.42525281	0.90507461	0.469853876	2.128321274	1.104881290	2.351542355
25° 10' 30"	0.42538445	0.90501275	0.470031441	2.127517253	1.104956812	2.350814681
25° 11' 00"	0.42551607	0.90495087	0.470209030	2.126713730	1.105032367	2.350087506
25° 11' 30"	0.42564769	0.90488897	0.470386643	2.125910703	1.105107956	2.349360832



25° 12' 00"

25° 32' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
25° 12' 00"	0.42577929	0.90482705	0.470564281	2.125108173	1.105183579	2.348634656
25° 12' 30"	0.42591089	0.90476512	0.470741943	2.124306139	1.105259235	2.347908979
25° 13' 00"	0.42604248	0.90470316	0.470919630	2.123504600	1.105334926	2.347183799
25° 13' 30"	0.42617406	0.90464119	0.471097340	2.122703557	1.105410650	2.346459117
25° 14' 00"	0.42630563	0.90457919	0.471275075	2.121903007	1.105486407	2.345734932
25° 14' 30"	0.42643719	0.90451718	0.471452835	2.121102952	1.105562199	2.345011244
25° 15' 00"	0.42656874	0.90445515	0.471630619	2.120303390	1.105638024	2.344288051
25° 15' 30"	0.42670028	0.90439309	0.471808427	2.119504322	1.105713883	2.343565354
25° 16' 00"	0.42683182	0.90433102	0.471986260	2.118705745	1.105789776	2.342843152
25° 16' 30"	0.42696334	0.90426893	0.472164117	2.117907661	1.105865703	2.342121445
25° 17' 00"	0.42709486	0.90420682	0.472341998	2.117110068	1.105941664	2.341400231
25° 17' 30"	0.42722637	0.90414470	0.472519904	2.116312967	1.106017658	2.340679511
25° 18' 00"	0.42735786	0.90408255	0.472697834	2.115516356	1.106093686	2.339959284
25° 18' 30"	0.42748935	0.90402038	0.472875789	2.114720234	1.106169748	2.339239550
25° 19' 00"	0.42762083	0.90395820	0.473053769	2.113924603	1.106245844	2.338520307
25° 19' 30"	0.42775230	0.90389599	0.473231772	2.113129461	1.106321974	2.337801556
25° 20' 00"	0.42788376	0.90383377	0.473409801	2.112334807	1.106398138	2.337083297
25° 20' 30"	0.42801522	0.90377153	0.473587854	2.111540641	1.106474335	2.336365528
25° 21' 00"	0.42814666	0.90370927	0.473765931	2.110746963	1.106550567	2.335648249
25° 21' 30"	0.42827810	0.90364698	0.473944033	2.109953772	1.106626832	2.334931460
25° 22' 00"	0.42840952	0.90358468	0.474122159	2.109161068	1.106703132	2.334215160
25° 22' 30"	0.42854094	0.90352237	0.474300310	2.108368850	1.106779465	2.333499348
25° 23' 00"	0.42867235	0.90346003	0.474478486	2.107577118	1.106855832	2.332784025
25° 23' 30"	0.42880374	0.90339767	0.474656686	2.106785871	1.106932234	2.332069190
25° 24' 00"	0.42893513	0.90333529	0.474834911	2.105995109	1.107008669	2.331354842
25° 24' 30"	0.42906651	0.90327290	0.475013160	2.105204831	1.107085138	2.330640980
25° 25' 00"	0.42919788	0.90321048	0.475191435	2.104415036	1.107161641	2.329927605
25° 25' 30"	0.42932925	0.90314805	0.475369733	2.103625726	1.107238178	2.329214716
25° 26' 00"	0.42946060	0.90308560	0.475548057	2.102836898	1.107314749	2.328502312
25° 26' 30"	0.42959194	0.90302312	0.475726405	2.102048552	1.107391355	2.327790393
25° 27' 00"	0.42972328	0.90296063	0.475904777	2.101260688	1.107467994	2.327078959
25° 27' 30"	0.42985460	0.90289812	0.476083175	2.100473306	1.107544667	2.326368008
25° 28' 00"	0.42998592	0.90283559	0.476261597	2.099686405	1.107621374	2.325657541
25° 28' 30"	0.43011723	0.90277304	0.476440044	2.098899984	1.107698116	2.324947557
25° 29' 00"	0.43024853	0.90271048	0.476618515	2.098114043	1.107774891	2.324238055
25° 29' 30"	0.43037982	0.90264789	0.476797012	2.097328581	1.107851700	2.323529035
25° 30' 00"	0.43051110	0.90258528	0.476975533	2.096543599	1.107928544	2.322820497
25° 30' 30"	0.43064237	0.90252266	0.477154079	2.095759095	1.108005422	2.322112440
25° 31' 00"	0.43077363	0.90246002	0.477332649	2.094975070	1.108082334	2.321404864
25° 31' 30"	0.43090488	0.90239735	0.477511245	2.094191522	1.108159279	2.320697768
25° 32' 00"	0.43103613	0.90233467	0.477689865	2.093408451	1.108236260	2.319991151
25° 32' 30"	0.43116736	0.90227197	0.477868510	2.092625857	1.108313274	2.319285014

25° 33' 00"

25° 53' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
25° 33' 00"	0.43129859	0.90220925	0.478047180	2.091843739	1.108390322	2.318579356
25° 33' 30"	0.43142980	0.90214651	0.478225875	2.091062097	1.108467405	2.317874175
25° 34' 00"	0.43156101	0.90208375	0.478404594	2.090280930	1.108544521	2.317169473
25° 34' 30"	0.43169221	0.90202097	0.478583339	2.089500238	1.108621672	2.316465248
25° 35' 00"	0.43182340	0.90195818	0.478762108	2.088720021	1.108698857	2.315761500
25° 35' 30"	0.43195458	0.90189536	0.478940902	2.087940277	1.108776077	2.315058228
25° 36' 00"	0.43208575	0.90183253	0.479119721	2.087161007	1.108853330	2.314355432
25° 36' 30"	0.43221691	0.90176967	0.479298565	2.086382209	1.108930618	2.313653112
25° 37' 00"	0.43234806	0.90170680	0.479477435	2.085603885	1.109007940	2.312951267
25° 37' 30"	0.43247921	0.90164391	0.479656329	2.084826032	1.109085296	2.312249896
25° 38' 00"	0.43261034	0.90158100	0.479835247	2.084048651	1.109162686	2.311549000
25° 38' 30"	0.43274147	0.90151807	0.480014191	2.083271741	1.109240111	2.310848577
25° 39' 00"	0.43287258	0.90145512	0.480193160	2.082495301	1.109317570	2.310148627
25° 39' 30"	0.43300369	0.90139215	0.480372154	2.081719332	1.109395063	2.309449150
25° 40' 00"	0.43313479	0.90132916	0.480551173	2.080943833	1.109472591	2.308750146
25° 40' 30"	0.43326587	0.90126616	0.480730217	2.080168803	1.109550153	2.308051613
25° 41' 00"	0.43339695	0.90120313	0.480909286	2.079394241	1.109627749	2.307353551
25° 41' 30"	0.43352802	0.90114008	0.481088380	2.078620149	1.109705380	2.306655961
25° 42' 00"	0.43365908	0.90107702	0.481267499	2.077846524	1.109783044	2.305958841
25° 42' 30"	0.43379014	0.90101394	0.481446643	2.077073366	1.109860744	2.305262191
25° 43' 00"	0.43392118	0.90095084	0.481625813	2.076300675	1.109938477	2.304566010
25° 43' 30"	0.43405221	0.90088772	0.481805007	2.075528451	1.110016245	2.303870299
25° 44' 00"	0.43418324	0.90082458	0.481984226	2.074756694	1.110094048	2.303175056
25° 44' 30"	0.43431425	0.90076142	0.482163471	2.073985401	1.110171884	2.302480281
25° 45' 00"	0.43444526	0.90069824	0.482342741	2.073214574	1.110249756	2.301785974
25° 45' 30"	0.43457625	0.90063504	0.482522036	2.072444212	1.110327661	2.301092134
25° 46' 00"	0.43470724	0.90057183	0.482701356	2.071674314	1.110405601	2.300398761
25° 46' 30"	0.43483822	0.90050859	0.482880701	2.070904879	1.110483576	2.299705855
25° 47' 00"	0.43496919	0.90044534	0.483060072	2.070135908	1.110561584	2.299013414
25° 47' 30"	0.43510015	0.90038206	0.483239467	2.069367400	1.110639628	2.298321439
25° 48' 00"	0.43523110	0.90031877	0.483418888	2.068599355	1.110717706	2.297629929
25° 48' 30"	0.43536204	0.90025546	0.483598334	2.067831771	1.110795818	2.296938884
25° 49' 00"	0.43549297	0.90019213	0.483777806	2.067064649	1.110873965	2.296248302
25° 49' 30"	0.43562390	0.90012878	0.483957302	2.066297989	1.110952146	2.295558184
25° 50' 00"	0.43575481	0.90006541	0.484136824	2.065531788	1.111030362	2.294868530
25° 50' 30"	0.43588571	0.90000202	0.484316371	2.064766049	1.111108612	2.294179338
25° 51' 00"	0.43601661	0.89993862	0.484495944	2.064000768	1.111186897	2.293490609
25° 51' 30"	0.43614750	0.89987519	0.484675541	2.063235948	1.111265216	2.292802341
25° 52' 00"	0.43627837	0.89981175	0.484855165	2.062471586	1.111343570	2.292114535
25° 52' 30"	0.43640924	0.89974828	0.485034813	2.061707682	1.111421958	2.291427190
25° 53' 00"	0.43654010	0.89968480	0.485214487	2.060944237	1.111500382	2.290740305
25° 53' 30"	0.43667095	0.89962130	0.485394186	2.060181249	1.111578839	2.290053881

25° 54' 00"

26° 14' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
25° 54' 00"	0.43680179	0.89955778	0.485573910	2.059418718	1.111657331	2.289367916
25° 54' 30"	0.43693262	0.89949424	0.485753660	2.058656644	1.111735858	2.288682411
25° 55' 00"	0.43706344	0.89943068	0.485933436	2.057895026	1.111814420	2.287997364
25° 55' 30"	0.43719425	0.89936710	0.486113236	2.057133864	1.111893016	2.287312775
25° 56' 00"	0.43732506	0.89930351	0.486293062	2.056373157	1.111971647	2.286628645
25° 56' 30"	0.43745585	0.89923989	0.486472914	2.055612905	1.112050312	2.285944972
25° 57' 00"	0.43758663	0.89917626	0.486652791	2.054853107	1.112129012	2.285261756
25° 57' 30"	0.43771741	0.89911260	0.486832694	2.054093764	1.112207747	2.284578996
25° 58' 00"	0.43784818	0.89904893	0.487012622	2.053334874	1.112286516	2.283896693
25° 58' 30"	0.43797893	0.89898524	0.487192575	2.052576437	1.112365320	2.283214846
25° 59' 00"	0.43810968	0.89892153	0.487372554	2.051818453	1.112444159	2.282533453
25° 59' 30"	0.43824042	0.89885780	0.487552559	2.051060922	1.112523032	2.281852516
26° 00' 00"	0.43837115	0.89879405	0.487732589	2.050303842	1.112601940	2.281172033
26° 00' 30"	0.43850187	0.89873028	0.487912644	2.049547213	1.112680883	2.280492004
26° 01' 00"	0.43863258	0.89866649	0.488092725	2.048791035	1.112759861	2.279812428
26° 01' 30"	0.43876328	0.89860269	0.488272832	2.048035308	1.112838874	2.279133306
26° 02' 00"	0.43889397	0.89853886	0.488452964	2.047280031	1.112917921	2.278454636
26° 02' 30"	0.43902465	0.89847502	0.488633122	2.046525204	1.112997003	2.277776418
26° 03' 00"	0.43915533	0.89841115	0.488813306	2.045770826	1.113076119	2.277098652
26° 03' 30"	0.43928599	0.89834727	0.488993515	2.045016897	1.113155271	2.276421338
26° 04' 00"	0.43941664	0.89828337	0.489173749	2.044263416	1.113234457	2.275744475
26° 04' 30"	0.43954729	0.89821945	0.489354010	2.043510383	1.113313679	2.275068062
26° 05' 00"	0.43967793	0.89815551	0.489534296	2.042757797	1.113392935	2.274392099
26° 05' 30"	0.43980855	0.89809155	0.489714608	2.042005659	1.113472225	2.273716585
26° 06' 00"	0.43993917	0.89802758	0.489894945	2.041253967	1.113551551	2.273041521
26° 06' 30"	0.44006978	0.89796358	0.490075308	2.040502722	1.113630912	2.272366906
26° 07' 00"	0.44020038	0.89789956	0.490255697	2.039751922	1.113710307	2.271692739
26° 07' 30"	0.44033097	0.89783553	0.490436112	2.039001567	1.113789738	2.271019020
26° 08' 00"	0.44046155	0.89777148	0.490616552	2.038251658	1.113869203	2.270345749
26° 08' 30"	0.44059212	0.89770741	0.490797018	2.037502193	1.113948703	2.269672925
26° 09' 00"	0.44072268	0.89764331	0.490977510	2.036753172	1.114028238	2.269000547
26° 09' 30"	0.44085323	0.89757920	0.491158027	2.036004594	1.114107808	2.268328615
26° 10' 00"	0.44098377	0.89751508	0.491338571	2.035256460	1.114187413	2.267657130
26° 10' 30"	0.44111431	0.89745093	0.491519140	2.034508769	1.114267053	2.266986089
26° 11' 00"	0.44124483	0.89738676	0.491699735	2.033761520	1.114346728	2.266315494
26° 11' 30"	0.44137535	0.89732257	0.491880356	2.033014713	1.114426437	2.265645343
26° 12' 00"	0.44150585	0.89725837	0.492061002	2.032268347	1.114506182	2.264975637
26° 12' 30"	0.44163635	0.89719415	0.492241675	2.031522423	1.114585962	2.264306374
26° 13' 00"	0.44176684	0.89712990	0.492422373	2.030776939	1.114665777	2.263637554
26° 13' 30"	0.44189731	0.89706564	0.492603098	2.030031895	1.114745627	2.262969177
26° 14' 00"	0.44202778	0.89700136	0.492783848	2.029287292	1.114825511	2.262301243
26° 14' 30"	0.44215824	0.89693706	0.492964624	2.028543127	1.114905431	2.261633750

26° 15' 00"

26° 35' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
26° 15' 00"	0.44228869	0.89687274	0.493145426	2.027799402	1.114985386	2.260966699
26° 15' 30"	0.44241913	0.89680840	0.493326254	2.027056115	1.115065376	2.260300089
26° 16' 00"	0.44254956	0.89674405	0.493507108	2.026313267	1.115145401	2.259633920
26° 16' 30"	0.44267998	0.89667967	0.493687988	2.025570856	1.115225461	2.258968192
26° 17' 00"	0.44281039	0.89661528	0.493868894	2.024828882	1.115305556	2.258302903
26° 17' 30"	0.44294080	0.89655086	0.494049826	2.024087346	1.115385687	2.257638054
26° 18' 00"	0.44307119	0.89648643	0.494230783	2.023346245	1.115465852	2.256973644
26° 18' 30"	0.44320157	0.89642198	0.494411767	2.022605581	1.115546053	2.256309672
26° 19' 00"	0.44333195	0.89635751	0.494592777	2.021865353	1.115626288	2.255646139
26° 19' 30"	0.44346231	0.89629302	0.494773813	2.021125559	1.115706559	2.254983044
26° 20' 00"	0.44359267	0.89622851	0.494954875	2.020386201	1.115786865	2.254320386
26° 20' 30"	0.44372302	0.89616398	0.495135963	2.019647277	1.115867206	2.253658165
26° 21' 00"	0.44385335	0.89609944	0.495317077	2.018908787	1.115947583	2.252996380
26° 21' 30"	0.44398368	0.89603487	0.495498218	2.018170730	1.116027994	2.252335032
26° 22' 00"	0.44411400	0.89597029	0.495679384	2.017433107	1.116108441	2.251674120
26° 22' 30"	0.44424431	0.89590568	0.495860577	2.016695917	1.116188923	2.251013643
26° 23' 00"	0.44437461	0.89584106	0.496041795	2.015959158	1.116269440	2.250353601
26° 23' 30"	0.44450490	0.89577642	0.496223040	2.015222832	1.116349992	2.249693993
26° 24' 00"	0.44463518	0.89571176	0.496404311	2.014486937	1.116430580	2.249034820
26° 24' 30"	0.44476545	0.89564708	0.496585608	2.013751473	1.116511203	2.248376080
26° 25' 00"	0.44489571	0.89558238	0.496766931	2.013016440	1.116591861	2.247717773
26° 25' 30"	0.44502596	0.89551767	0.496948281	2.012281838	1.116672554	2.247059900
26° 26' 00"	0.44515621	0.89545293	0.497129657	2.011547665	1.116753283	2.246402459
26° 26' 30"	0.44528644	0.89538818	0.497311059	2.010813921	1.116834047	2.245745450
26° 27' 00"	0.44541667	0.89532340	0.497492487	2.010080607	1.116914847	2.245088873
26° 27' 30"	0.44554688	0.89525861	0.497673941	2.009347721	1.116995681	2.244432727
26° 28' 00"	0.44567709	0.89519380	0.497855422	2.008615264	1.117076551	2.243777012
26° 28' 30"	0.44580728	0.89512897	0.498036929	2.007883234	1.117157457	2.243121727
26° 29' 00"	0.44593747	0.89506412	0.498218462	2.007151632	1.117238397	2.242466872
26° 29' 30"	0.44606765	0.89499925	0.498400022	2.006420457	1.117319373	2.241812447
26° 30' 00"	0.44619781	0.89493436	0.498581608	2.005689708	1.117400385	2.241158452
26° 30' 30"	0.44632797	0.89486946	0.498763220	2.004959386	1.117481432	2.240504885
26° 31' 00"	0.44645812	0.89480453	0.498944859	2.004229489	1.117562514	2.239851746
26° 31' 30"	0.44658826	0.89473959	0.499126524	2.003500018	1.117643631	2.239199036
26° 32' 00"	0.44671839	0.89467462	0.499308215	2.002770972	1.117724785	2.238546753
26° 32' 30"	0.44684851	0.89460964	0.499489933	2.002042351	1.117805973	2.237894898
26° 33' 00"	0.44697862	0.89454464	0.499671677	2.001314153	1.117887197	2.237243469
26° 33' 30"	0.44710872	0.89447962	0.499853448	2.000586380	1.117968456	2.236592467
26° 34' 00"	0.44723881	0.89441458	0.500035245	1.999859030	1.118049751	2.235941891
26° 34' 30"	0.44736890	0.89434952	0.500217068	1.999132103	1.118131082	2.235291740
26° 35' 00"	0.44749897	0.89428445	0.500398918	1.998405598	1.118212447	2.234642015
26° 35' 30"	0.44762903	0.89421935	0.500580795	1.997679516	1.118293849	2.233992715

26° 36' 00"

26° 56' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
26° 36' 00"	0.44775909	0.89415424	0.500762698	1.996953856	1.118375286	2.233343839
26° 36' 30"	0.44788913	0.89408910	0.500944627	1.996228617	1.118456758	2.232695387
26° 37' 00"	0.44801917	0.89402395	0.501126583	1.995503798	1.118538266	2.232047358
26° 37' 30"	0.44814919	0.89395878	0.501308565	1.994779401	1.118619809	2.231399753
26° 38' 00"	0.44827921	0.89389359	0.501490574	1.994055424	1.118701388	2.230752571
26° 38' 30"	0.44840922	0.89382838	0.501672610	1.993331866	1.118783003	2.230105811
26° 39' 00"	0.44853921	0.89376315	0.501854672	1.992608728	1.118864653	2.229459474
26° 39' 30"	0.44866920	0.89369791	0.502036761	1.991886009	1.118946339	2.228813558
26° 40' 00"	0.44879918	0.89363264	0.502218876	1.991163709	1.119028060	2.228168063
26° 40' 30"	0.44892915	0.89356736	0.502401018	1.990441827	1.119109817	2.227522989
26° 41' 00"	0.44905911	0.89350205	0.502583186	1.989720363	1.119191610	2.226878336
26° 41' 30"	0.44918906	0.89343673	0.502765382	1.988999316	1.119273438	2.226234103
26° 42' 00"	0.44931900	0.89337139	0.502947603	1.988278686	1.119355302	2.225590289
26° 42' 30"	0.44944893	0.89330603	0.503129852	1.987558473	1.119437201	2.224946895
26° 43' 00"	0.44957885	0.89324065	0.503312127	1.986838677	1.119519137	2.224303920
26° 43' 30"	0.44970876	0.89317525	0.503494429	1.986119296	1.119601107	2.223661363
26° 44' 00"	0.44983866	0.89310983	0.503676757	1.985400330	1.119683114	2.223019224
26° 44' 30"	0.44996856	0.89304440	0.503859112	1.984681780	1.119765156	2.222377503
26° 45' 00"	0.45009844	0.89297894	0.504041494	1.983963644	1.119847234	2.221736200
26° 45' 30"	0.45022831	0.89291347	0.504223903	1.983245923	1.119929348	2.221095313
26° 46' 00"	0.45035818	0.89284798	0.504406338	1.982528616	1.120011497	2.220454844
26° 46' 30"	0.45048803	0.89278247	0.504588801	1.981811722	1.120093683	2.219814790
26° 47' 00"	0.45061788	0.89271694	0.504771290	1.981095241	1.120175904	2.219175152
26° 47' 30"	0.45074771	0.89265139	0.504953805	1.980379174	1.120258160	2.218535930
26° 48' 00"	0.45087754	0.89258582	0.505136348	1.979663518	1.120340453	2.217897122
26° 48' 30"	0.45100736	0.89252023	0.505318918	1.978948275	1.120422781	2.217258730
26° 49' 00"	0.45113716	0.89245463	0.505501514	1.978233443	1.120505145	2.216620751
26° 49' 30"	0.45126696	0.89238900	0.505684137	1.977519022	1.120587545	2.215983187
26° 50' 00"	0.45139675	0.89232336	0.505866787	1.976805012	1.120669981	2.215346036
26° 50' 30"	0.45152653	0.89225770	0.506049464	1.976091413	1.120752453	2.214709298
26° 51' 00"	0.45165630	0.89219201	0.506232168	1.975378224	1.120834960	2.214072973
26° 51' 30"	0.45178606	0.89212631	0.506414898	1.974665444	1.120917503	2.213437060
26° 52' 00"	0.45191581	0.89206059	0.506597656	1.973953074	1.121000082	2.212801559
26° 52' 30"	0.45204555	0.89199486	0.506780440	1.973241113	1.121082698	2.212166470
26° 53' 00"	0.45217528	0.89192910	0.506963252	1.972529560	1.121165348	2.211531792
26° 53' 30"	0.45230500	0.89186332	0.507146090	1.971818415	1.121248035	2.210897524
26° 54' 00"	0.45243471	0.89179753	0.507328956	1.971107679	1.121330758	2.210263668
26° 54' 30"	0.45256441	0.89173172	0.507511848	1.970397349	1.121413517	2.209630221
26° 55' 00"	0.45269410	0.89166588	0.507694767	1.969687427	1.121496312	2.208997184
26° 55' 30"	0.45282379	0.89160003	0.507877714	1.968977911	1.121579142	2.208364556
26° 56' 00"	0.45295346	0.89153416	0.508060687	1.968268802	1.121662009	2.207732338
26° 56' 30"	0.45308312	0.89146827	0.508243688	1.967560098	1.121744911	2.207100528

26° 57' 00"

27° 17' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
26° 57' 00"	0.45321278	0.89140237	0.508426715	1.966851800	1.121827850	2.206469126
26° 57' 30"	0.45334242	0.89133644	0.508609770	1.966143907	1.121910824	2.205838131
26° 58' 00"	0.45347206	0.89127049	0.508792852	1.965436419	1.121993835	2.205207545
26° 58' 30"	0.45360168	0.89120453	0.508975960	1.964729335	1.122076882	2.204577365
26° 59' 00"	0.45373130	0.89113855	0.509159096	1.964022655	1.122159964	2.203947592
26° 59' 30"	0.45386090	0.89107255	0.509342259	1.963316379	1.122243083	2.203318225
27° 00' 00"	0.45399050	0.89100652	0.509525449	1.962610506	1.122326238	2.202689265
27° 00' 30"	0.45412009	0.89094048	0.509708667	1.961905035	1.122409428	2.202060709
27° 01' 00"	0.45424966	0.89087443	0.509891911	1.961199968	1.122492655	2.201432559
27° 01' 30"	0.45437923	0.89080835	0.510075183	1.960495302	1.122575918	2.200804814
27° 02' 00"	0.45450879	0.89074225	0.510258482	1.959791038	1.122659217	2.200177473
27° 02' 30"	0.45463834	0.89067614	0.510441808	1.959087176	1.122742553	2.199550537
27° 03' 00"	0.45476788	0.89061000	0.510625161	1.958383715	1.122825924	2.198924004
27° 03' 30"	0.45489741	0.89054385	0.510808542	1.957680654	1.122909331	2.198297874
27° 04' 00"	0.45502693	0.89047768	0.510991950	1.956977993	1.122992775	2.197672147
27° 04' 30"	0.45515644	0.89041149	0.511175385	1.956275733	1.123076255	2.197046823
27° 05' 00"	0.45528594	0.89034528	0.511358847	1.955573871	1.123159771	2.196421901
27° 05' 30"	0.45541543	0.89027905	0.511542337	1.954872409	1.123243323	2.195797381
27° 06' 00"	0.45554491	0.89021280	0.511725853	1.954171346	1.123326911	2.195173262
27° 06' 30"	0.45567438	0.89014654	0.511909398	1.953470681	1.123410536	2.194549544
27° 07' 00"	0.45580384	0.89008025	0.512092969	1.952770415	1.123494196	2.193926228
27° 07' 30"	0.45593329	0.89001395	0.512276568	1.952070545	1.123577893	2.193303311
27° 08' 00"	0.45606273	0.88994763	0.512460195	1.951371074	1.123661627	2.192680795
27° 08' 30"	0.45619217	0.88988129	0.512643848	1.950671999	1.123745396	2.192058678
27° 09' 00"	0.45632159	0.88981493	0.512827529	1.949973320	1.123829202	2.191436960
27° 09' 30"	0.45645100	0.88974855	0.513011238	1.949275038	1.123913044	2.190815641
27° 10' 00"	0.45658041	0.88968215	0.513194974	1.948577152	1.123996922	2.190194721
27° 10' 30"	0.45670980	0.88961574	0.513378737	1.947879661	1.124080837	2.189574199
27° 11' 00"	0.45683919	0.88954930	0.513562528	1.947182565	1.124164788	2.188954075
27° 11' 30"	0.45696856	0.88948285	0.513746346	1.946485864	1.124248775	2.188334348
27° 12' 00"	0.45709793	0.88941637	0.513930192	1.945789558	1.124332798	2.187715019
27° 12' 30"	0.45722728	0.88934988	0.514114065	1.945093645	1.124416858	2.187096086
27° 13' 00"	0.45735663	0.88928337	0.514297965	1.944398126	1.124500955	2.186477549
27° 13' 30"	0.45748596	0.88921684	0.514481894	1.943703000	1.124585087	2.185859408
27° 14' 00"	0.45761529	0.88915029	0.514665849	1.943008267	1.124669256	2.185241663
27° 14' 30"	0.45774461	0.88908373	0.514849832	1.942313927	1.124753462	2.184624314
27° 15' 00"	0.45787392	0.88901714	0.515033843	1.941619979	1.124837704	2.184007359
27° 15' 30"	0.45800321	0.88895054	0.515217882	1.940926423	1.124921982	2.183390798
27° 16' 00"	0.45813250	0.88888391	0.515401948	1.940233258	1.125006297	2.182774632
27° 16' 30"	0.45826178	0.88881727	0.515586041	1.939540484	1.125090648	2.182158860
27° 17' 00"	0.45839105	0.88875061	0.515770162	1.938848101	1.125175035	2.181543481
27° 17' 30"	0.45852031	0.88868393	0.515954311	1.938156109	1.125259459	2.180928495

27° 18' 00"

27° 38' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
27° 18' 00"	0.45864955	0.88861723	0.516138488	1.937464506	1.125343920	2.180313902
27° 18' 30"	0.45877879	0.88855052	0.516322692	1.936773293	1.125428417	2.179699702
27° 19' 00"	0.45890802	0.88848378	0.516506923	1.936082470	1.125512951	2.179085893
27° 19' 30"	0.45903724	0.88841702	0.516691183	1.935392035	1.125597521	2.178472476
27° 20' 00"	0.45916645	0.88835025	0.516875470	1.934701989	1.125682127	2.177859451
27° 20' 30"	0.45929565	0.88828346	0.517059785	1.934012332	1.125766770	2.177246816
27° 21' 00"	0.45942484	0.88821665	0.517244127	1.933323062	1.125851450	2.176634572
27° 21' 30"	0.45955403	0.88814982	0.517428498	1.932634179	1.125936166	2.176022718
27° 22' 00"	0.45968320	0.88808297	0.517612896	1.931945684	1.126020919	2.175411255
27° 22' 30"	0.45981236	0.88801610	0.517797322	1.931257576	1.126105708	2.174800180
27° 23' 00"	0.45994151	0.88794921	0.517981775	1.930569854	1.126190534	2.174189495
27° 23' 30"	0.46007065	0.88788231	0.518166257	1.929882518	1.126275397	2.173579199
27° 24' 00"	0.46019978	0.88781539	0.518350766	1.929195568	1.126360296	2.172969291
27° 24' 30"	0.46032891	0.88774844	0.518535303	1.928509003	1.126445232	2.172359771
27° 25' 00"	0.46045802	0.88768148	0.518719868	1.927822824	1.126530204	2.171750639
27° 25' 30"	0.46058712	0.88761450	0.518904460	1.927137029	1.126615213	2.171141895
27° 26' 00"	0.46071622	0.88754750	0.519089081	1.926451618	1.126700259	2.170533537
27° 26' 30"	0.46084530	0.88748048	0.519273729	1.925766591	1.126785342	2.169925567
27° 27' 00"	0.46097437	0.88741345	0.519458406	1.925081948	1.126870461	2.169317982
27° 27' 30"	0.46110344	0.88734639	0.519643110	1.924397689	1.126955617	2.168710784
27° 28' 00"	0.46123249	0.88727932	0.519827842	1.923713812	1.127040809	2.168103971
27° 28' 30"	0.46136154	0.88721222	0.520012602	1.923030318	1.127126039	2.167497544
27° 29' 00"	0.46149057	0.88714511	0.520197390	1.922347206	1.127211305	2.166891501
27° 29' 30"	0.46161960	0.88707798	0.520382207	1.921664476	1.127296607	2.166285844
27° 30' 00"	0.46174861	0.88701083	0.520567051	1.920982127	1.127381947	2.165680570
27° 30' 30"	0.46187762	0.88694367	0.520751923	1.920300160	1.127467323	2.165075681
27° 31' 00"	0.46200661	0.88687648	0.520936823	1.919618573	1.127552736	2.164471175
27° 31' 30"	0.46213560	0.88680927	0.521121751	1.918937367	1.127638186	2.163867052
27° 32' 00"	0.46226458	0.88674205	0.521306707	1.918256541	1.127723673	2.163263312
27° 32' 30"	0.46239354	0.88667481	0.521491691	1.917576095	1.127809196	2.162659955
27° 33' 00"	0.46252250	0.88660754	0.521676703	1.916896028	1.127894757	2.162056980
27° 33' 30"	0.46265145	0.88654026	0.521861743	1.916216341	1.127980354	2.161454386
27° 34' 00"	0.46278038	0.88647296	0.522046812	1.915537032	1.128065988	2.160852175
27° 34' 30"	0.46290931	0.88640565	0.522231908	1.914858101	1.128151659	2.160250344
27° 35' 00"	0.46303823	0.88633831	0.522417033	1.914179549	1.128237367	2.159648894
27° 35' 30"	0.46316714	0.88627095	0.522602185	1.913501375	1.128323112	2.159047825
27° 36' 00"	0.46329604	0.88620358	0.522787366	1.912823577	1.128408893	2.158447136
27° 36' 30"	0.46342492	0.88613619	0.522972575	1.912146157	1.128494712	2.157846826
27° 37' 00"	0.46355380	0.88606877	0.523157812	1.911469114	1.128580567	2.157246896
27° 37' 30"	0.46368267	0.88600134	0.523343078	1.910792446	1.128666460	2.156647346
27° 38' 00"	0.46381153	0.88593389	0.523528371	1.910116155	1.128752389	2.156048173
27° 38' 30"	0.46394038	0.88586643	0.523713693	1.909440240	1.128838355	2.155449380

27° 39' 00"

27° 59' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
27° 39' 00"	0.46406922	0.88579894	0.523899043	1.908764700	1.128924359	2.154850964
27° 39' 30"	0.46419805	0.88573143	0.524084422	1.908089534	1.129010399	2.154252926
27° 40' 00"	0.46432687	0.88566391	0.524269828	1.907414744	1.129096476	2.153655266
27° 40' 30"	0.46445568	0.88559637	0.524455263	1.906740327	1.129182591	2.153057983
27° 41' 00"	0.46458448	0.88552881	0.524640726	1.906066285	1.129268742	2.152461076
27° 41' 30"	0.46471327	0.88546122	0.524826218	1.905392617	1.129354930	2.151864546
27° 42' 00"	0.46484205	0.88539363	0.525011737	1.904719321	1.129441156	2.151268391
27° 42' 30"	0.46497082	0.88532601	0.525197285	1.904046399	1.129527418	2.150672613
27° 43' 00"	0.46509958	0.88525837	0.525382862	1.903373849	1.129613718	2.150077210
27° 43' 30"	0.46522833	0.88519072	0.525568467	1.902701671	1.129700055	2.149482182
27° 44' 00"	0.46535707	0.88512304	0.525754100	1.902029866	1.129786428	2.148887528
27° 44' 30"	0.46548580	0.88505535	0.525939762	1.901358432	1.129872839	2.148293249
27° 45' 00"	0.46561452	0.88498764	0.526125451	1.900687369	1.129959287	2.147699344
27° 45' 30"	0.46574323	0.88491991	0.526311170	1.900016677	1.130045772	2.147105813
27° 46' 00"	0.46587193	0.88485216	0.526496917	1.899346356	1.130132295	2.146512655
27° 46' 30"	0.46600062	0.88478439	0.526682692	1.898676404	1.130218854	2.145919870
27° 47' 00"	0.46612931	0.88471660	0.526868496	1.898006823	1.130305451	2.145327458
27° 47' 30"	0.46625798	0.88464880	0.527054328	1.897337612	1.130392084	2.144735418
27° 48' 00"	0.46638664	0.88458098	0.527240189	1.896668769	1.130478755	2.144143750
27° 48' 30"	0.46651529	0.88451313	0.527426078	1.896000296	1.130565464	2.143552454
27° 49' 00"	0.46664393	0.88444527	0.527611996	1.895332191	1.130652209	2.142961529
27° 49' 30"	0.46677257	0.88437739	0.527797942	1.894664455	1.130738992	2.142370975
27° 50' 00"	0.46690119	0.88430949	0.527983917	1.893997086	1.130825812	2.141780792
27° 50' 30"	0.46702980	0.88424158	0.528169920	1.893330085	1.130912669	2.141190979
27° 51' 00"	0.46715841	0.88417364	0.528355952	1.892663451	1.130999563	2.140601537
27° 51' 30"	0.46728700	0.88410568	0.528542013	1.891997184	1.131086495	2.140012464
27° 52' 00"	0.46741558	0.88403771	0.528728102	1.891331284	1.131173464	2.139423760
27° 52' 30"	0.46754415	0.88396972	0.528914220	1.890665750	1.131260470	2.138835425
27° 53' 00"	0.46767272	0.88390171	0.529100366	1.890000581	1.131347514	2.138247460
27° 53' 30"	0.46780127	0.88383368	0.529286541	1.889335779	1.131434595	2.137659862
27° 54' 00"	0.46792981	0.88376563	0.529472745	1.888671342	1.131521713	2.137072633
27° 54' 30"	0.46805835	0.88369756	0.529658978	1.888007269	1.131608869	2.136485771
27° 55' 00"	0.46818687	0.88362948	0.529845239	1.887343562	1.131696062	2.135899276
27° 55' 30"	0.46831539	0.88356137	0.530031529	1.886680218	1.131783293	2.135313149
27° 56' 00"	0.46844389	0.88349325	0.530217847	1.886017239	1.131870560	2.134727389
27° 56' 30"	0.46857238	0.88342511	0.530404195	1.885354623	1.131957866	2.134141995
27° 57' 00"	0.46870087	0.88335695	0.530590571	1.884692370	1.132045208	2.133556967
27° 57' 30"	0.46882934	0.88328877	0.530776975	1.884030480	1.132132588	2.132972304
27° 58' 00"	0.46895781	0.88322057	0.530963409	1.883368953	1.132220006	2.132388008
27° 58' 30"	0.46908626	0.88315235	0.531149871	1.882707789	1.132307461	2.131804076
27° 59' 00"	0.46921470	0.88308412	0.531336363	1.882046986	1.132394953	2.131220509
27° 59' 30"	0.46934314	0.88301587	0.531522883	1.881386545	1.132482483	2.130637306



28° 00' 00"

28° 20' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
28° 00' 00"	0.46947156	0.88294759	0.531709432	1.880726465	1.132570051	2.130054468
28° 00' 30"	0.46959998	0.88287930	0.531896009	1.880066747	1.132657656	2.129471994
28° 01' 00"	0.46972838	0.88281099	0.532082616	1.879407389	1.132745298	2.128889883
28° 01' 30"	0.46985678	0.88274266	0.532269252	1.878748391	1.132832978	2.128308135
28° 02' 00"	0.46998516	0.88267432	0.532455916	1.878089754	1.132920696	2.127726750
28° 02' 30"	0.47011354	0.88260595	0.532642609	1.877431476	1.133008451	2.127145728
28° 03' 00"	0.47024190	0.88253757	0.532829332	1.876773557	1.133096243	2.126565067
28° 03' 30"	0.47037026	0.88246916	0.533016083	1.876115998	1.133184073	2.125984769
28° 04' 00"	0.47049860	0.88240074	0.533202863	1.875458797	1.133271941	2.125404832
28° 04' 30"	0.47062694	0.88233230	0.533389672	1.874801955	1.133359847	2.124825257
28° 05' 00"	0.47075526	0.88226384	0.533576510	1.874145471	1.133447790	2.124246042
28° 05' 30"	0.47088358	0.88219536	0.533763377	1.873489345	1.133535770	2.123667188
28° 06' 00"	0.47101188	0.88212687	0.533950273	1.872833576	1.133623789	2.123088695
28° 06' 30"	0.47114018	0.88205835	0.534137198	1.872178165	1.133711845	2.122510561
28° 07' 00"	0.47126846	0.88198982	0.534324153	1.871523110	1.133799938	2.121932787
28° 07' 30"	0.47139674	0.88192126	0.534511136	1.870868412	1.133888070	2.121355372
28° 08' 00"	0.47152500	0.88185269	0.534698148	1.870214070	1.133976239	2.120778316
28° 08' 30"	0.47165326	0.88178410	0.534885190	1.869560084	1.134064445	2.120201619
28° 09' 00"	0.47178150	0.88171549	0.535072260	1.868906453	1.134152690	2.119625281
28° 09' 30"	0.47190974	0.88164687	0.535259360	1.868253178	1.134240972	2.119049300
28° 10' 00"	0.47203796	0.88157822	0.535446489	1.867600257	1.134329292	2.118473677
28° 10' 30"	0.47216618	0.88150956	0.535633647	1.866947691	1.134417649	2.117898412
28° 11' 00"	0.47229438	0.88144087	0.535820834	1.866295480	1.134506045	2.117323503
28° 11' 30"	0.47242258	0.88137217	0.536008050	1.865643622	1.134594478	2.116748952
28° 12' 00"	0.47255076	0.88130345	0.536195295	1.864992118	1.134682949	2.116174757
28° 12' 30"	0.47267894	0.88123471	0.536382570	1.864340968	1.134771458	2.115600918
28° 13' 00"	0.47280711	0.88116596	0.536569874	1.863690170	1.134860004	2.115027435
28° 13' 30"	0.47293526	0.88109718	0.536757207	1.863039726	1.134948589	2.114454308
28° 14' 00"	0.47306341	0.88102838	0.536944570	1.862389633	1.135037211	2.113881536
28° 14' 30"	0.47319154	0.88095957	0.537131961	1.861739893	1.135125871	2.113309118
28° 15' 00"	0.47331967	0.88089074	0.537319382	1.861090505	1.135214569	2.112737056
28° 15' 30"	0.47344778	0.88082189	0.537506832	1.860441467	1.135303305	2.112165347
28° 16' 00"	0.47357589	0.88075302	0.537694312	1.859792782	1.135392079	2.111593993
28° 16' 30"	0.47370398	0.88068413	0.537881821	1.859144447	1.135480891	2.111022992
28° 17' 00"	0.47383207	0.88061522	0.538069359	1.858496462	1.135569740	2.110452345
28° 17' 30"	0.47396014	0.88054630	0.538256927	1.857848828	1.135658628	2.109882050
28° 18' 00"	0.47408821	0.88047735	0.538444523	1.857201543	1.135747553	2.109312109
28° 18' 30"	0.47421626	0.88040839	0.538632150	1.856554609	1.135836517	2.108742520
28° 19' 00"	0.47434431	0.88033941	0.538819806	1.855908023	1.135925518	2.108173283
28° 19' 30"	0.47447234	0.88027041	0.539007491	1.855261786	1.136014558	2.107604397
28° 20' 00"	0.47460037	0.88020139	0.539195205	1.854615899	1.136103635	2.107035864
28° 20' 30"	0.47472838	0.88013235	0.539382949	1.853970359	1.136192750	2.106467681

28° 21' 00"

28° 41' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
28° 21' 00"	0.47485639	0.88006330	0.539570723	1.853325167	1.136281904	2.105899850
28° 21' 30"	0.47498438	0.87999422	0.539758526	1.852680324	1.136371095	2.105332369
28° 22' 00"	0.47511237	0.87992513	0.539946358	1.852035827	1.136460325	2.104765238
28° 22' 30"	0.47524034	0.87985602	0.540134220	1.851391678	1.136549592	2.104198457
28° 23' 00"	0.47536831	0.87978689	0.540322111	1.850747876	1.136638898	2.103632026
28° 23' 30"	0.47549626	0.87971774	0.540510032	1.850104420	1.136728242	2.103065944
28° 24' 00"	0.47562421	0.87964857	0.540697983	1.849461310	1.136817623	2.102500211
28° 24' 30"	0.47575214	0.87957939	0.540885963	1.848818546	1.136907043	2.101934827
28° 25' 00"	0.47588007	0.87951018	0.541073973	1.848176128	1.136996501	2.101369792
28° 25' 30"	0.47600798	0.87944096	0.541262012	1.847534055	1.137085997	2.100805104
28° 26' 00"	0.47613589	0.87937172	0.541450081	1.846892327	1.137175532	2.100240764
28° 26' 30"	0.47626378	0.87930246	0.541638179	1.846250944	1.137265104	2.099676772
28° 27' 00"	0.47639167	0.87923318	0.541826308	1.845609905	1.137354715	2.099113127
28° 27' 30"	0.47651954	0.87916388	0.542014465	1.844969210	1.137444364	2.098549829
28° 28' 00"	0.47664740	0.87909456	0.542202653	1.844328859	1.137534051	2.097986878
28° 28' 30"	0.47677526	0.87902523	0.542390870	1.843688851	1.137623776	2.097424273
28° 29' 00"	0.47690310	0.87895588	0.542579117	1.843049187	1.137713540	2.096862014
28° 29' 30"	0.47703094	0.87888650	0.542767393	1.842409865	1.137803341	2.096300100
28° 30' 00"	0.47715876	0.87881711	0.542955700	1.841770886	1.137893181	2.095738533
28° 30' 30"	0.47728657	0.87874770	0.543144036	1.841132249	1.137983059	2.095177310
28° 31' 00"	0.47741438	0.87867828	0.543332401	1.840493954	1.138072976	2.094616432
28° 31' 30"	0.47754217	0.87860883	0.543520797	1.839856001	1.138162931	2.094055898
28° 32' 00"	0.47766995	0.87853936	0.543709222	1.839218389	1.138252924	2.093495709
28° 32' 30"	0.47779773	0.87846988	0.543897678	1.838581118	1.138342955	2.092935863
28° 33' 00"	0.47792549	0.87840038	0.544086162	1.837944188	1.138433025	2.092376361
28° 33' 30"	0.47805324	0.87833086	0.544274677	1.837307598	1.138523133	2.091817203
28° 34' 00"	0.47818099	0.87826132	0.544463222	1.836671348	1.138613279	2.091258387
28° 34' 30"	0.47830872	0.87819176	0.544651796	1.836035439	1.138703464	2.090699914
28° 35' 00"	0.47843644	0.87812218	0.544840401	1.835399868	1.138793687	2.090141784
28° 35' 30"	0.47856416	0.87805259	0.545029035	1.834764637	1.138883949	2.089583995
28° 36' 00"	0.47869186	0.87798298	0.545217699	1.834129745	1.138974249	2.089026549
28° 36' 30"	0.47881955	0.87791334	0.545406393	1.833495192	1.139064587	2.088469444
28° 37' 00"	0.47894723	0.87784369	0.545595118	1.832860977	1.139154964	2.087912680
28° 37' 30"	0.47907490	0.87777402	0.545783872	1.832227100	1.139245379	2.087356257
28° 38' 00"	0.47920257	0.87770434	0.545972656	1.831593560	1.139335833	2.086800175
28° 38' 30"	0.47933022	0.87763463	0.546161470	1.830960358	1.139426325	2.086244433
28° 39' 00"	0.47945786	0.87756490	0.546350313	1.830327494	1.139516856	2.085689031
28° 39' 30"	0.47958549	0.87749516	0.546539187	1.829694966	1.139607425	2.085133969
28° 40' 00"	0.47971311	0.87742540	0.546728091	1.829062775	1.139698033	2.084579246
28° 40' 30"	0.47984072	0.87735562	0.546917026	1.828430920	1.139788679	2.084024863
28° 41' 00"	0.47996833	0.87728582	0.547105990	1.827799401	1.139879364	2.083470818
28° 41' 30"	0.48009592	0.87721600	0.547294984	1.827168217	1.139970087	2.082917112

28° 42' 00"

29° 02' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
28° 42' 00"	0.48022350	0.87714616	0.547484008	1.826537369	1.140060849	2.082363744
28° 42' 30"	0.48035107	0.87707631	0.547673063	1.825906856	1.140151649	2.081810714
28° 43' 00"	0.48047863	0.87700644	0.547862147	1.825276678	1.140242488	2.081258022
28° 43' 30"	0.48060618	0.87693654	0.548051262	1.824646835	1.140333366	2.080705667
28° 44' 00"	0.48073372	0.87686663	0.548240407	1.824017325	1.140424282	2.080153649
28° 44' 30"	0.48086125	0.87679670	0.548429581	1.823388150	1.140515237	2.079601968
28° 45' 00"	0.48098877	0.87672676	0.548618787	1.822759308	1.140606230	2.079050624
28° 45' 30"	0.48111628	0.87665679	0.548808022	1.822130800	1.140697263	2.078499615
28° 46' 00"	0.48124378	0.87658680	0.548997288	1.821502624	1.140788333	2.077948943
28° 46' 30"	0.48137127	0.87651680	0.549186583	1.820874782	1.140879443	2.077398607
28° 47' 00"	0.48149875	0.87644678	0.549375909	1.820247271	1.140970591	2.076848605
28° 47' 30"	0.48162622	0.87637674	0.549565266	1.819620093	1.141061778	2.076298939
28° 48' 00"	0.48175367	0.87630668	0.549754652	1.818993247	1.141153004	2.075749608
28° 48' 30"	0.48188112	0.87623660	0.549944069	1.818366733	1.141244268	2.075200611
28° 49' 00"	0.48200856	0.87616651	0.550133516	1.817740549	1.141335571	2.074651948
28° 49' 30"	0.48213599	0.87609639	0.550322994	1.817114697	1.141426913	2.074103619
28° 50' 00"	0.48226341	0.87602626	0.550512501	1.816489176	1.141518293	2.073555624
28° 50' 30"	0.48239081	0.87595611	0.550702040	1.815863985	1.141609713	2.073007962
28° 51' 00"	0.48251821	0.87588594	0.550891608	1.815239124	1.141701171	2.072460633
28° 51' 30"	0.48264560	0.87581575	0.551081207	1.814614593	1.141792668	2.071913637
28° 52' 00"	0.48277298	0.87574554	0.551270836	1.813990391	1.141884204	2.071366973
28° 52' 30"	0.48290034	0.87567532	0.551460496	1.813366519	1.141975779	2.070820642
28° 53' 00"	0.48302770	0.87560507	0.551650186	1.812742976	1.142067392	2.070274643
28° 53' 30"	0.48315505	0.87553481	0.551839907	1.812119761	1.142159044	2.069728975
28° 54' 00"	0.48328238	0.87546453	0.552029658	1.811496875	1.142250736	2.069183638
28° 54' 30"	0.48340971	0.87539423	0.552219439	1.810874317	1.142342466	2.068638633
28° 55' 00"	0.48353703	0.87532391	0.552409251	1.810252087	1.142434235	2.068093958
28° 55' 30"	0.48366433	0.87525357	0.552599094	1.809630184	1.142526043	2.067549613
28° 56' 00"	0.48379163	0.87518322	0.552788967	1.809008609	1.142617890	2.067005599
28° 56' 30"	0.48391891	0.87511284	0.552978870	1.808387361	1.142709776	2.066461915
28° 57' 00"	0.48404619	0.87504245	0.553168804	1.807766439	1.142801700	2.065918561
28° 57' 30"	0.48417345	0.87497204	0.553358769	1.807145844	1.142893664	2.065375535
28° 58' 00"	0.48430071	0.87490161	0.553548764	1.806525575	1.142985667	2.064832839
28° 58' 30"	0.48442795	0.87483116	0.553738790	1.805905632	1.143077709	2.064290472
28° 59' 00"	0.48455518	0.87476070	0.553928847	1.805286015	1.143169789	2.063748433
28° 59' 30"	0.48468241	0.87469021	0.554118934	1.804666722	1.143261909	2.063206722
29° 00' 00"	0.48480962	0.87461971	0.554309051	1.804047755	1.143354068	2.062665340
29° 00' 30"	0.48493682	0.87454919	0.554499200	1.803429113	1.143446266	2.062124285
29° 01' 00"	0.48506402	0.87447864	0.554689379	1.802810795	1.143538503	2.061583557
29° 01' 30"	0.48519120	0.87440809	0.554879589	1.802192801	1.143630779	2.061043156
29° 02' 00"	0.48531837	0.87433751	0.555069829	1.801575131	1.143723094	2.060503082
29° 02' 30"	0.48544553	0.87426691	0.555260100	1.800957785	1.143815448	2.059963335

29° 03' 00"

29° 23' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
29° 03' 00"	0.48557269	0.87419630	0.555450402	1.800340762	1.143907841	2.059423914
29° 03' 30"	0.48569983	0.87412567	0.555640735	1.799724062	1.144000274	2.058884819
29° 04' 00"	0.48582696	0.87405501	0.555831098	1.799107684	1.144092745	2.058346050
29° 04' 30"	0.48595408	0.87398434	0.556021492	1.798491630	1.144185256	2.057807606
29° 05' 00"	0.48608119	0.87391366	0.556211917	1.797875897	1.144277806	2.057269487
29° 05' 30"	0.48620829	0.87384295	0.556402373	1.797260487	1.144370395	2.056731693
29° 06' 00"	0.48633538	0.87377222	0.556592860	1.796645398	1.144463023	2.056194224
29° 06' 30"	0.48646246	0.87370148	0.556783377	1.796030630	1.144555691	2.055657079
29° 07' 00"	0.48658953	0.87363072	0.556973926	1.795416184	1.144648397	2.055120258
29° 07' 30"	0.48671659	0.87355994	0.557164505	1.794802058	1.144741143	2.054583760
29° 08' 00"	0.48684364	0.87348914	0.557355115	1.794188253	1.144833929	2.054047587
29° 08' 30"	0.48697068	0.87341832	0.557545756	1.793574768	1.144926753	2.053511736
29° 09' 00"	0.48709771	0.87334748	0.557736428	1.792961604	1.145019617	2.052976208
29° 09' 30"	0.48722472	0.87327663	0.557927131	1.792348758	1.145112520	2.052441003
29° 10' 00"	0.48735173	0.87320575	0.558117865	1.791736233	1.145205462	2.051906121
29° 10' 30"	0.48747873	0.87313486	0.558308629	1.791124026	1.145298444	2.051371560
29° 11' 00"	0.48760572	0.87306395	0.558499425	1.790512139	1.145391465	2.050837321
29° 11' 30"	0.48773269	0.87299302	0.558690252	1.789900570	1.145484525	2.050303404
29° 12' 00"	0.48785966	0.87292208	0.558881110	1.789289319	1.145577625	2.049769808
29° 12' 30"	0.48798662	0.87285111	0.559071998	1.788678386	1.145670764	2.049236533
29° 13' 00"	0.48811356	0.87278013	0.559262918	1.788067772	1.145763942	2.048703579
29° 13' 30"	0.48824050	0.87270913	0.559453869	1.787457474	1.145857160	2.048170946
29° 14' 00"	0.48836742	0.87263810	0.559644851	1.786847494	1.145950418	2.047638632
29° 14' 30"	0.48849434	0.87256706	0.559835864	1.786237831	1.146043714	2.047106639
29° 15' 00"	0.48862124	0.87249601	0.560026908	1.785628485	1.146137050	2.046574965
29° 15' 30"	0.48874814	0.87242493	0.560217984	1.785019455	1.146230426	2.046043610
29° 16' 00"	0.48887502	0.87235384	0.560409090	1.784410741	1.146323841	2.045512575
29° 16' 30"	0.48900189	0.87228272	0.560600228	1.783802343	1.146417296	2.044981858
29° 17' 00"	0.48912876	0.87221159	0.560791397	1.783194261	1.146510790	2.044451460
29° 17' 30"	0.48925561	0.87214044	0.560982597	1.782586494	1.146604323	2.043921380
29° 18' 00"	0.48938245	0.87206927	0.561173828	1.781979042	1.146697896	2.043391618
29° 18' 30"	0.48950928	0.87199809	0.561365090	1.781371905	1.146791509	2.042862174
29° 19' 00"	0.48963611	0.87192688	0.561556384	1.780765082	1.146885161	2.042333048
29° 19' 30"	0.48976292	0.87185566	0.561747709	1.780158574	1.146978853	2.041804238
29° 20' 00"	0.48988972	0.87178441	0.561939065	1.779552379	1.147072584	2.041275746
29° 20' 30"	0.49001651	0.87171315	0.562130452	1.778946499	1.147166355	2.040747570
29° 21' 00"	0.49014329	0.87164187	0.562321871	1.778340931	1.147260165	2.040219711
29° 21' 30"	0.49027006	0.87157058	0.562513321	1.777735677	1.147354015	2.039692168
29° 22' 00"	0.49039682	0.87149926	0.562704802	1.777130736	1.147447905	2.039164940
29° 22' 30"	0.49052357	0.87142793	0.562896315	1.776526108	1.147541834	2.038638029
29° 23' 00"	0.49065031	0.87135657	0.563087859	1.775921792	1.147635803	2.038111432
29° 23' 30"	0.49077704	0.87128520	0.563279435	1.775317788	1.147729812	2.037585151

29° 24' 00"

29° 44' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
29° 24' 00"	0.49090375	0.87121381	0.563471042	1.774714096	1.147823860	2.037059184
29° 24' 30"	0.49103046	0.87114240	0.563662680	1.774110715	1.147917949	2.036533533
29° 25' 00"	0.49115716	0.87107098	0.563854350	1.773507646	1.148012076	2.036008195
29° 25' 30"	0.49128385	0.87099953	0.564046051	1.772904887	1.148106244	2.035483171
29° 26' 00"	0.49141052	0.87092807	0.564237783	1.772302440	1.148200451	2.034958461
29° 26' 30"	0.49153719	0.87085659	0.564429547	1.771700303	1.148294698	2.034434065
29° 27' 00"	0.49166384	0.87078509	0.564621343	1.771098476	1.148388985	2.033909982
29° 27' 30"	0.49179049	0.87071357	0.564813170	1.770496960	1.148483312	2.033386211
29° 28' 00"	0.49191712	0.87064203	0.565005028	1.769895753	1.148577678	2.032862754
29° 28' 30"	0.49204375	0.87057047	0.565196919	1.769294855	1.148672084	2.032339608
29° 29' 00"	0.49217036	0.87049890	0.565388840	1.768694267	1.148766530	2.031816775
29° 29' 30"	0.49229697	0.87042731	0.565580793	1.768093987	1.148861016	2.031294254
29° 30' 00"	0.49242356	0.87035570	0.565772778	1.767494016	1.148955542	2.030772045
29° 30' 30"	0.49255014	0.87028407	0.565964795	1.766894354	1.149050107	2.030250147
29° 31' 00"	0.49267672	0.87021242	0.566156843	1.766294999	1.149144713	2.029728559
29° 31' 30"	0.49280328	0.87014075	0.566348922	1.765695953	1.149239358	2.029207283
29° 32' 00"	0.49292983	0.87006907	0.566541034	1.765097214	1.149334043	2.028686318
29° 32' 30"	0.49305637	0.86999737	0.566733176	1.764498783	1.149428768	2.028165662
29° 33' 00"	0.49318290	0.86992564	0.566925351	1.763900658	1.149523533	2.027645317
29° 33' 30"	0.49330942	0.86985390	0.567117557	1.763302841	1.149618338	2.027125282
29° 34' 00"	0.49343593	0.86978215	0.567309795	1.762705330	1.149713183	2.026605556
29° 34' 30"	0.49356243	0.86971037	0.567502065	1.762108125	1.149808068	2.026086139
29° 35' 00"	0.49368892	0.86963857	0.567694367	1.761511226	1.149902993	2.025567032
29° 35' 30"	0.49381540	0.86956676	0.567886700	1.760914633	1.149997958	2.025048233
29° 36' 00"	0.49394187	0.86949493	0.568079065	1.760318346	1.150092963	2.024529743
29° 36' 30"	0.49406832	0.86942308	0.568271462	1.759722364	1.150188008	2.024011560
29° 37' 00"	0.49419477	0.86935121	0.568463890	1.759126686	1.150283093	2.023493686
29° 37' 30"	0.49432121	0.86927932	0.568656351	1.758531314	1.150378218	2.022976120
29° 38' 00"	0.49444763	0.86920742	0.568848843	1.757936246	1.150473384	2.022458861
29° 38' 30"	0.49457405	0.86913549	0.569041367	1.757341482	1.150568589	2.021941909
29° 39' 00"	0.49470046	0.86906355	0.569233923	1.756747022	1.150663834	2.021425265
29° 39' 30"	0.49482685	0.86899159	0.569426511	1.756152866	1.150759120	2.020908927
29° 40' 00"	0.49495324	0.86891961	0.569619131	1.755559014	1.150854445	2.020392895
29° 40' 30"	0.49507961	0.86884762	0.569811783	1.754965464	1.150949811	2.019877170
29° 41' 00"	0.49520597	0.86877560	0.570004466	1.754372218	1.151045217	2.019361750
29° 41' 30"	0.49533233	0.86870357	0.570197182	1.753779274	1.151140663	2.018846636
29° 42' 00"	0.49545867	0.86863151	0.570389930	1.753186632	1.151236149	2.018331828
29° 42' 30"	0.49558500	0.86855944	0.570582709	1.752594293	1.151331676	2.017817325
29° 43' 00"	0.49571132	0.86848735	0.570775521	1.752002256	1.151427243	2.017303127
29° 43' 30"	0.49583763	0.86841525	0.570968364	1.751410520	1.151522850	2.016789233
29° 44' 00"	0.49596393	0.86834312	0.571161240	1.750819086	1.151618497	2.016275644
29° 44' 30"	0.49609022	0.86827098	0.571354148	1.750227953	1.151714184	2.015762358

29° 45' 00"

30° 05' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
29° 45' 00"	0.49621650	0.86819881	0.571547087	1.749637120	1.151809912	2.015249377
29° 45' 30"	0.49634277	0.86812663	0.571740059	1.749046589	1.151905680	2.014736700
29° 46' 00"	0.49646903	0.86805443	0.571933063	1.748456357	1.152001488	2.014224325
29° 46' 30"	0.49659528	0.86798222	0.572126099	1.747866426	1.152097337	2.013712254
29° 47' 00"	0.49672152	0.86790998	0.572319167	1.747276795	1.152193226	2.013200486
29° 47' 30"	0.49684774	0.86783773	0.572512267	1.746687463	1.152289155	2.012689020
29° 48' 00"	0.49697396	0.86776545	0.572705400	1.746098431	1.152385124	2.012177857
29° 48' 30"	0.49710017	0.86769316	0.572898565	1.745509697	1.152481134	2.011666996
29° 49' 00"	0.49722636	0.86762085	0.573091761	1.744921263	1.152577185	2.011156437
29° 49' 30"	0.49735255	0.86754852	0.573284990	1.744333127	1.152673276	2.010646179
29° 50' 00"	0.49747872	0.86747618	0.573478252	1.743745290	1.152769407	2.010136223
29° 50' 30"	0.49760489	0.86740381	0.573671545	1.743157750	1.152865578	2.009626568
29° 51' 00"	0.49773104	0.86733143	0.573864871	1.742570509	1.152961790	2.009117214
29° 51' 30"	0.49785718	0.86725903	0.574058229	1.741983565	1.153058043	2.008608160
29° 52' 00"	0.49798332	0.86718661	0.574251619	1.741396918	1.153154336	2.008099407
29° 52' 30"	0.49810944	0.86711417	0.574445042	1.740810569	1.153250669	2.007590953
29° 53' 00"	0.49823555	0.86704172	0.574638497	1.740224516	1.153347043	2.007082800
29° 53' 30"	0.49836165	0.86696924	0.574831984	1.739638760	1.153443458	2.006574946
29° 54' 00"	0.49848774	0.86689675	0.575025504	1.739053300	1.153539913	2.006067392
29° 54' 30"	0.49861382	0.86682424	0.575219056	1.738468137	1.153636408	2.005560137
29° 55' 00"	0.49873989	0.86675171	0.575412640	1.737883269	1.153732944	2.005053180
29° 55' 30"	0.49886595	0.86667916	0.575606257	1.737298697	1.153829521	2.004546523
29° 56' 00"	0.49899200	0.86660659	0.575799906	1.736714420	1.153926138	2.004040163
29° 56' 30"	0.49911803	0.86653401	0.575993588	1.736130438	1.154022796	2.003534102
29° 57' 00"	0.49924406	0.86646141	0.576187302	1.735546751	1.154119494	2.003028339
29° 57' 30"	0.49937008	0.86638879	0.576381049	1.734963359	1.154216233	2.002522873
29° 58' 00"	0.49949608	0.86631615	0.576574828	1.734380261	1.154313013	2.002017704
29° 58' 30"	0.49962208	0.86624349	0.576768639	1.733797457	1.154409833	2.001512833
29° 59' 00"	0.49974806	0.86617081	0.576962483	1.733214947	1.154506694	2.001008259
29° 59' 30"	0.49987404	0.86609812	0.577156360	1.732632731	1.154603596	2.000503981
30° 00' 00"	0.50000000	0.86602540	0.577350269	1.732050808	1.154700538	2.000000000
30° 00' 30"	0.50012595	0.86595267	0.577544211	1.731469178	1.154797521	1.999496315
30° 01' 00"	0.50025190	0.86587992	0.577738185	1.730887841	1.154894545	1.998992926
30° 01' 30"	0.50037783	0.86580716	0.577932192	1.730306796	1.154991610	1.998489832
30° 02' 00"	0.50050375	0.86573437	0.578126232	1.729726044	1.155088715	1.997987034
30° 02' 30"	0.50062966	0.86566156	0.578320304	1.729145584	1.155185861	1.997484531
30° 03' 00"	0.50075556	0.86558874	0.578514409	1.728565416	1.155283048	1.996982323
30° 03' 30"	0.50088145	0.86551590	0.578708546	1.727985540	1.155380276	1.996480410
30° 04' 00"	0.50100733	0.86544304	0.578902717	1.727405955	1.155477544	1.995978791
30° 04' 30"	0.50113320	0.86537016	0.579096919	1.726826661	1.155574854	1.995477466
30° 05' 00"	0.50125905	0.86529727	0.579291155	1.726247658	1.155672204	1.994976435
30° 05' 30"	0.50138490	0.86522435	0.579485423	1.725668946	1.155769595	1.994475698

30° 06' 00"

30° 26' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
30° 06' 00"	0.50151074	0.86515142	0.579679725	1.725090524	1.155867027	1.993975255
30° 06' 30"	0.50163656	0.86507847	0.579874058	1.724512393	1.155964499	1.993475105
30° 07' 00"	0.50176238	0.86500550	0.580068425	1.723934551	1.156062013	1.992975247
30° 07' 30"	0.50188818	0.86493251	0.580262825	1.723356999	1.156159567	1.992475683
30° 08' 00"	0.50201398	0.86485951	0.580457257	1.722779737	1.156257163	1.991976411
30° 08' 30"	0.50213976	0.86478648	0.580651722	1.722202763	1.156354799	1.991477431
30° 09' 00"	0.50226553	0.86471344	0.580846220	1.721626079	1.156452477	1.990978743
30° 09' 30"	0.50239130	0.86464038	0.581040751	1.721049684	1.156550195	1.990480347
30° 10' 00"	0.50251705	0.86456730	0.581235314	1.720473576	1.156647954	1.989982243
30° 10' 30"	0.50264279	0.86449420	0.581429911	1.719897758	1.156745755	1.989484430
30° 11' 00"	0.50276852	0.86442109	0.581624540	1.719322227	1.156843596	1.988986908
30° 11' 30"	0.50289424	0.86434795	0.581819203	1.718746984	1.156941479	1.988489677
30° 12' 00"	0.50301995	0.86427480	0.582013898	1.718172028	1.157039402	1.987992736
30° 12' 30"	0.50314564	0.86420163	0.582208627	1.717597360	1.157137366	1.987496086
30° 13' 00"	0.50327133	0.86412844	0.582403388	1.717022979	1.157235372	1.986999726
30° 13' 30"	0.50339701	0.86405524	0.582598182	1.716448884	1.157333419	1.986503655
30° 14' 00"	0.50352268	0.86398201	0.582793010	1.715875077	1.157431506	1.986007875
30° 14' 30"	0.50364833	0.86390877	0.582987870	1.715301555	1.157529635	1.985512384
30° 15' 00"	0.50377398	0.86383551	0.583182763	1.714728320	1.157627805	1.985017181
30° 15' 30"	0.50389961	0.86376223	0.583377690	1.714155370	1.157726016	1.984522268
30° 16' 00"	0.50402524	0.86368893	0.583572649	1.713582706	1.157824269	1.984027644
30° 16' 30"	0.50415085	0.86361561	0.583767642	1.713010328	1.157922562	1.983533308
30° 17' 00"	0.50427645	0.86354228	0.583962668	1.712438234	1.158020897	1.983039260
30° 17' 30"	0.50440204	0.86346892	0.584157727	1.711866426	1.158119273	1.982545500
30° 18' 00"	0.50452762	0.86339555	0.584352819	1.711294902	1.158217690	1.982052028
30° 18' 30"	0.50465319	0.86332216	0.584547944	1.710723663	1.158316148	1.981558843
30° 19' 00"	0.50477875	0.86324875	0.584743103	1.710152708	1.158414648	1.981065946
30° 19' 30"	0.50490430	0.86317533	0.584938294	1.709582036	1.158513189	1.980573336
30° 20' 00"	0.50502984	0.86310188	0.585133519	1.709011649	1.158611771	1.980081012
30° 20' 30"	0.50515537	0.86302842	0.585328777	1.708441545	1.158710394	1.979588975
30° 21' 00"	0.50528089	0.86295494	0.585524068	1.707871724	1.158809059	1.979097225
30° 21' 30"	0.50540639	0.86288144	0.585719393	1.707302186	1.158907765	1.978605760
30° 22' 00"	0.50553189	0.86280792	0.585914751	1.706732931	1.159006512	1.978114582
30° 22' 30"	0.50565737	0.86273439	0.586110142	1.706163959	1.159105301	1.977623689
30° 23' 00"	0.50578285	0.86266083	0.586305566	1.705595269	1.159204131	1.977133081
30° 23' 30"	0.50590831	0.86258726	0.586501024	1.705026861	1.159303002	1.976642759
30° 24' 00"	0.50603376	0.86251367	0.586696515	1.704458734	1.159401915	1.976152721
30° 24' 30"	0.50615921	0.86244006	0.586892040	1.703890890	1.159500870	1.975662968
30° 25' 00"	0.50628464	0.86236643	0.587087598	1.703323327	1.159599865	1.975173500
30° 25' 30"	0.50641006	0.86229279	0.587283189	1.702756045	1.159698902	1.974684316
30° 26' 00"	0.50653547	0.86221912	0.587478814	1.702189044	1.159797981	1.974195416
30° 26' 30"	0.50666087	0.86214544	0.587674472	1.701622323	1.159897101	1.973706799

30° 27' 00"

30° 47' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
30° 27' 00"	0.50678626	0.86207174	0.587870163	1.701055883	1.159996263	1.973218467
30° 27' 30"	0.50691163	0.86199802	0.588065889	1.700489723	1.160095466	1.972730417
30° 28' 00"	0.50703700	0.86192429	0.588261647	1.699923843	1.160194710	1.972242651
30° 28' 30"	0.50716236	0.86185053	0.588457439	1.699358243	1.160293996	1.971755167
30° 29' 00"	0.50728770	0.86177676	0.588653265	1.698792923	1.160393324	1.971267966
30° 29' 30"	0.50741304	0.86170297	0.588849124	1.698227882	1.160492693	1.970781048
30° 30' 00"	0.50753836	0.86162916	0.589045016	1.697663119	1.160592104	1.970294411
30° 30' 30"	0.50766368	0.86155533	0.589240943	1.697098636	1.160691556	1.969808057
30° 31' 00"	0.50778898	0.86148149	0.589436902	1.696534431	1.160791050	1.969321984
30° 31' 30"	0.50791427	0.86140762	0.589632896	1.695970505	1.160890586	1.968836193
30° 32' 00"	0.50803955	0.86133374	0.589828923	1.695406856	1.160990163	1.968350682
30° 32' 30"	0.50816482	0.86125984	0.590024984	1.694843486	1.161089782	1.967865453
30° 33' 00"	0.50829008	0.86118592	0.590221078	1.694280393	1.161189442	1.967380505
30° 33' 30"	0.50841533	0.86111198	0.590417206	1.693717578	1.161289144	1.966895837
30° 34' 00"	0.50854057	0.86103803	0.590613368	1.693155040	1.161388888	1.966411450
30° 34' 30"	0.50866580	0.86096406	0.590809563	1.692592779	1.161488674	1.965927343
30° 35' 00"	0.50879101	0.86089006	0.591005792	1.692030795	1.161588501	1.965443515
30° 35' 30"	0.50891622	0.86081605	0.591202055	1.691469087	1.161688370	1.964959967
30° 36' 00"	0.50904142	0.86074203	0.591398351	1.690907656	1.161788281	1.964476699
30° 36' 30"	0.50916660	0.86066798	0.591594682	1.690346500	1.161888234	1.963993710
30° 37' 00"	0.50929177	0.86059392	0.591791046	1.689785621	1.161988228	1.963510999
30° 37' 30"	0.50941694	0.86051983	0.591987444	1.689225017	1.162088264	1.963028568
30° 38' 00"	0.50954209	0.86044573	0.592183876	1.688664689	1.162188342	1.962546415
30° 38' 30"	0.50966723	0.86037161	0.592380341	1.688104635	1.162288462	1.962064540
30° 39' 00"	0.50979236	0.86029748	0.592576841	1.687544857	1.162388624	1.961582944
30° 39' 30"	0.50991748	0.86022332	0.592773374	1.686985353	1.162488827	1.961101625
30° 40' 00"	0.51004259	0.86014915	0.592969941	1.686426124	1.162589072	1.960620584
30° 40' 30"	0.51016769	0.86007496	0.593166542	1.685867169	1.162689360	1.960139820
30° 41' 00"	0.51029278	0.86000075	0.593363178	1.685308489	1.162789689	1.959659333
30° 41' 30"	0.51041785	0.85992652	0.593559847	1.684750082	1.162890060	1.959179123
30° 42' 00"	0.51054292	0.85985227	0.593756550	1.684191948	1.162990473	1.958699190
30° 42' 30"	0.51066797	0.85977801	0.593953287	1.683634088	1.163090928	1.958219534
30° 43' 00"	0.51079302	0.85970372	0.594150057	1.683076501	1.163191425	1.957740154
30° 43' 30"	0.51091805	0.85962942	0.594346862	1.682519187	1.163291964	1.957261050
30° 44' 00"	0.51104307	0.85955510	0.594543701	1.681962146	1.163392545	1.956782221
30° 44' 30"	0.51116809	0.85948077	0.594740574	1.681405377	1.163493168	1.956303668
30° 45' 00"	0.51129309	0.85940641	0.594937482	1.680848881	1.163593832	1.955825391
30° 45' 30"	0.51141808	0.85933204	0.595134423	1.680292656	1.163694539	1.955347389
30° 46' 00"	0.51154306	0.85925765	0.595331398	1.679736704	1.163795288	1.954869661
30° 46' 30"	0.51166802	0.85918324	0.595528407	1.679181022	1.163896080	1.954392209
30° 47' 00"	0.51179298	0.85910881	0.595725451	1.678625613	1.163996913	1.953915031
30° 47' 30"	0.51191793	0.85903436	0.595922529	1.678070474	1.164097788	1.953438127



30° 48' 00"

31° 08' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
30° 48' 00"	0.51204286	0.85895990	0.596119640	1.677515606	1.164198705	1.952961497
30° 48' 30"	0.51216779	0.85888541	0.596316786	1.676961009	1.164299665	1.952485141
30° 49' 00"	0.51229270	0.85881091	0.596513967	1.676406683	1.164400667	1.952009059
30° 49' 30"	0.51241761	0.85873639	0.596711181	1.675852626	1.164501710	1.951533250
30° 50' 00"	0.51254250	0.85866186	0.596908430	1.675298840	1.164602796	1.951057714
30° 50' 30"	0.51266738	0.85858730	0.597105713	1.674745324	1.164703925	1.950582451
30° 51' 00"	0.51279225	0.85851273	0.597303030	1.674192077	1.164805095	1.950107461
30° 51' 30"	0.51291711	0.85843814	0.597500381	1.673639099	1.164906308	1.949632744
30° 52' 00"	0.51304196	0.85836353	0.597697767	1.673086391	1.165007563	1.949158298
30° 52' 30"	0.51316680	0.85828890	0.597895187	1.672533951	1.165108860	1.948684125
30° 53' 00"	0.51329163	0.85821425	0.598092642	1.671981781	1.165210199	1.948210224
30° 53' 30"	0.51341645	0.85813959	0.598290130	1.671429878	1.165311581	1.947736594
30° 54' 00"	0.51354125	0.85806491	0.598487654	1.670878245	1.165413005	1.947263235
30° 54' 30"	0.51366605	0.85799021	0.598685211	1.670326879	1.165514471	1.946790148
30° 55' 00"	0.51379083	0.85791549	0.598882803	1.669775780	1.165615980	1.946317332
30° 55' 30"	0.51391560	0.85784075	0.599080430	1.669224950	1.165717531	1.945844787
30° 56' 00"	0.51404037	0.85776599	0.599278090	1.668674387	1.165819124	1.945372512
30° 56' 30"	0.51416512	0.85769122	0.599475786	1.668124091	1.165920760	1.944900507
30° 57' 00"	0.51428986	0.85761643	0.599673515	1.667574062	1.166022438	1.944428773
30° 57' 30"	0.51441459	0.85754162	0.599871280	1.667024300	1.166124158	1.943957308
30° 58' 00"	0.51453931	0.85746679	0.600069078	1.666474804	1.166225921	1.943486113
30° 58' 30"	0.51466402	0.85739195	0.600266912	1.665925575	1.166327726	1.943015188
30° 59' 00"	0.51478871	0.85731708	0.600464780	1.665376612	1.166429574	1.942544532
30° 59' 30"	0.51491340	0.85724220	0.600662682	1.664827914	1.166531464	1.942074145
31° 00' 00"	0.51503807	0.85716730	0.600860619	1.664279482	1.166633397	1.941604026
31° 00' 30"	0.51516274	0.85709238	0.601058591	1.663731316	1.166735372	1.941134177
31° 01' 00"	0.51528739	0.85701745	0.601256597	1.663183415	1.166837390	1.940664595
31° 01' 30"	0.51541204	0.85694249	0.601454638	1.662635779	1.166939451	1.940195282
31° 02' 00"	0.51553667	0.85686752	0.601652713	1.662088408	1.167041553	1.939726237
31° 02' 30"	0.51566129	0.85679253	0.601850823	1.661541301	1.167143699	1.939257460
31° 03' 00"	0.51578590	0.85671752	0.602048968	1.660994459	1.167245887	1.938788950
31° 03' 30"	0.51591050	0.85664249	0.602247148	1.660447880	1.167348117	1.938320707
31° 04' 00"	0.51603509	0.85656745	0.602445362	1.659901566	1.167450390	1.937852732
31° 04' 30"	0.51615966	0.85649238	0.602643611	1.659355516	1.167552706	1.937385023
31° 05' 00"	0.51628423	0.85641730	0.602841895	1.658809729	1.167655065	1.936917581
31° 05' 30"	0.51640878	0.85634220	0.603040213	1.658264205	1.167757466	1.936450406
31° 06' 00"	0.51653333	0.85626708	0.603238567	1.657718944	1.167859910	1.935983496
31° 06' 30"	0.51665786	0.85619195	0.603436955	1.657173946	1.167962396	1.935516853
31° 07' 00"	0.51678239	0.85611679	0.603635378	1.656629211	1.168064925	1.935050476
31° 07' 30"	0.51690690	0.85604162	0.603833836	1.656084739	1.168167497	1.934584364
31° 08' 00"	0.51703140	0.85596643	0.604032328	1.655540528	1.168270112	1.934118518
31° 08' 30"	0.51715589	0.85589122	0.604230856	1.654996580	1.168372769	1.933652937

31° 09' 00"

31° 29' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
31° 09' 00"	0.51728037	0.85581600	0.604429418	1.654452893	1.168475469	1.933187620
31° 09' 30"	0.51740483	0.85574075	0.604628016	1.653909468	1.168578212	1.932722569
31° 10' 00"	0.51752929	0.85566549	0.604826648	1.653366304	1.168680998	1.932257782
31° 10' 30"	0.51765374	0.85559021	0.605025315	1.652823402	1.168783826	1.931793260
31° 11' 00"	0.51777817	0.85551491	0.605224018	1.652280760	1.168886697	1.931329001
31° 11' 30"	0.51790260	0.85543960	0.605422755	1.651738380	1.168989612	1.930865007
31° 12' 00"	0.51802701	0.85536426	0.605621527	1.651196259	1.169092569	1.930401276
31° 12' 30"	0.51815141	0.85528891	0.605820334	1.650654400	1.169195568	1.929937809
31° 13' 00"	0.51827580	0.85521354	0.606019176	1.650112800	1.169298611	1.929474605
31° 13' 30"	0.51840018	0.85513815	0.606218054	1.649571460	1.169401697	1.929011664
31° 14' 00"	0.51852455	0.85506274	0.606416966	1.649030380	1.169504826	1.928548986
31° 14' 30"	0.51864891	0.85498731	0.606615914	1.648489559	1.169607997	1.928086571
31° 15' 00"	0.51877326	0.85491187	0.606814896	1.647948997	1.169711212	1.927624418
31° 15' 30"	0.51889759	0.85483641	0.607013914	1.647408695	1.169814469	1.927162528
31° 16' 00"	0.51902192	0.85476093	0.607212967	1.646868652	1.169917769	1.926700899
31° 16' 30"	0.51914623	0.85468543	0.607412055	1.646328867	1.170021113	1.926239533
31° 17' 00"	0.51927054	0.85460992	0.607611178	1.645789340	1.170124499	1.925778428
31° 17' 30"	0.51939483	0.85453438	0.607810337	1.645250072	1.170227929	1.925317584
31° 18' 00"	0.51951911	0.85445883	0.608009530	1.644711062	1.170331401	1.924857002
31° 18' 30"	0.51964338	0.85438326	0.608208759	1.644172309	1.170434917	1.924396680
31° 19' 00"	0.51976764	0.85430767	0.608408023	1.643633815	1.170538476	1.923936620
31° 19' 30"	0.51989189	0.85423207	0.608607323	1.643095577	1.170642077	1.923476820
31° 20' 00"	0.52001613	0.85415644	0.608806657	1.642557597	1.170745722	1.923017280
31° 20' 30"	0.52014035	0.85408080	0.609006027	1.642019874	1.170849410	1.922558001
31° 21' 00"	0.52026457	0.85400514	0.609205432	1.641482408	1.170953141	1.922098981
31° 21' 30"	0.52038877	0.85392946	0.609404873	1.640945198	1.171056916	1.921640222
31° 22' 00"	0.52051297	0.85385376	0.609604349	1.640408244	1.171160733	1.921181722
31° 22' 30"	0.52063715	0.85377805	0.609803860	1.639871547	1.171264594	1.920723481
31° 23' 00"	0.52076132	0.85370232	0.610003407	1.639335106	1.171368497	1.920265500
31° 23' 30"	0.52088548	0.85362657	0.610202989	1.638798920	1.171472445	1.919807777
31° 24' 00"	0.52100963	0.85355080	0.610402607	1.638262990	1.171576435	1.919350313
31° 24' 30"	0.52113377	0.85347501	0.610602260	1.637727315	1.171680468	1.918893108
31° 25' 00"	0.52125790	0.85339921	0.610801949	1.637191896	1.171784545	1.918436161
31° 25' 30"	0.52138201	0.85332338	0.611001673	1.636656731	1.171888665	1.917979472
31° 26' 00"	0.52150612	0.85324754	0.611201432	1.636121821	1.171992829	1.917523041
31° 26' 30"	0.52163021	0.85317168	0.611401227	1.635587166	1.172097035	1.917066868
31° 27' 00"	0.52175430	0.85309581	0.611601058	1.635052765	1.172201285	1.916610952
31° 27' 30"	0.52187837	0.85301991	0.611800924	1.634518618	1.172305579	1.916155294
31° 28' 00"	0.52200243	0.85294400	0.612000825	1.633984724	1.172409916	1.915699893
31° 28' 30"	0.52212648	0.85286807	0.612200763	1.633451085	1.172514296	1.915244749
31° 29' 00"	0.52225052	0.85279212	0.612400735	1.632917699	1.172618719	1.914789861
31° 29' 30"	0.52237455	0.85271615	0.612600744	1.632384567	1.172723186	1.914335230

31° 30' 00"

31° 50' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
31° 30' 00"	0.52249856	0.85264016	0.612800788	1.631851687	1.172827697	1.913880855
31° 30' 30"	0.52262257	0.85256416	0.613000868	1.631319061	1.172932250	1.913426737
31° 31' 00"	0.52274657	0.85248814	0.613200983	1.630786687	1.173036848	1.912972874
31° 31' 30"	0.52287055	0.85241210	0.613401135	1.630254565	1.173141488	1.912519267
31° 32' 00"	0.52299452	0.85233604	0.613601322	1.629722696	1.173246173	1.912065916
31° 32' 30"	0.52311848	0.85225997	0.613801544	1.629191079	1.173350900	1.911612820
31° 33' 00"	0.52324243	0.85218387	0.614001803	1.628659714	1.173455672	1.911159978
31° 33' 30"	0.52336637	0.85210776	0.614202097	1.628128600	1.173560487	1.910707392
31° 34' 00"	0.52349030	0.85203163	0.614402427	1.627597738	1.173665345	1.910255061
31° 34' 30"	0.52361422	0.85195549	0.614602792	1.627067127	1.173770247	1.909802984
31° 35' 00"	0.52373813	0.85187932	0.614803194	1.626536768	1.173875192	1.909351161
31° 35' 30"	0.52386202	0.85180314	0.615003631	1.626006659	1.173980182	1.908899593
31° 36' 00"	0.52398591	0.85172693	0.615204105	1.625476801	1.174085214	1.908448278
31° 36' 30"	0.52410978	0.85165071	0.615404614	1.624947193	1.174190291	1.907997217
31° 37' 00"	0.52423364	0.85157448	0.615605159	1.624417836	1.174295411	1.907546410
31° 37' 30"	0.52435749	0.85149822	0.615805740	1.623888729	1.174400574	1.907095856
31° 38' 00"	0.52448133	0.85142195	0.616006357	1.623359871	1.174505782	1.906645555
31° 38' 30"	0.52460516	0.85134566	0.616207010	1.622831263	1.174611033	1.906195507
31° 39' 00"	0.52472898	0.85126935	0.616407698	1.622302905	1.174716328	1.905745711
31° 39' 30"	0.52485278	0.85119302	0.616608423	1.621774796	1.174821666	1.905296168
31° 40' 00"	0.52497658	0.85111667	0.616809184	1.621246936	1.174927049	1.904846878
31° 40' 30"	0.52510036	0.85104031	0.617009981	1.620719325	1.175032475	1.904397839
31° 41' 00"	0.52522414	0.85096393	0.617210814	1.620191963	1.175137945	1.903949053
31° 41' 30"	0.52534790	0.85088753	0.617411683	1.619664849	1.175243458	1.903500518
31° 42' 00"	0.52547165	0.85081111	0.617612588	1.619137983	1.175349016	1.903052235
31° 42' 30"	0.52559539	0.85073467	0.617813529	1.618611366	1.175454617	1.902604203
31° 43' 00"	0.52571912	0.85065822	0.618014506	1.618084996	1.175560262	1.902156422
31° 43' 30"	0.52584284	0.85058175	0.618215520	1.617558874	1.175665951	1.901708893
31° 44' 00"	0.52596654	0.85050526	0.618416569	1.617033000	1.175771684	1.901261613
31° 44' 30"	0.52609024	0.85042875	0.618617655	1.616507373	1.175877461	1.900814585
31° 45' 00"	0.52621392	0.85035222	0.618818777	1.615981993	1.175983282	1.900367807
31° 45' 30"	0.52633760	0.85027568	0.619019935	1.615456860	1.176089146	1.899921279
31° 46' 00"	0.52646126	0.85019912	0.619221129	1.614931973	1.176195055	1.899475001
31° 46' 30"	0.52658491	0.85012254	0.619422360	1.614407333	1.176301007	1.899028972
31° 47' 00"	0.52670855	0.85004594	0.619623627	1.613882940	1.176407004	1.898583194
31° 47' 30"	0.52683218	0.84996933	0.619824930	1.613358792	1.176513044	1.898137664
31° 48' 00"	0.52695580	0.84989269	0.620026269	1.612834891	1.176619129	1.897692384
31° 48' 30"	0.52707940	0.84981604	0.620227645	1.612311235	1.176725257	1.897247353
31° 49' 00"	0.52720300	0.84973937	0.620429057	1.611787825	1.176831430	1.896802571
31° 49' 30"	0.52732658	0.84966268	0.620630505	1.611264660	1.176937647	1.896358037
31° 50' 00"	0.52745015	0.84958598	0.620831990	1.610741740	1.177043907	1.895913752
31° 50' 30"	0.52757372	0.84950926	0.621033511	1.610219066	1.177150212	1.895469715

31° 51' 00"

32° 11' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
31° 51' 00"	0.52769727	0.84943251	0.621235069	1.609696636	1.177256561	1.895025926
31° 51' 30"	0.52782081	0.84935575	0.621436663	1.609174450	1.177362954	1.894582384
31° 52' 00"	0.52794433	0.84927898	0.621638293	1.608652509	1.177469391	1.894139091
31° 52' 30"	0.52806785	0.84920218	0.621839960	1.608130812	1.177575873	1.893696044
31° 53' 00"	0.52819136	0.84912537	0.622041663	1.607609359	1.177682398	1.893253246
31° 53' 30"	0.52831485	0.84904854	0.622243403	1.607088150	1.177788968	1.892810694
31° 54' 00"	0.52843833	0.84897169	0.622445180	1.606567185	1.177895582	1.892368389
31° 54' 30"	0.52856181	0.84889482	0.622646993	1.606046462	1.178002240	1.891926330
31° 55' 00"	0.52868527	0.84881794	0.622848842	1.605525984	1.178108942	1.891484519
31° 55' 30"	0.52880872	0.84874103	0.623050728	1.605005748	1.178215689	1.891042953
31° 56' 00"	0.52893216	0.84866411	0.623252651	1.604485755	1.178322480	1.890601634
31° 56' 30"	0.52905558	0.84858717	0.623454610	1.603966004	1.178429315	1.890160560
31° 57' 00"	0.52917900	0.84851021	0.623656606	1.603446496	1.178536195	1.889719732
31° 57' 30"	0.52930241	0.84843324	0.623858639	1.602927230	1.178643119	1.889279150
31° 58' 00"	0.52942580	0.84835625	0.624060708	1.602408207	1.178750087	1.888838813
31° 58' 30"	0.52954918	0.84827924	0.624262814	1.601889425	1.178857099	1.888398721
31° 59' 00"	0.52967255	0.84820221	0.624464956	1.601370885	1.178964156	1.887958874
31° 59' 30"	0.52979592	0.84812516	0.624667136	1.600852586	1.179071258	1.887519272
32° 00' 00"	0.52991926	0.84804810	0.624869352	1.600334529	1.179178403	1.887079915
32° 00' 30"	0.53004260	0.84797101	0.625071605	1.599816713	1.179285594	1.886640802
32° 01' 00"	0.53016593	0.84789391	0.625273894	1.599299138	1.179392828	1.886201933
32° 01' 30"	0.53028924	0.84781679	0.625476221	1.598781803	1.179500107	1.885763308
32° 02' 00"	0.53041255	0.84773966	0.625678584	1.598264709	1.179607431	1.885324927
32° 02' 30"	0.53053584	0.84766250	0.625880984	1.597747855	1.179714799	1.884886789
32° 03' 00"	0.53065912	0.84758533	0.626083421	1.597231242	1.179822211	1.884448896
32° 03' 30"	0.53078239	0.84750814	0.626285895	1.596714868	1.179929668	1.884011245
32° 04' 00"	0.53090565	0.84743093	0.626488405	1.596198735	1.180037170	1.883573837
32° 04' 30"	0.53102890	0.84735371	0.626690953	1.595682840	1.180144716	1.883136672
32° 05' 00"	0.53115214	0.84727646	0.626893538	1.595167186	1.180252307	1.882699750
32° 05' 30"	0.53127537	0.84719920	0.627096159	1.594651770	1.180359942	1.882263071
32° 06' 00"	0.53139858	0.84712192	0.627298817	1.594136594	1.180467622	1.881826634
32° 06' 30"	0.53152178	0.84704462	0.627501513	1.593621656	1.180575346	1.881390439
32° 07' 00"	0.53164497	0.84696731	0.627704245	1.593106957	1.180683116	1.880954485
32° 07' 30"	0.53176816	0.84688997	0.627907015	1.592592496	1.180790929	1.880518774
32° 08' 00"	0.53189133	0.84681262	0.628109821	1.592078274	1.180898788	1.880083304
32° 08' 30"	0.53201448	0.84673525	0.628312665	1.591564290	1.181006691	1.879648076
32° 09' 00"	0.53213763	0.84665787	0.628515545	1.591050544	1.181114639	1.879213089
32° 09' 30"	0.53226077	0.84658046	0.628718463	1.590537035	1.181222632	1.878778342
32° 10' 00"	0.53238389	0.84650304	0.628921418	1.590023764	1.181330669	1.878343837
32° 10' 30"	0.53250700	0.84642560	0.629124410	1.589510730	1.181438751	1.877909572
32° 11' 00"	0.53263011	0.84634814	0.629327439	1.588997934	1.181546878	1.877475548
32° 11' 30"	0.53275320	0.84627066	0.629530505	1.588485374	1.181655050	1.877041764

32° 12' 00"

32° 32' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
32° 12' 00"	0.53287628	0.84619317	0.629733609	1.587973051	1.181763266	1.876608220
32° 12' 30"	0.53299934	0.84611565	0.629936749	1.587460965	1.181871528	1.876174916
32° 13' 00"	0.53312240	0.84603812	0.630139927	1.586949115	1.181979834	1.875741852
32° 13' 30"	0.53324545	0.84596057	0.630343142	1.586437502	1.182088185	1.875309027
32° 14' 00"	0.53336848	0.84588301	0.630546395	1.585926124	1.182196581	1.874876442
32° 14' 30"	0.53349150	0.84580542	0.630749684	1.585414983	1.182305022	1.874444096
32° 15' 00"	0.53361452	0.84572782	0.630953011	1.584904077	1.182413507	1.874011988
32° 15' 30"	0.53373752	0.84565020	0.631156376	1.584393406	1.182522038	1.873580120
32° 16' 00"	0.53386051	0.84557256	0.631359777	1.583882971	1.182630614	1.873148490
32° 16' 30"	0.53398348	0.84549491	0.631563216	1.583372771	1.182739234	1.872717099
32° 17' 00"	0.53410645	0.84541723	0.631766693	1.582862806	1.182847900	1.872285946
32° 17' 30"	0.53422941	0.84533954	0.631970207	1.582353076	1.182956610	1.871855031
32° 18' 00"	0.53435235	0.84526183	0.632173758	1.581843580	1.183065366	1.871424354
32° 18' 30"	0.53447528	0.84518411	0.632377346	1.581334318	1.183174166	1.870993914
32° 19' 00"	0.53459820	0.84510636	0.632580972	1.580825291	1.183283012	1.870563712
32° 19' 30"	0.53472111	0.84502860	0.632784636	1.580316498	1.183391903	1.870133748
32° 20' 00"	0.53484401	0.84495082	0.632988337	1.579807939	1.183500839	1.869704020
32° 20' 30"	0.53496690	0.84487302	0.633192076	1.579299613	1.183609819	1.869274530
32° 21' 00"	0.53508978	0.84479520	0.633395852	1.578791521	1.183718845	1.868845276
32° 21' 30"	0.53521264	0.84471737	0.633599665	1.578283662	1.183827917	1.868416259
32° 22' 00"	0.53533549	0.84463951	0.633803517	1.577776036	1.183937033	1.867987478
32° 22' 30"	0.53545834	0.84456164	0.634007405	1.577268643	1.184046194	1.867558934
32° 23' 00"	0.53558117	0.84448376	0.634211332	1.576761483	1.184155401	1.867130626
32° 23' 30"	0.53570399	0.84440585	0.634415296	1.576254555	1.184264653	1.866702553
32° 24' 00"	0.53582679	0.84432793	0.634619298	1.575747860	1.184373950	1.866274717
32° 24' 30"	0.53594959	0.84424998	0.634823337	1.575241397	1.184483292	1.865847116
32° 25' 00"	0.53607238	0.84417202	0.635027414	1.574735166	1.184592680	1.865419750
32° 25' 30"	0.53619515	0.84409405	0.635231529	1.574229167	1.184702112	1.864992619
32° 26' 00"	0.53631791	0.84401605	0.635435681	1.573723399	1.184811590	1.864565724
32° 26' 30"	0.53644067	0.84393804	0.635639871	1.573217863	1.184921114	1.864139063
32° 27' 00"	0.53656341	0.84386001	0.635844099	1.572712558	1.185030682	1.863712637
32° 27' 30"	0.53668613	0.84378196	0.636048365	1.572207485	1.185140297	1.863286445
32° 28' 00"	0.53680885	0.84370389	0.636252668	1.571702642	1.185249956	1.862860487
32° 28' 30"	0.53693156	0.84362581	0.636457010	1.571198030	1.185359661	1.862434764
32° 29' 00"	0.53705425	0.84354770	0.636661389	1.570693649	1.185469411	1.862009275
32° 29' 30"	0.53717694	0.84346958	0.636865806	1.570189498	1.185579206	1.861584019
32° 30' 00"	0.53729961	0.84339145	0.637070261	1.569685577	1.185689047	1.861158997
32° 30' 30"	0.53742227	0.84331329	0.637274754	1.569181886	1.185798934	1.860734208
32° 31' 00"	0.53754492	0.84323512	0.637479284	1.568678426	1.185908866	1.860309652
32° 31' 30"	0.53766756	0.84315692	0.637683853	1.568175194	1.186018843	1.859885330
32° 32' 00"	0.53779018	0.84307871	0.637888459	1.567672193	1.186128866	1.859461240
32° 32' 30"	0.53791280	0.84300049	0.638093104	1.567169420	1.186238934	1.859037383

32° 33' 00"

32° 53' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
32° 33' 00"	0.53803540	0.84292224	0.638297787	1.566666877	1.186349048	1.858613759
32° 33' 30"	0.53815799	0.84284398	0.638502507	1.566164563	1.186459208	1.858190367
32° 34' 00"	0.53828057	0.84276570	0.638707266	1.565662478	1.186569413	1.857767207
32° 34' 30"	0.53840314	0.84268740	0.638912062	1.565160621	1.186679663	1.857344278
32° 35' 00"	0.53852570	0.84260908	0.639116897	1.564658992	1.186789960	1.856921582
32° 35' 30"	0.53864825	0.84253075	0.639321770	1.564157592	1.186900301	1.856499118
32° 36' 00"	0.53877079	0.84245240	0.639526681	1.563656420	1.187010689	1.856076884
32° 36' 30"	0.53889331	0.84237403	0.639731630	1.563155476	1.187121122	1.855654882
32° 37' 00"	0.53901582	0.84229564	0.639936617	1.562654760	1.187231601	1.855233112
32° 37' 30"	0.53913832	0.84221723	0.640141642	1.562154271	1.187342125	1.854811572
32° 38' 00"	0.53926081	0.84213881	0.640346705	1.561654009	1.187452695	1.854390262
32° 38' 30"	0.53938329	0.84206037	0.640551807	1.561153975	1.187563311	1.853969184
32° 39' 00"	0.53950576	0.84198191	0.640756947	1.560654168	1.187673973	1.853548335
32° 39' 30"	0.53962821	0.84190343	0.640962125	1.560154587	1.187784680	1.853127717
32° 40' 00"	0.53975066	0.84182494	0.641167342	1.559655234	1.187895433	1.852707329
32° 40' 30"	0.53987309	0.84174643	0.641372596	1.559156107	1.188006232	1.852287171
32° 41' 00"	0.53999551	0.84166790	0.641577889	1.558657206	1.188117077	1.851867243
32° 41' 30"	0.54011792	0.84158935	0.641783221	1.558158531	1.188227967	1.851447544
32° 42' 00"	0.54024032	0.84151078	0.641988590	1.557660082	1.188338904	1.851028074
32° 42' 30"	0.54036271	0.84143220	0.642193998	1.557161859	1.188449886	1.850608834
32° 43' 00"	0.54048508	0.84135360	0.642399444	1.556663862	1.188560914	1.850189822
32° 43' 30"	0.54060745	0.84127498	0.642604929	1.556166090	1.188671988	1.849771040
32° 44' 00"	0.54072980	0.84119634	0.642810452	1.555668543	1.188783108	1.849352486
32° 44' 30"	0.54085214	0.84111769	0.643016014	1.555171222	1.188894274	1.848934160
32° 45' 00"	0.54097447	0.84103901	0.643221614	1.554674125	1.189005486	1.848516063
32° 45' 30"	0.54109679	0.84096032	0.643427253	1.554177253	1.189116743	1.848098194
32° 46' 00"	0.54121910	0.84088161	0.643632930	1.553680606	1.189228047	1.847680553
32° 46' 30"	0.54134139	0.84080289	0.643838645	1.553184183	1.189339397	1.847263140
32° 47' 00"	0.54146368	0.84072414	0.644044399	1.552687984	1.189450793	1.846845954
32° 47' 30"	0.54158595	0.84064538	0.644250192	1.552192010	1.189562234	1.846428996
32° 48' 00"	0.54170821	0.84056660	0.644456023	1.551696259	1.189673722	1.846012265
32° 48' 30"	0.54183046	0.84048781	0.644661893	1.551200732	1.189785256	1.845595761
32° 49' 00"	0.54195270	0.84040899	0.644867801	1.550705429	1.189896836	1.845179484
32° 49' 30"	0.54207493	0.84033016	0.645073748	1.550210349	1.190008462	1.844763434
32° 50' 00"	0.54219714	0.84025131	0.645279734	1.549715492	1.190120135	1.844347610
32° 50' 30"	0.54231934	0.84017244	0.645485758	1.549220858	1.190231853	1.843932013
32° 51' 00"	0.54244154	0.84009355	0.645691821	1.548726447	1.190343618	1.843516642
32° 51' 30"	0.54256372	0.84001465	0.645897923	1.548232259	1.190455428	1.843101497
32° 52' 00"	0.54268589	0.83993573	0.646104063	1.547738293	1.190567285	1.842686578
32° 52' 30"	0.54280804	0.83985679	0.646310242	1.547244550	1.190679188	1.842271885
32° 53' 00"	0.54293019	0.83977783	0.646516460	1.546751029	1.190791138	1.841857417
32° 53' 30"	0.54305233	0.83969886	0.646722717	1.546257729	1.190903133	1.841443175

32° 54' 00"

33° 14' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
32° 54' 00"	0.54317445	0.83961986	0.646929013	1.545764652	1.191015175	1.841029158
32° 54' 30"	0.54329656	0.83954085	0.647135347	1.545271796	1.191127263	1.840615366
32° 55' 00"	0.54341866	0.83946183	0.647341720	1.544779162	1.191239398	1.840201798
32° 55' 30"	0.54354075	0.83938278	0.647548132	1.544286749	1.191351579	1.839788456
32° 56' 00"	0.54366283	0.83930372	0.647754583	1.543794557	1.191463806	1.839375338
32° 56' 30"	0.54378490	0.83922463	0.647961073	1.543302586	1.191576079	1.838962445
32° 57' 00"	0.54390695	0.83914554	0.648167602	1.542810836	1.191688399	1.838549775
32° 57' 30"	0.54402899	0.83906642	0.648374170	1.542319307	1.191800765	1.838137330
32° 58' 00"	0.54415102	0.83898728	0.648580776	1.541827998	1.191913178	1.837725109
32° 58' 30"	0.54427304	0.83890813	0.648787422	1.541336909	1.192025637	1.837313111
32° 59' 00"	0.54439505	0.83882896	0.648994107	1.540846041	1.192138142	1.836901337
32° 59' 30"	0.54451705	0.83874977	0.649200830	1.540355393	1.192250694	1.836489786
33° 00' 00"	0.54463904	0.83867057	0.649407593	1.539864964	1.192363293	1.836078459
33° 00' 30"	0.54476101	0.83859134	0.649614395	1.539374755	1.192475938	1.835667354
33° 01' 00"	0.54488297	0.83851210	0.649821236	1.538884765	1.192588629	1.835256473
33° 01' 30"	0.54500492	0.83843284	0.650028116	1.538394995	1.192701367	1.834845814
33° 02' 00"	0.54512686	0.83835357	0.650235035	1.537905444	1.192814152	1.834435377
33° 02' 30"	0.54524879	0.83827427	0.650441993	1.537416111	1.192926983	1.834025163
33° 03' 00"	0.54537071	0.83819496	0.650648991	1.536926998	1.193039861	1.833615171
33° 03' 30"	0.54549261	0.83811563	0.650856027	1.536438103	1.193152785	1.833205402
33° 04' 00"	0.54561450	0.83803628	0.651063103	1.535949427	1.193265756	1.832795854
33° 04' 30"	0.54573639	0.83795692	0.651270218	1.535460969	1.193378773	1.832386528
33° 05' 00"	0.54585826	0.83787754	0.651477372	1.534972729	1.193491838	1.831977423
33° 05' 30"	0.54598011	0.83779814	0.651684566	1.534484707	1.193604949	1.831568540
33° 06' 00"	0.54610196	0.83771872	0.651891799	1.533996902	1.193718106	1.831159877
33° 06' 30"	0.54622380	0.83763928	0.652099071	1.533509316	1.193831311	1.830751436
33° 07' 00"	0.54634562	0.83755983	0.652306382	1.533021947	1.193944562	1.830343216
33° 07' 30"	0.54646743	0.83748035	0.652513733	1.532534795	1.194057859	1.829935217
33° 08' 00"	0.54658923	0.83740087	0.652721123	1.532047860	1.194171204	1.829527438
33° 08' 30"	0.54671102	0.83732136	0.652928553	1.531561142	1.194284595	1.829119879
33° 09' 00"	0.54683280	0.83724183	0.653136022	1.531074641	1.194398034	1.828712541
33° 09' 30"	0.54695457	0.83716229	0.653343530	1.530588357	1.194511519	1.828305423
33° 10' 00"	0.54707632	0.83708273	0.653551078	1.530102289	1.194625050	1.827898524
33° 10' 30"	0.54719806	0.83700315	0.653758665	1.529616437	1.194738629	1.827491846
33° 11' 00"	0.54731980	0.83692356	0.653966292	1.529130802	1.194852255	1.827085386
33° 11' 30"	0.54744152	0.83684394	0.654173958	1.528645382	1.194965927	1.826679147
33° 12' 00"	0.54756322	0.83676431	0.654381664	1.528160179	1.195079647	1.826273126
33° 12' 30"	0.54768492	0.83668466	0.654589409	1.527675191	1.195193413	1.825867325
33° 13' 00"	0.54780661	0.83660500	0.654797194	1.527190418	1.195307226	1.825461742
33° 13' 30"	0.54792828	0.83652531	0.655005018	1.526705861	1.195421086	1.825056379
33° 14' 00"	0.54804994	0.83644561	0.655212882	1.526221519	1.195534994	1.824651233
33° 14' 30"	0.54817159	0.83636589	0.655420786	1.525737391	1.195648948	1.824246307

33° 15' 00"

33° 35' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
33° 15' 00"	0.54829323	0.83628616	0.655628729	1.525253479	1.195762949	1.823841598
33° 15' 30"	0.54841486	0.83620640	0.655836712	1.524769781	1.195876997	1.823437108
33° 16' 00"	0.54853647	0.83612663	0.656044735	1.524286298	1.195991093	1.823032835
33° 16' 30"	0.54865808	0.83604684	0.656252797	1.523803029	1.196105235	1.822628781
33° 17' 00"	0.54877967	0.83596703	0.656460899	1.523319974	1.196219425	1.822224943
33° 17' 30"	0.54890125	0.83588720	0.656669041	1.522837134	1.196333661	1.821821324
33° 18' 00"	0.54902282	0.83580736	0.656877222	1.522354507	1.196447945	1.821417921
33° 18' 30"	0.54914438	0.83572750	0.657085444	1.521872094	1.196562276	1.821014736
33° 19' 00"	0.54926592	0.83564762	0.657293705	1.521389894	1.196676654	1.820611768
33° 19' 30"	0.54938746	0.83556773	0.657502006	1.520907908	1.196791079	1.820209016
33° 20' 00"	0.54950898	0.83548781	0.657710347	1.520426135	1.196905552	1.819806482
33° 20' 30"	0.54963049	0.83540788	0.657918727	1.519944574	1.197020072	1.819404163
33° 21' 00"	0.54975199	0.83532793	0.658127148	1.519463227	1.197134639	1.819002061
33° 21' 30"	0.54987348	0.83524796	0.658335608	1.518982093	1.197249253	1.818600175
33° 22' 00"	0.54999495	0.83516798	0.658544109	1.518501171	1.197363914	1.818198505
33° 22' 30"	0.55011642	0.83508798	0.658752649	1.518020461	1.197478623	1.817797051
33° 23' 00"	0.55023787	0.83500796	0.658961229	1.517539964	1.197593379	1.817395813
33° 23' 30"	0.55035931	0.83492792	0.659169850	1.517059678	1.197708183	1.816994790
33° 24' 00"	0.55048074	0.83484786	0.659378510	1.516579605	1.197823033	1.816593983
33° 24' 30"	0.55060216	0.83476779	0.659587210	1.516099743	1.197937932	1.816193390
33° 25' 00"	0.55072356	0.83468770	0.659795951	1.515620093	1.198052877	1.815793013
33° 25' 30"	0.55084496	0.83460759	0.660004731	1.515140654	1.198167870	1.815392851
33° 26' 00"	0.55096634	0.83452747	0.660213552	1.514661427	1.198282911	1.814992903
33° 26' 30"	0.55108771	0.83444732	0.660422412	1.514182411	1.198397998	1.814593170
33° 27' 00"	0.55120907	0.83436716	0.660631313	1.513703605	1.198513134	1.814193651
33° 27' 30"	0.55133042	0.83428698	0.660840254	1.513225011	1.198628316	1.813794347
33° 28' 00"	0.55145176	0.83420678	0.661049235	1.512746627	1.198743547	1.813395256
33° 28' 30"	0.55157308	0.83412657	0.661258256	1.512268453	1.198858825	1.812996380
33° 29' 00"	0.55169439	0.83404634	0.661467318	1.511790490	1.198974150	1.812597717
33° 29' 30"	0.55181570	0.83396609	0.661676419	1.511312737	1.199089523	1.812199268
33° 30' 00"	0.55193699	0.83388582	0.661885561	1.510835194	1.199204943	1.811801033
33° 30' 30"	0.55205826	0.83380554	0.662094743	1.510357860	1.199320411	1.811403010
33° 31' 00"	0.55217953	0.83372523	0.662303966	1.509880737	1.199435927	1.811005201
33° 31' 30"	0.55230078	0.83364491	0.662513229	1.509403823	1.199551490	1.810607605
33° 32' 00"	0.55242203	0.83356458	0.662722532	1.508927118	1.199667101	1.810210222
33° 32' 30"	0.55254326	0.83348422	0.662931875	1.508450622	1.199782760	1.809813051
33° 33' 00"	0.55266448	0.83340385	0.663141259	1.507974336	1.199898466	1.809416093
33° 33' 30"	0.55278569	0.83332346	0.663350684	1.507498258	1.200014220	1.809019347
33° 34' 00"	0.55290688	0.83324305	0.663560148	1.507022389	1.200130022	1.808622814
33° 34' 30"	0.55302807	0.83316262	0.663769653	1.506546729	1.200245872	1.808226492
33° 35' 00"	0.55314924	0.83308218	0.663979199	1.506071277	1.200361769	1.807830382
33° 35' 30"	0.55327040	0.83300172	0.664188785	1.505596033	1.200477714	1.807434484



33° 36' 00"

33° 56' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
33° 36' 00"	0.55339155	0.83292124	0.664398412	1.505120998	1.200593707	1.807038798
33° 36' 30"	0.55351269	0.83284074	0.664608079	1.504646170	1.200709748	1.806643323
33° 37' 00"	0.55363381	0.83276023	0.664817786	1.504171550	1.200825836	1.806248059
33° 37' 30"	0.55375493	0.83267970	0.665027534	1.503697138	1.200941973	1.805853007
33° 38' 00"	0.55387603	0.83259915	0.665237323	1.503222933	1.201058157	1.805458165
33° 38' 30"	0.55399712	0.83251858	0.665447152	1.502748936	1.201174389	1.805063534
33° 39' 00"	0.55411820	0.83243800	0.665657022	1.502275145	1.201290669	1.804669114
33° 39' 30"	0.55423927	0.83235740	0.665866933	1.501801562	1.201406997	1.804274905
33° 40' 00"	0.55436032	0.83227678	0.666076884	1.501328185	1.201523373	1.803880905
33° 40' 30"	0.55448137	0.83219614	0.666286876	1.500855016	1.201639797	1.803487116
33° 41' 00"	0.55460240	0.83211548	0.666496909	1.500382052	1.201756269	1.803093537
33° 41' 30"	0.55472342	0.83203481	0.666706982	1.499909295	1.201872789	1.802700168
33° 42' 00"	0.55484443	0.83195412	0.666917096	1.499436745	1.201989357	1.802307008
33° 42' 30"	0.55496542	0.83187341	0.667127251	1.498964400	1.202105973	1.801914058
33° 43' 00"	0.55508641	0.83179269	0.667337447	1.498492261	1.202222637	1.801521318
33° 43' 30"	0.55520738	0.83171195	0.667547683	1.498020328	1.202339349	1.801128786
33° 44' 00"	0.55532834	0.83163119	0.667757961	1.497548601	1.202456109	1.800736464
33° 44' 30"	0.55544929	0.83155041	0.667968279	1.497077079	1.202572917	1.800344351
33° 45' 00"	0.55557023	0.83146961	0.668178638	1.496605763	1.202689774	1.799952446
33° 45' 30"	0.55569116	0.83138880	0.668389038	1.496134651	1.202806679	1.799560750
33° 46' 00"	0.55581207	0.83130797	0.668599479	1.495663745	1.202923631	1.799169263
33° 46' 30"	0.55593298	0.83122712	0.668809960	1.495193043	1.203040632	1.798777984
33° 47' 00"	0.55605387	0.83114625	0.669020483	1.494722546	1.203157682	1.798386913
33° 47' 30"	0.55617475	0.83106537	0.669231047	1.494252254	1.203274779	1.797996051
33° 48' 00"	0.55629562	0.83098447	0.669441652	1.493782166	1.203391925	1.797605396
33° 48' 30"	0.55641647	0.83090355	0.669652297	1.493312282	1.203509119	1.797214948
33° 49' 00"	0.55653732	0.83082261	0.669862984	1.492842602	1.203626361	1.796824709
33° 49' 30"	0.55665815	0.83074166	0.670073712	1.492373126	1.203743652	1.796434677
33° 50' 00"	0.55677897	0.83066069	0.670284481	1.491903854	1.203860991	1.796044852
33° 50' 30"	0.55689978	0.83057970	0.670495291	1.491434786	1.203978378	1.795655234
33° 51' 00"	0.55702057	0.83049869	0.670706142	1.490965921	1.204095814	1.795265823
33° 51' 30"	0.55714136	0.83041767	0.670917034	1.490497259	1.204213298	1.794876619
33° 52' 00"	0.55726213	0.83033663	0.671127967	1.490028800	1.204330830	1.794487622
33° 52' 30"	0.55738289	0.83025557	0.671338942	1.489560545	1.204448411	1.794098831
33° 53' 00"	0.55750364	0.83017449	0.671549958	1.489092492	1.204566040	1.793710247
33° 53' 30"	0.55762438	0.83009340	0.671761015	1.488624642	1.204683718	1.793321869
33° 54' 00"	0.55774511	0.83001229	0.671972113	1.488156995	1.204801444	1.792933697
33° 54' 30"	0.55786582	0.82993116	0.672183252	1.487689549	1.204919219	1.792545730
33° 55' 00"	0.55798653	0.82985001	0.672394433	1.487222307	1.205037043	1.792157970
33° 55' 30"	0.55810722	0.82976884	0.672605655	1.486755266	1.205154914	1.791770415
33° 56' 00"	0.55822790	0.82968766	0.672816919	1.486288427	1.205272835	1.791383066
33° 56' 30"	0.55834856	0.82960646	0.673028224	1.485821790	1.205390804	1.790995922

33° 57' 00"

34° 17' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
33° 57' 00"	0.55846922	0.82952524	0.673239570	1.485355355	1.205508821	1.790608983
33° 57' 30"	0.55858986	0.82944401	0.673450957	1.484889121	1.205626888	1.790222249
33° 58' 00"	0.55871049	0.82936276	0.673662386	1.484423088	1.205745002	1.789835720
33° 58' 30"	0.55883111	0.82928149	0.673873857	1.483957257	1.205863166	1.789449396
33° 59' 00"	0.55895172	0.82920020	0.674085369	1.483491627	1.205981378	1.789063276
33° 59' 30"	0.55907232	0.82911890	0.674296922	1.483026197	1.206099639	1.788677361
34° 00' 00"	0.55919290	0.82903757	0.674508517	1.482560969	1.206217949	1.788291650
34° 00' 30"	0.55931348	0.82895623	0.674720153	1.482095940	1.206336307	1.787906143
34° 01' 00"	0.55943404	0.82887487	0.674931831	1.481631113	1.206454714	1.787520840
34° 01' 30"	0.55955459	0.82879350	0.675143551	1.481166485	1.206573170	1.787135741
34° 02' 00"	0.55967512	0.82871211	0.675355312	1.480702058	1.206691674	1.786750846
34° 02' 30"	0.55979565	0.82863070	0.675567114	1.480237831	1.206810228	1.786366154
34° 03' 00"	0.55991616	0.82854927	0.675778959	1.479773804	1.206928830	1.785981666
34° 03' 30"	0.56003666	0.82846782	0.675990845	1.479309976	1.207047481	1.785597380
34° 04' 00"	0.56015715	0.82838636	0.676202772	1.478846348	1.207166181	1.785213298
34° 04' 30"	0.56027763	0.82830488	0.676414741	1.478382919	1.207284930	1.784829419
34° 05' 00"	0.56039810	0.82822338	0.676626752	1.477919690	1.207403728	1.784445743
34° 05' 30"	0.56051855	0.82814187	0.676838805	1.477456659	1.207522575	1.784062269
34° 06' 00"	0.56063899	0.82806033	0.677050900	1.476993828	1.207641470	1.783678998
34° 06' 30"	0.56075943	0.82797878	0.677263036	1.476531195	1.207760415	1.783295929
34° 07' 00"	0.56087984	0.82789722	0.677475214	1.476068761	1.207879409	1.782913062
34° 07' 30"	0.56100025	0.82781563	0.677687434	1.475606526	1.207998451	1.782530398
34° 08' 00"	0.56112065	0.82773403	0.677899696	1.475144489	1.208117543	1.782147935
34° 08' 30"	0.56124103	0.82765241	0.678111999	1.474682650	1.208236684	1.781765674
34° 09' 00"	0.56136140	0.82757077	0.678324345	1.474221009	1.208355873	1.781383615
34° 09' 30"	0.56148176	0.82748911	0.678536732	1.473759566	1.208475112	1.781001757
34° 10' 00"	0.56160211	0.82740744	0.678749161	1.473298321	1.208594400	1.780620101
34° 10' 30"	0.56172244	0.82732575	0.678961633	1.472837274	1.208713737	1.780238646
34° 11' 00"	0.56184277	0.82724404	0.679174146	1.472376424	1.208833123	1.779857391
34° 11' 30"	0.56196308	0.82716232	0.679386701	1.471915771	1.208952559	1.779476338
34° 12' 00"	0.56208338	0.82708057	0.679599298	1.471455316	1.209072043	1.779095485
34° 12' 30"	0.56220367	0.82699881	0.679811937	1.470995057	1.209191577	1.778714834
34° 13' 00"	0.56232394	0.82691704	0.680024619	1.470534996	1.209311160	1.778334382
34° 13' 30"	0.56244421	0.82683524	0.680237342	1.470075131	1.209430792	1.777954131
34° 14' 00"	0.56256446	0.82675343	0.680450108	1.469615463	1.209550474	1.777574080
34° 14' 30"	0.56268470	0.82667160	0.680662915	1.469155991	1.209670205	1.777194229
34° 15' 00"	0.56280493	0.82658975	0.680875765	1.468696716	1.209789985	1.776814578
34° 15' 30"	0.56292514	0.82650788	0.681088657	1.468237637	1.209909814	1.776435126
34° 16' 00"	0.56304535	0.82642600	0.681301591	1.467778754	1.210029693	1.776055875
34° 16' 30"	0.56316554	0.82634410	0.681514567	1.467320067	1.210149621	1.775676822
34° 17' 00"	0.56328572	0.82626218	0.681727586	1.466861575	1.210269598	1.775297969
34° 17' 30"	0.56340589	0.82618025	0.681940646	1.466403279	1.210389625	1.774919316

34° 18' 00"

34° 38' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
34° 18' 00"	0.56352605	0.82609829	0.682153749	1.465945179	1.210509702	1.774540861
34° 18' 30"	0.56364619	0.82601632	0.682366895	1.465487274	1.210629827	1.774162605
34° 19' 00"	0.56376633	0.82593434	0.682580082	1.465029563	1.210750003	1.773784548
34° 19' 30"	0.56388645	0.82585233	0.682793312	1.464572049	1.210870227	1.773406689
34° 20' 00"	0.56400656	0.82577031	0.683006585	1.464114728	1.210990501	1.773029029
34° 20' 30"	0.56412666	0.82568827	0.683219899	1.463657603	1.211110825	1.772651567
34° 21' 00"	0.56424674	0.82560621	0.683433256	1.463200672	1.211231198	1.772274304
34° 21' 30"	0.56436681	0.82552414	0.683646656	1.462743936	1.211351621	1.771897238
34° 22' 00"	0.56448688	0.82544204	0.683860098	1.462287394	1.211472093	1.771520370
34° 22' 30"	0.56460693	0.82535993	0.684073582	1.461831046	1.211592615	1.771143700
34° 23' 00"	0.56472696	0.82527781	0.684287109	1.461374892	1.211713187	1.770767228
34° 23' 30"	0.56484699	0.82519566	0.684500678	1.460918932	1.211833808	1.770390953
34° 24' 00"	0.56496700	0.82511350	0.684714290	1.460463166	1.211954479	1.770014875
34° 24' 30"	0.56508701	0.82503132	0.684927945	1.460007593	1.212075200	1.769638995
34° 25' 00"	0.56520700	0.82494912	0.685141642	1.459552214	1.212195970	1.769263311
34° 25' 30"	0.56532697	0.82486691	0.685355382	1.459097028	1.212316790	1.768887825
34° 26' 00"	0.56544694	0.82478467	0.685569164	1.458642035	1.212437660	1.768512535
34° 26' 30"	0.56556689	0.82470242	0.685782989	1.458187235	1.212558579	1.768137442
34° 27' 00"	0.56568684	0.82462016	0.685996856	1.457732628	1.212679548	1.767762545
34° 27' 30"	0.56580677	0.82453787	0.686210766	1.457278214	1.212800567	1.767387844
34° 28' 00"	0.56592668	0.82445557	0.686424719	1.456823992	1.212921636	1.767013340
34° 28' 30"	0.56604659	0.82437325	0.686638715	1.456369963	1.213042755	1.766639032
34° 29' 00"	0.56616648	0.82429091	0.686852753	1.455916126	1.213163923	1.766264920
34° 29' 30"	0.56628637	0.82420856	0.687066835	1.455462481	1.213285142	1.765891003
34° 30' 00"	0.56640624	0.82412619	0.687280959	1.455009029	1.213406410	1.765517282
34° 30' 30"	0.56652610	0.82404380	0.687495125	1.454555768	1.213527728	1.765143757
34° 31' 00"	0.56664594	0.82396139	0.687709335	1.454102699	1.213649097	1.764770427
34° 31' 30"	0.56676578	0.82387897	0.687923587	1.453649821	1.213770515	1.764397292
34° 32' 00"	0.56688560	0.82379653	0.688137883	1.453197135	1.213891983	1.764024352
34° 32' 30"	0.56700541	0.82371407	0.688352221	1.452744641	1.214013501	1.763651607
34° 33' 00"	0.56712521	0.82363159	0.688566602	1.452292337	1.214135069	1.763279057
34° 33' 30"	0.56724499	0.82354910	0.688781026	1.451840225	1.214256687	1.762906701
34° 34' 00"	0.56736477	0.82346659	0.688995493	1.451388303	1.214378355	1.762534540
34° 34' 30"	0.56748453	0.82338406	0.689210004	1.450936572	1.214500074	1.762162574
34° 35' 00"	0.56760428	0.82330151	0.689424557	1.450485032	1.214621842	1.761790801
34° 35' 30"	0.56772402	0.82321895	0.689639153	1.450033682	1.214743661	1.761419223
34° 36' 00"	0.56784375	0.82313637	0.689853792	1.449582523	1.214865529	1.761047839
34° 36' 30"	0.56796346	0.82305377	0.690068474	1.449131554	1.214987448	1.760676648
34° 37' 00"	0.56808316	0.82297115	0.690283199	1.448680775	1.215109417	1.760305651
34° 37' 30"	0.56820285	0.82288852	0.690497968	1.448230185	1.215231436	1.759934848
34° 38' 00"	0.56832253	0.82280587	0.690712780	1.447779786	1.215353506	1.759564238
34° 38' 30"	0.56844220	0.82272320	0.690927634	1.447329576	1.215475625	1.759193822

34° 39' 00"

34° 59' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
34° 39' 00"	0.56856185	0.82264052	0.691142532	1.446879556	1.215597795	1.758823598
34° 39' 30"	0.56868149	0.82255782	0.691357473	1.446429725	1.215720015	1.758453567
34° 40' 00"	0.56880112	0.82247510	0.691572458	1.445980083	1.215842286	1.758083730
34° 40' 30"	0.56892074	0.82239236	0.691787485	1.445530631	1.215964607	1.757714085
34° 41' 00"	0.56904035	0.82230960	0.692002556	1.445081367	1.216086978	1.757344632
34° 41' 30"	0.56915994	0.82222683	0.692217671	1.444632292	1.216209399	1.756975372
34° 42' 00"	0.56927952	0.82214404	0.692432828	1.444183406	1.216331871	1.756606305
34° 42' 30"	0.56939909	0.82206123	0.692648029	1.443734708	1.216454394	1.756237429
34° 43' 00"	0.56951865	0.82197841	0.692863273	1.443286199	1.216576966	1.755868746
34° 43' 30"	0.56963820	0.82189557	0.693078561	1.442837878	1.216699590	1.755500254
34° 44' 00"	0.56975773	0.82181271	0.693293892	1.442389745	1.216822263	1.755131954
34° 44' 30"	0.56987725	0.82172983	0.693509266	1.441941800	1.216944987	1.754763846
34° 45' 00"	0.56999676	0.82164694	0.693724684	1.441494043	1.217067762	1.754395929
34° 45' 30"	0.57011626	0.82156403	0.693940146	1.441046474	1.217190587	1.754028204
34° 46' 00"	0.57023575	0.82148110	0.694155651	1.440599092	1.217313463	1.753660670
34° 46' 30"	0.57035522	0.82139815	0.694371199	1.440151898	1.217436389	1.753293327
34° 47' 00"	0.57047468	0.82131519	0.694586791	1.439704891	1.217559366	1.752926174
34° 47' 30"	0.57059413	0.82123221	0.694802426	1.439258071	1.217682394	1.752559213
34° 48' 00"	0.57071357	0.82114921	0.695018106	1.438811438	1.217805472	1.752192442
34° 48' 30"	0.57083299	0.82106619	0.695233828	1.438364992	1.217928601	1.751825862
34° 49' 00"	0.57095241	0.82098316	0.695449595	1.437918733	1.218051780	1.751459472
34° 49' 30"	0.57107181	0.82090011	0.695665405	1.437472661	1.218175010	1.751093273
34° 50' 00"	0.57119120	0.82081704	0.695881258	1.437026775	1.218298291	1.750727263
34° 50' 30"	0.57131057	0.82073396	0.696097156	1.436581075	1.218421622	1.750361444
34° 51' 00"	0.57142994	0.82065085	0.696313097	1.436135561	1.218545005	1.749995814
34° 51' 30"	0.57154929	0.82056774	0.696529082	1.435690234	1.218668438	1.749630375
34° 52' 00"	0.57166863	0.82048460	0.696745110	1.435245092	1.218791922	1.749265124
34° 52' 30"	0.57178796	0.82040144	0.696961183	1.434800137	1.218915456	1.748900064
34° 53' 00"	0.57190728	0.82031827	0.697177299	1.434355367	1.219039042	1.748535192
34° 53' 30"	0.57202658	0.82023508	0.697393459	1.433910782	1.219162678	1.748170510
34° 54' 00"	0.57214587	0.82015188	0.697609663	1.433466383	1.219286366	1.747806017
34° 54' 30"	0.57226515	0.82006865	0.697825910	1.433022169	1.219410104	1.747441712
34° 55' 00"	0.57238442	0.81998541	0.698042202	1.432578141	1.219533893	1.747077597
34° 55' 30"	0.57250368	0.81990215	0.698258538	1.432134297	1.219657733	1.746713670
34° 56' 00"	0.57262292	0.81981888	0.698474917	1.431690638	1.219781624	1.746349932
34° 56' 30"	0.57274215	0.81973558	0.698691341	1.431247164	1.219905566	1.745986382
34° 57' 00"	0.57286137	0.81965227	0.698907808	1.430803875	1.220029559	1.745623020
34° 57' 30"	0.57298058	0.81956894	0.699124320	1.430360770	1.220153603	1.745259846
34° 58' 00"	0.57309978	0.81948560	0.699340875	1.429917849	1.220277698	1.744896861
34° 58' 30"	0.57321896	0.81940224	0.699557475	1.429475112	1.220401844	1.744534063
34° 59' 00"	0.57333813	0.81931886	0.699774119	1.429032560	1.220526041	1.744171453
34° 59' 30"	0.57345729	0.81923546	0.699990806	1.428590191	1.220650289	1.743809031

35° 00' 00"

35° 20' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
35° 00' 00"	0.57357644	0.81915204	0.700207538	1.428148007	1.220774589	1.743446796
35° 00' 30"	0.57369557	0.81906861	0.700424314	1.427706006	1.220898939	1.743084748
35° 01' 00"	0.57381469	0.81898516	0.700641134	1.427264188	1.221023341	1.742722888
35° 01' 30"	0.57393380	0.81890170	0.700857999	1.426822554	1.221147794	1.742361214
35° 02' 00"	0.57405290	0.81881821	0.701074908	1.426381103	1.221272298	1.741999728
35° 02' 30"	0.57417199	0.81873471	0.701291860	1.425939835	1.221396853	1.741638428
35° 03' 00"	0.57429106	0.81865119	0.701508858	1.425498751	1.221521460	1.741277315
35° 03' 30"	0.57441012	0.81856766	0.701725899	1.425057849	1.221646118	1.740916389
35° 04' 00"	0.57452917	0.81848410	0.701942985	1.424617129	1.221770827	1.740555649
35° 04' 30"	0.57464821	0.81840053	0.702160115	1.424176593	1.221895588	1.740195095
35° 05' 00"	0.57476724	0.81831695	0.702377289	1.423736239	1.222020399	1.739834727
35° 05' 30"	0.57488625	0.81823334	0.702594508	1.423296067	1.222145263	1.739474545
35° 06' 00"	0.57500525	0.81814972	0.702811771	1.422856077	1.222270177	1.739114550
35° 06' 30"	0.57512424	0.81806608	0.703029079	1.422416270	1.222395143	1.738754740
35° 07' 00"	0.57524322	0.81798242	0.703246431	1.421976644	1.222520160	1.738395115
35° 07' 30"	0.57536218	0.81789875	0.703463827	1.421537201	1.222645229	1.738035676
35° 08' 00"	0.57548113	0.81781505	0.703681268	1.421097939	1.222770349	1.737676423
35° 08' 30"	0.57560008	0.81773135	0.703898754	1.420658858	1.222895521	1.737317355
35° 09' 00"	0.57571900	0.81764762	0.704116284	1.420219959	1.223020745	1.736958471
35° 09' 30"	0.57583792	0.81756388	0.704333859	1.419781241	1.223146019	1.736599773
35° 10' 00"	0.57595682	0.81748011	0.704551478	1.419342704	1.223271346	1.736241260
35° 10' 30"	0.57607571	0.81739634	0.704769142	1.418904349	1.223396724	1.735882931
35° 11' 00"	0.57619459	0.81731254	0.704986850	1.418466174	1.223522153	1.735524787
35° 11' 30"	0.57631346	0.81722873	0.705204603	1.418028180	1.223647634	1.735166827
35° 12' 00"	0.57643232	0.81714490	0.705422401	1.417590366	1.223773167	1.734809052
35° 12' 30"	0.57655116	0.81706105	0.705640243	1.417152734	1.223898751	1.734451461
35° 13' 00"	0.57666999	0.81697719	0.705858131	1.416715281	1.224024387	1.734094054
35° 13' 30"	0.57678881	0.81689330	0.706076063	1.416278009	1.224150075	1.733736831
35° 14' 00"	0.57690761	0.81680941	0.706294039	1.415840917	1.224275814	1.733379791
35° 14' 30"	0.57702641	0.81672549	0.706512061	1.415404004	1.224401606	1.733022936
35° 15' 00"	0.57714519	0.81664156	0.706730127	1.414967272	1.224527449	1.732666264
35° 15' 30"	0.57726396	0.81655760	0.706948238	1.414530719	1.224653343	1.732309775
35° 16' 00"	0.57738272	0.81647364	0.707166394	1.414094346	1.224779290	1.731953470
35° 16' 30"	0.57750146	0.81638965	0.707384595	1.413658153	1.224905288	1.731597347
35° 17' 00"	0.57762020	0.81630565	0.707602841	1.413222139	1.225031338	1.731241408
35° 17' 30"	0.57773892	0.81622163	0.707821131	1.412786304	1.225157441	1.730885652
35° 18' 00"	0.57785762	0.81613759	0.708039467	1.412350648	1.225283595	1.730530078
35° 18' 30"	0.57797632	0.81605354	0.708257848	1.411915171	1.225409800	1.730174687
35° 19' 00"	0.57809500	0.81596946	0.708476273	1.411479873	1.225536058	1.729819479
35° 19' 30"	0.57821368	0.81588537	0.708694744	1.411044753	1.225662368	1.729464453
35° 20' 00"	0.57833234	0.81580127	0.708913260	1.410609812	1.225788730	1.729109610
35° 20' 30"	0.57845098	0.81571714	0.709131820	1.410175050	1.225915143	1.728754948

35° 21' 00"

35° 41' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
35° 21' 00"	0.57856962	0.81563300	0.709350426	1.409740465	1.226041609	1.728400469
35° 21' 30"	0.57868824	0.81554885	0.709569077	1.409306059	1.226168127	1.728046171
35° 22' 00"	0.57880685	0.81546467	0.709787773	1.408871831	1.226294697	1.727692055
35° 22' 30"	0.57892545	0.81538048	0.710006514	1.408437781	1.226421319	1.727338121
35° 23' 00"	0.57904404	0.81529627	0.710225301	1.408003909	1.226547993	1.726984368
35° 23' 30"	0.57916261	0.81521204	0.710444133	1.407570214	1.226674719	1.726630797
35° 24' 00"	0.57928117	0.81512780	0.710663009	1.407136697	1.226801497	1.726277407
35° 24' 30"	0.57939972	0.81504353	0.710881931	1.406703358	1.226928327	1.725924198
35° 25' 00"	0.57951826	0.81495926	0.711100899	1.406270195	1.227055210	1.725571170
35° 25' 30"	0.57963678	0.81487496	0.711319912	1.405837210	1.227182145	1.725218323
35° 26' 00"	0.57975530	0.81479065	0.711538970	1.405404402	1.227309132	1.724865657
35° 26' 30"	0.57987380	0.81470632	0.711758073	1.404971771	1.227436171	1.724513171
35° 27' 00"	0.57999228	0.81462197	0.711977222	1.404539316	1.227563263	1.724160866
35° 27' 30"	0.58011076	0.81453760	0.712196416	1.404107038	1.227690407	1.723808741
35° 28' 00"	0.58022922	0.81445322	0.712415655	1.403674937	1.227817603	1.723456796
35° 28' 30"	0.58034768	0.81436882	0.712634940	1.403243012	1.227944851	1.723105032
35° 29' 00"	0.58046611	0.81428440	0.712854271	1.402811263	1.228072152	1.722753448
35° 29' 30"	0.58058454	0.81419997	0.713073646	1.402379691	1.228199506	1.722402043
35° 30' 00"	0.58070296	0.81411552	0.713293068	1.401948294	1.228326911	1.722050818
35° 30' 30"	0.58082136	0.81403105	0.713512535	1.401517074	1.228454369	1.721699773
35° 31' 00"	0.58093975	0.81394656	0.713732047	1.401086029	1.228581880	1.721348907
35° 31' 30"	0.58105813	0.81386206	0.713951605	1.400655160	1.228709443	1.720998221
35° 32' 00"	0.58117649	0.81377754	0.714171209	1.400224466	1.228837058	1.720647714
35° 32' 30"	0.58129484	0.81369300	0.714390858	1.399793948	1.228964726	1.720297386
35° 33' 00"	0.58141318	0.81360845	0.714610553	1.399363605	1.229092447	1.719947237
35° 33' 30"	0.58153151	0.81352388	0.714830294	1.398933437	1.229220220	1.719597267
35° 34' 00"	0.58164983	0.81343929	0.715050080	1.398503444	1.229348046	1.719247476
35° 34' 30"	0.58176813	0.81335468	0.715269912	1.398073626	1.229475924	1.718897863
35° 35' 00"	0.58188642	0.81327006	0.715489790	1.397643983	1.229603855	1.718548429
35° 35' 30"	0.58200470	0.81318542	0.715709714	1.397214514	1.229731838	1.718199173
35° 36' 00"	0.58212297	0.81310076	0.715929683	1.396785220	1.229859875	1.717850096
35° 36' 30"	0.58224122	0.81301609	0.716149698	1.396356101	1.229987963	1.717501196
35° 37' 00"	0.58235947	0.81293139	0.716369759	1.395927155	1.230116105	1.717152475
35° 37' 30"	0.58247770	0.81284668	0.716589866	1.395498384	1.230244299	1.716803932
35° 38' 00"	0.58259591	0.81276196	0.716810019	1.395069787	1.230372546	1.716455566
35° 38' 30"	0.58271412	0.81267721	0.717030218	1.394641363	1.230500846	1.716107378
35° 39' 00"	0.58283231	0.81259245	0.717250462	1.394213114	1.230629199	1.715759367
35° 39' 30"	0.58295049	0.81250768	0.717470753	1.393785038	1.230757604	1.715411534
35° 40' 00"	0.58306866	0.81242288	0.717691089	1.393357135	1.230886063	1.715063878
35° 40' 30"	0.58318682	0.81233807	0.717911472	1.392929406	1.231014574	1.714716400
35° 41' 00"	0.58330496	0.81225324	0.718131900	1.392501850	1.231143138	1.714369098
35° 41' 30"	0.58342309	0.81216839	0.718352375	1.392074468	1.231271755	1.714021973

35° 42' 00"

36° 02' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
35° 42' 00"	0.58354121	0.81208353	0.718572896	1.391647258	1.231400425	1.713675025
35° 42' 30"	0.58365932	0.81199865	0.718793462	1.391220222	1.231529148	1.713328254
35° 43' 00"	0.58377741	0.81191375	0.719014075	1.390793358	1.231657923	1.712981659
35° 43' 30"	0.58389549	0.81182883	0.719234734	1.390366667	1.231786752	1.712635241
35° 44' 00"	0.58401356	0.81174390	0.719455440	1.389940148	1.231915634	1.712288999
35° 44' 30"	0.58413162	0.81165895	0.719676191	1.389513802	1.232044569	1.711942933
35° 45' 00"	0.58424967	0.81157398	0.719896989	1.389087628	1.232173557	1.711597043
35° 45' 30"	0.58436770	0.81148900	0.720117832	1.388661626	1.232302598	1.711251329
35° 46' 00"	0.58448572	0.81140400	0.720338723	1.388235796	1.232431692	1.710905791
35° 46' 30"	0.58460373	0.81131898	0.720559659	1.387810138	1.232560839	1.710560429
35° 47' 00"	0.58472172	0.81123394	0.720780642	1.387384652	1.232690040	1.710215242
35° 47' 30"	0.58483970	0.81114889	0.721001671	1.386959338	1.232819293	1.709870230
35° 48' 00"	0.58495767	0.81106382	0.721222746	1.386534195	1.232948600	1.709525394
35° 48' 30"	0.58507563	0.81097873	0.721443868	1.386109224	1.233077960	1.709180734
35° 49' 00"	0.58519358	0.81089363	0.721665036	1.385684424	1.233207373	1.708836248
35° 49' 30"	0.58531151	0.81080851	0.721886251	1.385259795	1.233336839	1.708491937
35° 50' 00"	0.58542943	0.81072337	0.722107512	1.384835337	1.233466359	1.708147801
35° 50' 30"	0.58554734	0.81063821	0.722328820	1.384411050	1.233595932	1.707803840
35° 51' 00"	0.58566524	0.81055304	0.722550174	1.383986934	1.233725559	1.707460053
35° 51' 30"	0.58578312	0.81046785	0.722771575	1.383562989	1.233855238	1.707116441
35° 52' 00"	0.58590099	0.81038264	0.722993022	1.383139214	1.233984971	1.706773004
35° 52' 30"	0.58601885	0.81029742	0.723214516	1.382715610	1.234114758	1.706429740
35° 53' 00"	0.58613670	0.81021217	0.723436056	1.382292176	1.234244598	1.706086651
35° 53' 30"	0.58625453	0.81012692	0.723657643	1.381868912	1.234374491	1.705743735
35° 54' 00"	0.58637236	0.81004164	0.723879277	1.381445819	1.234504438	1.705400994
35° 54' 30"	0.58649017	0.80995635	0.724100957	1.381022895	1.234634438	1.705058426
35° 55' 00"	0.58660796	0.80987104	0.724322684	1.380600141	1.234764492	1.704716032
35° 55' 30"	0.58672575	0.80978571	0.724544458	1.380177557	1.234894599	1.704373812
35° 56' 00"	0.58684352	0.80970037	0.724766278	1.379755143	1.235024760	1.704031765
35° 56' 30"	0.58696128	0.80961500	0.724988146	1.379332898	1.235154975	1.703689891
35° 57' 00"	0.58707903	0.80952963	0.725210060	1.378910823	1.235285243	1.703348190
35° 57' 30"	0.58719676	0.80944423	0.725432020	1.378488917	1.235415564	1.703006663
35° 58' 00"	0.58731449	0.80935882	0.725654028	1.378067180	1.235545940	1.702665308
35° 58' 30"	0.58743220	0.80927339	0.725876083	1.377645612	1.235676368	1.702324126
35° 59' 00"	0.58754989	0.80918794	0.726098184	1.377224212	1.235806851	1.701983117
35° 59' 30"	0.58766758	0.80910248	0.726320333	1.376802982	1.235937387	1.701642281
36° 00' 00"	0.58778525	0.80901699	0.726542528	1.376381920	1.236067977	1.701301617
36° 00' 30"	0.58790291	0.80893150	0.726764770	1.375961027	1.236198621	1.700961125
36° 01' 00"	0.58802056	0.80884598	0.726987060	1.375540303	1.236329319	1.700620806
36° 01' 30"	0.58813820	0.80876045	0.727209396	1.375119746	1.236460070	1.700280658
36° 02' 00"	0.58825582	0.80867490	0.727431779	1.374699358	1.236590876	1.699940683
36° 02' 30"	0.58837343	0.80858933	0.727654210	1.374279138	1.236721735	1.699600879

36° 03' 00"

36° 23' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
36° 03' 00"	0.58849103	0.80850375	0.727876687	1.373859086	1.236852648	1.699261248
36° 03' 30"	0.58860861	0.80841815	0.728099212	1.373439202	1.236983614	1.698921788
36° 04' 00"	0.58872619	0.80833253	0.728321783	1.373019485	1.237114635	1.698582499
36° 04' 30"	0.58884375	0.80824689	0.728544402	1.372599936	1.237245710	1.698243382
36° 05' 00"	0.58896130	0.80816124	0.728767068	1.372180554	1.237376838	1.697904436
36° 05' 30"	0.58907883	0.80807557	0.728989782	1.371761340	1.237508021	1.697565661
36° 06' 00"	0.58919636	0.80798988	0.729212542	1.371342293	1.237639258	1.697227058
36° 06' 30"	0.58931387	0.80790418	0.729435350	1.370923414	1.237770548	1.696888625
36° 07' 00"	0.58943137	0.80781846	0.729658205	1.370504701	1.237901893	1.696550363
36° 07' 30"	0.58954885	0.80773272	0.729881107	1.370086155	1.238033292	1.696212272
36° 08' 00"	0.58966633	0.80764697	0.730104057	1.369667776	1.238164744	1.695874351
36° 08' 30"	0.58978379	0.80756119	0.730327054	1.369249563	1.238296251	1.695536601
36° 09' 00"	0.58990124	0.80747541	0.730550099	1.368831517	1.238427812	1.695199022
36° 09' 30"	0.59001867	0.80738960	0.730773190	1.368413638	1.238559428	1.694861612
36° 10' 00"	0.59013610	0.80730378	0.730996330	1.367995925	1.238691097	1.694524373
36° 10' 30"	0.59025351	0.80721794	0.731219516	1.367578378	1.238822821	1.694187303
36° 11' 00"	0.59037091	0.80713208	0.731442751	1.367160997	1.238954599	1.693850404
36° 11' 30"	0.59048829	0.80704620	0.731666032	1.366743782	1.239086431	1.693513674
36° 12' 00"	0.59060567	0.80696031	0.731889362	1.366326733	1.239218317	1.693177114
36° 12' 30"	0.59072303	0.80687440	0.732112738	1.365909849	1.239350258	1.692840724
36° 13' 00"	0.59084038	0.80678848	0.732336163	1.365493131	1.239482253	1.692504503
36° 13' 30"	0.59095771	0.80670253	0.732559635	1.365076579	1.239614302	1.692168451
36° 14' 00"	0.59107504	0.80661658	0.732783154	1.364660192	1.239746406	1.691832569
36° 14' 30"	0.59119235	0.80653060	0.733006721	1.364243971	1.239878564	1.691496855
36° 15' 00"	0.59130965	0.80644460	0.733230336	1.363827914	1.240010777	1.691161311
36° 15' 30"	0.59142693	0.80635859	0.733453999	1.363412023	1.240143044	1.690825935
36° 16' 00"	0.59154421	0.80627257	0.733677709	1.362996296	1.240275365	1.690490728
36° 16' 30"	0.59166147	0.80618652	0.733901467	1.362580734	1.240407741	1.690155690
36° 17' 00"	0.59177872	0.80610046	0.734125273	1.362165337	1.240540171	1.689820820
36° 17' 30"	0.59189596	0.80601438	0.734349127	1.361750104	1.240672656	1.689486119
36° 18' 00"	0.59201318	0.80592828	0.734573028	1.361335036	1.240805196	1.689151586
36° 18' 30"	0.59213039	0.80584217	0.734796978	1.360920133	1.240937790	1.688817221
36° 19' 00"	0.59224759	0.80575604	0.735020975	1.360505393	1.241070438	1.688483025
36° 19' 30"	0.59236477	0.80566989	0.735245020	1.360090817	1.241203142	1.688148996
36° 20' 00"	0.59248195	0.80558373	0.735469113	1.359676406	1.241335900	1.687815135
36° 20' 30"	0.59259911	0.80549755	0.735693254	1.359262158	1.241468712	1.687481441
36° 21' 00"	0.59271626	0.80541135	0.735917443	1.358848075	1.241601580	1.687147916
36° 21' 30"	0.59283339	0.80532513	0.736141680	1.358434154	1.241734502	1.686814558
36° 22' 00"	0.59295052	0.80523890	0.736365965	1.358020398	1.241867478	1.686481367
36° 22' 30"	0.59306763	0.80515265	0.736590298	1.357606804	1.242000510	1.686148343
36° 23' 00"	0.59318473	0.80506638	0.736814679	1.357193374	1.242133596	1.685815487
36° 23' 30"	0.59330181	0.80498010	0.737039108	1.356780108	1.242266737	1.685482798



36° 24' 00"

36° 44' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
36° 24' 00"	0.59341889	0.80489380	0.737263585	1.356367004	1.242399933	1.685150275
36° 24' 30"	0.59353595	0.80480748	0.737488110	1.355954063	1.242533184	1.684817919
36° 25' 00"	0.59365300	0.80472114	0.737712684	1.355541285	1.242666490	1.684485731
36° 25' 30"	0.59377003	0.80463479	0.737937306	1.355128670	1.242799850	1.684153708
36° 26' 00"	0.59388705	0.80454842	0.738161976	1.354716218	1.242933266	1.683821852
36° 26' 30"	0.59400406	0.80446204	0.738386694	1.354303928	1.243066736	1.683490163
36° 27' 00"	0.59412106	0.80437564	0.738611461	1.353891800	1.243200261	1.683158640
36° 27' 30"	0.59423805	0.80428922	0.738836276	1.353479835	1.243333842	1.682827283
36° 28' 00"	0.59435502	0.80420278	0.739061139	1.353068031	1.243467477	1.682496091
36° 28' 30"	0.59447198	0.80411632	0.739286050	1.352656390	1.243601168	1.682165066
36° 29' 00"	0.59458893	0.80402985	0.739511010	1.352244911	1.243734913	1.681834207
36° 29' 30"	0.59470586	0.80394337	0.739736018	1.351833594	1.243868714	1.681503513
36° 30' 00"	0.59482279	0.80385686	0.739961075	1.351422438	1.244002569	1.681172985
36° 30' 30"	0.59493970	0.80377034	0.740186180	1.351011444	1.244136480	1.680842622
36° 31' 00"	0.59505659	0.80368380	0.740411334	1.350600611	1.244270446	1.680512425
36° 31' 30"	0.59517348	0.80359724	0.740636536	1.350189940	1.244404467	1.680182393
36° 32' 00"	0.59529035	0.80351067	0.740861787	1.349779430	1.244538544	1.679852526
36° 32' 30"	0.59540721	0.80342408	0.741087086	1.349369081	1.244672675	1.679522824
36° 33' 00"	0.59552406	0.80333747	0.741312433	1.348958893	1.244806862	1.679193287
36° 33' 30"	0.59564089	0.80325085	0.741537830	1.348548867	1.244941104	1.678863915
36° 34' 00"	0.59575771	0.80316421	0.741763275	1.348139001	1.245075402	1.678534708
36° 34' 30"	0.59587452	0.80307755	0.741988768	1.347729295	1.245209754	1.678205665
36° 35' 00"	0.59599132	0.80299088	0.742214311	1.347319750	1.245344163	1.677876786
36° 35' 30"	0.59610810	0.80290418	0.742439902	1.346910366	1.245478626	1.677548072
36° 36' 00"	0.59622487	0.80281748	0.742665542	1.346501142	1.245613145	1.677219522
36° 36' 30"	0.59634163	0.80273075	0.742891230	1.346092079	1.245747719	1.676891137
36° 37' 00"	0.59645838	0.80264401	0.743116967	1.345683175	1.245882349	1.676562915
36° 37' 30"	0.59657511	0.80255725	0.743342753	1.345274432	1.246017034	1.676234857
36° 38' 00"	0.59669183	0.80247047	0.743568588	1.344865848	1.246151775	1.675906963
36° 38' 30"	0.59680854	0.80238368	0.743794472	1.344457424	1.246286571	1.675579233
36° 39' 00"	0.59692524	0.80229687	0.744020405	1.344049160	1.246421422	1.675251666
36° 39' 30"	0.59704192	0.80221004	0.744246386	1.343641056	1.246556330	1.674924263
36° 40' 00"	0.59715859	0.80212319	0.744472417	1.343233111	1.246691293	1.674597023
36° 40' 30"	0.59727525	0.80203633	0.744698496	1.342825325	1.246826311	1.674269947
36° 41' 00"	0.59739189	0.80194945	0.744924624	1.342417699	1.246961385	1.673943033
36° 41' 30"	0.59750853	0.80186256	0.745150802	1.342010232	1.247096515	1.673616283
36° 42' 00"	0.59762515	0.80177564	0.745377028	1.341602923	1.247231700	1.673289695
36° 42' 30"	0.59774175	0.80168871	0.745603304	1.341195774	1.247366941	1.672963270
36° 43' 00"	0.59785835	0.80160177	0.745829628	1.340788784	1.247502238	1.672637009
36° 43' 30"	0.59797493	0.80151480	0.746056002	1.340381952	1.247637591	1.672310909
36° 44' 00"	0.59809150	0.80142782	0.746282425	1.339975279	1.247772999	1.671984972
36° 44' 30"	0.59820806	0.80134083	0.746508897	1.339568764	1.247908463	1.671659198

36° 45' 00"

37° 05' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
36° 45' 00"	0.59832460	0.80125381	0.746735418	1.339162408	1.248043983	1.671333586
36° 45' 30"	0.59844113	0.80116678	0.746961988	1.338756210	1.248179559	1.671008136
36° 46' 00"	0.59855765	0.80107973	0.747188608	1.338350170	1.248315191	1.670682848
36° 46' 30"	0.59867416	0.80099267	0.747415277	1.337944288	1.248450878	1.670357721
36° 47' 00"	0.59879065	0.80090559	0.747641995	1.337538564	1.248586622	1.670032757
36° 47' 30"	0.59890713	0.80081849	0.747868762	1.337132998	1.248722421	1.669707955
36° 48' 00"	0.59902360	0.80073137	0.748095579	1.336727590	1.248858277	1.669383314
36° 48' 30"	0.59914005	0.80064424	0.748322445	1.336322339	1.248994188	1.669058835
36° 49' 00"	0.59925650	0.80055709	0.748549361	1.335917246	1.249130155	1.668734517
36° 49' 30"	0.59937293	0.80046992	0.748776326	1.335512310	1.249266179	1.668410360
36° 50' 00"	0.59948934	0.80038274	0.749003340	1.335107531	1.249402258	1.668086365
36° 50' 30"	0.59960575	0.80029554	0.749230404	1.334702910	1.249538394	1.667762530
36° 51' 00"	0.59972214	0.80020832	0.749457517	1.334298445	1.249674586	1.667438857
36° 51' 30"	0.59983852	0.80012108	0.749684680	1.333894138	1.249810833	1.667115344
36° 52' 00"	0.59995489	0.80003383	0.749911892	1.333489987	1.249947137	1.666791993
36° 52' 30"	0.60007124	0.79994657	0.750139154	1.333085994	1.250083498	1.666468801
36° 53' 00"	0.60018758	0.79985928	0.750366466	1.332682156	1.250219914	1.666145771
36° 53' 30"	0.60030391	0.79977198	0.750593827	1.332278476	1.250356387	1.665822901
36° 54' 00"	0.60042023	0.79968466	0.750821238	1.331874952	1.250492915	1.665500191
36° 54' 30"	0.60053653	0.79959732	0.751048699	1.331471584	1.250629501	1.665177642
36° 55' 00"	0.60065282	0.79950997	0.751276209	1.331068372	1.250766142	1.664855252
36° 55' 30"	0.60076910	0.79942260	0.751503769	1.330665316	1.250902840	1.664533023
36° 56' 00"	0.60088536	0.79933521	0.751731378	1.330262416	1.251039594	1.664210953
36° 56' 30"	0.60100161	0.79924781	0.751959038	1.329859673	1.251176404	1.663889043
36° 57' 00"	0.60111785	0.79916039	0.752186747	1.329457085	1.251313271	1.663567293
36° 57' 30"	0.60123408	0.79907295	0.752414506	1.329054652	1.251450194	1.663245703
36° 58' 00"	0.60135029	0.79898550	0.752642315	1.328652375	1.251587174	1.662924272
36° 58' 30"	0.60146650	0.79889803	0.752870174	1.328250254	1.251724210	1.662603001
36° 59' 00"	0.60158268	0.79881054	0.753098083	1.327848288	1.251861303	1.662281888
36° 59' 30"	0.60169886	0.79872303	0.753326041	1.327446477	1.251998452	1.661960935
37° 00' 00"	0.60181502	0.79863551	0.753554050	1.327044822	1.252135658	1.661640141
37° 00' 30"	0.60193117	0.79854797	0.753782109	1.326643321	1.252272921	1.661319506
37° 01' 00"	0.60204731	0.79846042	0.754010217	1.326241975	1.252410239	1.660999030
37° 01' 30"	0.60216344	0.79837284	0.754238376	1.325840784	1.252547615	1.660678712
37° 02' 00"	0.60227955	0.79828525	0.754466585	1.325439748	1.252685047	1.660358553
37° 02' 30"	0.60239565	0.79819765	0.754694844	1.325038866	1.252822536	1.660038553
37° 03' 00"	0.60251173	0.79811002	0.754923153	1.324638139	1.252960082	1.659718711
37° 03' 30"	0.60262781	0.79802238	0.755151512	1.324237566	1.253097684	1.659399027
37° 04' 00"	0.60274387	0.79793473	0.755379921	1.323837148	1.253235343	1.659079502
37° 04' 30"	0.60285992	0.79784705	0.755608380	1.323436884	1.253373059	1.658760135
37° 05' 00"	0.60297595	0.79775936	0.755836890	1.323036773	1.253510831	1.658440926
37° 05' 30"	0.60309198	0.79767165	0.756065450	1.322636817	1.253648661	1.658121874

37° 06' 00"

37° 26' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
37° 06' 00"	0.60320799	0.79758393	0.756294060	1.322237014	1.253786547	1.657802981
37° 06' 30"	0.60332399	0.79749619	0.756522721	1.321837366	1.253924490	1.657484245
37° 07' 00"	0.60343997	0.79740843	0.756751431	1.321437871	1.254062490	1.657165666
37° 07' 30"	0.60355594	0.79732065	0.756980192	1.321038529	1.254200547	1.656847246
37° 08' 00"	0.60367190	0.79723286	0.757209004	1.320639341	1.254338661	1.656528982
37° 08' 30"	0.60378785	0.79714505	0.757437866	1.320240306	1.254476831	1.656210876
37° 09' 00"	0.60390378	0.79705723	0.757666778	1.319841425	1.254615059	1.655892927
37° 09' 30"	0.60401970	0.79696938	0.757895741	1.319442696	1.254753344	1.655575135
37° 10' 00"	0.60413561	0.79688152	0.758124754	1.319044121	1.254891686	1.655257500
37° 10' 30"	0.60425151	0.79679365	0.758353818	1.318645698	1.255030085	1.654940022
37° 11' 00"	0.60436739	0.79670576	0.758582933	1.318247428	1.255168541	1.654622701
37° 11' 30"	0.60448326	0.79661784	0.758812098	1.317849311	1.255307054	1.654305536
37° 12' 00"	0.60459911	0.79652992	0.759041313	1.317451347	1.255445624	1.653988528
37° 12' 30"	0.60471496	0.79644197	0.759270579	1.317053535	1.255584251	1.653671676
37° 13' 00"	0.60483079	0.79635401	0.759499896	1.316655875	1.255722936	1.653354981
37° 13' 30"	0.60494661	0.79626604	0.759729263	1.316258368	1.255861678	1.653038442
37° 14' 00"	0.60506241	0.79617804	0.759958682	1.315861012	1.256000477	1.652722059
37° 14' 30"	0.60517821	0.79609003	0.760188150	1.315463809	1.256139333	1.652405832
37° 15' 00"	0.60529399	0.79600200	0.760417670	1.315066758	1.256278247	1.652089761
37° 15' 30"	0.60540976	0.79591396	0.760647240	1.314669859	1.256417217	1.651773846
37° 16' 00"	0.60552551	0.79582590	0.760876861	1.314273111	1.256556246	1.651458086
37° 16' 30"	0.60564125	0.79573782	0.761106533	1.313876515	1.256695331	1.651142482
37° 17' 00"	0.60575698	0.79564972	0.761336256	1.313480071	1.256834474	1.650827034
37° 17' 30"	0.60587270	0.79556161	0.761566030	1.313083778	1.256973674	1.650511741
37° 18' 00"	0.60598840	0.79547348	0.761795855	1.312687636	1.257112932	1.650196604
37° 18' 30"	0.60610409	0.79538534	0.762025730	1.312291646	1.257252247	1.649881621
37° 19' 00"	0.60621977	0.79529717	0.762255657	1.311895807	1.257391620	1.649566794
37° 19' 30"	0.60633543	0.79520899	0.762485634	1.311500119	1.257531050	1.649252122
37° 20' 00"	0.60645109	0.79512080	0.762715663	1.311104581	1.257670538	1.648937604
37° 20' 30"	0.60656672	0.79503258	0.762945743	1.310709195	1.257810083	1.648623242
37° 21' 00"	0.60668235	0.79494435	0.763175873	1.310313959	1.257949686	1.648309034
37° 21' 30"	0.60679796	0.79485611	0.763406055	1.309918874	1.258089347	1.647994981
37° 22' 00"	0.60691357	0.79476784	0.763636288	1.309523940	1.258229065	1.647681082
37° 22' 30"	0.60702915	0.79467956	0.763866572	1.309129155	1.258368841	1.647367338
37° 23' 00"	0.60714473	0.79459127	0.764096907	1.308734522	1.258508674	1.647053748
37° 23' 30"	0.60726029	0.79450295	0.764327293	1.308340038	1.258648565	1.646740312
37° 24' 00"	0.60737584	0.79441462	0.764557731	1.307945704	1.258788514	1.646427030
37° 24' 30"	0.60749138	0.79432627	0.764788220	1.307551521	1.258928521	1.646113902
37° 25' 00"	0.60760690	0.79423791	0.765018760	1.307157487	1.259068586	1.645800929
37° 25' 30"	0.60772241	0.79414953	0.765249351	1.306763603	1.259208708	1.645488108
37° 26' 00"	0.60783791	0.79406113	0.765479994	1.306369869	1.259348888	1.645175442
37° 26' 30"	0.60795339	0.79397271	0.765710688	1.305976285	1.259489126	1.644862929

37° 27' 00"

37° 47' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
37° 27' 00"	0.60806887	0.79388428	0.765941434	1.305582850	1.259629422	1.644550570
37° 27' 30"	0.60818433	0.79379583	0.766172231	1.305189564	1.259769776	1.644238364
37° 28' 00"	0.60829977	0.79370737	0.766403079	1.304796428	1.259910187	1.643926311
37° 28' 30"	0.60841521	0.79361889	0.766633979	1.304403440	1.260050657	1.643614412
37° 29' 00"	0.60853063	0.79353039	0.766864931	1.304010602	1.260191185	1.643302666
37° 29' 30"	0.60864603	0.79344187	0.767095934	1.303617913	1.260331770	1.642991072
37° 30' 00"	0.60876143	0.79335334	0.767326988	1.303225373	1.260472414	1.642679632
37° 30' 30"	0.60887681	0.79326479	0.767558094	1.302832981	1.260613116	1.642368344
37° 31' 00"	0.60899218	0.79317623	0.767789252	1.302440739	1.260753876	1.642057209
37° 31' 30"	0.60910754	0.79308764	0.768020461	1.302048644	1.260894694	1.641746227
37° 32' 00"	0.60922288	0.79299904	0.768251722	1.301656699	1.261035570	1.641435397
37° 32' 30"	0.60933821	0.79291043	0.768483034	1.301264901	1.261176504	1.641124719
37° 33' 00"	0.60945353	0.79282179	0.768714399	1.300873252	1.261317496	1.640814194
37° 33' 30"	0.60956883	0.79273314	0.768945815	1.300481751	1.261458547	1.640503821
37° 34' 00"	0.60968413	0.79264448	0.769177283	1.300090398	1.261599656	1.640193600
37° 34' 30"	0.60979940	0.79255579	0.769408802	1.299699194	1.261740823	1.639883531
37° 35' 00"	0.60991467	0.79246709	0.769640374	1.299308137	1.261882049	1.639573613
37° 35' 30"	0.61002992	0.79237838	0.769871997	1.298917227	1.262023333	1.639263848
37° 36' 00"	0.61014516	0.79228964	0.770103672	1.298526466	1.262164675	1.638954234
37° 36' 30"	0.61026039	0.79220089	0.770335399	1.298135852	1.262306075	1.638644772
37° 37' 00"	0.61037561	0.79211213	0.770567178	1.297745385	1.262447534	1.638335462
37° 37' 30"	0.61049081	0.79202334	0.770799009	1.297355066	1.262589051	1.638026303
37° 38' 00"	0.61060600	0.79193454	0.771030892	1.296964894	1.262730627	1.637717295
37° 38' 30"	0.61072117	0.79184572	0.771262827	1.296574870	1.262872262	1.637408438
37° 39' 00"	0.61083633	0.79175689	0.771494814	1.296184992	1.263013954	1.637099732
37° 39' 30"	0.61095148	0.79166804	0.771726854	1.295795262	1.263155706	1.636791178
37° 40' 00"	0.61106662	0.79157917	0.771958945	1.295405678	1.263297515	1.636482774
37° 40' 30"	0.61118175	0.79149029	0.772191088	1.295016241	1.263439384	1.636174521
37° 41' 00"	0.61129686	0.79140139	0.772423283	1.294626951	1.263581311	1.635866419
37° 41' 30"	0.61141195	0.79131247	0.772655531	1.294237807	1.263723296	1.635558467
37° 42' 00"	0.61152704	0.79122353	0.772887831	1.293848810	1.263865341	1.635250666
37° 42' 30"	0.61164211	0.79113458	0.773120183	1.293459959	1.264007444	1.634943016
37° 43' 00"	0.61175717	0.79104561	0.773352587	1.293071254	1.264149605	1.634635515
37° 43' 30"	0.61187222	0.79095663	0.773585044	1.292682696	1.264291826	1.634328165
37° 44' 00"	0.61198725	0.79086763	0.773817553	1.292294283	1.264434105	1.634020965
37° 44' 30"	0.61210227	0.79077861	0.774050114	1.291906017	1.264576443	1.633713915
37° 45' 00"	0.61221728	0.79068957	0.774282728	1.291517897	1.264718839	1.633407015
37° 45' 30"	0.61233227	0.79060052	0.774515394	1.291129922	1.264861295	1.633100265
37° 46' 00"	0.61244726	0.79051145	0.774748112	1.290742093	1.265003809	1.632793664
37° 46' 30"	0.61256223	0.79042237	0.774980883	1.290354409	1.265146383	1.632487213
37° 47' 00"	0.61267718	0.79033327	0.775213707	1.289966872	1.265289015	1.632180912
37° 47' 30"	0.61279212	0.79024415	0.775446583	1.289579479	1.265431706	1.631874760

37° 48' 00''

38° 08' 30''

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
37° 48' 00''	0.61290705	0.79015501	0.775679511	1.289192232	1.265574456	1.631568758
37° 48' 30''	0.61302197	0.79006586	0.775912492	1.288805130	1.265717265	1.631262904
37° 49' 00''	0.61313687	0.78997669	0.776145526	1.288418173	1.265860133	1.630957200
37° 49' 30''	0.61325177	0.78988751	0.776378612	1.288031361	1.266003060	1.630651645
37° 50' 00''	0.61336664	0.78979830	0.776611751	1.287644694	1.266146047	1.630346239
37° 50' 30''	0.61348151	0.78970908	0.776844942	1.287258172	1.266289092	1.630040981
37° 51' 00''	0.61359636	0.78961985	0.777078187	1.286871794	1.266432196	1.629735873
37° 51' 30''	0.61371120	0.78953060	0.777311483	1.286485561	1.266575360	1.629430913
37° 52' 00''	0.61382603	0.78944133	0.777544833	1.286099473	1.266718583	1.629126101
37° 52' 30''	0.61394084	0.78935204	0.777778236	1.285713529	1.266861865	1.628821438
37° 53' 00''	0.61405564	0.78926274	0.778011691	1.285327729	1.267005206	1.628516924
37° 53' 30''	0.61417043	0.78917342	0.778245199	1.284942074	1.267148606	1.628212557
37° 54' 00''	0.61428520	0.78908408	0.778478760	1.284556562	1.267292066	1.627908339
37° 54' 30''	0.61439996	0.78899473	0.778712374	1.284171195	1.267435585	1.627604269
37° 55' 00''	0.61451471	0.78890536	0.778946041	1.283785971	1.267579163	1.627300347
37° 55' 30''	0.61462944	0.78881598	0.779179761	1.283400892	1.267722801	1.626996573
37° 56' 00''	0.61474417	0.78872657	0.779413534	1.283015956	1.267866498	1.626692947
37° 56' 30''	0.61485888	0.78863716	0.779647359	1.282631164	1.268010254	1.626389468
37° 57' 00''	0.61497357	0.78854772	0.779881238	1.282246515	1.268154070	1.626086137
37° 57' 30''	0.61508825	0.78845827	0.780115170	1.281862010	1.268297946	1.625782954
37° 58' 00''	0.61520293	0.78836880	0.780349155	1.281477648	1.268441880	1.625479918
37° 58' 30''	0.61531758	0.78827931	0.780583193	1.281093430	1.268585875	1.625177029
37° 59' 00''	0.61543223	0.78818981	0.780817284	1.280709354	1.268729929	1.624874287
37° 59' 30''	0.61554686	0.78810029	0.781051429	1.280325422	1.268874042	1.624571693
38° 00' 00''	0.61566148	0.78801075	0.781285627	1.279941632	1.269018215	1.624269245
38° 00' 30''	0.61577608	0.78792120	0.781519877	1.279557986	1.269162448	1.623966945
38° 01' 00''	0.61589067	0.78783163	0.781754181	1.279174482	1.269306740	1.623664791
38° 01' 30''	0.61600525	0.78774205	0.781988539	1.278791121	1.269451092	1.623362785
38° 02' 00''	0.61611982	0.78765244	0.782222950	1.278407902	1.269595504	1.623060924
38° 02' 30''	0.61623437	0.78756282	0.782457414	1.278024826	1.269739975	1.622759211
38° 03' 00''	0.61634891	0.78747319	0.782691931	1.277641892	1.269884506	1.622457644
38° 03' 30''	0.61646344	0.78738353	0.782926502	1.277259101	1.270029097	1.622156223
38° 04' 00''	0.61657795	0.78729387	0.783161126	1.276876452	1.270173748	1.621854948
38° 04' 30''	0.61669245	0.78720418	0.783395804	1.276493945	1.270318458	1.621553820
38° 05' 00''	0.61680694	0.78711448	0.783630535	1.276111580	1.270463229	1.621252838
38° 05' 30''	0.61692141	0.78702476	0.783865320	1.275729356	1.270608059	1.620952001
38° 06' 00''	0.61703588	0.78693502	0.784100158	1.275347275	1.270752949	1.620651311
38° 06' 30''	0.61715032	0.78684527	0.784335050	1.274965335	1.270897899	1.620350766
38° 07' 00''	0.61726476	0.78675550	0.784569995	1.274583537	1.271042909	1.620050368
38° 07' 30''	0.61737918	0.78666571	0.784804994	1.274201881	1.271187980	1.619750114
38° 08' 00''	0.61749359	0.78657591	0.785040047	1.273820366	1.271333110	1.619450007
38° 08' 30''	0.61760799	0.78648609	0.785275154	1.273438992	1.271478300	1.619150044

38° 09' 00"

38° 29' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
38° 09' 00"	0.61772237	0.78639626	0.785510314	1.273057760	1.271623550	1.618850228
38° 09' 30"	0.61783674	0.78630640	0.785745527	1.272676668	1.271768860	1.618550556
38° 10' 00"	0.61795110	0.78621654	0.785980795	1.272295718	1.271914231	1.618251029
38° 10' 30"	0.61806544	0.78612665	0.786216116	1.271914909	1.272059661	1.617951648
38° 11' 00"	0.61817977	0.78603675	0.786451492	1.271534240	1.272205152	1.617652411
38° 11' 30"	0.61829409	0.78594683	0.786686921	1.271153713	1.272350703	1.617353320
38° 12' 00"	0.61840840	0.78585689	0.786922404	1.270773326	1.272496314	1.617054373
38° 12' 30"	0.61852269	0.78576694	0.787157941	1.270393079	1.272641986	1.616755571
38° 13' 00"	0.61863697	0.78567697	0.787393531	1.270012973	1.272787717	1.616456913
38° 13' 30"	0.61875123	0.78558699	0.787629176	1.269633008	1.272933509	1.616158400
38° 14' 00"	0.61886548	0.78549698	0.787864875	1.269253183	1.273079362	1.615860032
38° 14' 30"	0.61897972	0.78540697	0.788100628	1.268873498	1.273225274	1.615561807
38° 15' 00"	0.61909395	0.78531693	0.788336435	1.268493953	1.273371248	1.615263727
38° 15' 30"	0.61920816	0.78522688	0.788572296	1.268114548	1.273517281	1.614965791
38° 16' 00"	0.61932236	0.78513681	0.788808211	1.267735283	1.273663375	1.614667999
38° 16' 30"	0.61943655	0.78504673	0.789044180	1.267356158	1.273809530	1.614370351
38° 17' 00"	0.61955072	0.78495662	0.789280203	1.266977173	1.273955745	1.614072847
38° 17' 30"	0.61966488	0.78486651	0.789516281	1.266598327	1.274102020	1.613775487
38° 18' 00"	0.61977903	0.78477637	0.789752412	1.266219621	1.274248356	1.613478270
38° 18' 30"	0.61989317	0.78468622	0.789988598	1.265841054	1.274394753	1.613181197
38° 19' 00"	0.62000729	0.78459605	0.790224839	1.265462627	1.274541210	1.612884267
38° 19' 30"	0.62012140	0.78450587	0.790461133	1.265084339	1.274687728	1.612587481
38° 20' 00"	0.62023549	0.78441566	0.790697482	1.264706190	1.274834306	1.612290838
38° 20' 30"	0.62034957	0.78432545	0.790933886	1.264328180	1.274980945	1.611994338
38° 21' 00"	0.62046364	0.78423521	0.791170343	1.263950309	1.275127645	1.611697982
38° 21' 30"	0.62057770	0.78414496	0.791406855	1.263572577	1.275274406	1.611401768
38° 22' 00"	0.62069174	0.78405469	0.791643422	1.263194984	1.275421227	1.611105697
38° 22' 30"	0.62080577	0.78396441	0.791880043	1.262817530	1.275568110	1.610809770
38° 23' 00"	0.62091979	0.78387411	0.792116719	1.262440214	1.275715053	1.610513985
38° 23' 30"	0.62103379	0.78378379	0.792353449	1.262063037	1.275862057	1.610218342
38° 24' 00"	0.62114778	0.78369346	0.792590233	1.261685998	1.276009121	1.609922842
38° 24' 30"	0.62126176	0.78360311	0.792827073	1.261309098	1.276156247	1.609627485
38° 25' 00"	0.62137572	0.78351274	0.793063967	1.260932336	1.276303434	1.609332270
38° 25' 30"	0.62148967	0.78342236	0.793300915	1.260555712	1.276450681	1.609037198
38° 26' 00"	0.62160361	0.78333196	0.793537918	1.260179226	1.276597990	1.608742267
38° 26' 30"	0.62171753	0.78324154	0.793774976	1.259802878	1.276745360	1.608447479
38° 27' 00"	0.62183145	0.78315111	0.794012089	1.259426668	1.276892790	1.608152833
38° 27' 30"	0.62194534	0.78306066	0.794249257	1.259050596	1.277040282	1.607858328
38° 28' 00"	0.62205923	0.78297019	0.794486479	1.258674662	1.277187835	1.607563966
38° 28' 30"	0.62217310	0.78287971	0.794723756	1.258298865	1.277335449	1.607269745
38° 29' 00"	0.62228696	0.78278921	0.794961088	1.257923205	1.277483124	1.606975666
38° 29' 30"	0.62240080	0.78269869	0.795198475	1.257547683	1.277630860	1.606681728

38° 30' 00"

38° 50' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
38° 30' 00"	0.62251464	0.78260816	0.795435917	1.257172299	1.277778657	1.606387932
38° 30' 30"	0.62262846	0.78251761	0.795673413	1.256797052	1.277926516	1.606094278
38° 31' 00"	0.62274226	0.78242704	0.795910965	1.256421941	1.278074436	1.605800764
38° 31' 30"	0.62285605	0.78233646	0.796148572	1.256046968	1.278222417	1.605507392
38° 32' 00"	0.62296983	0.78224586	0.796386234	1.255672132	1.278370460	1.605214161
38° 32' 30"	0.62308360	0.78215524	0.796623950	1.255297433	1.278518564	1.604921071
38° 33' 00"	0.62319735	0.78206461	0.796861722	1.254922871	1.278666729	1.604628122
38° 33' 30"	0.62331109	0.78197396	0.797099549	1.254548445	1.278814956	1.604335314
38° 34' 00"	0.62342482	0.78188330	0.797337431	1.254174156	1.278963244	1.604042647
38° 34' 30"	0.62353853	0.78179262	0.797575369	1.253800003	1.279111594	1.603750120
38° 35' 00"	0.62365224	0.78170192	0.797813361	1.253425987	1.279260005	1.603457734
38° 35' 30"	0.62376592	0.78161120	0.798051409	1.253052107	1.279408477	1.603165489
38° 36' 00"	0.62387960	0.78152047	0.798289512	1.252678364	1.279557011	1.602873383
38° 36' 30"	0.62399326	0.78142972	0.798527671	1.252304756	1.279705607	1.602581419
38° 37' 00"	0.62410691	0.78133896	0.798765884	1.251931285	1.279854264	1.602289594
38° 37' 30"	0.62422054	0.78124818	0.799004153	1.251557950	1.280002983	1.601997909
38° 38' 00"	0.62433416	0.78115738	0.799242478	1.251184750	1.280151764	1.601706365
38° 38' 30"	0.62444777	0.78106657	0.799480858	1.250811687	1.280300606	1.601414961
38° 39' 00"	0.62456136	0.78097574	0.799719293	1.250438759	1.280449510	1.601123696
38° 39' 30"	0.62467495	0.78088489	0.799957784	1.250065967	1.280598476	1.600832571
38° 40' 00"	0.62478851	0.78079403	0.800196330	1.249693310	1.280747503	1.600541586
38° 40' 30"	0.62490207	0.78070315	0.800434932	1.249320789	1.280896592	1.600250741
38° 41' 00"	0.62501561	0.78061225	0.800673589	1.248948403	1.281045743	1.599960035
38° 41' 30"	0.62512914	0.78052134	0.800912302	1.248576152	1.281194956	1.599669468
38° 42' 00"	0.62524266	0.78043041	0.801151071	1.248204036	1.281344231	1.599379041
38° 42' 30"	0.62535616	0.78033946	0.801389895	1.247832056	1.281493567	1.599088753
38° 43' 00"	0.62546965	0.78024850	0.801628775	1.247460210	1.281642966	1.598798604
38° 43' 30"	0.62558312	0.78015752	0.801867710	1.247088500	1.281792427	1.598508595
38° 44' 00"	0.62569659	0.78006652	0.802106702	1.246716924	1.281941949	1.598218724
38° 44' 30"	0.62581004	0.77997551	0.802345749	1.246345483	1.282091534	1.597928992
38° 45' 00"	0.62592347	0.77988448	0.802584852	1.245974177	1.282241180	1.597639399
38° 45' 30"	0.62603690	0.77979344	0.802824010	1.245603005	1.282390889	1.597349945
38° 46' 00"	0.62615030	0.77970238	0.803063225	1.245231968	1.282540660	1.597060629
38° 46' 30"	0.62626370	0.77961130	0.803302496	1.244861065	1.282690492	1.596771452
38° 47' 00"	0.62637708	0.77952020	0.803541822	1.244490296	1.282840387	1.596482414
38° 47' 30"	0.62649045	0.77942909	0.803781204	1.244119662	1.282990345	1.596193514
38° 48' 00"	0.62660381	0.77933796	0.804020643	1.243749161	1.283140364	1.595904752
38° 48' 30"	0.62671715	0.77924682	0.804260137	1.243378795	1.283290446	1.595616128
38° 49' 00"	0.62683049	0.77915566	0.804499687	1.243008563	1.283440590	1.595327642
38° 49' 30"	0.62694380	0.77906448	0.804739294	1.242638464	1.283590796	1.595039295
38° 50' 00"	0.62705711	0.77897329	0.804978956	1.242268499	1.283741064	1.594751085
38° 50' 30"	0.62717040	0.77888208	0.805218675	1.241898668	1.283891395	1.594463014

38° 51' 00"

39° 11' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
38° 51' 00"	0.62728367	0.77879085	0.805458450	1.241528971	1.284041788	1.594175080
38° 51' 30"	0.62739694	0.77869961	0.805698281	1.241159407	1.284192244	1.593887283
38° 52' 00"	0.62751019	0.77860835	0.805938168	1.240789976	1.284342762	1.593599625
38° 52' 30"	0.62762343	0.77851708	0.806178111	1.240420679	1.284493343	1.593312104
38° 53' 00"	0.62773665	0.77842578	0.806418111	1.240051514	1.284643986	1.593024720
38° 53' 30"	0.62784986	0.77833447	0.806658167	1.239682483	1.284794691	1.592737474
38° 54' 00"	0.62796306	0.77824315	0.806898280	1.239313585	1.284945459	1.592450364
38° 54' 30"	0.62807624	0.77815181	0.807138448	1.238944821	1.285096290	1.592163392
38° 55' 00"	0.62818941	0.77806045	0.807378673	1.238576188	1.285247183	1.591876558
38° 55' 30"	0.62830257	0.77796907	0.807618955	1.238207689	1.285398139	1.591589860
38° 56' 00"	0.62841571	0.77787768	0.807859293	1.237839323	1.285549158	1.591303299
38° 56' 30"	0.62852885	0.77778628	0.808099688	1.237471089	1.285700239	1.591016875
38° 57' 00"	0.62864196	0.77769485	0.808340139	1.237102987	1.285851383	1.590730587
38° 57' 30"	0.62875507	0.77760341	0.808580646	1.236735018	1.286002590	1.590444436
38° 58' 00"	0.62886816	0.77751195	0.808821210	1.236367181	1.286153859	1.590158422
38° 58' 30"	0.62898124	0.77742048	0.809061831	1.235999477	1.286305192	1.589872544
38° 59' 00"	0.62909430	0.77732899	0.809302508	1.235631905	1.286456587	1.589586803
38° 59' 30"	0.62920735	0.77723748	0.809543242	1.235264465	1.286608045	1.589301198
39° 00' 00"	0.62932039	0.77714596	0.809784033	1.234897157	1.286759566	1.589015729
39° 00' 30"	0.62943342	0.77705442	0.810024881	1.234529980	1.286911150	1.588730396
39° 01' 00"	0.62954643	0.77696287	0.810265785	1.234162936	1.287062797	1.588445200
39° 01' 30"	0.62965943	0.77687129	0.810506746	1.233796023	1.287214506	1.588160139
39° 02' 00"	0.62977241	0.77677971	0.810747764	1.233429242	1.287366279	1.587875214
39° 02' 30"	0.62988538	0.77668810	0.810988838	1.233062593	1.287518115	1.587590425
39° 03' 00"	0.62999834	0.77659648	0.811229970	1.232696075	1.287670014	1.587305772
39° 03' 30"	0.63011128	0.77650484	0.811471158	1.232329689	1.287821976	1.587021254
39° 04' 00"	0.63022422	0.77641319	0.811712404	1.231963433	1.287974001	1.586736872
39° 04' 30"	0.63033713	0.77632152	0.811953706	1.231597309	1.288126089	1.586452625
39° 05' 00"	0.63045004	0.77622983	0.812195066	1.231231317	1.288278240	1.586168514
39° 05' 30"	0.63056293	0.77613813	0.812436482	1.230865455	1.288430455	1.585884538
39° 06' 00"	0.63067581	0.77604641	0.812677955	1.230499724	1.288582733	1.585600697
39° 06' 30"	0.63078867	0.77595467	0.812919486	1.230134124	1.288735074	1.585316992
39° 07' 00"	0.63090152	0.77586292	0.813161074	1.229768655	1.288887478	1.585033421
39° 07' 30"	0.63101436	0.77577115	0.813402719	1.229403317	1.289039946	1.584749985
39° 08' 00"	0.63112719	0.77567936	0.813644421	1.229038109	1.289192477	1.584466684
39° 08' 30"	0.63124000	0.77558756	0.813886180	1.228673032	1.289345072	1.584183518
39° 09' 00"	0.63135280	0.77549574	0.814127996	1.228308085	1.289497729	1.583900487
39° 09' 30"	0.63146558	0.77540391	0.814369870	1.227943269	1.289650451	1.583617590
39° 10' 00"	0.63157835	0.77531206	0.814611801	1.227578583	1.289803235	1.583334828
39° 10' 30"	0.63169111	0.77522019	0.814853789	1.227214027	1.289956084	1.583052200
39° 11' 00"	0.63180385	0.77512831	0.815095835	1.226849601	1.290108996	1.582769706
39° 11' 30"	0.63191658	0.77503641	0.815337938	1.226485305	1.290261971	1.582487347



39° 12' 00"

39° 32' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
39° 12' 00"	0.63202930	0.77494449	0.815580099	1.226121139	1.290415010	1.582205122
39° 12' 30"	0.63214201	0.77485256	0.815822317	1.225757103	1.290568112	1.581923031
39° 13' 00"	0.63225470	0.77476061	0.816064592	1.225393197	1.290721279	1.581641074
39° 13' 30"	0.63236738	0.77466864	0.816306925	1.225029421	1.290874508	1.581359251
39° 14' 00"	0.63248004	0.77457666	0.816549316	1.224665774	1.291027802	1.581077562
39° 14' 30"	0.63259269	0.77448466	0.816791764	1.224302257	1.291181159	1.580796007
39° 15' 00"	0.63270533	0.77439264	0.817034270	1.223938869	1.291334580	1.580514585
39° 15' 30"	0.63281795	0.77430061	0.817276833	1.223575610	1.291488065	1.580233297
39° 16' 00"	0.63293056	0.77420856	0.817519454	1.223212481	1.291641614	1.579952143
39° 16' 30"	0.63304316	0.77411650	0.817762133	1.222849481	1.291795226	1.579671122
39° 17' 00"	0.63315574	0.77402442	0.818004870	1.222486610	1.291948903	1.579390234
39° 17' 30"	0.63326832	0.77393232	0.818247664	1.222123868	1.292102643	1.579109480
39° 18' 00"	0.63338087	0.77384021	0.818490516	1.221761255	1.292256447	1.578828858
39° 18' 30"	0.63349342	0.77374808	0.818733426	1.221398771	1.292410315	1.578548370
39° 19' 00"	0.63360595	0.77365593	0.818976394	1.221036415	1.292564247	1.578268015
39° 19' 30"	0.63371846	0.77356377	0.819219419	1.220674188	1.292718244	1.577987793
39° 20' 00"	0.63383097	0.77347159	0.819462503	1.220312090	1.292872304	1.577707704
39° 20' 30"	0.63394346	0.77337940	0.819705645	1.219950121	1.293026428	1.577427747
39° 21' 00"	0.63405593	0.77328719	0.819948844	1.219588279	1.293180617	1.577147923
39° 21' 30"	0.63416840	0.77319496	0.820192102	1.219226567	1.293334869	1.576868232
39° 22' 00"	0.63428085	0.77310271	0.820435417	1.218864982	1.293489186	1.576588673
39° 22' 30"	0.63439328	0.77301045	0.820678791	1.218503526	1.293643567	1.576309247
39° 23' 00"	0.63450571	0.77291818	0.820922223	1.218142197	1.293798012	1.576029953
39° 23' 30"	0.63461812	0.77282588	0.821165712	1.217780997	1.293952521	1.575750791
39° 24' 00"	0.63473051	0.77273357	0.821409261	1.217419925	1.294107095	1.575471762
39° 24' 30"	0.63484290	0.77264125	0.821652867	1.217058980	1.294261733	1.575192865
39° 25' 00"	0.63495527	0.77254891	0.821896531	1.216698163	1.294416435	1.574914099
39° 25' 30"	0.63506762	0.77245655	0.822140254	1.216337474	1.294571202	1.574635466
39° 26' 00"	0.63517996	0.77236417	0.822384035	1.215976913	1.294726033	1.574356965
39° 26' 30"	0.63529229	0.77227178	0.822627874	1.215616479	1.294880929	1.574078595
39° 27' 00"	0.63540461	0.77217937	0.822871772	1.215256172	1.295035889	1.573800357
39° 27' 30"	0.63551691	0.77208695	0.823115728	1.214895993	1.295190913	1.573522251
39° 28' 00"	0.63562920	0.77199451	0.823359743	1.214535941	1.295346002	1.573244276
39° 28' 30"	0.63574147	0.77190205	0.823603816	1.214176016	1.295501156	1.572966433
39° 29' 00"	0.63585374	0.77180958	0.823847947	1.213816218	1.295656374	1.572688721
39° 29' 30"	0.63596599	0.77171709	0.824092137	1.213456548	1.295811657	1.572411140
39° 30' 00"	0.63607822	0.77162458	0.824336386	1.213097004	1.295967005	1.572133691
39° 30' 30"	0.63619044	0.77153206	0.824580693	1.212737587	1.296122417	1.571856372
39° 31' 00"	0.63630265	0.77143952	0.824825059	1.212378297	1.296277894	1.571579185
39° 31' 30"	0.63641484	0.77134697	0.825069483	1.212019134	1.296433435	1.571302129
39° 32' 00"	0.63652703	0.77125440	0.825313966	1.211660097	1.296589041	1.571025204
39° 32' 30"	0.63663919	0.77116181	0.825558508	1.211301187	1.296744713	1.570748409

39° 33' 00"

39° 53' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
39° 33' 00"	0.63675135	0.77106921	0.825803108	1.210942403	1.296900449	1.570471745
39° 33' 30"	0.63686349	0.77097659	0.826047767	1.210583745	1.297056249	1.570195212
39° 34' 00"	0.63697562	0.77088395	0.826292485	1.210225214	1.297212115	1.569918810
39° 34' 30"	0.63708773	0.77079130	0.826537262	1.209866809	1.297368046	1.569642538
39° 35' 00"	0.63719983	0.77069863	0.826782098	1.209508530	1.297524041	1.569366396
39° 35' 30"	0.63731192	0.77060594	0.827026992	1.209150377	1.297680102	1.569090385
39° 36' 00"	0.63742399	0.77051324	0.827271946	1.208792350	1.297836227	1.568814504
39° 36' 30"	0.63753605	0.77042053	0.827516958	1.208434449	1.297992418	1.568538753
39° 37' 00"	0.63764810	0.77032779	0.827762030	1.208076674	1.298148673	1.568263132
39° 37' 30"	0.63776013	0.77023504	0.828007160	1.207719025	1.298304994	1.567987641
39° 38' 00"	0.63787215	0.77014227	0.828252350	1.207361501	1.298461380	1.567712280
39° 38' 30"	0.63798415	0.77004949	0.828497598	1.207004102	1.298617831	1.567437049
39° 39' 00"	0.63809615	0.76995669	0.828742906	1.206646829	1.298774347	1.567161948
39° 39' 30"	0.63820813	0.76986388	0.828988273	1.206289682	1.298930928	1.566886976
39° 40' 00"	0.63832009	0.76977104	0.829233699	1.205932660	1.299087575	1.566612134
39° 40' 30"	0.63843204	0.76967820	0.829479184	1.205575762	1.299244287	1.566337422
39° 41' 00"	0.63854398	0.76958533	0.829724729	1.205218991	1.299401064	1.566062839
39° 41' 30"	0.63865591	0.76949245	0.829970332	1.204862344	1.299557907	1.565788385
39° 42' 00"	0.63876782	0.76939956	0.830215995	1.204505822	1.299714815	1.565514061
39° 42' 30"	0.63887972	0.76930664	0.830461718	1.204149425	1.299871788	1.565239866
39° 43' 00"	0.63899160	0.76921371	0.830707500	1.203793153	1.300028827	1.564965800
39° 43' 30"	0.63910347	0.76912077	0.830953341	1.203437005	1.300185931	1.564691863
39° 44' 00"	0.63921533	0.76902780	0.831199241	1.203080983	1.300343100	1.564418055
39° 44' 30"	0.63932717	0.76893483	0.831445201	1.202725084	1.300500336	1.564144376
39° 45' 00"	0.63943900	0.76884183	0.831691221	1.202369311	1.300657636	1.563870826
39° 45' 30"	0.63955082	0.76874882	0.831937300	1.202013661	1.300815003	1.563597404
39° 46' 00"	0.63966262	0.76865579	0.832183439	1.201658137	1.300972435	1.563324111
39° 46' 30"	0.63977441	0.76856275	0.832429637	1.201302736	1.301129932	1.563050947
39° 47' 00"	0.63988619	0.76846969	0.832675895	1.200947459	1.301287495	1.562777911
39° 47' 30"	0.63999795	0.76837662	0.832922212	1.200592307	1.301445124	1.562505004
39° 48' 00"	0.64010970	0.76828352	0.833168589	1.200237278	1.301602819	1.562232225
39° 48' 30"	0.64022144	0.76819042	0.833415026	1.199882374	1.301760579	1.561959574
39° 49' 00"	0.64033316	0.76809729	0.833661523	1.199527593	1.301918405	1.561687052
39° 49' 30"	0.64044487	0.76800415	0.833908079	1.199172936	1.302076298	1.561414657
39° 50' 00"	0.64055656	0.76791099	0.834154695	1.198818403	1.302234255	1.561142391
39° 50' 30"	0.64066824	0.76781782	0.834401372	1.198463994	1.302392279	1.560870252
39° 51' 00"	0.64077991	0.76772463	0.834648107	1.198109708	1.302550369	1.560598242
39° 51' 30"	0.64089156	0.76763142	0.834894903	1.197755545	1.302708524	1.560326359
39° 52' 00"	0.64100320	0.76753820	0.835141759	1.197401506	1.302866746	1.560054604
39° 52' 30"	0.64111483	0.76744496	0.835388675	1.197047590	1.303025034	1.559782976
39° 53' 00"	0.64122645	0.76735171	0.835635651	1.196693797	1.303183387	1.559511476
39° 53' 30"	0.64133805	0.76725844	0.835882687	1.196340128	1.303341807	1.559240104

39° 54' 00"

40° 14' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
39° 54' 00"	0.64144963	0.76716515	0.836129783	1.195986581	1.303500293	1.558968859
39° 54' 30"	0.64156120	0.76707185	0.836376939	1.195633158	1.303658845	1.558697741
39° 55' 00"	0.64167276	0.76697853	0.836624155	1.195279857	1.303817463	1.558426750
39° 55' 30"	0.64178431	0.76688519	0.836871431	1.194926679	1.303976147	1.558155887
39° 56' 00"	0.64189584	0.76679184	0.837118768	1.194573624	1.304134898	1.557885151
39° 56' 30"	0.64200736	0.76669847	0.837366164	1.194220692	1.304293714	1.557614542
39° 57' 00"	0.64211887	0.76660509	0.837613621	1.193867882	1.304452597	1.557344059
39° 57' 30"	0.64223036	0.76651169	0.837861139	1.193515194	1.304611547	1.557073704
39° 58' 00"	0.64234183	0.76641827	0.838108716	1.193162630	1.304770562	1.556803475
39° 58' 30"	0.64245330	0.76632484	0.838356355	1.192810187	1.304929645	1.556533373
39° 59' 00"	0.64256475	0.76623139	0.838604053	1.192457867	1.305088793	1.556263398
39° 59' 30"	0.64267619	0.76613792	0.838851812	1.192105669	1.305248008	1.555993549
40° 00' 00"	0.64278761	0.76604444	0.839099631	1.191753593	1.305407289	1.555723827
40° 00' 30"	0.64289902	0.76595095	0.839347511	1.191401639	1.305566637	1.555454231
40° 01' 00"	0.64301042	0.76585743	0.839595451	1.191049807	1.305726052	1.555184761
40° 01' 30"	0.64312180	0.76576390	0.839843452	1.190698096	1.305885533	1.554915418
40° 02' 00"	0.64323317	0.76567035	0.840091514	1.190346508	1.306045080	1.554646201
40° 02' 30"	0.64334452	0.76557679	0.840339636	1.189995042	1.306204694	1.554377110
40° 03' 00"	0.64345586	0.76548321	0.840587819	1.189643697	1.306364375	1.554108144
40° 03' 30"	0.64356719	0.76538962	0.840836062	1.189292473	1.306524123	1.553839305
40° 04' 00"	0.64367851	0.76529601	0.841084366	1.188941371	1.306683937	1.553570592
40° 04' 30"	0.64378981	0.76520238	0.841332731	1.188590391	1.306843818	1.553302004
40° 05' 00"	0.64390110	0.76510874	0.841581157	1.188239532	1.307003766	1.553033543
40° 05' 30"	0.64401237	0.76501508	0.841829644	1.187888794	1.307163781	1.552765206
40° 06' 00"	0.64412363	0.76492140	0.842078191	1.187538177	1.307323862	1.552496996
40° 06' 30"	0.64423488	0.76482771	0.842326800	1.187187681	1.307484010	1.552228910
40° 07' 00"	0.64434611	0.76473400	0.842575469	1.186837306	1.307644226	1.551960951
40° 07' 30"	0.64445733	0.76464028	0.842824199	1.186487053	1.307804508	1.551693116
40° 08' 00"	0.64456853	0.76454654	0.843072990	1.186136920	1.307964857	1.551425407
40° 08' 30"	0.64467973	0.76445278	0.843321843	1.185786908	1.308125273	1.551157823
40° 09' 00"	0.64479090	0.76435901	0.843570756	1.185437017	1.308285756	1.550890364
40° 09' 30"	0.64490207	0.76426522	0.843819730	1.185087246	1.308446307	1.550623030
40° 10' 00"	0.64501322	0.76417141	0.844068766	1.184737596	1.308606924	1.550355821
40° 10' 30"	0.64512436	0.76407759	0.844317862	1.184388066	1.308767608	1.550088736
40° 11' 00"	0.64523548	0.76398375	0.844567020	1.184038657	1.308928360	1.549821777
40° 11' 30"	0.64534659	0.76388990	0.844816239	1.183689368	1.309089179	1.549554942
40° 12' 00"	0.64545769	0.76379603	0.845065519	1.183340199	1.309250065	1.549288232
40° 12' 30"	0.64556877	0.76370214	0.845314861	1.182991150	1.309411018	1.549021647
40° 13' 00"	0.64567984	0.76360824	0.845564264	1.182642222	1.309572039	1.548755186
40° 13' 30"	0.64579090	0.76351432	0.845813728	1.182293414	1.309733127	1.548488849
40° 14' 00"	0.64590194	0.76342039	0.846063254	1.181944725	1.309894282	1.548222637
40° 14' 30"	0.64601297	0.76332644	0.846312841	1.181596156	1.310055504	1.547956549

40° 15' 00"

40° 35' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
40° 15' 00"	0.64612398	0.76323247	0.846562489	1.181247708	1.310216794	1.547690585
40° 15' 30"	0.64623498	0.76313849	0.846812199	1.180899378	1.310378152	1.547424745
40° 16' 00"	0.64634597	0.76304449	0.847061971	1.180551169	1.310539577	1.547159030
40° 16' 30"	0.64645694	0.76295047	0.847311804	1.180203079	1.310701069	1.546893438
40° 17' 00"	0.64656790	0.76285644	0.847561699	1.179855109	1.310862629	1.546627970
40° 17' 30"	0.64667885	0.76276239	0.847811655	1.179507258	1.311024257	1.546362626
40° 18' 00"	0.64678978	0.76266833	0.848061673	1.179159526	1.311185952	1.546097405
40° 18' 30"	0.64690070	0.76257425	0.848311752	1.178811913	1.311347715	1.545832309
40° 19' 00"	0.64701160	0.76248015	0.848561894	1.178464420	1.311509545	1.545567336
40° 19' 30"	0.64712249	0.76238604	0.848812097	1.178117046	1.311671444	1.545302486
40° 20' 00"	0.64723337	0.76229191	0.849062362	1.177769791	1.311833409	1.545037760
40° 20' 30"	0.64734424	0.76219777	0.849312688	1.177422654	1.311995443	1.544773157
40° 21' 00"	0.64745509	0.76210361	0.849563077	1.177075637	1.312157545	1.544508678
40° 21' 30"	0.64756592	0.76200943	0.849813527	1.176728739	1.312319714	1.544244321
40° 22' 00"	0.64767675	0.76191524	0.850064040	1.176381959	1.312481951	1.543980088
40° 22' 30"	0.64778756	0.76182103	0.850314614	1.176035298	1.312644256	1.543715978
40° 23' 00"	0.64789835	0.76172681	0.850565250	1.175688755	1.312806629	1.543451991
40° 23' 30"	0.64800913	0.76163256	0.850815949	1.175342331	1.312969070	1.543188127
40° 24' 00"	0.64811990	0.76153831	0.851066709	1.174996025	1.313131579	1.542924385
40° 24' 30"	0.64823066	0.76144403	0.851317531	1.174649838	1.313294156	1.542660767
40° 25' 00"	0.64834140	0.76134974	0.851568416	1.174303769	1.313456801	1.542397271
40° 25' 30"	0.64845212	0.76125544	0.851819363	1.173957818	1.313619514	1.542133898
40° 26' 00"	0.64856284	0.76116112	0.852070371	1.173611985	1.313782295	1.541870647
40° 26' 30"	0.64867354	0.76106678	0.852321443	1.173266270	1.313945144	1.541607518
40° 27' 00"	0.64878422	0.76097243	0.852572576	1.172920674	1.314108061	1.541344513
40° 27' 30"	0.64889489	0.76087806	0.852823772	1.172575195	1.314271047	1.541081629
40° 28' 00"	0.64900555	0.76078367	0.853075030	1.172229834	1.314434101	1.540818868
40° 28' 30"	0.64911620	0.76068927	0.853326350	1.171884590	1.314597223	1.540556228
40° 29' 00"	0.64922683	0.76059485	0.853577733	1.171539465	1.314760414	1.540293711
40° 29' 30"	0.64933744	0.76050042	0.853829178	1.171194457	1.314923673	1.540031316
40° 30' 00"	0.64944805	0.76040597	0.854080685	1.170849566	1.315087000	1.539769043
40° 30' 30"	0.64955864	0.76031150	0.854332256	1.170504793	1.315250396	1.539506892
40° 31' 00"	0.64966921	0.76021702	0.854583888	1.170160137	1.315413860	1.539244863
40° 31' 30"	0.64977978	0.76012252	0.854835583	1.169815599	1.315577392	1.538982955
40° 32' 00"	0.64989032	0.76002800	0.855087341	1.169471178	1.315740993	1.538721169
40° 32' 30"	0.65000086	0.75993347	0.855339162	1.169126874	1.315904663	1.538459504
40° 33' 00"	0.65011138	0.75983893	0.855591045	1.168782687	1.316068401	1.538197962
40° 33' 30"	0.65022189	0.75974436	0.855842991	1.168438617	1.316232208	1.537936540
40° 34' 00"	0.65033238	0.75964978	0.856094999	1.168094664	1.316396083	1.537675240
40° 34' 30"	0.65044286	0.75955519	0.856347070	1.167750828	1.316560027	1.537414061
40° 35' 00"	0.65055333	0.75946058	0.856599204	1.167407108	1.316724040	1.537153003
40° 35' 30"	0.65066378	0.75936595	0.856851401	1.167063505	1.316888121	1.536892067

40° 36' 00"

40° 56' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
40° 36' 00"	0.65077422	0.75927131	0.857103661	1.166720019	1.317052271	1.536631252
40° 36' 30"	0.65088464	0.75917665	0.857355984	1.166376650	1.317216491	1.536370557
40° 37' 00"	0.65099505	0.75908197	0.857608369	1.166033397	1.317380778	1.536109984
40° 37' 30"	0.65110545	0.75898728	0.857860818	1.165690260	1.317545135	1.535849531
40° 38' 00"	0.65121583	0.75889257	0.858113330	1.165347240	1.317709561	1.535589199
40° 38' 30"	0.65132620	0.75879785	0.858365904	1.165004336	1.317874055	1.535328988
40° 39' 00"	0.65143656	0.75870311	0.858618542	1.164661548	1.318038619	1.535068898
40° 39' 30"	0.65154690	0.75860836	0.858871243	1.164318876	1.318203251	1.534808928
40° 40' 00"	0.65165723	0.75851358	0.859124007	1.163976320	1.318367953	1.534549079
40° 40' 30"	0.65176754	0.75841880	0.859376834	1.163633881	1.318532723	1.534289350
40° 41' 00"	0.65187784	0.75832399	0.859629724	1.163291557	1.318697563	1.534029741
40° 41' 30"	0.65198813	0.75822917	0.859882678	1.162949349	1.318862472	1.533770253
40° 42' 00"	0.65209840	0.75813434	0.860135695	1.162607256	1.319027450	1.533510884
40° 42' 30"	0.65220866	0.75803948	0.860388775	1.162265280	1.319192497	1.533251636
40° 43' 00"	0.65231891	0.75794462	0.860641918	1.161923419	1.319357613	1.532992508
40° 43' 30"	0.65242914	0.75784973	0.860895125	1.161581673	1.319522799	1.532733501
40° 44' 00"	0.65253936	0.75775483	0.861148395	1.161240043	1.319688054	1.532474613
40° 44' 30"	0.65264956	0.75765992	0.861401729	1.160898529	1.319853378	1.532215844
40° 45' 00"	0.65275975	0.75756498	0.861655127	1.160557129	1.320018771	1.531957196
40° 45' 30"	0.65286993	0.75747004	0.861908587	1.160215845	1.320184234	1.531698667
40° 46' 00"	0.65298009	0.75737507	0.862162112	1.159874676	1.320349767	1.531440258
40° 46' 30"	0.65309024	0.75728009	0.862415700	1.159533622	1.320515369	1.531181969
40° 47' 00"	0.65320038	0.75718510	0.862669351	1.159192683	1.320681040	1.530923799
40° 47' 30"	0.65331050	0.75709008	0.862923066	1.158851859	1.320846781	1.530665748
40° 48' 00"	0.65342060	0.75699506	0.863176845	1.158511150	1.321012591	1.530407817
40° 48' 30"	0.65353070	0.75690001	0.863430688	1.158170556	1.321178471	1.530150005
40° 49' 00"	0.65364078	0.75680495	0.863684594	1.157830077	1.321344421	1.529892312
40° 49' 30"	0.65375084	0.75670988	0.863938564	1.157489712	1.321510440	1.529634738
40° 50' 00"	0.65386090	0.75661478	0.864192598	1.157149462	1.321676529	1.529377284
40° 50' 30"	0.65397093	0.75651967	0.864446696	1.156809326	1.321842688	1.529119948
40° 51' 00"	0.65408096	0.75642455	0.864700858	1.156469304	1.322008916	1.528862732
40° 51' 30"	0.65419097	0.75632941	0.864955084	1.156129397	1.322175214	1.528605634
40° 52' 00"	0.65430097	0.75623425	0.865209374	1.155789605	1.322341582	1.528348655
40° 52' 30"	0.65441095	0.75613908	0.865463727	1.155449926	1.322508020	1.528091794
40° 53' 00"	0.65452092	0.75604389	0.865718145	1.155110362	1.322674528	1.527835053
40° 53' 30"	0.65463087	0.75594869	0.865972627	1.154770912	1.322841106	1.527578430
40° 54' 00"	0.65474081	0.75585347	0.866227173	1.154431576	1.323007753	1.527321925
40° 54' 30"	0.65485074	0.75575823	0.866481783	1.154092353	1.323174471	1.527065539
40° 55' 00"	0.65496065	0.75566298	0.866736457	1.153753245	1.323341258	1.526809271
40° 55' 30"	0.65507055	0.75556771	0.866991196	1.153414250	1.323508116	1.526553121
40° 56' 00"	0.65518044	0.75547243	0.867245999	1.153075369	1.323675044	1.526297090
40° 56' 30"	0.65529031	0.75537713	0.867500866	1.152736602	1.323842042	1.526041177

40° 57' 00"

41° 17' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
40° 57' 00"	0.65540017	0.75528181	0.867755797	1.152397948	1.324009110	1.525785382
40° 57' 30"	0.65551002	0.75518648	0.868010793	1.152059408	1.324176248	1.525529705
40° 58' 00"	0.65561985	0.75509113	0.868265853	1.151720981	1.324343457	1.525274145
40° 58' 30"	0.65572966	0.75499577	0.868520977	1.151382668	1.324510735	1.525018704
40° 59' 00"	0.65583947	0.75490039	0.868776166	1.151044468	1.324678084	1.524763381
40° 59' 30"	0.65594925	0.75480499	0.869031420	1.150706381	1.324845504	1.524508175
41° 00' 00"	0.65605903	0.75470958	0.869286738	1.150368407	1.325012993	1.524253087
41° 00' 30"	0.65616879	0.75461415	0.869542120	1.150030547	1.325180553	1.523998116
41° 01' 00"	0.65627854	0.75451871	0.869797568	1.149692799	1.325348184	1.523743263
41° 01' 30"	0.65638827	0.75442325	0.870053079	1.149355164	1.325515885	1.523488527
41° 02' 00"	0.65649799	0.75432777	0.870308656	1.149017642	1.325683656	1.523233909
41° 02' 30"	0.65660770	0.75423228	0.870564297	1.148680233	1.325851498	1.522979408
41° 03' 00"	0.65671739	0.75413677	0.870820003	1.148342937	1.326019411	1.522725025
41° 03' 30"	0.65682707	0.75404125	0.871075774	1.148005753	1.326187394	1.522470758
41° 04' 00"	0.65693673	0.75394571	0.871331610	1.147668682	1.326355448	1.522216609
41° 04' 30"	0.65704638	0.75385015	0.871587510	1.147331723	1.326523572	1.521962576
41° 05' 00"	0.65715602	0.75375458	0.871843475	1.146994877	1.326691767	1.521708661
41° 05' 30"	0.65726564	0.75365900	0.872099506	1.146658144	1.326860033	1.521454862
41° 06' 00"	0.65737525	0.75356339	0.872355601	1.146321522	1.327028370	1.521201181
41° 06' 30"	0.65748484	0.75346777	0.872611761	1.145985013	1.327196777	1.520947616
41° 07' 00"	0.65759442	0.75337214	0.872867986	1.145648616	1.327365255	1.520694167
41° 07' 30"	0.65770399	0.75327649	0.873124276	1.145312331	1.327533805	1.520440836
41° 08' 00"	0.65781354	0.75318082	0.873380632	1.144976158	1.327702425	1.520187620
41° 08' 30"	0.65792308	0.75308514	0.873637052	1.144640097	1.327871115	1.519934522
41° 09' 00"	0.65803260	0.75298944	0.873893538	1.144304147	1.328039877	1.519681540
41° 09' 30"	0.65814211	0.75289372	0.874150089	1.143968310	1.328208710	1.519428674
41° 10' 00"	0.65825161	0.75279799	0.874406705	1.143632584	1.328377614	1.519175924
41° 10' 30"	0.65836109	0.75270224	0.874663387	1.143296970	1.328546589	1.518923291
41° 11' 00"	0.65847056	0.75260648	0.874920133	1.142961468	1.328715635	1.518670773
41° 11' 30"	0.65858002	0.75251070	0.875176945	1.142626077	1.328884753	1.518418372
41° 12' 00"	0.65868946	0.75241491	0.875433823	1.142290798	1.329053941	1.518166087
41° 12' 30"	0.65879889	0.75231910	0.875690766	1.141955630	1.329223201	1.517913917
41° 13' 00"	0.65890830	0.75222327	0.875947774	1.141620573	1.329392532	1.517661864
41° 13' 30"	0.65901770	0.75212743	0.876204848	1.141285628	1.329561934	1.517409926
41° 14' 00"	0.65912709	0.75203157	0.876461987	1.140950793	1.329731407	1.517158104
41° 14' 30"	0.65923646	0.75193570	0.876719192	1.140616070	1.329900952	1.516906398
41° 15' 00"	0.65934582	0.75183981	0.876976463	1.140281458	1.330070568	1.516654807
41° 15' 30"	0.65945516	0.75174390	0.877233799	1.139946957	1.330240256	1.516403332
41° 16' 00"	0.65956449	0.75164798	0.877491201	1.139612567	1.330410015	1.516151972
41° 16' 30"	0.65967380	0.75155204	0.877748669	1.139278287	1.330579846	1.515900728
41° 17' 00"	0.65978311	0.75145609	0.878006202	1.138944119	1.330749748	1.515649599
41° 17' 30"	0.65989239	0.75136012	0.878263801	1.138610061	1.330919721	1.515398585

41° 18' 00"

41° 38' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
41° 18' 00"	0.66000167	0.75126413	0.878521466	1.138276113	1.331089766	1.515147686
41° 18' 30"	0.66011093	0.75116813	0.878779197	1.137942277	1.331259883	1.514896902
41° 19' 00"	0.66022017	0.75107212	0.879036994	1.137608550	1.331430072	1.514646234
41° 19' 30"	0.66032941	0.75097608	0.879294856	1.137274935	1.331600332	1.514395680
41° 20' 00"	0.66043862	0.75088003	0.879552785	1.136941429	1.331770664	1.514145242
41° 20' 30"	0.66054783	0.75078397	0.879810779	1.136608034	1.331941068	1.513894918
41° 21' 00"	0.66065702	0.75068789	0.880068840	1.136274749	1.332111543	1.513644709
41° 21' 30"	0.66076619	0.75059179	0.880326967	1.135941574	1.332282090	1.513394615
41° 22' 00"	0.66087536	0.75049568	0.880585159	1.135608509	1.332452709	1.513144635
41° 22' 30"	0.66098450	0.75039955	0.880843418	1.135275554	1.332623401	1.512894770
41° 23' 00"	0.66109364	0.75030341	0.881101743	1.134942709	1.332794164	1.512645019
41° 23' 30"	0.66120276	0.75020725	0.881360135	1.134609974	1.332964998	1.512395383
41° 24' 00"	0.66131187	0.75011107	0.881618592	1.134277349	1.333135905	1.512145861
41° 24' 30"	0.66142096	0.75001488	0.881877116	1.133944834	1.333306884	1.511896453
41° 25' 00"	0.66153004	0.74991867	0.882135706	1.133612428	1.333477936	1.511647160
41° 25' 30"	0.66163910	0.74982245	0.882394363	1.133280132	1.333649059	1.511397981
41° 26' 00"	0.66174815	0.74972621	0.882653086	1.132947945	1.333820254	1.511148916
41° 26' 30"	0.66185719	0.74962995	0.882911875	1.132615868	1.333991522	1.510899965
41° 27' 00"	0.66196621	0.74953368	0.883170731	1.132283900	1.334162861	1.510651128
41° 27' 30"	0.66207522	0.74943739	0.883429654	1.131952042	1.334334273	1.510402405
41° 28' 00"	0.66218421	0.74934109	0.883688643	1.131620292	1.334505758	1.510153795
41° 28' 30"	0.66229319	0.74924477	0.883947698	1.131288652	1.334677314	1.509905300
41° 29' 00"	0.66240216	0.74914844	0.884206820	1.130957121	1.334848943	1.509656918
41° 29' 30"	0.66251111	0.74905209	0.884466009	1.130625699	1.335020644	1.509408650
41° 30' 00"	0.66262005	0.74895572	0.884725265	1.130294386	1.335192418	1.509160495
41° 30' 30"	0.66272897	0.74885934	0.884984587	1.129963182	1.335364264	1.508912454
41° 31' 00"	0.66283788	0.74876294	0.885243976	1.129632087	1.335536183	1.508664526
41° 31' 30"	0.66294678	0.74866653	0.885503432	1.129301101	1.335708174	1.508416712
41° 32' 00"	0.66305566	0.74857010	0.885762954	1.128970223	1.335880238	1.508169011
41° 32' 30"	0.66316453	0.74847365	0.886022544	1.128639454	1.336052375	1.507921423
41° 33' 00"	0.66327338	0.74837719	0.886282200	1.128308794	1.336224584	1.507673948
41° 33' 30"	0.66338222	0.74828071	0.886541923	1.127978242	1.336396865	1.507426587
41° 34' 00"	0.66349105	0.74818422	0.886801714	1.127647798	1.336569220	1.507179338
41° 34' 30"	0.66359986	0.74808771	0.887061571	1.127317463	1.336741647	1.506932202
41° 35' 00"	0.66370866	0.74799119	0.887321496	1.126987236	1.336914147	1.506685180
41° 35' 30"	0.66381744	0.74789465	0.887581487	1.126657118	1.337086720	1.506438270
41° 36' 00"	0.66392621	0.74779809	0.887841546	1.126327107	1.337259365	1.506191473
41° 36' 30"	0.66403497	0.74770152	0.888101672	1.125997205	1.337432084	1.505944788
41° 37' 00"	0.66414371	0.74760493	0.888361865	1.125667411	1.337604875	1.505698217
41° 37' 30"	0.66425244	0.74750833	0.888622125	1.125337724	1.337777740	1.505451757
41° 38' 00"	0.66436115	0.74741171	0.888882453	1.125008146	1.337950677	1.505205411
41° 38' 30"	0.66446985	0.74731507	0.889142848	1.124678675	1.338123688	1.504959176

41° 39' 00"

41° 59' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
41° 39' 00"	0.66457854	0.74721842	0.889403310	1.124349313	1.338296771	1.504713055
41° 39' 30"	0.66468721	0.74712175	0.889663839	1.124020058	1.338469928	1.504467045
41° 40' 00"	0.66479587	0.74702507	0.889924437	1.123690910	1.338643157	1.504221148
41° 40' 30"	0.66490451	0.74692837	0.890185101	1.123361870	1.338816460	1.503975363
41° 41' 00"	0.66501314	0.74683166	0.890445833	1.123032938	1.338989836	1.503729690
41° 41' 30"	0.66512175	0.74673493	0.890706633	1.122704113	1.339163286	1.503484129
41° 42' 00"	0.66523035	0.74663818	0.890967500	1.122375395	1.339336808	1.503238680
41° 42' 30"	0.66533894	0.74654142	0.891228435	1.122046785	1.339510404	1.502993343
41° 43' 00"	0.66544751	0.74644464	0.891489437	1.121718282	1.339684073	1.502748117
41° 43' 30"	0.66555607	0.74634785	0.891750507	1.121389886	1.339857816	1.502503004
41° 44' 00"	0.66566462	0.74625104	0.892011645	1.121061597	1.340031632	1.502258002
41° 44' 30"	0.66577315	0.74615422	0.892272851	1.120733416	1.340205522	1.502013112
41° 45' 00"	0.66588167	0.74605738	0.892534124	1.120405341	1.340379485	1.501768334
41° 45' 30"	0.66599017	0.74596052	0.892795466	1.120077373	1.340553521	1.501523667
41° 46' 00"	0.66609866	0.74586365	0.893056875	1.119749512	1.340727631	1.501279111
41° 46' 30"	0.66620713	0.74576676	0.893318352	1.119421758	1.340901815	1.501034667
41° 47' 00"	0.66631559	0.74566985	0.893579897	1.119094110	1.341076073	1.500790334
41° 47' 30"	0.66642404	0.74557294	0.893841510	1.118766570	1.341250404	1.500546113
41° 48' 00"	0.66653247	0.74547600	0.894103191	1.118439135	1.341424808	1.500302003
41° 48' 30"	0.66664089	0.74537905	0.894364940	1.118111808	1.341599287	1.500058004
41° 49' 00"	0.66674929	0.74528208	0.894626758	1.117784586	1.341773839	1.499814116
41° 49' 30"	0.66685768	0.74518510	0.894888643	1.117457471	1.341948465	1.499570338
41° 50' 00"	0.66696606	0.74508810	0.895150597	1.117130463	1.342123165	1.499326672
41° 50' 30"	0.66707442	0.74499109	0.895412618	1.116803560	1.342297939	1.499083117
41° 51' 00"	0.66718277	0.74489406	0.895674708	1.116476764	1.342472787	1.498839673
41° 51' 30"	0.66729110	0.74479701	0.895936867	1.116150074	1.342647708	1.498596339
41° 52' 00"	0.66739942	0.74469995	0.896199093	1.115823490	1.342822704	1.498353116
41° 52' 30"	0.66750772	0.74460287	0.896461388	1.115497012	1.342997774	1.498110004
41° 53' 00"	0.66761602	0.74450578	0.896723752	1.115170640	1.343172918	1.497867002
41° 53' 30"	0.66772429	0.74440867	0.896986184	1.114844373	1.343348136	1.497624111
41° 54' 00"	0.66783256	0.74431155	0.897248684	1.114518213	1.343523428	1.497381330
41° 54' 30"	0.66794080	0.74421441	0.897511253	1.114192158	1.343698794	1.497138659
41° 55' 00"	0.66804904	0.74411725	0.897773891	1.113866209	1.343874235	1.496896099
41° 55' 30"	0.66815726	0.74402008	0.898036597	1.113540365	1.344049749	1.496653649
41° 56' 00"	0.66826547	0.74392289	0.898299371	1.113214627	1.344225338	1.496411309
41° 56' 30"	0.66837366	0.74382569	0.898562215	1.112888995	1.344401002	1.496169080
41° 57' 00"	0.66848184	0.74372847	0.898825127	1.112563468	1.344576740	1.495926960
41° 57' 30"	0.66859000	0.74363123	0.899088108	1.112238046	1.344752552	1.495684950
41° 58' 00"	0.66869815	0.74353398	0.899351157	1.111912730	1.344928438	1.495443051
41° 58' 30"	0.66880628	0.74343672	0.899614276	1.111587518	1.345104399	1.495201261
41° 59' 00"	0.66891441	0.74333944	0.899877463	1.111262412	1.345280435	1.494959581
41° 59' 30"	0.66902251	0.74324214	0.900140719	1.110937411	1.345456545	1.494718011



42° 00' 00"

42° 20' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
42° 00' 00"	0.66913061	0.74314483	0.900404044	1.110612515	1.345632730	1.494476550
42° 00' 30"	0.66923869	0.74304750	0.900667438	1.110287724	1.345808989	1.494235199
42° 01' 00"	0.66934675	0.74295015	0.900930902	1.109963037	1.345985323	1.493993957
42° 01' 30"	0.66945480	0.74285279	0.901194434	1.109638456	1.346161732	1.493752825
42° 02' 00"	0.66956284	0.74275542	0.901458035	1.109313979	1.346338215	1.493511803
42° 02' 30"	0.66967086	0.74265802	0.901721705	1.108989607	1.346514773	1.493270889
42° 03' 00"	0.66977887	0.74256062	0.901985445	1.108665340	1.346691406	1.493030085
42° 03' 30"	0.66988686	0.74246319	0.902249254	1.108341177	1.346868114	1.492789391
42° 04' 00"	0.66999484	0.74236575	0.902513132	1.108017119	1.347044897	1.492548805
42° 04' 30"	0.67010281	0.74226830	0.902777079	1.107693165	1.347221754	1.492308328
42° 05' 00"	0.67021076	0.74217083	0.903041096	1.107369315	1.347398687	1.492067961
42° 05' 30"	0.67031870	0.74207334	0.903305182	1.107045570	1.347575694	1.491827703
42° 06' 00"	0.67042662	0.74197584	0.903569337	1.106721929	1.347752777	1.491587553
42° 06' 30"	0.67053453	0.74187832	0.903833562	1.106398392	1.347929934	1.491347512
42° 07' 00"	0.67064242	0.74178079	0.904097857	1.106074959	1.348107167	1.491107580
42° 07' 30"	0.67075030	0.74168324	0.904362220	1.105751631	1.348284475	1.490867757
42° 08' 00"	0.67085817	0.74158568	0.904626654	1.105428406	1.348461858	1.490628042
42° 08' 30"	0.67096602	0.74148810	0.904891157	1.105105285	1.348639316	1.490388436
42° 09' 00"	0.67107386	0.74139050	0.905155729	1.104782268	1.348816850	1.490148939
42° 09' 30"	0.67118168	0.74129289	0.905420372	1.104459355	1.348994459	1.489909550
42° 10' 00"	0.67128949	0.74119526	0.905685084	1.104136546	1.349172143	1.489670270
42° 10' 30"	0.67139729	0.74109762	0.905949866	1.103813840	1.349349902	1.489431097
42° 11' 00"	0.67150507	0.74099996	0.906214717	1.103491238	1.349527737	1.489192033
42° 11' 30"	0.67161284	0.74090229	0.906479638	1.103168739	1.349705648	1.488953078
42° 12' 00"	0.67172059	0.74080460	0.906744630	1.102846344	1.349883633	1.488714230
42° 12' 30"	0.67182833	0.74070689	0.907009691	1.102524053	1.350061695	1.488475491
42° 13' 00"	0.67193605	0.74060917	0.907274822	1.102201864	1.350239831	1.488236859
42° 13' 30"	0.67204376	0.74051143	0.907540023	1.101879779	1.350418044	1.487998336
42° 14' 00"	0.67215146	0.74041368	0.907805294	1.101557797	1.350596332	1.487759920
42° 14' 30"	0.67225914	0.74031591	0.908070635	1.101235918	1.350774696	1.487521613
42° 15' 00"	0.67236681	0.74021813	0.908336046	1.100914143	1.350953135	1.487283413
42° 15' 30"	0.67247446	0.74012033	0.908601528	1.100592470	1.351131650	1.487045321
42° 16' 00"	0.67258210	0.74002251	0.908867079	1.100270901	1.351310241	1.486807336
42° 16' 30"	0.67268972	0.73992468	0.909132701	1.099949434	1.351488908	1.486569459
42° 17' 00"	0.67279734	0.73982684	0.909398393	1.099628070	1.351667651	1.486331690
42° 17' 30"	0.67290493	0.73972897	0.909664156	1.099306809	1.351846469	1.486094028
42° 18' 00"	0.67301251	0.73963109	0.909929988	1.098985651	1.352025363	1.485856474
42° 18' 30"	0.67312008	0.73953320	0.910195891	1.098664595	1.352204334	1.485619026
42° 19' 00"	0.67322763	0.73943529	0.910461865	1.098343642	1.352383380	1.485381687
42° 19' 30"	0.67333517	0.73933737	0.910727909	1.098022791	1.352562503	1.485144454
42° 20' 00"	0.67344270	0.73923943	0.910994023	1.097702043	1.352741701	1.484907329
42° 20' 30"	0.67355021	0.73914147	0.911260208	1.097381397	1.352920976	1.484670310

42° 21' 00"

42° 41' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
42° 21' 00"	0.67365771	0.73904350	0.911526463	1.097060854	1.353100326	1.484433399
42° 21' 30"	0.67376519	0.73894551	0.911792789	1.096740413	1.353279753	1.484196595
42° 22' 00"	0.67387266	0.73884751	0.912059186	1.096420074	1.353459256	1.483959898
42° 22' 30"	0.67398011	0.73874949	0.912325654	1.096099837	1.353638836	1.483723307
42° 23' 00"	0.67408755	0.73865146	0.912592192	1.095779702	1.353818492	1.483486824
42° 23' 30"	0.67419498	0.73855341	0.912858801	1.095459670	1.353998224	1.483250447
42° 24' 00"	0.67430239	0.73845534	0.913125480	1.095139739	1.354178032	1.483014176
42° 24' 30"	0.67440978	0.73835726	0.913392231	1.094819910	1.354357917	1.482778013
42° 25' 00"	0.67451717	0.73825916	0.913659052	1.094500183	1.354537878	1.482541956
42° 25' 30"	0.67462454	0.73816105	0.913925945	1.094180558	1.354717916	1.482306005
42° 26' 00"	0.67473189	0.73806292	0.914192908	1.093861034	1.354898030	1.482070161
42° 26' 30"	0.67483923	0.73796478	0.914459942	1.093541613	1.355078221	1.481834423
42° 27' 00"	0.67494655	0.73786662	0.914727048	1.093222292	1.355258489	1.481598792
42° 27' 30"	0.67505387	0.73776844	0.914994224	1.092903074	1.355438833	1.481363267
42° 28' 00"	0.67516116	0.73767025	0.915261472	1.092583957	1.355619254	1.481127848
42° 28' 30"	0.67526845	0.73757205	0.915528790	1.092264941	1.355799751	1.480892535
42° 29' 00"	0.67537571	0.73747383	0.915796180	1.091946026	1.355980326	1.480657328
42° 29' 30"	0.67548297	0.73737559	0.916063642	1.091627213	1.356160977	1.480422228
42° 30' 00"	0.67559021	0.73727734	0.916331174	1.091308501	1.356341705	1.480187233
42° 30' 30"	0.67569743	0.73717907	0.916598778	1.090989890	1.356522510	1.479952344
42° 31' 00"	0.67580464	0.73708078	0.916866453	1.090671381	1.356703392	1.479717561
42° 31' 30"	0.67591184	0.73698248	0.917134199	1.090352972	1.356884350	1.479482884
42° 32' 00"	0.67601902	0.73688417	0.917402017	1.090034664	1.357065386	1.479248312
42° 32' 30"	0.67612619	0.73678584	0.917669907	1.089716457	1.357246499	1.479013846
42° 33' 00"	0.67623335	0.73668749	0.917937868	1.089398351	1.357427688	1.478779486
42° 33' 30"	0.67634049	0.73658913	0.918205900	1.089080346	1.357608955	1.478545231
42° 34' 00"	0.67644761	0.73649075	0.918474005	1.088762442	1.357790299	1.478311082
42° 34' 30"	0.67655472	0.73639236	0.918742180	1.088444638	1.357971721	1.478077038
42° 35' 00"	0.67666182	0.73629395	0.919010428	1.088126935	1.358153219	1.477843099
42° 35' 30"	0.67676890	0.73619553	0.919278747	1.087809332	1.358334795	1.477609266
42° 36' 00"	0.67687597	0.73609709	0.919547138	1.087491830	1.358516448	1.477375538
42° 36' 30"	0.67698302	0.73599863	0.919815601	1.087174429	1.358698178	1.477141915
42° 37' 00"	0.67709006	0.73590016	0.920084135	1.086857127	1.358879986	1.476908398
42° 37' 30"	0.67719709	0.73580167	0.920352742	1.086539926	1.359061871	1.476674985
42° 38' 00"	0.67730410	0.73570317	0.920621420	1.086222825	1.359243834	1.476441677
42° 38' 30"	0.67741110	0.73560465	0.920890170	1.085905825	1.359425874	1.476208475
42° 39' 00"	0.67751808	0.73550612	0.921158993	1.085588924	1.359607991	1.475975377
42° 39' 30"	0.67762505	0.73540757	0.921427887	1.085272124	1.359790186	1.475742384
42° 40' 00"	0.67773200	0.73530901	0.921696854	1.084955423	1.359972459	1.475509495
42° 40' 30"	0.67783894	0.73521043	0.921965892	1.084638823	1.360154810	1.475276712
42° 41' 00"	0.67794586	0.73511183	0.922235003	1.084322322	1.360337238	1.475044033
42° 41' 30"	0.67805277	0.73501322	0.922504186	1.084005921	1.360519744	1.474811458

42° 42' 00"

43° 02' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
42° 42' 00"	0.67815967	0.73491460	0.922773441	1.083689620	1.360702327	1.474578988
42° 42' 30"	0.67826655	0.73481595	0.923042769	1.083373419	1.360884989	1.474346623
42° 43' 00"	0.67837342	0.73471730	0.923312168	1.083057317	1.361067728	1.474114362
42° 43' 30"	0.67848027	0.73461862	0.923581641	1.082741315	1.361250545	1.473882205
42° 44' 00"	0.67858711	0.73451993	0.923851185	1.082425412	1.361433440	1.473650153
42° 44' 30"	0.67869394	0.73442123	0.924120802	1.082109609	1.361616413	1.473418205
42° 45' 00"	0.67880075	0.73432251	0.924390492	1.081793905	1.361799464	1.473186361
42° 45' 30"	0.67890754	0.73422377	0.924660254	1.081478301	1.361982593	1.472954621
42° 46' 00"	0.67901432	0.73412502	0.924930088	1.081162796	1.362165801	1.472722985
42° 46' 30"	0.67912109	0.73402626	0.925199996	1.080847390	1.362349086	1.472491453
42° 47' 00"	0.67922784	0.73392747	0.925469975	1.080532083	1.362532449	1.472260025
42° 47' 30"	0.67933458	0.73382868	0.925740028	1.080216875	1.362715891	1.472028701
42° 48' 00"	0.67944130	0.73372986	0.926010153	1.079901766	1.362899411	1.471797481
42° 48' 30"	0.67954801	0.73363104	0.926280351	1.079586756	1.363083009	1.471566364
42° 49' 00"	0.67965471	0.73353219	0.926550622	1.079271846	1.363266685	1.471335352
42° 49' 30"	0.67976139	0.73343333	0.926820966	1.078957034	1.363450440	1.471104442
42° 50' 00"	0.67986806	0.73333446	0.927091383	1.078642320	1.363634273	1.470873637
42° 50' 30"	0.67997471	0.73323557	0.927361872	1.078327706	1.363818185	1.470642935
42° 51' 00"	0.68008135	0.73313666	0.927632435	1.078013190	1.364002175	1.470412336
42° 51' 30"	0.68018797	0.73303774	0.927903070	1.077698773	1.364186244	1.470181841
42° 52' 00"	0.68029458	0.73293880	0.928173779	1.077384454	1.364370391	1.469951449
42° 52' 30"	0.68040117	0.73283985	0.928444560	1.077070234	1.364554617	1.469721160
42° 53' 00"	0.68050775	0.73274088	0.928715415	1.076756112	1.364738921	1.469490975
42° 53' 30"	0.68061432	0.73264190	0.928986343	1.076442089	1.364923304	1.469260893
42° 54' 00"	0.68072087	0.73254290	0.929257345	1.076128164	1.365107766	1.469030914
42° 54' 30"	0.68082741	0.73244388	0.929528419	1.075814337	1.365292306	1.468801037
42° 55' 00"	0.68093393	0.73234485	0.929799567	1.075500608	1.365476926	1.468571264
42° 55' 30"	0.68104044	0.73224581	0.930070788	1.075186978	1.365661624	1.468341594
42° 56' 00"	0.68114693	0.73214675	0.930342083	1.074873446	1.365846401	1.468112027
42° 56' 30"	0.68125341	0.73204767	0.930613451	1.074560011	1.366031257	1.467882563
42° 57' 00"	0.68135987	0.73194858	0.930884892	1.074246675	1.366216192	1.467653201
42° 57' 30"	0.68146632	0.73184947	0.931156407	1.073933436	1.366401206	1.467423942
42° 58' 00"	0.68157276	0.73175035	0.931427996	1.073620296	1.366586298	1.467194786
42° 58' 30"	0.68167918	0.73165121	0.931699658	1.073307253	1.366771470	1.466965732
42° 59' 00"	0.68178559	0.73155206	0.931971394	1.072994307	1.366956721	1.466736781
42° 59' 30"	0.68189198	0.73145289	0.932243203	1.072681460	1.367142052	1.466507932
43° 00' 00"	0.68199836	0.73135370	0.932515086	1.072368710	1.367327461	1.466279186
43° 00' 30"	0.68210472	0.73125450	0.932787043	1.072056058	1.367512950	1.466050542
43° 01' 00"	0.68221107	0.73115529	0.933059074	1.071743503	1.367698518	1.465822000
43° 01' 30"	0.68231741	0.73105605	0.933331178	1.071431045	1.367884165	1.465593561
43° 02' 00"	0.68242373	0.73095681	0.933603357	1.071118685	1.368069891	1.465365223
43° 02' 30"	0.68253004	0.73085755	0.933875609	1.070806422	1.368255697	1.465136988

43° 03' 00"

43° 23' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
43° 03' 00"	0.68263633	0.73075827	0.934147935	1.070494257	1.368441583	1.464908855
43° 03' 30"	0.68274260	0.73065897	0.934420336	1.070182189	1.368627548	1.464680824
43° 04' 00"	0.68284887	0.73055967	0.934692810	1.069870217	1.368813592	1.464452895
43° 04' 30"	0.68295512	0.73046034	0.934965359	1.069558343	1.368999716	1.464225068
43° 05' 00"	0.68306135	0.73036100	0.935237981	1.069246566	1.369185919	1.463997343
43° 05' 30"	0.68316757	0.73026165	0.935510678	1.068934886	1.369372202	1.463769719
43° 06' 00"	0.68327377	0.73016228	0.935783449	1.068623303	1.369558565	1.463542197
43° 06' 30"	0.68337996	0.73006289	0.936056294	1.068311816	1.369745008	1.463314777
43° 07' 00"	0.68348614	0.72996349	0.936329214	1.068000427	1.369931530	1.463087458
43° 07' 30"	0.68359230	0.72986407	0.936602208	1.067689134	1.370118132	1.462860241
43° 08' 00"	0.68369845	0.72976464	0.936875276	1.067377937	1.370304814	1.462633126
43° 08' 30"	0.68380458	0.72966519	0.937148419	1.067066838	1.370491576	1.462406112
43° 09' 00"	0.68391070	0.72956573	0.937421636	1.066755835	1.370678417	1.462179199
43° 09' 30"	0.68401680	0.72946625	0.937694928	1.066444928	1.370865339	1.461952388
43° 10' 00"	0.68412289	0.72936676	0.937968294	1.066134118	1.371052341	1.461725678
43° 10' 30"	0.68422897	0.72926725	0.938241735	1.065823404	1.371239422	1.461499069
43° 11' 00"	0.68433503	0.72916772	0.938515251	1.065512787	1.371426584	1.461272561
43° 11' 30"	0.68444107	0.72906818	0.938788841	1.065202265	1.371613826	1.461046155
43° 12' 00"	0.68454711	0.72896863	0.939062506	1.064891840	1.371801148	1.460819849
43° 12' 30"	0.68465312	0.72886906	0.939336246	1.064581511	1.371988550	1.460593645
43° 13' 00"	0.68475913	0.72876947	0.939610060	1.064271279	1.372176033	1.460367541
43° 13' 30"	0.68486511	0.72866987	0.939883949	1.063961142	1.372363595	1.460141538
43° 14' 00"	0.68497109	0.72857025	0.940157914	1.063651101	1.372551239	1.459915636
43° 14' 30"	0.68507705	0.72847062	0.940431953	1.063341156	1.372738962	1.459689835
43° 15' 00"	0.68518299	0.72837097	0.940706067	1.063031307	1.372926766	1.459464135
43° 15' 30"	0.68528892	0.72827131	0.940980256	1.062721554	1.373114650	1.459238535
43° 16' 00"	0.68539484	0.72817163	0.941254520	1.062411896	1.373302615	1.459013036
43° 16' 30"	0.68550074	0.72807193	0.941528860	1.062102335	1.373490660	1.458787637
43° 17' 00"	0.68560662	0.72797222	0.941803274	1.061792869	1.373678786	1.458562339
43° 17' 30"	0.68571250	0.72787250	0.942077764	1.061483498	1.373866992	1.458337141
43° 18' 00"	0.68581835	0.72777276	0.942352329	1.061174223	1.374055280	1.458112043
43° 18' 30"	0.68592420	0.72767300	0.942626969	1.060865043	1.374243647	1.457887046
43° 19' 00"	0.68603002	0.72757323	0.942901684	1.060555959	1.374432096	1.457662149
43° 19' 30"	0.68613584	0.72747344	0.943176475	1.060246970	1.374620625	1.457437353
43° 20' 00"	0.68624164	0.72737364	0.943451341	1.059938076	1.374809235	1.457212656
43° 20' 30"	0.68634742	0.72727382	0.943726283	1.059629278	1.374997926	1.456988060
43° 21' 00"	0.68645319	0.72717399	0.944001300	1.059320575	1.375186698	1.456763564
43° 21' 30"	0.68655895	0.72707414	0.944276393	1.059011967	1.375375551	1.456539167
43° 22' 00"	0.68666469	0.72697428	0.944551561	1.058703454	1.375564485	1.456314871
43° 22' 30"	0.68677042	0.72687440	0.944826805	1.058395035	1.375753500	1.456090674
43° 23' 00"	0.68687613	0.72677451	0.945102125	1.058086712	1.375942596	1.455866577
43° 23' 30"	0.68698183	0.72667460	0.945377520	1.057778484	1.376131773	1.455642580

43° 24' 00"

43° 44' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
43° 24' 00"	0.68708751	0.72657467	0.945652991	1.057470351	1.376321031	1.455418683
43° 24' 30"	0.68719318	0.72647473	0.945928538	1.057162312	1.376510370	1.455194885
43° 25' 00"	0.68729883	0.72637477	0.946204160	1.056854368	1.376699791	1.454971187
43° 25' 30"	0.68740447	0.72627480	0.946479859	1.056546519	1.376889292	1.454747589
43° 26' 00"	0.68751010	0.72617482	0.946755633	1.056238764	1.377078875	1.454524089
43° 26' 30"	0.68761571	0.72607481	0.947031484	1.055931104	1.377268540	1.454300690
43° 27' 00"	0.68772131	0.72597480	0.947307410	1.055623538	1.377458286	1.454077389
43° 27' 30"	0.68782689	0.72587476	0.947583412	1.055316067	1.377648113	1.453854188
43° 28' 00"	0.68793245	0.72577472	0.947859491	1.055008690	1.377838022	1.453631087
43° 28' 30"	0.68803801	0.72567465	0.948135646	1.054701408	1.378028012	1.453408084
43° 29' 00"	0.68814354	0.72557457	0.948411876	1.054394219	1.378218084	1.453185181
43° 29' 30"	0.68824907	0.72547448	0.948688183	1.054087125	1.378408238	1.452962377
43° 30' 00"	0.68835458	0.72537437	0.948964567	1.053780125	1.378598473	1.452739671
43° 30' 30"	0.68846007	0.72527425	0.949241026	1.053473219	1.378788789	1.452517065
43° 31' 00"	0.68856555	0.72517411	0.949517562	1.053166408	1.378979188	1.452294558
43° 31' 30"	0.68867101	0.72507395	0.949794175	1.052859690	1.379169668	1.452072149
43° 32' 00"	0.68877646	0.72497378	0.950070863	1.052553066	1.379360230	1.451849840
43° 32' 30"	0.68888190	0.72487359	0.950347629	1.052246536	1.379550874	1.451627629
43° 33' 00"	0.68898732	0.72477339	0.950624470	1.051940100	1.379741600	1.451405516
43° 33' 30"	0.68909273	0.72467318	0.950901389	1.051633757	1.379932408	1.451183503
43° 34' 00"	0.68919812	0.72457294	0.951178384	1.051327508	1.380123298	1.450961588
43° 34' 30"	0.68930350	0.72447270	0.951455455	1.051021353	1.380314270	1.450739772
43° 35' 00"	0.68940886	0.72437243	0.951732603	1.050715292	1.380505324	1.450518054
43° 35' 30"	0.68951421	0.72427215	0.952009828	1.050409324	1.380696460	1.450296434
43° 36' 00"	0.68961954	0.72417186	0.952287130	1.050103449	1.380887678	1.450074913
43° 36' 30"	0.68972486	0.72407155	0.952564509	1.049797668	1.381078978	1.449853490
43° 37' 00"	0.68983017	0.72397123	0.952841964	1.049491980	1.381270361	1.449632166
43° 37' 30"	0.68993546	0.72387089	0.953119497	1.049186386	1.381461825	1.449410940
43° 38' 00"	0.69004073	0.72377053	0.953397106	1.048880885	1.381653373	1.449189812
43° 38' 30"	0.69014599	0.72367016	0.953674792	1.048575477	1.381845002	1.448968782
43° 39' 00"	0.69025124	0.72356978	0.953952556	1.048270162	1.382036714	1.448747850
43° 39' 30"	0.69035647	0.72346938	0.954230396	1.047964940	1.382228508	1.448527016
43° 40' 00"	0.69046169	0.72336896	0.954508314	1.047659811	1.382420385	1.448306280
43° 40' 30"	0.69056689	0.72326853	0.954786309	1.047354775	1.382612345	1.448085642
43° 41' 00"	0.69067208	0.72316808	0.955064381	1.047049832	1.382804387	1.447865101
43° 41' 30"	0.69077725	0.72306762	0.955342530	1.046744982	1.382996511	1.447644659
43° 42' 00"	0.69088241	0.72296715	0.955620757	1.046440225	1.383188718	1.447424314
43° 42' 30"	0.69098756	0.72286665	0.955899061	1.046135561	1.383381008	1.447204067
43° 43' 00"	0.69109268	0.72276615	0.956177442	1.045830989	1.383573381	1.446983918
43° 43' 30"	0.69119780	0.72266562	0.956455901	1.045526510	1.383765836	1.446763866
43° 44' 00"	0.69130290	0.72256508	0.956734437	1.045222124	1.383958375	1.446543911
43° 44' 30"	0.69140798	0.72246453	0.957013051	1.044917830	1.384150996	1.446324054

43° 45' 00"

44° 05' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
43° 45' 00"	0.69151306	0.72236396	0.957291742	1.044613628	1.384343700	1.446104295
43° 45' 30"	0.69161811	0.72226338	0.957570511	1.044309519	1.384536487	1.445884633
43° 46' 00"	0.69172315	0.72216278	0.957849358	1.044005502	1.384729357	1.445665068
43° 46' 30"	0.69182818	0.72206216	0.958128282	1.043701578	1.384922310	1.445445600
43° 47' 00"	0.69193319	0.72196153	0.958407284	1.043397746	1.385115346	1.445226230
43° 47' 30"	0.69203819	0.72186089	0.958686364	1.043094006	1.385308466	1.445006957
43° 48' 00"	0.69214317	0.72176023	0.958965522	1.042790358	1.385501668	1.444787781
43° 48' 30"	0.69224814	0.72165955	0.959244758	1.042486802	1.385694954	1.444568701
43° 49' 00"	0.69235310	0.72155886	0.959524071	1.042183339	1.385888323	1.444349719
43° 49' 30"	0.69245804	0.72145815	0.959803463	1.041879967	1.386081775	1.444130834
43° 50' 00"	0.69256296	0.72135743	0.960082932	1.041576687	1.386275311	1.443912046
43° 50' 30"	0.69266787	0.72125670	0.960362480	1.041273499	1.386468930	1.443693354
43° 51' 00"	0.69277276	0.72115594	0.960642105	1.040970403	1.386662632	1.443474759
43° 51' 30"	0.69287765	0.72105518	0.960921809	1.040667399	1.386856418	1.443256261
43° 52' 00"	0.69298251	0.72095439	0.961201591	1.040364487	1.387050287	1.443037860
43° 52' 30"	0.69308736	0.72085360	0.961481452	1.040061666	1.387244240	1.442819555
43° 53' 00"	0.69319220	0.72075278	0.961761390	1.039758936	1.387438277	1.442601347
43° 53' 30"	0.69329702	0.72065196	0.962041407	1.039456299	1.387632397	1.442383235
43° 54' 00"	0.69340183	0.72055111	0.962321502	1.039153752	1.387826601	1.442165220
43° 54' 30"	0.69350662	0.72045025	0.962601676	1.038851297	1.388020888	1.441947301
43° 55' 00"	0.69361140	0.72034938	0.962881928	1.038548934	1.388215260	1.441729478
43° 55' 30"	0.69371616	0.72024849	0.963162259	1.038246662	1.388409715	1.441511752
43° 56' 00"	0.69382091	0.72014758	0.963442668	1.037944481	1.388604254	1.441294122
43° 56' 30"	0.69392564	0.72004667	0.963723156	1.037642391	1.388798877	1.441076588
43° 57' 00"	0.69403036	0.71994573	0.964003722	1.037340393	1.388993584	1.440859150
43° 57' 30"	0.69413507	0.71984478	0.964284367	1.037038486	1.389188375	1.440641809
43° 58' 00"	0.69423976	0.71974381	0.964565091	1.036736669	1.389383250	1.440424563
43° 58' 30"	0.69434443	0.71964283	0.964845894	1.036434944	1.389578209	1.440207413
43° 59' 00"	0.69444909	0.71954184	0.965126775	1.036133310	1.389773252	1.439990360
43° 59' 30"	0.69455374	0.71944083	0.965407736	1.035831766	1.389968379	1.439773402
44° 00' 00"	0.69465837	0.71933980	0.965688775	1.035530314	1.390163591	1.439556540
44° 00' 30"	0.69476299	0.71923876	0.965969893	1.035228952	1.390358887	1.439339773
44° 01' 00"	0.69486759	0.71913770	0.966251090	1.034927681	1.390554267	1.439123103
44° 01' 30"	0.69497218	0.71903663	0.966532366	1.034626501	1.390749731	1.438906528
44° 02' 00"	0.69507675	0.71893554	0.966813722	1.034325411	1.390945280	1.438690048
44° 02' 30"	0.69518131	0.71883444	0.967095156	1.034024412	1.391140913	1.438473665
44° 03' 00"	0.69528585	0.71873332	0.967376670	1.033723503	1.391336631	1.438257376
44° 03' 30"	0.69539038	0.71863219	0.967658263	1.033422685	1.391532434	1.438041184
44° 04' 00"	0.69549489	0.71853104	0.967939935	1.033121957	1.391728320	1.437825086
44° 04' 30"	0.69559939	0.71842988	0.968221686	1.032821320	1.391924292	1.437609084
44° 05' 00"	0.69570387	0.71832870	0.968503517	1.032520773	1.392120348	1.437393177
44° 05' 30"	0.69580834	0.71822751	0.968785427	1.032220316	1.392316489	1.437177366

44° 06' 00"

44° 26' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
44° 06' 00"	0.69591280	0.71812630	0.969067417	1.031919949	1.392512714	1.436961649
44° 06' 30"	0.69601724	0.71802507	0.969349486	1.031619673	1.392709024	1.436746028
44° 07' 00"	0.69612166	0.71792383	0.969631635	1.031319486	1.392905420	1.436530502
44° 07' 30"	0.69622607	0.71782258	0.969913864	1.031019390	1.393101900	1.436315071
44° 08' 00"	0.69633047	0.71772131	0.970196171	1.030719384	1.393298464	1.436099735
44° 08' 30"	0.69643485	0.71762003	0.970478559	1.030419467	1.393495114	1.435884494
44° 09' 00"	0.69653921	0.71751873	0.970761027	1.030119641	1.393691849	1.435669347
44° 09' 30"	0.69664357	0.71741741	0.971043574	1.029819904	1.393888669	1.435454296
44° 10' 00"	0.69674790	0.71731608	0.971326201	1.029520257	1.394085574	1.435239339
44° 10' 30"	0.69685223	0.71721474	0.971608908	1.029220700	1.394282564	1.435024477
44° 11' 00"	0.69695653	0.71711337	0.971891694	1.028921232	1.394479640	1.434809710
44° 11' 30"	0.69706083	0.71701200	0.972174561	1.028621855	1.394676800	1.434595037
44° 12' 00"	0.69716510	0.71691061	0.972457508	1.028322566	1.394874046	1.434380459
44° 12' 30"	0.69726937	0.71680920	0.972740535	1.028023367	1.395071377	1.434165975
44° 13' 00"	0.69737361	0.71670778	0.973023642	1.027724258	1.395268794	1.433951586
44° 13' 30"	0.69747785	0.71660634	0.973306829	1.027425238	1.395466296	1.433737291
44° 14' 00"	0.69758207	0.71650489	0.973590096	1.027126307	1.395663883	1.433523091
44° 14' 30"	0.69768627	0.71640343	0.973873443	1.026827466	1.395861556	1.433308985
44° 15' 00"	0.69779046	0.71630194	0.974156871	1.026528714	1.396059314	1.433094973
44° 15' 30"	0.69789463	0.71620045	0.974440379	1.026230051	1.396257158	1.432881055
44° 16' 00"	0.69799879	0.71609893	0.974723967	1.025931477	1.396455088	1.432667232
44° 16' 30"	0.69810294	0.71599741	0.975007636	1.025632993	1.396653103	1.432453502
44° 17' 00"	0.69820707	0.71589586	0.975291386	1.025334597	1.396851204	1.432239867
44° 17' 30"	0.69831118	0.71579431	0.975575215	1.025036291	1.397049391	1.432026326
44° 18' 00"	0.69841529	0.71569273	0.975859126	1.024738073	1.397247664	1.431812878
44° 18' 30"	0.69851937	0.71559115	0.976143117	1.024439944	1.397446022	1.431599525
44° 19' 00"	0.69862344	0.71548954	0.976427188	1.024141904	1.397644466	1.431386265
44° 19' 30"	0.69872750	0.71538792	0.976711341	1.023843953	1.397842997	1.431173099
44° 20' 00"	0.69883154	0.71528629	0.976995574	1.023546091	1.398041613	1.430960027
44° 20' 30"	0.69893557	0.71518464	0.977279888	1.023248317	1.398240315	1.430747049
44° 21' 00"	0.69903958	0.71508298	0.977564282	1.022950632	1.398439103	1.430534164
44° 21' 30"	0.69914358	0.71498130	0.977848758	1.022653035	1.398637978	1.430321373
44° 22' 00"	0.69924756	0.71487961	0.978133314	1.022355527	1.398836939	1.430108675
44° 22' 30"	0.69935153	0.71477790	0.978417952	1.022058107	1.399035985	1.429896071
44° 23' 00"	0.69945548	0.71467617	0.978702670	1.021760776	1.399235119	1.429683561
44° 23' 30"	0.69955942	0.71457443	0.978987470	1.021463533	1.399434338	1.429471143
44° 24' 00"	0.69966334	0.71447268	0.979272351	1.021166379	1.399633644	1.429258819
44° 24' 30"	0.69976725	0.71437091	0.979557313	1.020869312	1.399833036	1.429046589
44° 25' 00"	0.69987114	0.71426913	0.979842356	1.020572334	1.400032515	1.428834451
44° 25' 30"	0.69997502	0.71416733	0.980127480	1.020275444	1.400232080	1.428622407
44° 26' 00"	0.70007889	0.71406551	0.980412686	1.019978642	1.400431731	1.428410456
44° 26' 30"	0.70018273	0.71396368	0.980697973	1.019681929	1.400631470	1.428198598

44° 27' 00"

44° 47' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
44° 27' 00"	0.70028657	0.71386184	0.980983341	1.019385303	1.400831294	1.427986833
44° 27' 30"	0.70039039	0.71375998	0.981268791	1.019088765	1.401031206	1.427775161
44° 28' 00"	0.70049419	0.71365810	0.981554322	1.018792315	1.401231204	1.427563582
44° 28' 30"	0.70059798	0.71355621	0.981839935	1.018495953	1.401431289	1.427352096
44° 29' 00"	0.70070176	0.71345431	0.982125629	1.018199678	1.401631461	1.427140703
44° 29' 30"	0.70080552	0.71335238	0.982411405	1.017903492	1.401831719	1.426929402
44° 30' 00"	0.70090926	0.71325045	0.982697263	1.017607393	1.402032065	1.426718194
44° 30' 30"	0.70101299	0.71314850	0.982983203	1.017311382	1.402232497	1.426507079
44° 31' 00"	0.70111671	0.71304653	0.983269224	1.017015458	1.402433017	1.426296057
44° 31' 30"	0.70122041	0.71294455	0.983555327	1.016719622	1.402633623	1.426085127
44° 32' 00"	0.70132410	0.71284256	0.983841512	1.016423873	1.402834317	1.425874290
44° 32' 30"	0.70142777	0.71274054	0.984127779	1.016128212	1.403035097	1.425663545
44° 33' 00"	0.70153143	0.71263852	0.984414127	1.015832638	1.403235965	1.425452892
44° 33' 30"	0.70163507	0.71253648	0.984700558	1.015537152	1.403436920	1.425242332
44° 34' 00"	0.70173869	0.71243442	0.984987071	1.015241752	1.403637963	1.425031865
44° 34' 30"	0.70184231	0.71233235	0.985273666	1.014946440	1.403839092	1.424821489
44° 35' 00"	0.70194590	0.71223026	0.985560343	1.014651215	1.404040309	1.424611206
44° 35' 30"	0.70204949	0.71212816	0.985847102	1.014356078	1.404241614	1.424401015
44° 36' 00"	0.70215305	0.71202605	0.986133944	1.014061027	1.404443005	1.424190916
44° 36' 30"	0.70225661	0.71192391	0.986420868	1.013766063	1.404644485	1.423980910
44° 37' 00"	0.70236014	0.71182177	0.986707874	1.013471187	1.404846052	1.423770995
44° 37' 30"	0.70246367	0.71171961	0.986994963	1.013176397	1.405047706	1.423561172
44° 38' 00"	0.70256717	0.71161743	0.987282134	1.012881694	1.405249448	1.423351441
44° 38' 30"	0.70267067	0.71151524	0.987569387	1.012587078	1.405451278	1.423141803
44° 39' 00"	0.70277415	0.71141303	0.987856723	1.012292549	1.405653195	1.422932256
44° 39' 30"	0.70287761	0.71131081	0.988144142	1.011998106	1.405855201	1.422722800
44° 40' 00"	0.70298106	0.71120857	0.988431643	1.011703750	1.406057294	1.422513437
44° 40' 30"	0.70308449	0.71110632	0.988719227	1.011409481	1.406259475	1.422304165
44° 41' 00"	0.70318791	0.71100405	0.989006894	1.011115298	1.406461743	1.422094985
44° 41' 30"	0.70329131	0.71090177	0.989294643	1.010821202	1.406664100	1.421885896
44° 42' 00"	0.70339470	0.71079947	0.989582475	1.010527192	1.406866545	1.421676899
44° 42' 30"	0.70349808	0.71069716	0.989870390	1.010233269	1.407069078	1.421467994
44° 43' 00"	0.70360144	0.71059483	0.990158388	1.009939432	1.407271699	1.421259180
44° 43' 30"	0.70370478	0.71049249	0.990446469	1.009645681	1.407474408	1.421050457
44° 44' 00"	0.70380811	0.71039014	0.990734633	1.009352016	1.407677205	1.420841826
44° 44' 30"	0.70391142	0.71028776	0.991022880	1.009058438	1.407880091	1.420633285
44° 45' 00"	0.70401472	0.71018538	0.991311211	1.008764946	1.408083064	1.420424837
44° 45' 30"	0.70411801	0.71008297	0.991599624	1.008471540	1.408286127	1.420216479
44° 46' 00"	0.70422128	0.70998056	0.991888120	1.008178220	1.408489277	1.420008213
44° 46' 30"	0.70432453	0.70987812	0.992176700	1.007884986	1.408692516	1.419800037
44° 47' 00"	0.70442777	0.70977568	0.992465363	1.007591839	1.408895843	1.419591953
44° 47' 30"	0.70453100	0.70967321	0.992754110	1.007298776	1.409099259	1.419383960



44° 48' 00"

45° 08' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
44° 48' 00"	0.70463421	0.70957074	0.993042939	1.007005800	1.409302764	1.419176057
44° 48' 30"	0.70473741	0.70946824	0.993331853	1.006712910	1.409506357	1.418968246
44° 49' 00"	0.70484059	0.70936574	0.993620849	1.006420105	1.409710038	1.418760525
44° 49' 30"	0.70494375	0.70926321	0.993909930	1.006127386	1.409913809	1.418552896
44° 50' 00"	0.70504690	0.70916068	0.994199094	1.005834753	1.410117668	1.418345357
44° 50' 30"	0.70515004	0.70905812	0.994488341	1.005542206	1.410321616	1.418137908
44° 51' 00"	0.70525316	0.70895556	0.994777672	1.005249744	1.410525653	1.417930551
44° 51' 30"	0.70535626	0.70885297	0.995067087	1.004957367	1.410729779	1.417723284
44° 52' 00"	0.70545936	0.70875038	0.995356586	1.004665076	1.410933993	1.417516107
44° 52' 30"	0.70556243	0.70864776	0.995646169	1.004372870	1.411138297	1.417309021
44° 53' 00"	0.70566549	0.70854514	0.995935835	1.004080750	1.411342690	1.417102026
44° 53' 30"	0.70576854	0.70844250	0.996225585	1.003788715	1.411547171	1.416895121
44° 54' 00"	0.70587157	0.70833984	0.996515420	1.003496765	1.411751742	1.416688306
44° 54' 30"	0.70597459	0.70823717	0.996805338	1.003204901	1.411956402	1.416481582
44° 55' 00"	0.70607759	0.70813448	0.997095341	1.002913121	1.412161152	1.416274948
44° 55' 30"	0.70618058	0.70803178	0.997385427	1.002621427	1.412365990	1.416068404
44° 56' 00"	0.70628355	0.70792906	0.997675598	1.002329818	1.412570918	1.415861951
44° 56' 30"	0.70638650	0.70782633	0.997965853	1.002038293	1.412775935	1.415655587
44° 57' 00"	0.70648944	0.70772358	0.998256192	1.001746854	1.412981042	1.415449314
44° 57' 30"	0.70659237	0.70762082	0.998546616	1.001455500	1.413186238	1.415243130
44° 58' 00"	0.70669528	0.70751804	0.998837124	1.001164230	1.413391524	1.415037037
44° 58' 30"	0.70679818	0.70741525	0.999127716	1.000873046	1.413596899	1.414831034
44° 59' 00"	0.70690106	0.70731244	0.999418393	1.000581946	1.413802364	1.414625120
44° 59' 30"	0.70700393	0.70720962	0.999709154	1.000290931	1.414007918	1.414419296
45° 00' 00"	0.70710678	0.70710678	1.000000000	1.000000000	1.414213562	1.414213562
45° 00' 30"	0.70720962	0.70700393	1.000290931	0.999709154	1.414419296	1.414007918
45° 01' 00"	0.70731244	0.70690106	1.000581946	0.999418393	1.414625120	1.413802364
45° 01' 30"	0.70741525	0.70679818	1.000873046	0.999127716	1.414831034	1.413596899
45° 02' 00"	0.70751804	0.70669528	1.001164230	0.998837124	1.415037037	1.413391524
45° 02' 30"	0.70762082	0.70659237	1.001455500	0.998546616	1.415243130	1.413186238
45° 03' 00"	0.70772358	0.70648944	1.001746854	0.998256192	1.415449314	1.412981042
45° 03' 30"	0.70782633	0.70638650	1.002038293	0.997965853	1.415655587	1.412775935
45° 04' 00"	0.70792906	0.70628355	1.002329818	0.997675598	1.415861951	1.412570918
45° 04' 30"	0.70803178	0.70618058	1.002621427	0.997385427	1.416068404	1.412365990
45° 05' 00"	0.70813448	0.70607759	1.002913121	0.997095341	1.416274948	1.412161152
45° 05' 30"	0.70823717	0.70597459	1.003204901	0.996805338	1.416481582	1.411956402
45° 06' 00"	0.70833984	0.70587157	1.003496765	0.996515420	1.416688306	1.411751742
45° 06' 30"	0.70844250	0.70576854	1.003788715	0.996225585	1.416895121	1.411547171
45° 07' 00"	0.70854514	0.70566549	1.004080750	0.995935835	1.417102026	1.411342690
45° 07' 30"	0.70864776	0.70556243	1.004372870	0.995646169	1.417309021	1.411138297
45° 08' 00"	0.70875038	0.70545936	1.004665076	0.995356586	1.417516107	1.410933993
45° 08' 30"	0.70885297	0.70535626	1.004957367	0.995067087	1.417723284	1.410729779

45° 09' 00"

45° 29' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
45° 09' 00"	0.70895556	0.70525316	1.005249744	0.994777672	1.417930551	1.410525653
45° 09' 30"	0.70905812	0.70515004	1.005542206	0.994488341	1.418137908	1.410321616
45° 10' 00"	0.70916068	0.70504690	1.005834753	0.994199094	1.418345357	1.410117668
45° 10' 30"	0.70926321	0.70494375	1.006127386	0.993909930	1.418552896	1.409913809
45° 11' 00"	0.70936574	0.70484059	1.006420105	0.993620849	1.418760525	1.409710038
45° 11' 30"	0.70946824	0.70473741	1.006712910	0.993331853	1.418968246	1.409506357
45° 12' 00"	0.70957074	0.70463421	1.007005800	0.993042939	1.419176057	1.409302764
45° 12' 30"	0.70967321	0.70453100	1.007298776	0.992754110	1.419383960	1.409099259
45° 13' 00"	0.70977568	0.70442777	1.007591839	0.992465363	1.419591953	1.408895843
45° 13' 30"	0.70987812	0.70432453	1.007884986	0.992176700	1.419800037	1.408692516
45° 14' 00"	0.70998056	0.70422128	1.008178220	0.991888120	1.420008213	1.408489277
45° 14' 30"	0.71008297	0.70411801	1.008471540	0.991599624	1.420216479	1.408286127
45° 15' 00"	0.71018538	0.70401472	1.008764946	0.991311211	1.420424837	1.408083064
45° 15' 30"	0.71028776	0.70391142	1.009058438	0.991022880	1.420633285	1.407880091
45° 16' 00"	0.71039014	0.70380811	1.009352016	0.990734633	1.420841826	1.407677205
45° 16' 30"	0.71049249	0.70370478	1.009645681	0.990446469	1.421050457	1.407474408
45° 17' 00"	0.71059483	0.70360144	1.009939432	0.990158388	1.421259180	1.407271699
45° 17' 30"	0.71069716	0.70349808	1.010233269	0.989870390	1.421467994	1.407069078
45° 18' 00"	0.71079947	0.70339470	1.010527192	0.989582475	1.421676899	1.406866545
45° 18' 30"	0.71090177	0.70329131	1.010821202	0.989294643	1.421885896	1.406664100
45° 19' 00"	0.71100405	0.70318791	1.011115298	0.989006894	1.422094985	1.406461743
45° 19' 30"	0.71110632	0.70308449	1.011409481	0.988719227	1.422304165	1.406259475
45° 20' 00"	0.71120857	0.70298106	1.011703750	0.988431643	1.422513437	1.406057294
45° 20' 30"	0.71131081	0.70287761	1.011998106	0.988144142	1.422722800	1.405855201
45° 21' 00"	0.71141303	0.70277415	1.012292549	0.987856723	1.422932256	1.405653195
45° 21' 30"	0.71151524	0.70267067	1.012587078	0.987569387	1.423141803	1.405451278
45° 22' 00"	0.71161743	0.70256717	1.012881694	0.987282134	1.423351441	1.405249448
45° 22' 30"	0.71171961	0.70246367	1.013176397	0.986994963	1.423561172	1.405047706
45° 23' 00"	0.71182177	0.70236014	1.013471187	0.986707874	1.423770995	1.404846052
45° 23' 30"	0.71192391	0.70225661	1.013766063	0.986420868	1.423980910	1.404644485
45° 24' 00"	0.71202605	0.70215305	1.014061027	0.986133944	1.424190916	1.404443005
45° 24' 30"	0.71212816	0.70204949	1.014356078	0.985847102	1.424401015	1.404241614
45° 25' 00"	0.71223026	0.70194590	1.014651215	0.985560343	1.424611206	1.404040309
45° 25' 30"	0.71233235	0.70184231	1.014946440	0.985273666	1.424821489	1.403839092
45° 26' 00"	0.71243442	0.70173869	1.015241752	0.984987071	1.425031865	1.403637963
45° 26' 30"	0.71253648	0.70163507	1.015537152	0.984700558	1.425242332	1.403436920
45° 27' 00"	0.71263852	0.70153143	1.015832638	0.984414127	1.425452892	1.403235965
45° 27' 30"	0.71274054	0.70142777	1.016128212	0.984127779	1.425663545	1.403035097
45° 28' 00"	0.71284256	0.70132410	1.016423873	0.983841512	1.425874290	1.402834317
45° 28' 30"	0.71294455	0.70122041	1.016719622	0.983555327	1.426085127	1.402633623
45° 29' 00"	0.71304653	0.70111671	1.017015458	0.983269224	1.426296057	1.402433017
45° 29' 30"	0.71314850	0.70101299	1.017311382	0.982983203	1.426507079	1.402232497

45° 30' 00"

45° 50' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
45° 30' 00"	0.71325045	0.70090926	1.017607393	0.982697263	1.426718194	1.402032065
45° 30' 30"	0.71335238	0.70080552	1.017903492	0.982411405	1.426929402	1.401831719
45° 31' 00"	0.71345431	0.70070176	1.018199678	0.982125629	1.427140703	1.401631461
45° 31' 30"	0.71355621	0.70059798	1.018495953	0.981839935	1.427352096	1.401431289
45° 32' 00"	0.71365810	0.70049419	1.018792315	0.981554322	1.427563582	1.401231204
45° 32' 30"	0.71375998	0.70039039	1.019088765	0.981268791	1.427775161	1.401031206
45° 33' 00"	0.71386184	0.70028657	1.019385303	0.980983341	1.427986833	1.400831294
45° 33' 30"	0.71396368	0.70018273	1.019681929	0.980697973	1.428198598	1.400631470
45° 34' 00"	0.71406551	0.70007889	1.019978642	0.980412686	1.428410456	1.400431731
45° 34' 30"	0.71416733	0.69997502	1.020275444	0.980127480	1.428622407	1.400232080
45° 35' 00"	0.71426913	0.69987114	1.020572334	0.979842356	1.428834451	1.400032515
45° 35' 30"	0.71437091	0.69976725	1.020869312	0.979557313	1.429046589	1.399833036
45° 36' 00"	0.71447268	0.69966334	1.021166379	0.979272351	1.429258819	1.399633644
45° 36' 30"	0.71457443	0.69955942	1.021463533	0.978987470	1.429471143	1.399434338
45° 37' 00"	0.71467617	0.69945548	1.021760776	0.978702670	1.429683561	1.399235119
45° 37' 30"	0.71477790	0.69935153	1.022058107	0.978417952	1.429896071	1.399035985
45° 38' 00"	0.71487961	0.69924756	1.022355527	0.978133314	1.430108675	1.398836939
45° 38' 30"	0.71498130	0.69914358	1.022653035	0.977848758	1.430321373	1.398637978
45° 39' 00"	0.71508298	0.69903958	1.022950632	0.977564282	1.430534164	1.398439103
45° 39' 30"	0.71518464	0.69893557	1.023248317	0.977279888	1.430747049	1.398240315
45° 40' 00"	0.71528629	0.69883154	1.023546091	0.976995574	1.430960027	1.398041613
45° 40' 30"	0.71538792	0.69872750	1.023843953	0.976711341	1.431173099	1.397842997
45° 41' 00"	0.71548954	0.69862344	1.024141904	0.976427188	1.431386265	1.397644466
45° 41' 30"	0.71559115	0.69851937	1.024439944	0.976143117	1.431599525	1.397446022
45° 42' 00"	0.71569273	0.69841529	1.024738073	0.975859126	1.431812878	1.397247664
45° 42' 30"	0.71579431	0.69831118	1.025036291	0.975575215	1.432026326	1.397049391
45° 43' 00"	0.71589586	0.69820707	1.025334597	0.975291386	1.432239867	1.396851204
45° 43' 30"	0.71599741	0.69810294	1.025632993	0.975007636	1.432453502	1.396653103
45° 44' 00"	0.71609893	0.69799879	1.025931477	0.974723967	1.432667232	1.396455088
45° 44' 30"	0.71620045	0.69789463	1.026230051	0.974440379	1.432881055	1.396257158
45° 45' 00"	0.71630194	0.69779046	1.026528714	0.974156871	1.433094973	1.396059314
45° 45' 30"	0.71640343	0.69768627	1.026827466	0.973873443	1.433308985	1.395861556
45° 46' 00"	0.71650489	0.69758207	1.027126307	0.973590096	1.433523091	1.395663883
45° 46' 30"	0.71660634	0.69747785	1.027425238	0.973306829	1.433737291	1.395466296
45° 47' 00"	0.71670778	0.69737361	1.027724258	0.973023642	1.433951586	1.395268794
45° 47' 30"	0.71680920	0.69726937	1.028023367	0.972740535	1.434165975	1.395071377
45° 48' 00"	0.71691061	0.69716510	1.028322566	0.972457508	1.434380459	1.394874046
45° 48' 30"	0.71701200	0.69706083	1.028621855	0.972174561	1.434595037	1.394676800
45° 49' 00"	0.71711337	0.69695653	1.028921232	0.971891694	1.434809710	1.394479640
45° 49' 30"	0.71721474	0.69685223	1.029220700	0.971608908	1.435024477	1.394282564
45° 50' 00"	0.71731608	0.69674790	1.029520257	0.971326201	1.435239339	1.394085574
45° 50' 30"	0.71741741	0.69664357	1.029819904	0.971043574	1.435454296	1.393888669

45° 51' 00"

46° 11' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
45° 51' 00"	0.71751873	0.69653921	1.030119641	0.970761027	1.435669347	1.393691849
45° 51' 30"	0.71762003	0.69643485	1.030419467	0.970478559	1.435884494	1.393495114
45° 52' 00"	0.71772131	0.69633047	1.030719384	0.970196171	1.436099735	1.393298464
45° 52' 30"	0.71782258	0.69622607	1.031019390	0.969913864	1.436315071	1.393101900
45° 53' 00"	0.71792383	0.69612166	1.031319486	0.969631635	1.436530502	1.392905420
45° 53' 30"	0.71802507	0.69601724	1.031619673	0.969349486	1.436746028	1.392709024
45° 54' 00"	0.71812630	0.69591280	1.031919949	0.969067417	1.436961649	1.392512714
45° 54' 30"	0.71822751	0.69580834	1.032220316	0.968785427	1.437177366	1.392316489
45° 55' 00"	0.71832870	0.69570387	1.032520773	0.968503517	1.437393177	1.392120348
45° 55' 30"	0.71842988	0.69559939	1.032821320	0.968221686	1.437609084	1.391924292
45° 56' 00"	0.71853104	0.69549489	1.033121957	0.967939935	1.437825086	1.391728320
45° 56' 30"	0.71863219	0.69539038	1.033422685	0.967658263	1.438041184	1.391532434
45° 57' 00"	0.71873332	0.69528585	1.033723503	0.967376670	1.438257376	1.391336631
45° 57' 30"	0.71883444	0.69518131	1.034024412	0.967095156	1.438473665	1.391140913
45° 58' 00"	0.71893554	0.69507675	1.034325411	0.966813722	1.438690048	1.390945280
45° 58' 30"	0.71903663	0.69497218	1.034626501	0.966532366	1.438906528	1.390749731
45° 59' 00"	0.71913770	0.69486759	1.034927681	0.966251090	1.439123103	1.390554267
45° 59' 30"	0.71923876	0.69476299	1.035228952	0.965969893	1.439339773	1.390358887
46° 00' 00"	0.71933980	0.69465837	1.035530314	0.965688775	1.439556540	1.390163591
46° 00' 30"	0.71944083	0.69455374	1.035831766	0.965407736	1.439773402	1.389968379
46° 01' 00"	0.71954184	0.69444909	1.036133310	0.965126775	1.439990360	1.389773252
46° 01' 30"	0.71964283	0.69434443	1.036434944	0.964845894	1.440207413	1.389578209
46° 02' 00"	0.71974381	0.69423976	1.036736669	0.964565091	1.440424563	1.389383250
46° 02' 30"	0.71984478	0.69413507	1.037038486	0.964284367	1.440641809	1.389188375
46° 03' 00"	0.71994573	0.69403036	1.037340393	0.964003722	1.440859150	1.388993584
46° 03' 30"	0.72004667	0.69392564	1.037642391	0.963723156	1.441076588	1.388798877
46° 04' 00"	0.72014758	0.69382091	1.037944481	0.963442668	1.441294122	1.388604254
46° 04' 30"	0.72024849	0.69371616	1.038246662	0.963162259	1.441511752	1.388409715
46° 05' 00"	0.72034938	0.69361140	1.038548934	0.962881928	1.441729478	1.388215260
46° 05' 30"	0.72045025	0.69350662	1.038851297	0.962601676	1.441947301	1.388020888
46° 06' 00"	0.72055111	0.69340183	1.039153752	0.962321502	1.442165220	1.387826601
46° 06' 30"	0.72065196	0.69329702	1.039456299	0.962041407	1.442383235	1.387632397
46° 07' 00"	0.72075278	0.69319220	1.039758936	0.961761390	1.442601347	1.387438277
46° 07' 30"	0.72085360	0.69308736	1.040061666	0.961481452	1.442819555	1.387244240
46° 08' 00"	0.72095439	0.69298251	1.040364487	0.961201591	1.443037860	1.387050287
46° 08' 30"	0.72105518	0.69287765	1.040667399	0.960921809	1.443256261	1.386856418
46° 09' 00"	0.72115594	0.69277276	1.040970403	0.960642105	1.443474759	1.386662632
46° 09' 30"	0.72125670	0.69266787	1.041273499	0.960362480	1.443693354	1.386468930
46° 10' 00"	0.72135743	0.69256296	1.041576687	0.960082932	1.443912046	1.386275311
46° 10' 30"	0.72145815	0.69245804	1.041879967	0.959803463	1.444130834	1.386081775
46° 11' 00"	0.72155886	0.69235310	1.042183339	0.959524071	1.444349719	1.385888323
46° 11' 30"	0.72165955	0.69224814	1.042486802	0.959244758	1.444568701	1.385694954

46° 12' 00"

46° 32' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
46° 12' 00"	0.72176023	0.69214317	1.042790358	0.958965522	1.444787781	1.385501668
46° 12' 30"	0.72186089	0.69203819	1.043094006	0.958686364	1.445006957	1.385308466
46° 13' 00"	0.72196153	0.69193319	1.043397746	0.958407284	1.445226230	1.385115346
46° 13' 30"	0.72206216	0.69182818	1.043701578	0.958128282	1.445445600	1.384922310
46° 14' 00"	0.72216278	0.69172315	1.044005502	0.957849358	1.445665068	1.384729357
46° 14' 30"	0.72226338	0.69161811	1.044309519	0.957570511	1.445884633	1.384536487
46° 15' 00"	0.72236396	0.69151306	1.044613628	0.957291742	1.446104295	1.384343700
46° 15' 30"	0.72246453	0.69140798	1.044917830	0.957013051	1.446324054	1.384150996
46° 16' 00"	0.72256508	0.69130290	1.045222124	0.956734437	1.446543911	1.383958375
46° 16' 30"	0.72266562	0.69119780	1.045526510	0.956455901	1.446763866	1.383765836
46° 17' 00"	0.72276615	0.69109268	1.045830989	0.956177442	1.446983918	1.383573381
46° 17' 30"	0.72286665	0.69098756	1.046135561	0.955899061	1.447204067	1.383381008
46° 18' 00"	0.72296715	0.69088241	1.046440225	0.955620757	1.447424314	1.383188718
46° 18' 30"	0.72306762	0.69077725	1.046744982	0.955342530	1.447644659	1.382996511
46° 19' 00"	0.72316808	0.69067208	1.047049832	0.955064381	1.447865101	1.382804387
46° 19' 30"	0.72326853	0.69056689	1.047354775	0.954786309	1.448085642	1.382612345
46° 20' 00"	0.72336896	0.69046169	1.047659811	0.954508314	1.448306280	1.382420385
46° 20' 30"	0.72346938	0.69035647	1.047964940	0.954230396	1.448527016	1.382228508
46° 21' 00"	0.72356978	0.69025124	1.048270162	0.953952556	1.448747850	1.382036714
46° 21' 30"	0.72367016	0.69014599	1.048575477	0.953674792	1.448968782	1.381845002
46° 22' 00"	0.72377053	0.69004073	1.048880885	0.953397106	1.449189812	1.381653373
46° 22' 30"	0.72387089	0.68993546	1.049186386	0.953119497	1.449410940	1.381461825
46° 23' 00"	0.72397123	0.68983017	1.049491980	0.952841964	1.449632166	1.381270361
46° 23' 30"	0.72407155	0.68972486	1.049797668	0.952564509	1.449853490	1.381078978
46° 24' 00"	0.72417186	0.68961954	1.050103449	0.952287130	1.450074913	1.380887678
46° 24' 30"	0.72427215	0.68951421	1.050409324	0.952009828	1.450296434	1.380696460
46° 25' 00"	0.72437243	0.68940886	1.050715292	0.951732603	1.450518054	1.380505324
46° 25' 30"	0.72447270	0.68930350	1.051021353	0.951455455	1.450739772	1.380314270
46° 26' 00"	0.72457294	0.68919812	1.051327508	0.951178384	1.450961588	1.380123298
46° 26' 30"	0.72467318	0.68909273	1.051633757	0.950901389	1.451183503	1.379932408
46° 27' 00"	0.72477339	0.68898732	1.051940100	0.950624470	1.451405516	1.379741600
46° 27' 30"	0.72487359	0.68888190	1.052246536	0.950347629	1.451627629	1.379550874
46° 28' 00"	0.72497378	0.68877646	1.052553066	0.950070863	1.451849840	1.379360230
46° 28' 30"	0.72507395	0.68867101	1.052859690	0.949794175	1.452072149	1.379169668
46° 29' 00"	0.72517411	0.68856555	1.053166408	0.949517562	1.452294558	1.378979188
46° 29' 30"	0.72527425	0.68846007	1.053473219	0.949241026	1.452517065	1.378788789
46° 30' 00"	0.72537437	0.68835458	1.053780125	0.948964567	1.452739671	1.378598473
46° 30' 30"	0.72547448	0.68824907	1.054087125	0.948688183	1.452962377	1.378408238
46° 31' 00"	0.72557457	0.68814354	1.054394219	0.948411876	1.453185181	1.378218084
46° 31' 30"	0.72567465	0.68803801	1.054701408	0.948135646	1.453408084	1.378028012
46° 32' 00"	0.72577472	0.68793245	1.055008690	0.947859491	1.453631087	1.377838022
46° 32' 30"	0.72587476	0.68782689	1.055316067	0.947583412	1.453854188	1.377648113

46° 33' 00"

46° 53' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
46° 33' 00"	0.72597480	0.68772131	1.055623538	0.947307410	1.454077389	1.377458286
46° 33' 30"	0.72607481	0.68761571	1.055931104	0.947031484	1.454300690	1.377268540
46° 34' 00"	0.72617482	0.68751010	1.056238764	0.946755633	1.454524089	1.377078875
46° 34' 30"	0.72627480	0.68740447	1.056546519	0.946479859	1.454747589	1.376889292
46° 35' 00"	0.72637477	0.68729883	1.056854368	0.946204160	1.454971187	1.376699791
46° 35' 30"	0.72647473	0.68719318	1.057162312	0.945928538	1.455194885	1.376510370
46° 36' 00"	0.72657467	0.68708751	1.057470351	0.945652991	1.455418683	1.376321031
46° 36' 30"	0.72667460	0.68698183	1.057778484	0.945377520	1.455642580	1.376131773
46° 37' 00"	0.72677451	0.68687613	1.058086712	0.945102125	1.455866577	1.375942596
46° 37' 30"	0.72687440	0.68677042	1.058395035	0.944826805	1.456090674	1.375753500
46° 38' 00"	0.72697428	0.68666469	1.058703454	0.944551561	1.456314871	1.375564485
46° 38' 30"	0.72707414	0.68655895	1.059011967	0.944276393	1.456539167	1.375375551
46° 39' 00"	0.72717399	0.68645319	1.059320575	0.944001300	1.456763564	1.375186698
46° 39' 30"	0.72727382	0.68634742	1.059629278	0.943726283	1.456988060	1.374997926
46° 40' 00"	0.72737364	0.68624164	1.059938076	0.943451341	1.457212656	1.374809235
46° 40' 30"	0.72747344	0.68613584	1.060246970	0.943176475	1.457437353	1.374620625
46° 41' 00"	0.72757323	0.68603002	1.060555959	0.942901684	1.457662149	1.374432096
46° 41' 30"	0.72767300	0.68592420	1.060865043	0.942626969	1.457887046	1.374243647
46° 42' 00"	0.72777276	0.68581835	1.061174223	0.942352329	1.458112043	1.374055280
46° 42' 30"	0.72787250	0.68571250	1.061483498	0.942077764	1.458337141	1.373866992
46° 43' 00"	0.72797222	0.68560662	1.061792869	0.941803274	1.458562339	1.373678786
46° 43' 30"	0.72807193	0.68550074	1.062102335	0.941528860	1.458787637	1.373490660
46° 44' 00"	0.72817163	0.68539484	1.062411896	0.941254520	1.459013036	1.373302615
46° 44' 30"	0.72827131	0.68528892	1.062721554	0.940980256	1.459238535	1.373114650
46° 45' 00"	0.72837097	0.68518299	1.063031307	0.940706067	1.459464135	1.372926766
46° 45' 30"	0.72847062	0.68507705	1.063341156	0.940431953	1.459689835	1.372738962
46° 46' 00"	0.72857025	0.68497109	1.063651101	0.940157914	1.459915636	1.372551239
46° 46' 30"	0.72866987	0.68486511	1.063961142	0.939883949	1.460141538	1.372363595
46° 47' 00"	0.72876947	0.68475913	1.064271279	0.939610060	1.460367541	1.372176033
46° 47' 30"	0.72886906	0.68465312	1.064581511	0.939336246	1.460593645	1.371988550
46° 48' 00"	0.72896863	0.68454711	1.064891840	0.939062506	1.460819849	1.371801148
46° 48' 30"	0.72906818	0.68444107	1.065202265	0.938788841	1.461046155	1.371613826
46° 49' 00"	0.72916772	0.68433503	1.065512787	0.938515251	1.461272561	1.371426584
46° 49' 30"	0.72926725	0.68422897	1.065823404	0.938241735	1.461499069	1.371239422
46° 50' 00"	0.72936676	0.68412289	1.066134118	0.937968294	1.461725678	1.371052341
46° 50' 30"	0.72946625	0.68401680	1.066444928	0.937694928	1.461952388	1.370865339
46° 51' 00"	0.72956573	0.68391070	1.066755835	0.937421636	1.462179199	1.370678417
46° 51' 30"	0.72966519	0.68380458	1.067066838	0.937148419	1.462406112	1.370491576
46° 52' 00"	0.72976464	0.68369845	1.067377937	0.936875276	1.462633126	1.370304814
46° 52' 30"	0.72986407	0.68359230	1.067689134	0.936602208	1.462860241	1.370118132
46° 53' 00"	0.72996349	0.68348614	1.068000427	0.936329214	1.463087458	1.369931530
46° 53' 30"	0.73006289	0.68337996	1.068311816	0.936056294	1.463314777	1.369745008

46° 54' 00"

47° 14' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
46° 54' 00"	0.73016228	0.68327377	1.068623303	0.935783449	1.463542197	1.369558565
46° 54' 30"	0.73026165	0.68316757	1.068934886	0.935510678	1.463769719	1.369372202
46° 55' 00"	0.73036100	0.68306135	1.069246566	0.935237981	1.463997343	1.369185919
46° 55' 30"	0.73046034	0.68295512	1.069558343	0.934965359	1.464225068	1.368999716
46° 56' 00"	0.73055967	0.68284887	1.069870217	0.934692810	1.464452895	1.368813592
46° 56' 30"	0.73065897	0.68274260	1.070182189	0.934420336	1.464680824	1.368627548
46° 57' 00"	0.73075827	0.68263633	1.070494257	0.934147935	1.464908855	1.368441583
46° 57' 30"	0.73085755	0.68253004	1.070806422	0.933875609	1.465136988	1.368255697
46° 58' 00"	0.73095681	0.68242373	1.071118685	0.933603357	1.465365223	1.368069891
46° 58' 30"	0.73105605	0.68231741	1.071431045	0.933331178	1.465593561	1.367884165
46° 59' 00"	0.73115529	0.68221107	1.071743503	0.933059074	1.465822000	1.367698518
46° 59' 30"	0.73125450	0.68210472	1.072056058	0.932787043	1.466050542	1.367512950
47° 00' 00"	0.73135370	0.68199836	1.072368710	0.932515086	1.466279186	1.367327461
47° 00' 30"	0.73145289	0.68189198	1.072681460	0.932243203	1.466507932	1.367142052
47° 01' 00"	0.73155206	0.68178559	1.072994307	0.931971394	1.466736781	1.366956721
47° 01' 30"	0.73165121	0.68167918	1.073307253	0.931699658	1.466965732	1.366771470
47° 02' 00"	0.73175035	0.68157276	1.073620296	0.931427996	1.467194786	1.366586298
47° 02' 30"	0.73184947	0.68146632	1.073933436	0.931156407	1.467423942	1.366401206
47° 03' 00"	0.73194858	0.68135987	1.074246675	0.930884892	1.467653201	1.366216192
47° 03' 30"	0.73204767	0.68125341	1.074560011	0.930613451	1.467882563	1.366031257
47° 04' 00"	0.73214675	0.68114693	1.074873446	0.930342083	1.468112027	1.365846401
47° 04' 30"	0.73224581	0.68104044	1.075186978	0.930070788	1.468341594	1.365661624
47° 05' 00"	0.73234485	0.68093393	1.075500608	0.929799567	1.468571264	1.365476926
47° 05' 30"	0.73244388	0.68082741	1.075814337	0.929528419	1.468801037	1.365292306
47° 06' 00"	0.73254290	0.68072087	1.076128164	0.929257345	1.469030914	1.365107766
47° 06' 30"	0.73264190	0.68061432	1.076442089	0.928986343	1.469260893	1.364923304
47° 07' 00"	0.73274088	0.68050775	1.076756112	0.928715415	1.469490975	1.364738921
47° 07' 30"	0.73283985	0.68040117	1.077070234	0.928444560	1.469721160	1.364554617
47° 08' 00"	0.73293880	0.68029458	1.077384454	0.928173779	1.469951449	1.364370391
47° 08' 30"	0.73303774	0.68018797	1.077698773	0.927903070	1.470181841	1.364186244
47° 09' 00"	0.73313666	0.68008135	1.078013190	0.927632435	1.470412336	1.364002175
47° 09' 30"	0.73323557	0.67997471	1.078327706	0.927361872	1.470642935	1.363818185
47° 10' 00"	0.73333446	0.67986806	1.078642320	0.927091383	1.470873637	1.363634273
47° 10' 30"	0.73343333	0.67976139	1.078957034	0.926820966	1.471104442	1.363450440
47° 11' 00"	0.73353219	0.67965471	1.079271846	0.926550622	1.471335352	1.363266685
47° 11' 30"	0.73363104	0.67954801	1.079586756	0.926280351	1.471566364	1.363083009
47° 12' 00"	0.73372986	0.67944130	1.079901766	0.926010153	1.471797481	1.362899411
47° 12' 30"	0.73382868	0.67933458	1.080216875	0.925740028	1.472028701	1.362715891
47° 13' 00"	0.73392747	0.67922784	1.080532083	0.925469975	1.472260025	1.362532449
47° 13' 30"	0.73402626	0.67912109	1.080847390	0.925199996	1.472491453	1.362349086
47° 14' 00"	0.73412502	0.67901432	1.081162796	0.924930088	1.472722985	1.362165801
47° 14' 30"	0.73422377	0.67890754	1.081478301	0.924660254	1.472954621	1.361982593

47° 15' 00"

47° 35' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
47° 15' 00"	0.73432251	0.67880075	1.081793905	0.924390492	1.473186361	1.361799464
47° 15' 30"	0.73442123	0.67869394	1.082109609	0.924120802	1.473418205	1.361616413
47° 16' 00"	0.73451993	0.67858711	1.082425412	0.923851185	1.473650153	1.361433440
47° 16' 30"	0.73461862	0.67848027	1.082741315	0.923581641	1.473882205	1.361250545
47° 17' 00"	0.73471730	0.67837342	1.083057317	0.923312168	1.474114362	1.361067728
47° 17' 30"	0.73481595	0.67826655	1.083373419	0.923042769	1.474346623	1.360884989
47° 18' 00"	0.73491460	0.67815967	1.083689620	0.922773441	1.474578988	1.360702327
47° 18' 30"	0.73501322	0.67805277	1.084005921	0.922504186	1.474811458	1.360519744
47° 19' 00"	0.73511183	0.67794586	1.084322322	0.922235003	1.475044033	1.360337238
47° 19' 30"	0.73521043	0.67783894	1.084638823	0.921965892	1.475276712	1.360154810
47° 20' 00"	0.73530901	0.67773200	1.084955423	0.921696854	1.475509495	1.359972459
47° 20' 30"	0.73540757	0.67762505	1.085272124	0.921427887	1.475742384	1.359790186
47° 21' 00"	0.73550612	0.67751808	1.085588924	0.921158993	1.475975377	1.359607991
47° 21' 30"	0.73560465	0.67741110	1.085905825	0.920890170	1.476208475	1.359425874
47° 22' 00"	0.73570317	0.67730410	1.086222825	0.920621420	1.476441677	1.359243834
47° 22' 30"	0.73580167	0.67719709	1.086539926	0.920352742	1.476674985	1.359061871
47° 23' 00"	0.73590016	0.67709006	1.086857127	0.920084135	1.476908398	1.358879986
47° 23' 30"	0.73599863	0.67698302	1.087174429	0.919815601	1.477141915	1.358698178
47° 24' 00"	0.73609709	0.67687597	1.087491830	0.919547138	1.477375538	1.358516448
47° 24' 30"	0.73619553	0.67676890	1.087809332	0.919278747	1.477609266	1.358334795
47° 25' 00"	0.73629395	0.67666182	1.088126935	0.919010428	1.477843099	1.358153219
47° 25' 30"	0.73639236	0.67655472	1.088444638	0.918742180	1.478077038	1.357971721
47° 26' 00"	0.73649075	0.67644761	1.088762442	0.918474005	1.478311082	1.357790299
47° 26' 30"	0.73658913	0.67634049	1.089080346	0.918205900	1.478545231	1.357608955
47° 27' 00"	0.73668749	0.67623335	1.089398351	0.917937868	1.478779486	1.357427688
47° 27' 30"	0.73678584	0.67612619	1.089716457	0.917669907	1.479013846	1.357246499
47° 28' 00"	0.73688417	0.67601902	1.090034664	0.917402017	1.479248312	1.357065386
47° 28' 30"	0.73698248	0.67591184	1.090352972	0.917134199	1.479482884	1.356884350
47° 29' 00"	0.73708078	0.67580464	1.090671381	0.916866453	1.479717561	1.356703392
47° 29' 30"	0.73717907	0.67569743	1.090989890	0.916598778	1.479952344	1.356522510
47° 30' 00"	0.73727734	0.67559021	1.091308501	0.916331174	1.480187233	1.356341705
47° 30' 30"	0.73737559	0.67548297	1.091627213	0.916063642	1.480422228	1.356160977
47° 31' 00"	0.73747383	0.67537571	1.091946026	0.915796180	1.480657328	1.355980326
47° 31' 30"	0.73757205	0.67526845	1.092264941	0.915528790	1.480892535	1.355799751
47° 32' 00"	0.73767025	0.67516116	1.092583957	0.915261472	1.481127848	1.355619254
47° 32' 30"	0.73776844	0.67505387	1.092903074	0.914994224	1.481363267	1.355438833
47° 33' 00"	0.73786662	0.67494655	1.093222292	0.914727048	1.481598792	1.355258489
47° 33' 30"	0.73796478	0.67483923	1.093541613	0.914459942	1.481834423	1.355078221
47° 34' 00"	0.73806292	0.67473189	1.093861034	0.914192908	1.482070161	1.354898030
47° 34' 30"	0.73816105	0.67462454	1.094180558	0.913925945	1.482306005	1.354717916
47° 35' 00"	0.73825916	0.67451717	1.094500183	0.913659052	1.482541956	1.354537878
47° 35' 30"	0.73835726	0.67440978	1.094819910	0.913392231	1.482778013	1.354357917



47° 36' 00"

47° 56' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
47° 36' 00"	0.73845534	0.67430239	1.095139739	0.913125480	1.483014176	1.354178032
47° 36' 30"	0.73855341	0.67419498	1.095459670	0.912858801	1.483250447	1.353998224
47° 37' 00"	0.73865146	0.67408755	1.095779702	0.912592192	1.483486824	1.353818492
47° 37' 30"	0.73874949	0.67398011	1.096099837	0.912325654	1.483723307	1.353638836
47° 38' 00"	0.73884751	0.67387266	1.096420074	0.912059186	1.483959898	1.353459256
47° 38' 30"	0.73894551	0.67376519	1.096740413	0.911792789	1.484196595	1.353279753
47° 39' 00"	0.73904350	0.67365771	1.097060854	0.911526463	1.484433399	1.353100326
47° 39' 30"	0.73914147	0.67355021	1.097381397	0.911260208	1.484670310	1.352920976
47° 40' 00"	0.73923943	0.67344270	1.097702043	0.910994023	1.484907329	1.352741701
47° 40' 30"	0.73933737	0.67333517	1.098022791	0.910727909	1.485144454	1.352562503
47° 41' 00"	0.73943529	0.67322763	1.098343642	0.910461865	1.485381687	1.352383380
47° 41' 30"	0.73953320	0.67312008	1.098664595	0.910195891	1.485619026	1.352204334
47° 42' 00"	0.73963109	0.67301251	1.098985651	0.909929988	1.485856474	1.352025363
47° 42' 30"	0.73972897	0.67290493	1.099306809	0.909664156	1.486094028	1.351846469
47° 43' 00"	0.73982684	0.67279734	1.099628070	0.909398393	1.486331690	1.351667651
47° 43' 30"	0.73992468	0.67268972	1.099949434	0.909132701	1.486569459	1.351488908
47° 44' 00"	0.74002251	0.67258210	1.100270901	0.908867079	1.486807336	1.351310241
47° 44' 30"	0.74012033	0.67247446	1.100592470	0.908601528	1.487045321	1.351131650
47° 45' 00"	0.74021813	0.67236681	1.100914143	0.908336046	1.487283413	1.350953135
47° 45' 30"	0.74031591	0.67225914	1.101235918	0.908070635	1.487521613	1.350774696
47° 46' 00"	0.74041368	0.67215146	1.101557797	0.907805294	1.487759920	1.350596332
47° 46' 30"	0.74051143	0.67204376	1.101879779	0.907540023	1.487998336	1.350418044
47° 47' 00"	0.74060917	0.67193605	1.102201864	0.907274822	1.488236859	1.350239831
47° 47' 30"	0.74070689	0.67182833	1.102524053	0.907009691	1.488475491	1.350061695
47° 48' 00"	0.74080460	0.67172059	1.102846344	0.906744630	1.488714230	1.349883633
47° 48' 30"	0.74090229	0.67161284	1.103168739	0.906479638	1.488953078	1.349705648
47° 49' 00"	0.74099996	0.67150507	1.103491238	0.906214717	1.489192033	1.349527737
47° 49' 30"	0.74109762	0.67139729	1.103813840	0.905949866	1.489431097	1.349349902
47° 50' 00"	0.74119526	0.67128949	1.104136546	0.905685084	1.489670270	1.349172143
47° 50' 30"	0.74129289	0.67118168	1.104459355	0.905420372	1.489909550	1.348994459
47° 51' 00"	0.74139050	0.67107386	1.104782268	0.905155729	1.490148939	1.348816850
47° 51' 30"	0.74148810	0.67096602	1.105105285	0.904891157	1.490388436	1.348639316
47° 52' 00"	0.74158568	0.67085817	1.105428406	0.904626654	1.490628042	1.348461858
47° 52' 30"	0.74168324	0.67075030	1.105751631	0.904362220	1.490867757	1.348284475
47° 53' 00"	0.74178079	0.67064242	1.106074959	0.904097857	1.491107580	1.348107167
47° 53' 30"	0.74187832	0.67053453	1.106398392	0.903833562	1.491347512	1.347929934
47° 54' 00"	0.74197584	0.67042662	1.106721929	0.903569337	1.491587553	1.347752777
47° 54' 30"	0.74207334	0.67031870	1.107045570	0.903305182	1.491827703	1.347575694
47° 55' 00"	0.74217083	0.67021076	1.107369315	0.903041096	1.492067961	1.347398687
47° 55' 30"	0.74226830	0.67010281	1.107693165	0.902777079	1.492308328	1.347221754
47° 56' 00"	0.74236575	0.66999484	1.108017119	0.902513132	1.492548805	1.347044897
47° 56' 30"	0.74246319	0.66988686	1.108341177	0.902249254	1.492789391	1.346868114

47° 57' 00"

48° 17' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
47° 57' 00"	0.74256062	0.66977887	1.108665340	0.901985445	1.493030085	1.346691406
47° 57' 30"	0.74265802	0.66967086	1.108989607	0.901721705	1.493270889	1.346514773
47° 58' 00"	0.74275542	0.66956284	1.109313979	0.901458035	1.493511803	1.346338215
47° 58' 30"	0.74285279	0.66945480	1.109638456	0.901194434	1.493752825	1.346161732
47° 59' 00"	0.74295015	0.66934675	1.109963037	0.900930902	1.493993957	1.345985323
47° 59' 30"	0.74304750	0.66923869	1.110287724	0.900667438	1.494235199	1.345808989
48° 00' 00"	0.74314483	0.66913061	1.110612515	0.900404044	1.494476550	1.345632730
48° 00' 30"	0.74324214	0.66902251	1.110937411	0.900140719	1.494718011	1.345456545
48° 01' 00"	0.74333944	0.66891441	1.111262412	0.899877463	1.494959581	1.345280435
48° 01' 30"	0.74343672	0.66880628	1.111587518	0.899614276	1.495201261	1.345104399
48° 02' 00"	0.74353398	0.66869815	1.111912730	0.899351157	1.495443051	1.344928438
48° 02' 30"	0.74363123	0.66859000	1.112238046	0.899088108	1.495684950	1.344752552
48° 03' 00"	0.74372847	0.66848184	1.112563468	0.898825127	1.495926960	1.344576740
48° 03' 30"	0.74382569	0.66837366	1.112888995	0.898562215	1.496169080	1.344401002
48° 04' 00"	0.74392289	0.66826547	1.113214627	0.898299371	1.496411309	1.344225338
48° 04' 30"	0.74402008	0.66815726	1.113540365	0.898036597	1.496653649	1.344049749
48° 05' 00"	0.74411725	0.66804904	1.113866209	0.897773891	1.496896099	1.343874235
48° 05' 30"	0.74421441	0.66794080	1.114192158	0.897511253	1.497138659	1.343698794
48° 06' 00"	0.74431155	0.66783256	1.114518213	0.897248684	1.497381330	1.343523428
48° 06' 30"	0.74440867	0.66772429	1.114844373	0.896986184	1.497624111	1.343348136
48° 07' 00"	0.74450578	0.66761602	1.115170640	0.896723752	1.497867002	1.343172918
48° 07' 30"	0.74460287	0.66750772	1.115497012	0.896461388	1.498110004	1.342997774
48° 08' 00"	0.74469995	0.66739942	1.115823490	0.896199093	1.498353116	1.342822704
48° 08' 30"	0.74479701	0.66729110	1.116150074	0.895936867	1.498596339	1.342647708
48° 09' 00"	0.74489406	0.66718277	1.116476764	0.895674708	1.498839673	1.342472787
48° 09' 30"	0.74499109	0.66707442	1.116803560	0.895412618	1.499083117	1.342297939
48° 10' 00"	0.74508810	0.66696606	1.117130463	0.895150597	1.499326672	1.342123165
48° 10' 30"	0.74518510	0.66685768	1.117457471	0.894888643	1.499570338	1.341948465
48° 11' 00"	0.74528208	0.66674929	1.117784586	0.894626758	1.499814116	1.341773839
48° 11' 30"	0.74537905	0.66664089	1.118111808	0.894364940	1.500058004	1.341599287
48° 12' 00"	0.74547600	0.66653247	1.118439135	0.894103191	1.500302003	1.341424808
48° 12' 30"	0.74557294	0.66642404	1.118766570	0.893841510	1.500546113	1.341250404
48° 13' 00"	0.74566985	0.66631559	1.119094110	0.893579897	1.500790334	1.341076073
48° 13' 30"	0.74576676	0.66620713	1.119421758	0.893318352	1.501034667	1.340901815
48° 14' 00"	0.74586365	0.66609866	1.119749512	0.893056875	1.501279111	1.340727631
48° 14' 30"	0.74596052	0.66599017	1.120077373	0.892795466	1.501523667	1.340553521
48° 15' 00"	0.74605738	0.66588167	1.120405341	0.892534124	1.501768334	1.340379485
48° 15' 30"	0.74615422	0.66577315	1.120733416	0.892272851	1.502013112	1.340205522
48° 16' 00"	0.74625104	0.66566462	1.121061597	0.892011645	1.502258002	1.340031632
48° 16' 30"	0.74634785	0.66555607	1.121389886	0.891750507	1.502503004	1.339857816
48° 17' 00"	0.74644464	0.66544751	1.121718282	0.891489437	1.502748117	1.339684073
48° 17' 30"	0.74654142	0.66533894	1.122046785	0.891228435	1.502993343	1.339510404

48° 18' 00"

48° 38' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
48° 18' 00"	0.74663818	0.66523035	1.122375395	0.890967500	1.503238680	1.339336808
48° 18' 30"	0.74673493	0.66512175	1.122704113	0.890706633	1.503484129	1.339163286
48° 19' 00"	0.74683166	0.66501314	1.123032938	0.890445833	1.503729690	1.338989836
48° 19' 30"	0.74692837	0.66490451	1.123361870	0.890185101	1.503975363	1.338816460
48° 20' 00"	0.74702507	0.66479587	1.123690910	0.889924437	1.504221148	1.338643157
48° 20' 30"	0.74712175	0.66468721	1.124020058	0.889663839	1.504467045	1.338469928
48° 21' 00"	0.74721842	0.66457854	1.124349313	0.889403310	1.504713055	1.338296771
48° 21' 30"	0.74731507	0.66446985	1.124678675	0.889142848	1.504959176	1.338123688
48° 22' 00"	0.74741171	0.66436115	1.125008146	0.888882453	1.505205411	1.337950677
48° 22' 30"	0.74750833	0.66425244	1.125337724	0.888622125	1.505451757	1.337777740
48° 23' 00"	0.74760493	0.66414371	1.125667411	0.888361865	1.505698217	1.337604875
48° 23' 30"	0.74770152	0.66403497	1.125997205	0.888101672	1.505944788	1.337432084
48° 24' 00"	0.74779809	0.66392621	1.126327107	0.887841546	1.506191473	1.337259365
48° 24' 30"	0.74789465	0.66381744	1.126657118	0.887581487	1.506438270	1.337086720
48° 25' 00"	0.74799119	0.66370866	1.126987236	0.887321496	1.506685180	1.336914147
48° 25' 30"	0.74808771	0.66359986	1.127317463	0.887061571	1.506932202	1.336741647
48° 26' 00"	0.74818422	0.66349105	1.127647798	0.886801714	1.507179338	1.336569220
48° 26' 30"	0.74828071	0.66338222	1.127978242	0.886541923	1.507426587	1.336396865
48° 27' 00"	0.74837719	0.66327338	1.128308794	0.886282200	1.507673948	1.336224584
48° 27' 30"	0.74847365	0.66316453	1.128639454	0.886022544	1.507921423	1.336052375
48° 28' 00"	0.74857010	0.66305566	1.128970223	0.885762954	1.508169011	1.335880238
48° 28' 30"	0.74866653	0.66294678	1.129301101	0.885503432	1.508416712	1.335708174
48° 29' 00"	0.74876294	0.66283788	1.129632087	0.885243976	1.508664526	1.335536183
48° 29' 30"	0.74885934	0.66272897	1.129963182	0.884984587	1.508912454	1.335364264
48° 30' 00"	0.74895572	0.66262005	1.130294386	0.884725265	1.509160495	1.335192418
48° 30' 30"	0.74905209	0.66251111	1.130625699	0.884466009	1.509408650	1.335020644
48° 31' 00"	0.74914844	0.66240216	1.130957121	0.884206820	1.509656918	1.334848943
48° 31' 30"	0.74924477	0.66229319	1.131288652	0.883947698	1.509905300	1.334677314
48° 32' 00"	0.74934109	0.66218421	1.131620292	0.883688643	1.510153795	1.334505758
48° 32' 30"	0.74943739	0.66207522	1.131952042	0.883429654	1.510402405	1.334334273
48° 33' 00"	0.74953368	0.66196621	1.132283900	0.883170731	1.510651128	1.334162861
48° 33' 30"	0.74962995	0.66185719	1.132615868	0.882911875	1.510899965	1.333991522
48° 34' 00"	0.74972621	0.66174815	1.132947945	0.882653086	1.511148916	1.333820254
48° 34' 30"	0.74982245	0.66163910	1.133280132	0.882394363	1.511397981	1.333649059
48° 35' 00"	0.74991867	0.66153004	1.133612428	0.882135706	1.511647160	1.333477936
48° 35' 30"	0.75001488	0.66142096	1.133944834	0.881877116	1.511896453	1.333306884
48° 36' 00"	0.75011107	0.66131187	1.134277349	0.881618592	1.512145861	1.333135905
48° 36' 30"	0.75020725	0.66120276	1.134609974	0.881360135	1.512395383	1.332964998
48° 37' 00"	0.75030341	0.66109364	1.134942709	0.881101743	1.512645019	1.332794164
48° 37' 30"	0.75039955	0.66098450	1.135275554	0.880843418	1.512894770	1.332623401
48° 38' 00"	0.75049568	0.66087536	1.135608509	0.880585159	1.513144635	1.332452709
48° 38' 30"	0.75059179	0.66076619	1.135941574	0.880326967	1.513394615	1.332282090

48° 39' 00"

48° 59' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
48° 39' 00"	0.75068789	0.66065702	1.136274749	0.880068840	1.513644709	1.332111543
48° 39' 30"	0.75078397	0.66054783	1.136608034	0.879810779	1.513894918	1.331941068
48° 40' 00"	0.75088003	0.66043862	1.136941429	0.879552785	1.514145242	1.331770664
48° 40' 30"	0.75097608	0.66032941	1.137274935	0.879294856	1.514395680	1.331600332
48° 41' 00"	0.75107212	0.66022017	1.137608550	0.879036994	1.514646234	1.331430072
48° 41' 30"	0.75116813	0.66011093	1.137942277	0.878779197	1.514896902	1.331259883
48° 42' 00"	0.75126413	0.66000167	1.138276113	0.878521466	1.515147686	1.331089766
48° 42' 30"	0.75136012	0.65989239	1.138610061	0.878263801	1.515398585	1.330919721
48° 43' 00"	0.75145609	0.65978311	1.138944119	0.878006202	1.515649599	1.330749748
48° 43' 30"	0.75155204	0.65967380	1.139278287	0.877748669	1.515900728	1.330579846
48° 44' 00"	0.75164798	0.65956449	1.139612567	0.877491201	1.516151972	1.330410015
48° 44' 30"	0.75174390	0.65945516	1.139946957	0.877233799	1.516403332	1.330240256
48° 45' 00"	0.75183981	0.65934582	1.140281458	0.876976463	1.516654807	1.330070568
48° 45' 30"	0.75193570	0.65923646	1.140616070	0.876719192	1.516906398	1.329900952
48° 46' 00"	0.75203157	0.65912709	1.140950793	0.876461987	1.517158104	1.329731407
48° 46' 30"	0.75212743	0.65901770	1.141285628	0.876204848	1.517409926	1.329561934
48° 47' 00"	0.75222327	0.65890830	1.141620573	0.875947774	1.517661864	1.329392532
48° 47' 30"	0.75231910	0.65879889	1.141955630	0.875690766	1.517913917	1.329223201
48° 48' 00"	0.75241491	0.65868946	1.142290798	0.875433823	1.518166087	1.329053941
48° 48' 30"	0.75251070	0.65858002	1.142626077	0.875176945	1.518418372	1.328884753
48° 49' 00"	0.75260648	0.65847056	1.142961468	0.874920133	1.518670773	1.328715635
48° 49' 30"	0.75270224	0.65836109	1.143296970	0.874663387	1.518923291	1.328546589
48° 50' 00"	0.75279799	0.65825161	1.143632584	0.874406705	1.519175924	1.328377614
48° 50' 30"	0.75289372	0.65814211	1.143968310	0.874150089	1.519428674	1.328208710
48° 51' 00"	0.75298944	0.65803260	1.144304147	0.873893538	1.519681540	1.328039877
48° 51' 30"	0.75308514	0.65792308	1.144640097	0.873637052	1.519934522	1.327871115
48° 52' 00"	0.75318082	0.65781354	1.144976158	0.873380632	1.520187620	1.327702425
48° 52' 30"	0.75327649	0.65770399	1.145312331	0.873124276	1.520440836	1.327533805
48° 53' 00"	0.75337214	0.65759442	1.145648616	0.872867986	1.520694167	1.327365255
48° 53' 30"	0.75346777	0.65748484	1.145985013	0.872611761	1.520947616	1.327196777
48° 54' 00"	0.75356339	0.65737525	1.146321522	0.872355601	1.521201181	1.327028370
48° 54' 30"	0.75365900	0.65726564	1.146658144	0.872099506	1.521454862	1.326860033
48° 55' 00"	0.75375458	0.65715602	1.146994877	0.871843475	1.521708661	1.326691767
48° 55' 30"	0.75385015	0.65704638	1.147331723	0.871587510	1.521962576	1.326523572
48° 56' 00"	0.75394571	0.65693673	1.147668682	0.871331610	1.522216609	1.326355448
48° 56' 30"	0.75404125	0.65682707	1.148005753	0.871075774	1.522470758	1.326187394
48° 57' 00"	0.75413677	0.65671739	1.148342937	0.870820003	1.522725025	1.326019411
48° 57' 30"	0.75423228	0.65660770	1.148680233	0.870564297	1.522979408	1.325851498
48° 58' 00"	0.75432777	0.65649799	1.149017642	0.870308656	1.523233909	1.325683656
48° 58' 30"	0.75442325	0.65638827	1.149355164	0.870053079	1.523488527	1.325515885
48° 59' 00"	0.75451871	0.65627854	1.149692799	0.869797568	1.523743263	1.325348184
48° 59' 30"	0.75461415	0.65616879	1.150030547	0.869542120	1.523998116	1.325180553

49° 00' 00"

49° 20' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
49° 00' 00"	0.75470958	0.65605903	1.150368407	0.869286738	1.524253087	1.325012993
49° 00' 30"	0.75480499	0.65594925	1.150706381	0.869031420	1.524508175	1.324845504
49° 01' 00"	0.75490039	0.65583947	1.151044468	0.868776166	1.524763381	1.324678084
49° 01' 30"	0.75499577	0.65572966	1.151382668	0.868520977	1.525018704	1.324510735
49° 02' 00"	0.75509113	0.65561985	1.151720981	0.868265853	1.525274145	1.324343457
49° 02' 30"	0.75518648	0.65551002	1.152059408	0.868010793	1.525529705	1.324176248
49° 03' 00"	0.75528181	0.65540017	1.152397948	0.867755797	1.525785382	1.324009110
49° 03' 30"	0.75537713	0.65529031	1.152736602	0.867500866	1.526041177	1.323842042
49° 04' 00"	0.75547243	0.65518044	1.153075369	0.867245999	1.526297090	1.323675044
49° 04' 30"	0.75556771	0.65507055	1.153414250	0.866991196	1.526553121	1.323508116
49° 05' 00"	0.75566298	0.65496065	1.153753245	0.866736457	1.526809271	1.323341258
49° 05' 30"	0.75575823	0.65485074	1.154092353	0.866481783	1.527065539	1.323174471
49° 06' 00"	0.75585347	0.65474081	1.154431576	0.866227173	1.527321925	1.323007753
49° 06' 30"	0.75594869	0.65463087	1.154770912	0.865972627	1.527578430	1.322841106
49° 07' 00"	0.75604389	0.65452092	1.155110362	0.865718145	1.527835053	1.322674528
49° 07' 30"	0.75613908	0.65441095	1.155449926	0.865463727	1.528091794	1.322508020
49° 08' 00"	0.75623425	0.65430097	1.155789605	0.865209374	1.528348655	1.322341582
49° 08' 30"	0.75632941	0.65419097	1.156129397	0.864955084	1.528605634	1.322175214
49° 09' 00"	0.75642455	0.65408096	1.156469304	0.864700858	1.528862732	1.322008916
49° 09' 30"	0.75651967	0.65397093	1.156809326	0.864446696	1.529119948	1.321842688
49° 10' 00"	0.75661478	0.65386090	1.157149462	0.864192598	1.529377284	1.321676529
49° 10' 30"	0.75670988	0.65375084	1.157489712	0.863938564	1.529634738	1.321510440
49° 11' 00"	0.75680495	0.65364078	1.157830077	0.863684594	1.529892312	1.321344421
49° 11' 30"	0.75690001	0.65353070	1.158170556	0.863430688	1.530150005	1.321178471
49° 12' 00"	0.75699506	0.65342060	1.158511150	0.863176845	1.530407817	1.321012591
49° 12' 30"	0.75709008	0.65331050	1.158851859	0.862923066	1.530665748	1.320846781
49° 13' 00"	0.75718510	0.65320038	1.159192683	0.862669351	1.530923799	1.320681040
49° 13' 30"	0.75728009	0.65309024	1.159533622	0.862415700	1.531181969	1.320515369
49° 14' 00"	0.75737507	0.65298009	1.159874676	0.862162112	1.531440258	1.320349767
49° 14' 30"	0.75747004	0.65286993	1.160215845	0.861908587	1.531698667	1.320184234
49° 15' 00"	0.75756498	0.65275975	1.160557129	0.861655127	1.531957196	1.320018771
49° 15' 30"	0.75765992	0.65264956	1.160898529	0.861401729	1.532215844	1.319853378
49° 16' 00"	0.75775483	0.65253936	1.161240043	0.861148395	1.532474613	1.319688054
49° 16' 30"	0.75784973	0.65242914	1.161581673	0.860895125	1.532733501	1.319522799
49° 17' 00"	0.75794462	0.65231891	1.161923419	0.860641918	1.532992508	1.319357613
49° 17' 30"	0.75803948	0.65220866	1.162265280	0.860388775	1.533251636	1.319192497
49° 18' 00"	0.75813434	0.65209840	1.162607256	0.860135695	1.533510884	1.319027450
49° 18' 30"	0.75822917	0.65198813	1.162949349	0.859882678	1.533770253	1.318862472
49° 19' 00"	0.75832399	0.65187784	1.163291557	0.859629724	1.534029741	1.318697563
49° 19' 30"	0.75841880	0.65176754	1.163633881	0.859376834	1.534289350	1.318532723
49° 20' 00"	0.75851358	0.65165723	1.163976320	0.859124007	1.534549079	1.318367953
49° 20' 30"	0.75860836	0.65154690	1.164318876	0.858871243	1.534808928	1.318203251

49° 21' 00"

49° 41' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
49° 21' 00"	0.75870311	0.65143656	1.164661548	0.858618542	1.535068898	1.318038619
49° 21' 30"	0.75879785	0.65132620	1.165004336	0.858365904	1.535328988	1.317874055
49° 22' 00"	0.75889257	0.65121583	1.165347240	0.858113330	1.535589199	1.317709561
49° 22' 30"	0.75898728	0.65110545	1.165690260	0.857860818	1.535849531	1.317545135
49° 23' 00"	0.75908197	0.65099505	1.166033397	0.857608369	1.536109984	1.317380778
49° 23' 30"	0.75917665	0.65088464	1.166376650	0.857355984	1.536370557	1.317216491
49° 24' 00"	0.75927131	0.65077422	1.166720019	0.857103661	1.536631252	1.317052271
49° 24' 30"	0.75936595	0.65066378	1.167063505	0.856851401	1.536892067	1.316888121
49° 25' 00"	0.75946058	0.65055333	1.167407108	0.856599204	1.537153003	1.316724040
49° 25' 30"	0.75955519	0.65044286	1.167750828	0.856347070	1.537414061	1.316560027
49° 26' 00"	0.75964978	0.65033238	1.168094664	0.856094999	1.537675240	1.316396083
49° 26' 30"	0.75974436	0.65022189	1.168438617	0.855842991	1.537936540	1.316232208
49° 27' 00"	0.75983893	0.65011138	1.168782687	0.855591045	1.538197962	1.316068401
49° 27' 30"	0.75993347	0.65000086	1.169126874	0.855339162	1.538459504	1.315904663
49° 28' 00"	0.76002800	0.64989032	1.169471178	0.855087341	1.538721169	1.315740993
49° 28' 30"	0.76012252	0.64977978	1.169815599	0.854835583	1.538982955	1.315577392
49° 29' 00"	0.76021702	0.64966921	1.170160137	0.854583888	1.539244863	1.315413860
49° 29' 30"	0.76031150	0.64955864	1.170504793	0.854332256	1.539506892	1.315250396
49° 30' 00"	0.76040597	0.64944805	1.170849566	0.854080685	1.539769043	1.315087000
49° 30' 30"	0.76050042	0.64933744	1.171194457	0.853829178	1.540031316	1.314923673
49° 31' 00"	0.76059485	0.64922683	1.171539465	0.853577733	1.540293711	1.314760414
49° 31' 30"	0.76068927	0.64911620	1.171884590	0.853326350	1.540556228	1.314597223
49° 32' 00"	0.76078367	0.64900555	1.172229834	0.853075030	1.540818868	1.314434101
49° 32' 30"	0.76087806	0.64889489	1.172575195	0.852823772	1.541081629	1.314271047
49° 33' 00"	0.76097243	0.64878422	1.172920674	0.852572576	1.541344513	1.314108061
49° 33' 30"	0.76106678	0.64867354	1.173266270	0.852321443	1.541607518	1.313945144
49° 34' 00"	0.76116112	0.64856284	1.173611985	0.852070371	1.541870647	1.313782295
49° 34' 30"	0.76125544	0.64845212	1.173957818	0.851819363	1.542133898	1.313619514
49° 35' 00"	0.76134974	0.64834140	1.174303769	0.851568416	1.542397271	1.313456801
49° 35' 30"	0.76144403	0.64823066	1.174649838	0.851317531	1.542660767	1.313294156
49° 36' 00"	0.76153831	0.64811990	1.174996025	0.851066709	1.542924385	1.313131579
49° 36' 30"	0.76163256	0.64800913	1.175342331	0.850815949	1.543188127	1.312969070
49° 37' 00"	0.76172681	0.64789835	1.175688755	0.850565250	1.543451991	1.312806629
49° 37' 30"	0.76182103	0.64778756	1.176035298	0.850314614	1.543715978	1.312644256
49° 38' 00"	0.76191524	0.64767675	1.176381959	0.850064040	1.543980088	1.312481951
49° 38' 30"	0.76200943	0.64756592	1.176728739	0.849813527	1.544244321	1.312319714
49° 39' 00"	0.76210361	0.64745509	1.177075637	0.849563077	1.544508678	1.312157545
49° 39' 30"	0.76219777	0.64734424	1.177422654	0.849312688	1.544773157	1.311995443
49° 40' 00"	0.76229191	0.64723337	1.177769791	0.849062362	1.545037760	1.311833409
49° 40' 30"	0.76238604	0.64712249	1.178117046	0.848812097	1.545302486	1.311671444
49° 41' 00"	0.76248015	0.64701160	1.178464420	0.848561894	1.545567336	1.311509545
49° 41' 30"	0.76257425	0.64690070	1.178811913	0.848311752	1.545832309	1.311347715

49° 42' 00"

50° 02' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
49° 42' 00"	0.76266833	0.64678978	1.179159526	0.848061673	1.546097405	1.311185952
49° 42' 30"	0.76276239	0.64667885	1.179507258	0.847811655	1.546362626	1.311024257
49° 43' 00"	0.76285644	0.64656790	1.179855109	0.847561699	1.546627970	1.310862629
49° 43' 30"	0.76295047	0.64645694	1.180203079	0.847311804	1.546893438	1.310701069
49° 44' 00"	0.76304449	0.64634597	1.180551169	0.847061971	1.547159030	1.310539577
49° 44' 30"	0.76313849	0.64623498	1.180899378	0.846812199	1.547424745	1.310378152
49° 45' 00"	0.76323247	0.64612398	1.181247708	0.846562489	1.547690585	1.310216794
49° 45' 30"	0.76332644	0.64601297	1.181596156	0.846312841	1.547956549	1.310055504
49° 46' 00"	0.76342039	0.64590194	1.181944725	0.846063254	1.548222637	1.309894282
49° 46' 30"	0.76351432	0.64579090	1.182293414	0.845813728	1.548488849	1.309733127
49° 47' 00"	0.76360824	0.64567984	1.182642222	0.845564264	1.548755186	1.309572039
49° 47' 30"	0.76370214	0.64556877	1.182991150	0.845314861	1.549021647	1.309411018
49° 48' 00"	0.76379603	0.64545769	1.183340199	0.845065519	1.549288232	1.309250065
49° 48' 30"	0.76388990	0.64534659	1.183689368	0.844816239	1.549554942	1.309089179
49° 49' 00"	0.76398375	0.64523548	1.184038657	0.844567020	1.549821777	1.308928360
49° 49' 30"	0.76407759	0.64512436	1.184388066	0.844317862	1.550088736	1.308767608
49° 50' 00"	0.76417141	0.64501322	1.184737596	0.844068766	1.550355821	1.308606924
49° 50' 30"	0.76426522	0.64490207	1.185087246	0.843819730	1.550623030	1.308446307
49° 51' 00"	0.76435901	0.64479090	1.185437017	0.843570756	1.550890364	1.308285756
49° 51' 30"	0.76445278	0.64467973	1.185786908	0.843321843	1.551157823	1.308125273
49° 52' 00"	0.76454654	0.64456853	1.186136920	0.843072990	1.551425407	1.307964857
49° 52' 30"	0.76464028	0.64445733	1.186487053	0.842824199	1.551693116	1.307804508
49° 53' 00"	0.76473400	0.64434611	1.186837306	0.842575469	1.551960951	1.307644226
49° 53' 30"	0.76482771	0.64423488	1.187187681	0.842326800	1.552228910	1.307484010
49° 54' 00"	0.76492140	0.64412363	1.187538177	0.842078191	1.552496996	1.307323862
49° 54' 30"	0.76501508	0.64401237	1.187888794	0.841829644	1.552765206	1.307163781
49° 55' 00"	0.76510874	0.64390110	1.188239532	0.841581157	1.553033543	1.307003766
49° 55' 30"	0.76520238	0.64378981	1.188590391	0.841332731	1.553302004	1.306843818
49° 56' 00"	0.76529601	0.64367851	1.188941371	0.841084366	1.553570592	1.306683937
49° 56' 30"	0.76538962	0.64356719	1.189292473	0.840836062	1.553839305	1.306524123
49° 57' 00"	0.76548321	0.64345586	1.189643697	0.840587819	1.554108144	1.306364375
49° 57' 30"	0.76557679	0.64334452	1.189995042	0.840339636	1.554377110	1.306204694
49° 58' 00"	0.76567035	0.64323317	1.190346508	0.840091514	1.554646201	1.306045080
49° 58' 30"	0.76576390	0.64312180	1.190698096	0.839843452	1.554915418	1.305885533
49° 59' 00"	0.76585743	0.64301042	1.191049807	0.839595451	1.555184761	1.305726052
49° 59' 30"	0.76595095	0.64289902	1.191401639	0.839347511	1.555454231	1.305566637
50° 00' 00"	0.76604444	0.64278761	1.191753593	0.839099631	1.555723827	1.305407289
50° 00' 30"	0.76613792	0.64267619	1.192105669	0.838851812	1.555993549	1.305248008
50° 01' 00"	0.76623139	0.64256475	1.192457867	0.838604053	1.556263398	1.305088793
50° 01' 30"	0.76632484	0.64245330	1.192810187	0.838356355	1.556533373	1.304929645
50° 02' 00"	0.76641827	0.64234183	1.193162630	0.838108716	1.556803475	1.304770562
50° 02' 30"	0.76651169	0.64223036	1.193515194	0.837861139	1.557073704	1.304611547

50° 03' 00"

50° 23' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
50° 03' 00"	0.76660509	0.64211887	1.193867882	0.837613621	1.557344059	1.304452597
50° 03' 30"	0.76669847	0.64200736	1.194220692	0.837366164	1.557614542	1.304293714
50° 04' 00"	0.76679184	0.64189584	1.194573624	0.837118768	1.557885151	1.304134898
50° 04' 30"	0.76688519	0.64178431	1.194926679	0.836871431	1.558155887	1.303976147
50° 05' 00"	0.76697853	0.64167276	1.195279857	0.836624155	1.558426750	1.303817463
50° 05' 30"	0.76707185	0.64156120	1.195633158	0.836376939	1.558697741	1.303658845
50° 06' 00"	0.76716515	0.64144963	1.195986581	0.836129783	1.558968859	1.303500293
50° 06' 30"	0.76725844	0.64133805	1.196340128	0.835882687	1.559240104	1.303341807
50° 07' 00"	0.76735171	0.64122645	1.196693797	0.835635651	1.559511476	1.303183387
50° 07' 30"	0.76744496	0.64111483	1.197047590	0.835388675	1.559782976	1.303025034
50° 08' 00"	0.76753820	0.64100320	1.197401506	0.835141759	1.560054604	1.302866746
50° 08' 30"	0.76763142	0.64089156	1.197755545	0.834894903	1.560326359	1.302708524
50° 09' 00"	0.76772463	0.64077991	1.198109708	0.834648107	1.560598242	1.302550369
50° 09' 30"	0.76781782	0.64066824	1.198463994	0.834401372	1.560870252	1.302392279
50° 10' 00"	0.76791099	0.64055656	1.198818403	0.834154695	1.561142391	1.302234255
50° 10' 30"	0.76800415	0.64044487	1.199172936	0.833908079	1.561414657	1.302076298
50° 11' 00"	0.76809729	0.64033316	1.199527593	0.833661523	1.561687052	1.301918405
50° 11' 30"	0.76819042	0.64022144	1.199882374	0.833415026	1.561959574	1.301760579
50° 12' 00"	0.76828352	0.64010970	1.200237278	0.833168589	1.562232225	1.301602819
50° 12' 30"	0.76837662	0.63999795	1.200592307	0.832922212	1.562505004	1.301445124
50° 13' 00"	0.76846969	0.63988619	1.200947459	0.832675895	1.562777911	1.301287495
50° 13' 30"	0.76856275	0.63977441	1.201302736	0.832429637	1.563050947	1.301129932
50° 14' 00"	0.76865579	0.63966262	1.201658137	0.832183439	1.563324111	1.300972435
50° 14' 30"	0.76874882	0.63955082	1.202013661	0.831937300	1.563597404	1.300815003
50° 15' 00"	0.76884183	0.63943900	1.202369311	0.831691221	1.563870826	1.300657636
50° 15' 30"	0.76893483	0.63932717	1.202725084	0.831445201	1.564144376	1.300500336
50° 16' 00"	0.76902780	0.63921533	1.203080983	0.831199241	1.564418055	1.300343100
50° 16' 30"	0.76912077	0.63910347	1.203437005	0.830953341	1.564691863	1.300185931
50° 17' 00"	0.76921371	0.63899160	1.203793153	0.830707500	1.564965800	1.300028827
50° 17' 30"	0.76930664	0.63887972	1.204149425	0.830461718	1.565239866	1.299871788
50° 18' 00"	0.76939956	0.63876782	1.204505822	0.830215995	1.565514061	1.299714815
50° 18' 30"	0.76949245	0.63865591	1.204862344	0.829970332	1.565788385	1.299557907
50° 19' 00"	0.76958533	0.63854398	1.205218991	0.829724729	1.566062839	1.299401064
50° 19' 30"	0.76967820	0.63843204	1.205575762	0.829479184	1.566337422	1.299244287
50° 20' 00"	0.76977104	0.63832009	1.205932660	0.829233699	1.566612134	1.299087575
50° 20' 30"	0.76986388	0.63820813	1.206289682	0.828988273	1.566886976	1.298930928
50° 21' 00"	0.76995669	0.63809615	1.206646829	0.828742906	1.567161948	1.298774347
50° 21' 30"	0.77004949	0.63798415	1.207004102	0.828497598	1.567437049	1.298617831
50° 22' 00"	0.77014227	0.63787215	1.207361501	0.828252350	1.567712280	1.298461380
50° 22' 30"	0.77023504	0.63776013	1.207719025	0.828007160	1.567987641	1.298304994
50° 23' 00"	0.77032779	0.63764810	1.208076674	0.827762030	1.568263132	1.298148673
50° 23' 30"	0.77042053	0.63753605	1.208434449	0.827516958	1.568538753	1.297992418



50° 24' 00"

50° 44' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
50° 24' 00"	0.77051324	0.63742399	1.208792350	0.827271946	1.568814504	1.297836227
50° 24' 30"	0.77060594	0.63731192	1.209150377	0.827026992	1.569090385	1.297680102
50° 25' 00"	0.77069863	0.63719983	1.209508530	0.826782098	1.569366396	1.297524041
50° 25' 30"	0.77079130	0.63708773	1.209866809	0.826537262	1.569642538	1.297368046
50° 26' 00"	0.77088395	0.63697562	1.210225214	0.826292485	1.569918810	1.297212115
50° 26' 30"	0.77097659	0.63686349	1.210583745	0.826047767	1.570195212	1.297056249
50° 27' 00"	0.77106921	0.63675135	1.210942403	0.825803108	1.570471745	1.296900449
50° 27' 30"	0.77116181	0.63663919	1.211301187	0.825558508	1.570748409	1.296744713
50° 28' 00"	0.77125440	0.63652703	1.211660097	0.825313966	1.571025204	1.296589041
50° 28' 30"	0.77134697	0.63641484	1.212019134	0.825069483	1.571302129	1.296433435
50° 29' 00"	0.77143952	0.63630265	1.212378297	0.824825059	1.571579185	1.296277894
50° 29' 30"	0.77153206	0.63619044	1.212737587	0.824580693	1.571856372	1.296122417
50° 30' 00"	0.77162458	0.63607822	1.213097004	0.824336386	1.572133691	1.295967005
50° 30' 30"	0.77171709	0.63596599	1.213456548	0.824092137	1.572411140	1.295811657
50° 31' 00"	0.77180958	0.63585374	1.213816218	0.823847947	1.572688721	1.295656374
50° 31' 30"	0.77190205	0.63574147	1.214176016	0.823603816	1.572966433	1.295501156
50° 32' 00"	0.77199451	0.63562920	1.214535941	0.823359743	1.573244276	1.295346002
50° 32' 30"	0.77208695	0.63551691	1.214895993	0.823115728	1.573522251	1.295190913
50° 33' 00"	0.77217937	0.63540461	1.215256172	0.822871772	1.573800357	1.295035889
50° 33' 30"	0.77227178	0.63529229	1.215616479	0.822627874	1.574078595	1.294880929
50° 34' 00"	0.77236417	0.63517996	1.215976913	0.822384035	1.574356965	1.294726033
50° 34' 30"	0.77245655	0.63506762	1.216337474	0.822140254	1.574635466	1.294571202
50° 35' 00"	0.77254891	0.63495527	1.216698163	0.821896531	1.574914099	1.294416435
50° 35' 30"	0.77264125	0.63484290	1.217058980	0.821652867	1.575192865	1.294261733
50° 36' 00"	0.77273357	0.63473051	1.217419925	0.821409261	1.575471762	1.294107095
50° 36' 30"	0.77282588	0.63461812	1.217780997	0.821165712	1.575750791	1.293952521
50° 37' 00"	0.77291818	0.63450571	1.218142197	0.820922223	1.576029953	1.293798012
50° 37' 30"	0.77301045	0.63439328	1.218503526	0.820678791	1.576309247	1.293643567
50° 38' 00"	0.77310271	0.63428085	1.218864982	0.820435417	1.576588673	1.293489186
50° 38' 30"	0.77319496	0.63416840	1.219226567	0.820192102	1.576868232	1.293334869
50° 39' 00"	0.77328719	0.63405593	1.219588279	0.819948844	1.577147923	1.293180617
50° 39' 30"	0.77337940	0.63394346	1.219950121	0.819705645	1.577427747	1.293026428
50° 40' 00"	0.77347159	0.63383097	1.220312090	0.819462503	1.577707704	1.292872304
50° 40' 30"	0.77356377	0.63371846	1.220674188	0.819219419	1.577987793	1.292718244
50° 41' 00"	0.77365593	0.63360595	1.221036415	0.818976394	1.578268015	1.292564247
50° 41' 30"	0.77374808	0.63349342	1.221398771	0.818733426	1.578548370	1.292410315
50° 42' 00"	0.77384021	0.63338087	1.221761255	0.818490516	1.578828858	1.292256447
50° 42' 30"	0.77393232	0.63326832	1.222123868	0.818247664	1.579109480	1.292102643
50° 43' 00"	0.77402442	0.63315574	1.222486610	0.818004870	1.579390234	1.291948903
50° 43' 30"	0.77411650	0.63304316	1.222849481	0.817762133	1.579671122	1.291795226
50° 44' 00"	0.77420856	0.63293056	1.223212481	0.817519454	1.579952143	1.291641614
50° 44' 30"	0.77430061	0.63281795	1.223575610	0.817276833	1.580233297	1.291488065

50° 45' 00"

51° 05' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
50° 45' 00"	0.77439264	0.63270533	1.223938869	0.817034270	1.580514585	1.291334580
50° 45' 30"	0.77448466	0.63259269	1.224302257	0.816791764	1.580796007	1.291181159
50° 46' 00"	0.77457666	0.63248004	1.224665774	0.816549316	1.581077562	1.291027802
50° 46' 30"	0.77466864	0.63236738	1.225029421	0.816306925	1.581359251	1.290874508
50° 47' 00"	0.77476061	0.63225470	1.225393197	0.816064592	1.581641074	1.290721279
50° 47' 30"	0.77485256	0.63214201	1.225757103	0.815822317	1.581923031	1.290568112
50° 48' 00"	0.77494449	0.63202930	1.226121139	0.815580099	1.582205122	1.290415010
50° 48' 30"	0.77503641	0.63191658	1.226485305	0.815337938	1.582487347	1.290261971
50° 49' 00"	0.77512831	0.63180385	1.226849601	0.815095835	1.582769706	1.290108996
50° 49' 30"	0.77522019	0.63169111	1.227214027	0.814853789	1.583052200	1.289956084
50° 50' 00"	0.77531206	0.63157835	1.227578583	0.814611801	1.583334828	1.289803235
50° 50' 30"	0.77540391	0.63146558	1.227943269	0.814369870	1.583617590	1.289650451
50° 51' 00"	0.77549574	0.63135280	1.228308085	0.814127996	1.583900487	1.289497729
50° 51' 30"	0.77558756	0.63124000	1.228673032	0.813886180	1.584183518	1.289345072
50° 52' 00"	0.77567936	0.63112719	1.229038109	0.813644421	1.584466684	1.289192477
50° 52' 30"	0.77577115	0.63101436	1.229403317	0.813402719	1.584749985	1.289039946
50° 53' 00"	0.77586292	0.63090152	1.229768655	0.813161074	1.585033421	1.288887478
50° 53' 30"	0.77595467	0.63078867	1.230134124	0.812919486	1.585316992	1.288735074
50° 54' 00"	0.77604641	0.63067581	1.230499724	0.812677955	1.585600697	1.288582733
50° 54' 30"	0.77613813	0.63056293	1.230865455	0.812436482	1.585884538	1.288430455
50° 55' 00"	0.77622983	0.63045004	1.231231317	0.812195066	1.586168514	1.288278240
50° 55' 30"	0.77632152	0.63033713	1.231597309	0.811953706	1.586452625	1.288126089
50° 56' 00"	0.77641319	0.63022422	1.231963433	0.811712404	1.586736872	1.287974001
50° 56' 30"	0.77650484	0.63011128	1.232329689	0.811471158	1.587021254	1.287821976
50° 57' 00"	0.77659648	0.62999834	1.232696075	0.811229970	1.587305772	1.287670014
50° 57' 30"	0.77668810	0.62988538	1.233062593	0.810988838	1.587590425	1.287518115
50° 58' 00"	0.77677971	0.62977241	1.233429242	0.810747764	1.587875214	1.287366279
50° 58' 30"	0.77687129	0.62965943	1.233796023	0.810506746	1.588160139	1.287214506
50° 59' 00"	0.77696287	0.62954643	1.234162936	0.810265785	1.588445200	1.287062797
50° 59' 30"	0.77705442	0.62943342	1.234529980	0.810024881	1.588730396	1.286911150
51° 00' 00"	0.77714596	0.62932039	1.234897157	0.809784033	1.589015729	1.286759566
51° 00' 30"	0.77723748	0.62920735	1.235264465	0.809543242	1.589301198	1.286608045
51° 01' 00"	0.77732899	0.62909430	1.235631905	0.809302508	1.589586803	1.286456587
51° 01' 30"	0.77742048	0.62898124	1.235999477	0.809061831	1.589872544	1.286305192
51° 02' 00"	0.77751195	0.62886816	1.236367181	0.808821210	1.590158422	1.286153859
51° 02' 30"	0.77760341	0.62875507	1.236735018	0.808580646	1.590444436	1.286002590
51° 03' 00"	0.77769485	0.62864196	1.237102987	0.808340139	1.590730587	1.285851383
51° 03' 30"	0.77778628	0.62852885	1.237471089	0.808099688	1.591016875	1.285700239
51° 04' 00"	0.77787768	0.62841571	1.237839323	0.807859293	1.591303299	1.285549158
51° 04' 30"	0.77796907	0.62830257	1.238207689	0.807618955	1.591589860	1.285398139
51° 05' 00"	0.77806045	0.62818941	1.238576188	0.807378673	1.591876558	1.285247183
51° 05' 30"	0.77815181	0.62807624	1.238944821	0.807138448	1.592163392	1.285096290

51° 06' 00"

51° 26' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
51° 06' 00"	0.77824315	0.62796306	1.239313585	0.806898280	1.592450364	1.284945459
51° 06' 30"	0.77833447	0.62784986	1.239682483	0.806658167	1.592737474	1.284794691
51° 07' 00"	0.77842578	0.62773665	1.240051514	0.806418111	1.593024720	1.284643986
51° 07' 30"	0.77851708	0.62762343	1.240420679	0.806178111	1.593312104	1.284493343
51° 08' 00"	0.77860835	0.62751019	1.240789976	0.805938168	1.593599625	1.284342762
51° 08' 30"	0.77869961	0.62739694	1.241159407	0.805698281	1.593887283	1.284192244
51° 09' 00"	0.77879085	0.62728367	1.241528971	0.805458450	1.594175080	1.284041788
51° 09' 30"	0.77888208	0.62717040	1.241898668	0.805218675	1.594463014	1.283891395
51° 10' 00"	0.77897329	0.62705711	1.242268499	0.804978956	1.594751085	1.283741064
51° 10' 30"	0.77906448	0.62694380	1.242638464	0.804739294	1.595039295	1.283590796
51° 11' 00"	0.77915566	0.62683049	1.243008563	0.804499687	1.595327642	1.283440590
51° 11' 30"	0.77924682	0.62671715	1.243378795	0.804260137	1.595616128	1.283290446
51° 12' 00"	0.77933796	0.62660381	1.243749161	0.804020643	1.595904752	1.283140364
51° 12' 30"	0.77942909	0.62649045	1.244119662	0.803781204	1.596193514	1.282990345
51° 13' 00"	0.77952020	0.62637708	1.244490296	0.803541822	1.596482414	1.282840387
51° 13' 30"	0.77961130	0.62626370	1.244861065	0.803302496	1.596771452	1.282690492
51° 14' 00"	0.77970238	0.62615030	1.245231968	0.803063225	1.597060629	1.282540660
51° 14' 30"	0.77979344	0.62603690	1.245603005	0.802824010	1.597349945	1.282390889
51° 15' 00"	0.77988448	0.62592347	1.245974177	0.802584852	1.597639399	1.282241180
51° 15' 30"	0.77997551	0.62581004	1.246345483	0.802345749	1.597928992	1.282091534
51° 16' 00"	0.78006652	0.62569659	1.246716924	0.802106702	1.598218724	1.281941949
51° 16' 30"	0.78015752	0.62558312	1.247088500	0.801867710	1.598508595	1.281792427
51° 17' 00"	0.78024850	0.62546965	1.247460210	0.801628775	1.598798604	1.281642966
51° 17' 30"	0.78033946	0.62535616	1.247832056	0.801389895	1.599088753	1.281493567
51° 18' 00"	0.78043041	0.62524266	1.248204036	0.801151071	1.599379041	1.281344231
51° 18' 30"	0.78052134	0.62512914	1.248576152	0.800912302	1.599669468	1.281194956
51° 19' 00"	0.78061225	0.62501561	1.248948403	0.800673589	1.599960035	1.281045743
51° 19' 30"	0.78070315	0.62490207	1.249320789	0.800434932	1.600250741	1.280896592
51° 20' 00"	0.78079403	0.62478851	1.249693310	0.800196330	1.600541586	1.280747503
51° 20' 30"	0.78088489	0.62467495	1.250065967	0.799957784	1.600832571	1.280598476
51° 21' 00"	0.78097574	0.62456136	1.250438759	0.799719293	1.601123696	1.280449510
51° 21' 30"	0.78106657	0.62444777	1.250811687	0.799480858	1.601414961	1.280300606
51° 22' 00"	0.78115738	0.62433416	1.251184750	0.799242478	1.601706365	1.280151764
51° 22' 30"	0.78124818	0.62422054	1.251557950	0.799004153	1.601997909	1.280002983
51° 23' 00"	0.78133896	0.62410691	1.251931285	0.798765884	1.602289594	1.279854264
51° 23' 30"	0.78142972	0.62399326	1.252304756	0.798527671	1.602581419	1.279705607
51° 24' 00"	0.78152047	0.62387960	1.252678364	0.798289512	1.602873383	1.279557011
51° 24' 30"	0.78161120	0.62376592	1.253052107	0.798051409	1.603165489	1.279408477
51° 25' 00"	0.78170192	0.62365224	1.253425987	0.797813361	1.603457734	1.279260005
51° 25' 30"	0.78179262	0.62353853	1.253800003	0.797575369	1.603750120	1.279111594
51° 26' 00"	0.78188330	0.62342482	1.254174156	0.797337431	1.604042647	1.278963244
51° 26' 30"	0.78197396	0.62331109	1.254548445	0.797099549	1.604335314	1.278814956

51° 27' 00"

51° 47' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
51° 27' 00"	0.78206461	0.62319735	1.254922871	0.796861722	1.604628122	1.278666729
51° 27' 30"	0.78215524	0.62308360	1.255297433	0.796623950	1.604921071	1.278518564
51° 28' 00"	0.78224586	0.62296983	1.255672132	0.796386234	1.605214161	1.278370460
51° 28' 30"	0.78233646	0.62285605	1.256046968	0.796148572	1.605507392	1.278222417
51° 29' 00"	0.78242704	0.62274226	1.256421941	0.795910965	1.605800764	1.278074436
51° 29' 30"	0.78251761	0.62262846	1.256797052	0.795673413	1.606094278	1.277926516
51° 30' 00"	0.78260816	0.62251464	1.257172299	0.795435917	1.606387932	1.277778657
51° 30' 30"	0.78269869	0.62240080	1.257547683	0.795198475	1.606681728	1.277630860
51° 31' 00"	0.78278921	0.62228696	1.257923205	0.794961088	1.606975666	1.277483124
51° 31' 30"	0.78287971	0.62217310	1.258298865	0.794723756	1.607269745	1.277335449
51° 32' 00"	0.78297019	0.62205923	1.258674662	0.794486479	1.607563966	1.277187835
51° 32' 30"	0.78306066	0.62194534	1.259050596	0.794249257	1.607858328	1.277040282
51° 33' 00"	0.78315111	0.62183145	1.259426668	0.794012089	1.608152833	1.276892790
51° 33' 30"	0.78324154	0.62171753	1.259802878	0.793774976	1.608447479	1.276745360
51° 34' 00"	0.78333196	0.62160361	1.260179226	0.793537918	1.608742267	1.276597990
51° 34' 30"	0.78342236	0.62148967	1.260555712	0.793300915	1.609037198	1.276450681
51° 35' 00"	0.78351274	0.62137572	1.260932336	0.793063967	1.609332270	1.276303434
51° 35' 30"	0.78360311	0.62126176	1.261309098	0.792827073	1.609627485	1.276156247
51° 36' 00"	0.78369346	0.62114778	1.261685998	0.792590233	1.609922842	1.276009121
51° 36' 30"	0.78378379	0.62103379	1.262063037	0.792353449	1.610218342	1.275862057
51° 37' 00"	0.78387411	0.62091979	1.262440214	0.792116719	1.610513985	1.275715053
51° 37' 30"	0.78396441	0.62080577	1.262817530	0.791880043	1.610809770	1.275568110
51° 38' 00"	0.78405469	0.62069174	1.263194984	0.791643422	1.611105697	1.275421227
51° 38' 30"	0.78414496	0.62057770	1.263572577	0.791406855	1.611401768	1.275274406
51° 39' 00"	0.78423521	0.62046364	1.263950309	0.791170343	1.611697982	1.275127645
51° 39' 30"	0.78432545	0.62034957	1.264328180	0.790933886	1.611994338	1.274980945
51° 40' 00"	0.78441566	0.62023549	1.264706190	0.790697482	1.612290838	1.274834306
51° 40' 30"	0.78450587	0.62012140	1.265084339	0.790461133	1.612587481	1.274687728
51° 41' 00"	0.78459605	0.62000729	1.265462627	0.790224839	1.612884267	1.274541210
51° 41' 30"	0.78468622	0.61989317	1.265841054	0.789988598	1.613181197	1.274394753
51° 42' 00"	0.78477637	0.61977903	1.266219621	0.789752412	1.613478270	1.274248356
51° 42' 30"	0.78486651	0.61966488	1.266598327	0.789516281	1.613775487	1.274102020
51° 43' 00"	0.78495662	0.61955072	1.266977173	0.789280203	1.614072847	1.273955745
51° 43' 30"	0.78504673	0.61943655	1.267356158	0.789044180	1.614370351	1.273809530
51° 44' 00"	0.78513681	0.61932236	1.267735283	0.788808211	1.614667999	1.273663375
51° 44' 30"	0.78522688	0.61920816	1.268114548	0.788572296	1.614965791	1.273517281
51° 45' 00"	0.78531693	0.61909395	1.268493953	0.788336435	1.615263727	1.273371248
51° 45' 30"	0.78540697	0.61897972	1.268873498	0.788100628	1.615561807	1.273225274
51° 46' 00"	0.78549698	0.61886548	1.269253183	0.787864875	1.615860032	1.273079362
51° 46' 30"	0.78558699	0.61875123	1.269633008	0.787629176	1.616158400	1.272933509
51° 47' 00"	0.78567697	0.61863697	1.270012973	0.787393531	1.616456913	1.272787717
51° 47' 30"	0.78576694	0.61852269	1.270393079	0.787157941	1.616755571	1.272641986

51° 48' 00"

52° 08' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
51° 48' 00"	0.78585689	0.61840840	1.270773326	0.786922404	1.617054373	1.272496314
51° 48' 30"	0.78594683	0.61829409	1.271153713	0.786686921	1.617353320	1.272350703
51° 49' 00"	0.78603675	0.61817977	1.271534240	0.786451492	1.617652411	1.272205152
51° 49' 30"	0.78612665	0.61806544	1.271914909	0.786216116	1.617951648	1.272059661
51° 50' 00"	0.78621654	0.61795110	1.272295718	0.785980795	1.618251029	1.271914231
51° 50' 30"	0.78630640	0.61783674	1.272676668	0.785745527	1.618550556	1.271768860
51° 51' 00"	0.78639626	0.61772237	1.273057760	0.785510314	1.618850228	1.271623550
51° 51' 30"	0.78648609	0.61760799	1.273438992	0.785275154	1.619150044	1.271478300
51° 52' 00"	0.78657591	0.61749359	1.273820366	0.785040047	1.619450007	1.271333110
51° 52' 30"	0.78666571	0.61737918	1.274201881	0.784804994	1.619750114	1.271187980
51° 53' 00"	0.78675550	0.61726476	1.274583537	0.784569995	1.620050368	1.271042909
51° 53' 30"	0.78684527	0.61715032	1.274965335	0.784335050	1.620350766	1.270897899
51° 54' 00"	0.78693502	0.61703588	1.275347275	0.784100158	1.620651311	1.270752949
51° 54' 30"	0.78702476	0.61692141	1.275729356	0.783865320	1.620952001	1.270608059
51° 55' 00"	0.78711448	0.61680694	1.276111580	0.783630535	1.621252838	1.270463229
51° 55' 30"	0.78720418	0.61669245	1.276493945	0.783395804	1.621553820	1.270318458
51° 56' 00"	0.78729387	0.61657795	1.276876452	0.783161126	1.621854948	1.270173748
51° 56' 30"	0.78738353	0.61646344	1.277259101	0.782926502	1.622156223	1.270029097
51° 57' 00"	0.78747319	0.61634891	1.277641892	0.782691931	1.622457644	1.269884506
51° 57' 30"	0.78756282	0.61623437	1.278024826	0.782457414	1.622759211	1.269739975
51° 58' 00"	0.78765244	0.61611982	1.278407902	0.782222950	1.623060924	1.269595504
51° 58' 30"	0.78774205	0.61600525	1.278791121	0.781988539	1.623362785	1.269451092
51° 59' 00"	0.78783163	0.61589067	1.279174482	0.781754181	1.623664791	1.269306740
51° 59' 30"	0.78792120	0.61577608	1.279557986	0.781519877	1.623966945	1.269162448
52° 00' 00"	0.78801075	0.61566148	1.279941632	0.781285627	1.624269245	1.269018215
52° 00' 30"	0.78810029	0.61554686	1.280325422	0.781051429	1.624571693	1.268874042
52° 01' 00"	0.78818981	0.61543223	1.280709354	0.780817284	1.624874287	1.268729929
52° 01' 30"	0.78827931	0.61531758	1.281093430	0.780583193	1.625177029	1.268585875
52° 02' 00"	0.78836880	0.61520293	1.281477648	0.780349155	1.625479918	1.268441880
52° 02' 30"	0.78845827	0.61508825	1.281862010	0.780115170	1.625782954	1.268297946
52° 03' 00"	0.78854772	0.61497357	1.282246515	0.779881238	1.626086137	1.268154070
52° 03' 30"	0.78863716	0.61485888	1.282631164	0.779647359	1.626389468	1.268010254
52° 04' 00"	0.78872657	0.61474417	1.283015956	0.779413534	1.626692947	1.267866498
52° 04' 30"	0.78881598	0.61462944	1.283400892	0.779179761	1.626996573	1.267722801
52° 05' 00"	0.78890536	0.61451471	1.283785971	0.778946041	1.627300347	1.267579163
52° 05' 30"	0.78899473	0.61439996	1.284171195	0.778712374	1.627604269	1.267435585
52° 06' 00"	0.78908408	0.61428520	1.284556562	0.778478760	1.627908339	1.267292066
52° 06' 30"	0.78917342	0.61417043	1.284942074	0.778245199	1.628212557	1.267148606
52° 07' 00"	0.78926274	0.61405564	1.285327729	0.778011691	1.628516924	1.267005206
52° 07' 30"	0.78935204	0.61394084	1.285713529	0.777778236	1.628821438	1.266861865
52° 08' 00"	0.78944133	0.61382603	1.286099473	0.777544833	1.629126101	1.266718583
52° 08' 30"	0.78953060	0.61371120	1.286485561	0.777311483	1.629430913	1.266575360

52° 09' 00"

52° 29' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
52° 09' 00"	0.78961985	0.61359636	1.286871794	0.777078187	1.629735873	1.266432196
52° 09' 30"	0.78970908	0.61348151	1.287258172	0.776844942	1.630040981	1.266289092
52° 10' 00"	0.78979830	0.61336664	1.287644694	0.776611751	1.630346239	1.266146047
52° 10' 30"	0.78988751	0.61325177	1.288031361	0.776378612	1.630651645	1.266003060
52° 11' 00"	0.78997669	0.61313687	1.288418173	0.776145526	1.630957200	1.265860133
52° 11' 30"	0.79006586	0.61302197	1.288805130	0.775912492	1.631262904	1.265717265
52° 12' 00"	0.79015501	0.61290705	1.289192232	0.775679511	1.631568758	1.265574456
52° 12' 30"	0.79024415	0.61279212	1.289579479	0.775446583	1.631874760	1.265431706
52° 13' 00"	0.79033327	0.61267718	1.289966872	0.775213707	1.632180912	1.265289015
52° 13' 30"	0.79042237	0.61256223	1.290354409	0.774980883	1.632487213	1.265146383
52° 14' 00"	0.79051145	0.61244726	1.290742093	0.774748112	1.632793664	1.265003809
52° 14' 30"	0.79060052	0.61233227	1.291129922	0.774515394	1.633100265	1.264861295
52° 15' 00"	0.79068957	0.61221728	1.291517897	0.774282728	1.633407015	1.264718839
52° 15' 30"	0.79077861	0.61210227	1.291906017	0.774050114	1.633713915	1.264576443
52° 16' 00"	0.79086763	0.61198725	1.292294283	0.773817553	1.634020965	1.264434105
52° 16' 30"	0.79095663	0.61187222	1.292682696	0.773585044	1.634328165	1.264291826
52° 17' 00"	0.79104561	0.61175717	1.293071254	0.773352587	1.634635515	1.264149605
52° 17' 30"	0.79113458	0.61164211	1.293459959	0.773120183	1.634943016	1.264007444
52° 18' 00"	0.79122353	0.61152704	1.293848810	0.772887831	1.635250666	1.263865341
52° 18' 30"	0.79131247	0.61141195	1.294237807	0.772655531	1.635558467	1.263723296
52° 19' 00"	0.79140139	0.61129686	1.294626951	0.772423283	1.635866419	1.263581311
52° 19' 30"	0.79149029	0.61118175	1.295016241	0.772191088	1.636174521	1.263439384
52° 20' 00"	0.79157917	0.61106662	1.295405678	0.771958945	1.636482774	1.263297515
52° 20' 30"	0.79166804	0.61095148	1.295795262	0.771726854	1.636791178	1.263155706
52° 21' 00"	0.79175689	0.61083633	1.296184992	0.771494814	1.637099732	1.263013954
52° 21' 30"	0.79184572	0.61072117	1.296574870	0.771262827	1.637408438	1.262872262
52° 22' 00"	0.79193454	0.61060600	1.296964894	0.771030892	1.637717295	1.262730627
52° 22' 30"	0.79202334	0.61049081	1.297355066	0.770799009	1.638026303	1.262589051
52° 23' 00"	0.79211213	0.61037561	1.297745385	0.770567178	1.638335462	1.262447534
52° 23' 30"	0.79220089	0.61026039	1.298135852	0.770335399	1.638644772	1.262306075
52° 24' 00"	0.79228964	0.61014516	1.298526466	0.770103672	1.638954234	1.262164675
52° 24' 30"	0.79237838	0.61002992	1.298917227	0.769871997	1.639263848	1.262023333
52° 25' 00"	0.79246709	0.60991467	1.299308137	0.769640374	1.639573613	1.261882049
52° 25' 30"	0.79255579	0.60979940	1.299699194	0.769408802	1.639883531	1.261740823
52° 26' 00"	0.79264448	0.60968413	1.300090398	0.769177283	1.640193600	1.261599656
52° 26' 30"	0.79273314	0.60956883	1.300481751	0.768945815	1.640503821	1.261458547
52° 27' 00"	0.79282179	0.60945353	1.300873252	0.768714399	1.640814194	1.261317496
52° 27' 30"	0.79291043	0.60933821	1.301264901	0.768483034	1.641124719	1.261176504
52° 28' 00"	0.79299904	0.60922288	1.301656699	0.768251722	1.641435397	1.261035570
52° 28' 30"	0.79308764	0.60910754	1.302048644	0.768020461	1.641746227	1.260894694
52° 29' 00"	0.79317623	0.60899218	1.302440739	0.767789252	1.642057209	1.260753876
52° 29' 30"	0.79326479	0.60887681	1.302832981	0.767558094	1.642368344	1.260613116

52° 30' 00"

52° 50' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
52° 30' 00"	0.79335334	0.60876143	1.303225373	0.767326988	1.642679632	1.260472414
52° 30' 30"	0.79344187	0.60864603	1.303617913	0.767095934	1.642991072	1.260331770
52° 31' 00"	0.79353039	0.60853063	1.304010602	0.766864931	1.643302666	1.260191185
52° 31' 30"	0.79361889	0.60841521	1.304403440	0.766633979	1.643614412	1.260050657
52° 32' 00"	0.79370737	0.60829977	1.304796428	0.766403079	1.643926311	1.259910187
52° 32' 30"	0.79379583	0.60818433	1.305189564	0.766172231	1.644238364	1.259769776
52° 33' 00"	0.79388428	0.60806887	1.305582850	0.765941434	1.644550570	1.259629422
52° 33' 30"	0.79397271	0.60795339	1.305976285	0.765710688	1.644862929	1.259489126
52° 34' 00"	0.79406113	0.60783791	1.306369869	0.765479994	1.645175442	1.259348888
52° 34' 30"	0.79414953	0.60772241	1.306763603	0.765249351	1.645488108	1.259208708
52° 35' 00"	0.79423791	0.60760690	1.307157487	0.765018760	1.645800929	1.259068586
52° 35' 30"	0.79432627	0.60749138	1.307551521	0.764788220	1.646113902	1.258928521
52° 36' 00"	0.79441462	0.60737584	1.307945704	0.764557731	1.646427030	1.258788514
52° 36' 30"	0.79450295	0.60726029	1.308340038	0.764327293	1.646740312	1.258648565
52° 37' 00"	0.79459127	0.60714473	1.308734522	0.764096907	1.647053748	1.258508674
52° 37' 30"	0.79467956	0.60702915	1.309129155	0.763866572	1.647367338	1.258368841
52° 38' 00"	0.79476784	0.60691357	1.309523940	0.763636288	1.647681082	1.258229065
52° 38' 30"	0.79485611	0.60679796	1.309918874	0.763406055	1.647994981	1.258089347
52° 39' 00"	0.79494435	0.60668235	1.310313959	0.763175873	1.648309034	1.257949686
52° 39' 30"	0.79503258	0.60656672	1.310709195	0.762945743	1.648623242	1.257810083
52° 40' 00"	0.79512080	0.60645109	1.311104581	0.762715663	1.648937604	1.257670538
52° 40' 30"	0.79520899	0.60633543	1.311500119	0.762485634	1.649252122	1.257531050
52° 41' 00"	0.79529717	0.60621977	1.311895807	0.762255657	1.649566794	1.257391620
52° 41' 30"	0.79538534	0.60610409	1.312291646	0.762025730	1.649881621	1.257252247
52° 42' 00"	0.79547348	0.60598840	1.312687636	0.761795855	1.650196604	1.257112932
52° 42' 30"	0.79556161	0.60587270	1.313083778	0.761566030	1.650511741	1.256973674
52° 43' 00"	0.79564972	0.60575698	1.313480071	0.761336256	1.650827034	1.256834474
52° 43' 30"	0.79573782	0.60564125	1.313876515	0.761106533	1.651142482	1.256695331
52° 44' 00"	0.79582590	0.60552551	1.314273111	0.760876861	1.651458086	1.256556246
52° 44' 30"	0.79591396	0.60540976	1.314669859	0.760647240	1.651773846	1.256417217
52° 45' 00"	0.79600200	0.60529399	1.315066758	0.760417670	1.652089761	1.256278247
52° 45' 30"	0.79609003	0.60517821	1.315463809	0.760188150	1.652405832	1.256139333
52° 46' 00"	0.79617804	0.60506241	1.315861012	0.759958682	1.652722059	1.256000477
52° 46' 30"	0.79626604	0.60494661	1.316258368	0.759729263	1.653038442	1.255861678
52° 47' 00"	0.79635401	0.60483079	1.316655875	0.759499896	1.653354981	1.255722936
52° 47' 30"	0.79644197	0.60471496	1.317053535	0.759270579	1.653671676	1.255584251
52° 48' 00"	0.79652992	0.60459911	1.317451347	0.759041313	1.653988528	1.255445624
52° 48' 30"	0.79661784	0.60448326	1.317849311	0.758812098	1.654305536	1.255307054
52° 49' 00"	0.79670576	0.60436739	1.318247428	0.758582933	1.654622701	1.255168541
52° 49' 30"	0.79679365	0.60425151	1.318645698	0.758353818	1.654940022	1.255030085
52° 50' 00"	0.79688152	0.60413561	1.319044121	0.758124754	1.655257500	1.254891686
52° 50' 30"	0.79696938	0.60401970	1.319442696	0.757895741	1.655575135	1.254753344

52° 51' 00"

53° 11' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
52° 51' 00"	0.79705723	0.60390378	1.319841425	0.757666778	1.655892927	1.254615059
52° 51' 30"	0.79714505	0.60378785	1.320240306	0.757437866	1.656210876	1.254476831
52° 52' 00"	0.79723286	0.60367190	1.320639341	0.757209004	1.656528982	1.254338661
52° 52' 30"	0.79732065	0.60355594	1.321038529	0.756980192	1.656847246	1.254200547
52° 53' 00"	0.79740843	0.60343997	1.321437871	0.756751431	1.657165666	1.254062490
52° 53' 30"	0.79749619	0.60332399	1.321837366	0.756522721	1.657484245	1.253924490
52° 54' 00"	0.79758393	0.60320799	1.322237014	0.756294060	1.657802981	1.253786547
52° 54' 30"	0.79767165	0.60309198	1.322636817	0.756065450	1.658121874	1.253648661
52° 55' 00"	0.79775936	0.60297595	1.323036773	0.755836890	1.658440926	1.253510831
52° 55' 30"	0.79784705	0.60285992	1.323436884	0.755608380	1.658760135	1.253373059
52° 56' 00"	0.79793473	0.60274387	1.323837148	0.755379921	1.659079502	1.253235343
52° 56' 30"	0.79802238	0.60262781	1.324237566	0.755151512	1.659399027	1.253097684
52° 57' 00"	0.79811002	0.60251173	1.324638139	0.754923153	1.659718711	1.252960082
52° 57' 30"	0.79819765	0.60239565	1.325038866	0.754694844	1.660038553	1.252822536
52° 58' 00"	0.79828525	0.60227955	1.325439748	0.754466585	1.660358553	1.252685047
52° 58' 30"	0.79837284	0.60216344	1.325840784	0.754238376	1.660678712	1.252547615
52° 59' 00"	0.79846042	0.60204731	1.326241975	0.754010217	1.660999030	1.252410239
52° 59' 30"	0.79854797	0.60193117	1.326643321	0.753782109	1.661319506	1.252272921
53° 00' 00"	0.79863551	0.60181502	1.327044822	0.753554050	1.661640141	1.252135658
53° 00' 30"	0.79872303	0.60169886	1.327446477	0.753326041	1.661960935	1.251998452
53° 01' 00"	0.79881054	0.60158268	1.327848288	0.753098083	1.662281888	1.251861303
53° 01' 30"	0.79889803	0.60146650	1.328250254	0.752870174	1.662603001	1.251724210
53° 02' 00"	0.79898550	0.60135029	1.328652375	0.752642315	1.662924272	1.251587174
53° 02' 30"	0.79907295	0.60123408	1.329054652	0.752414506	1.663245703	1.251450194
53° 03' 00"	0.79916039	0.60111785	1.329457085	0.752186747	1.663567293	1.251313271
53° 03' 30"	0.79924781	0.60100161	1.329859673	0.751959038	1.663889043	1.251176404
53° 04' 00"	0.79933521	0.60088536	1.330262416	0.751731378	1.664210953	1.251039594
53° 04' 30"	0.79942260	0.60076910	1.330665316	0.751503769	1.664533023	1.250902840
53° 05' 00"	0.79950997	0.60065282	1.331068372	0.751276209	1.664855252	1.250766142
53° 05' 30"	0.79959732	0.60053653	1.331471584	0.751048699	1.665177642	1.250629501
53° 06' 00"	0.79968466	0.60042023	1.331874952	0.750821238	1.665500191	1.250492915
53° 06' 30"	0.79977198	0.60030391	1.332278476	0.750593827	1.665822901	1.250356387
53° 07' 00"	0.79985928	0.60018758	1.332682156	0.750366466	1.666145771	1.250219914
53° 07' 30"	0.79994657	0.60007124	1.333085994	0.750139154	1.666468801	1.250083498
53° 08' 00"	0.80003383	0.59995489	1.333489987	0.749911892	1.666791993	1.249947137
53° 08' 30"	0.80012108	0.59983852	1.333894138	0.749684680	1.667115344	1.249810833
53° 09' 00"	0.80020832	0.59972214	1.334298445	0.749457517	1.667438857	1.249674586
53° 09' 30"	0.80029554	0.59960575	1.334702910	0.749230404	1.667762530	1.249538394
53° 10' 00"	0.80038274	0.59948934	1.335107531	0.749003340	1.668086365	1.249402258
53° 10' 30"	0.80046992	0.59937293	1.335512310	0.748776326	1.668410360	1.249266179
53° 11' 00"	0.80055709	0.59925650	1.335917246	0.748549361	1.668734517	1.249130155
53° 11' 30"	0.80064424	0.59914005	1.336322339	0.748322445	1.669058835	1.248994188



53° 12' 00"

53° 32' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
53° 12' 00"	0.80073137	0.59902360	1.336727590	0.748095579	1.669383314	1.248858277
53° 12' 30"	0.80081849	0.59890713	1.337132998	0.747868762	1.669707955	1.248722421
53° 13' 00"	0.80090559	0.59879065	1.337538564	0.747641995	1.670032757	1.248586622
53° 13' 30"	0.80099267	0.59867416	1.337944288	0.747415277	1.670357721	1.248450878
53° 14' 00"	0.80107973	0.59855765	1.338350170	0.747188608	1.670682848	1.248315191
53° 14' 30"	0.80116678	0.59844113	1.338756210	0.746961988	1.671008136	1.248179559
53° 15' 00"	0.80125381	0.59832460	1.339162408	0.746735418	1.671333586	1.248043983
53° 15' 30"	0.80134083	0.59820806	1.339568764	0.746508897	1.671659198	1.247908463
53° 16' 00"	0.80142782	0.59809150	1.339975279	0.746282425	1.671984972	1.247772999
53° 16' 30"	0.80151480	0.59797493	1.340381952	0.746056002	1.672310909	1.247637591
53° 17' 00"	0.80160177	0.59785835	1.340788784	0.745829628	1.672637009	1.247502238
53° 17' 30"	0.80168871	0.59774175	1.341195774	0.745603304	1.672963270	1.247366941
53° 18' 00"	0.80177564	0.59762515	1.341602923	0.745377028	1.673289695	1.247231700
53° 18' 30"	0.80186256	0.59750853	1.342010232	0.745150802	1.673616283	1.247096515
53° 19' 00"	0.80194945	0.59739189	1.342417699	0.744924624	1.673943033	1.246961385
53° 19' 30"	0.80203633	0.59727525	1.342825325	0.744698496	1.674269947	1.246826311
53° 20' 00"	0.80212319	0.59715859	1.343233111	0.744472417	1.674597023	1.246691293
53° 20' 30"	0.80221004	0.59704192	1.343641056	0.744246386	1.674924263	1.246556330
53° 21' 00"	0.80229687	0.59692524	1.344049160	0.744020405	1.675251666	1.246421422
53° 21' 30"	0.80238368	0.59680854	1.344457424	0.743794472	1.675579233	1.246286571
53° 22' 00"	0.80247047	0.59669183	1.344865848	0.743568588	1.675906963	1.246151775
53° 22' 30"	0.80255725	0.59657511	1.345274432	0.743342753	1.676234857	1.246017034
53° 23' 00"	0.80264401	0.59645838	1.345683175	0.743116967	1.676562915	1.245882349
53° 23' 30"	0.80273075	0.59634163	1.346092079	0.742891230	1.676891137	1.245747719
53° 24' 00"	0.80281748	0.59622487	1.346501142	0.742665542	1.677219522	1.245613145
53° 24' 30"	0.80290418	0.59610810	1.346910366	0.742439902	1.677548072	1.245478626
53° 25' 00"	0.80299088	0.59599132	1.347319750	0.742214311	1.677876786	1.245344163
53° 25' 30"	0.80307755	0.59587452	1.347729295	0.741988768	1.678205665	1.245209754
53° 26' 00"	0.80316421	0.59575771	1.348139001	0.741763275	1.678534708	1.245075402
53° 26' 30"	0.80325085	0.59564089	1.348548867	0.741537830	1.678863915	1.244941104
53° 27' 00"	0.80333747	0.59552406	1.348958893	0.741312433	1.679193287	1.244806862
53° 27' 30"	0.80342408	0.59540721	1.349369081	0.741087086	1.679522824	1.244672675
53° 28' 00"	0.80351067	0.59529035	1.349779430	0.740861787	1.679852526	1.244538544
53° 28' 30"	0.80359724	0.59517348	1.350189940	0.740636536	1.680182393	1.244404467
53° 29' 00"	0.80368380	0.59505659	1.350600611	0.740411334	1.680512425	1.244270446
53° 29' 30"	0.80377034	0.59493970	1.351011444	0.740186180	1.680842622	1.244136480
53° 30' 00"	0.80385686	0.59482279	1.351422438	0.739961075	1.681172985	1.244002569
53° 30' 30"	0.80394337	0.59470586	1.351833594	0.739736018	1.681503513	1.243868714
53° 31' 00"	0.80402985	0.59458893	1.352244911	0.739511010	1.681834207	1.243734913
53° 31' 30"	0.80411632	0.59447198	1.352656390	0.739286050	1.682165066	1.243601168
53° 32' 00"	0.80420278	0.59435502	1.353068031	0.739061139	1.682496091	1.243467477
53° 32' 30"	0.80428922	0.59423805	1.353479835	0.738836276	1.682827283	1.243333842

53° 33' 00"

53° 53' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
53° 33' 00"	0.80437564	0.59412106	1.353891800	0.738611461	1.683158640	1.243200261
53° 33' 30"	0.80446204	0.59400406	1.354303928	0.738386694	1.683490163	1.243066736
53° 34' 00"	0.80454842	0.59388705	1.354716218	0.738161976	1.683821852	1.242933266
53° 34' 30"	0.80463479	0.59377003	1.355128670	0.737937306	1.684153708	1.242799850
53° 35' 00"	0.80472114	0.59365300	1.355541285	0.737712684	1.684485731	1.242666490
53° 35' 30"	0.80480748	0.59353595	1.355954063	0.737488110	1.684817919	1.242533184
53° 36' 00"	0.80489380	0.59341889	1.356367004	0.737263585	1.685150275	1.242399933
53° 36' 30"	0.80498010	0.59330181	1.356780108	0.737039108	1.685482798	1.242266737
53° 37' 00"	0.80506638	0.59318473	1.357193374	0.736814679	1.685815487	1.242133596
53° 37' 30"	0.80515265	0.59306763	1.357606804	0.736590298	1.686148343	1.242000510
53° 38' 00"	0.80523890	0.59295052	1.358020398	0.736365965	1.686481367	1.241867478
53° 38' 30"	0.80532513	0.59283339	1.358434154	0.736141680	1.686814558	1.241734502
53° 39' 00"	0.80541135	0.59271626	1.358848075	0.735917443	1.687147916	1.241601580
53° 39' 30"	0.80549755	0.59259911	1.359262158	0.735693254	1.687481441	1.241468712
53° 40' 00"	0.80558373	0.59248195	1.359676406	0.735469113	1.687815135	1.241335900
53° 40' 30"	0.80566989	0.59236477	1.360090817	0.735245020	1.688148996	1.241203142
53° 41' 00"	0.80575604	0.59224759	1.360505393	0.735020975	1.688483025	1.241070438
53° 41' 30"	0.80584217	0.59213039	1.360920133	0.734796978	1.688817221	1.240937790
53° 42' 00"	0.80592828	0.59201318	1.361335036	0.734573028	1.689151586	1.240805196
53° 42' 30"	0.80601438	0.59189596	1.361750104	0.734349127	1.689486119	1.240672656
53° 43' 00"	0.80610046	0.59177872	1.362165337	0.734125273	1.689820820	1.240540171
53° 43' 30"	0.80618652	0.59166147	1.362580734	0.733901467	1.690155690	1.240407741
53° 44' 00"	0.80627257	0.59154421	1.362996296	0.733677709	1.690490728	1.240275365
53° 44' 30"	0.80635859	0.59142693	1.363412023	0.733453999	1.690825935	1.240143044
53° 45' 00"	0.80644460	0.59130965	1.363827914	0.733230336	1.691161311	1.240010777
53° 45' 30"	0.80653060	0.59119235	1.364243971	0.733006721	1.691496855	1.239878564
53° 46' 00"	0.80661658	0.59107504	1.364660192	0.732783154	1.691832569	1.239746406
53° 46' 30"	0.80670253	0.59095771	1.365076579	0.732559635	1.692168451	1.239614302
53° 47' 00"	0.80678848	0.59084038	1.365493131	0.732336163	1.692504503	1.239482253
53° 47' 30"	0.80687440	0.59072303	1.365909849	0.732112738	1.692840724	1.239350258
53° 48' 00"	0.80696031	0.59060567	1.366326733	0.731889362	1.693177114	1.239218317
53° 48' 30"	0.80704620	0.59048829	1.366743782	0.731666032	1.693513674	1.239086431
53° 49' 00"	0.80713208	0.59037091	1.367160997	0.731442751	1.693850404	1.238954599
53° 49' 30"	0.80721794	0.59025351	1.367578378	0.731219516	1.694187303	1.238822821
53° 50' 00"	0.80730378	0.59013610	1.367995925	0.730996330	1.694524373	1.238691097
53° 50' 30"	0.80738960	0.59001867	1.368413638	0.730773190	1.694861612	1.238559428
53° 51' 00"	0.80747541	0.58990124	1.368831517	0.730550099	1.695199022	1.238427812
53° 51' 30"	0.80756119	0.58978379	1.369249563	0.730327054	1.695536601	1.238296251
53° 52' 00"	0.80764697	0.58966633	1.369667776	0.730104057	1.695874351	1.238164744
53° 52' 30"	0.80773272	0.58954885	1.370086155	0.729881107	1.696212272	1.238033292
53° 53' 00"	0.80781846	0.58943137	1.370504701	0.729658205	1.696550363	1.237901893
53° 53' 30"	0.80790418	0.58931387	1.370923414	0.729435350	1.696888625	1.237770548

53° 54' 00"

54° 14' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
53° 54' 00"	0.80798988	0.58919636	1.371342293	0.729212542	1.697227058	1.237639258
53° 54' 30"	0.80807557	0.58907883	1.371761340	0.728989782	1.697565661	1.237508021
53° 55' 00"	0.80816124	0.58896130	1.372180554	0.728767068	1.697904436	1.237376838
53° 55' 30"	0.80824689	0.58884375	1.372599936	0.728544402	1.698243382	1.237245710
53° 56' 00"	0.80833253	0.58872619	1.373019485	0.728321783	1.698582499	1.237114635
53° 56' 30"	0.80841815	0.58860861	1.373439202	0.728099212	1.698921788	1.236983614
53° 57' 00"	0.80850375	0.58849103	1.373859086	0.727876687	1.699261248	1.236852648
53° 57' 30"	0.80858933	0.58837343	1.374279138	0.727654210	1.699600879	1.236721735
53° 58' 00"	0.80867490	0.58825582	1.374699358	0.727431779	1.699940683	1.236590876
53° 58' 30"	0.80876045	0.58813820	1.375119746	0.727209396	1.700280658	1.236460070
53° 59' 00"	0.80884598	0.58802056	1.375540303	0.726987060	1.700620806	1.236329319
53° 59' 30"	0.80893150	0.58790291	1.375961027	0.726764770	1.700961125	1.236198621
54° 00' 00"	0.80901699	0.58778525	1.376381920	0.726542528	1.701301617	1.236067977
54° 00' 30"	0.80910248	0.58766758	1.376802982	0.726320333	1.701642281	1.235937387
54° 01' 00"	0.80918794	0.58754989	1.377224212	0.726098184	1.701983117	1.235806851
54° 01' 30"	0.80927339	0.58743220	1.377645612	0.725876083	1.702324126	1.235676368
54° 02' 00"	0.80935882	0.58731449	1.378067180	0.725654028	1.702665308	1.235545940
54° 02' 30"	0.80944423	0.58719676	1.378488917	0.725432020	1.703006663	1.235415564
54° 03' 00"	0.80952963	0.58707903	1.378910823	0.725210060	1.703348190	1.235285243
54° 03' 30"	0.80961500	0.58696128	1.379332898	0.724988146	1.703689891	1.235154975
54° 04' 00"	0.80970037	0.58684352	1.379755143	0.724766278	1.704031765	1.235024760
54° 04' 30"	0.80978571	0.58672575	1.380177557	0.724544458	1.704373812	1.234894599
54° 05' 00"	0.80987104	0.58660796	1.380600141	0.724322684	1.704716032	1.234764492
54° 05' 30"	0.80995635	0.58649017	1.381022895	0.724100957	1.705058426	1.234634438
54° 06' 00"	0.81004164	0.58637236	1.381445819	0.723879277	1.705400994	1.234504438
54° 06' 30"	0.81012692	0.58625453	1.381868912	0.723657643	1.705743735	1.234374491
54° 07' 00"	0.81021217	0.58613670	1.382292176	0.723436056	1.706086651	1.234244598
54° 07' 30"	0.81029742	0.58601885	1.382715610	0.723214516	1.706429740	1.234114758
54° 08' 00"	0.81038264	0.58590099	1.383139214	0.722993022	1.706773004	1.233984971
54° 08' 30"	0.81046785	0.58578312	1.383562989	0.722771575	1.707116441	1.233855238
54° 09' 00"	0.81055304	0.58566524	1.383986934	0.722550174	1.707460053	1.233725559
54° 09' 30"	0.81063821	0.58554734	1.384411050	0.722328820	1.707803840	1.233595932
54° 10' 00"	0.81072337	0.58542943	1.384835337	0.722107512	1.708147801	1.233466359
54° 10' 30"	0.81080851	0.58531151	1.385259795	0.721886251	1.708491937	1.233336839
54° 11' 00"	0.81089363	0.58519358	1.385684424	0.721665036	1.708836248	1.233207373
54° 11' 30"	0.81097873	0.58507563	1.386109224	0.721443868	1.709180734	1.233077960
54° 12' 00"	0.81106382	0.58495767	1.386534195	0.721222746	1.709525394	1.232948600
54° 12' 30"	0.81114889	0.58483970	1.386959338	0.721001671	1.709870230	1.232819293
54° 13' 00"	0.81123394	0.58472172	1.387384652	0.720780642	1.710215242	1.232690040
54° 13' 30"	0.81131898	0.58460373	1.387810138	0.720559659	1.710560429	1.232560839
54° 14' 00"	0.81140400	0.58448572	1.388235796	0.720338723	1.710905791	1.232431692
54° 14' 30"	0.81148900	0.58436770	1.388661626	0.720117832	1.711251329	1.232302598

54° 15' 00"

54° 35' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
54° 15' 00"	0.81157398	0.58424967	1.389087628	0.719896989	1.711597043	1.232173557
54° 15' 30"	0.81165895	0.58413162	1.389513802	0.719676191	1.711942933	1.232044569
54° 16' 00"	0.81174390	0.58401356	1.389940148	0.719455440	1.712288999	1.231915634
54° 16' 30"	0.81182883	0.58389549	1.390366667	0.719234734	1.712635241	1.231786752
54° 17' 00"	0.81191375	0.58377741	1.390793358	0.719014075	1.712981659	1.231657923
54° 17' 30"	0.81199865	0.58365932	1.391220222	0.718793462	1.713328254	1.231529148
54° 18' 00"	0.81208353	0.58354121	1.391647258	0.718572896	1.713675025	1.231400425
54° 18' 30"	0.81216839	0.58342309	1.392074468	0.718352375	1.714021973	1.231271755
54° 19' 00"	0.81225324	0.58330496	1.392501850	0.718131900	1.714369098	1.231143138
54° 19' 30"	0.81233807	0.58318682	1.392929406	0.717911472	1.714716400	1.231014574
54° 20' 00"	0.81242288	0.58306866	1.393357135	0.717691089	1.715063878	1.230886063
54° 20' 30"	0.81250768	0.58295049	1.393785038	0.717470753	1.715411534	1.230757604
54° 21' 00"	0.81259245	0.58283231	1.394213114	0.717250462	1.715759367	1.230629199
54° 21' 30"	0.81267721	0.58271412	1.394641363	0.717030218	1.716107378	1.230500846
54° 22' 00"	0.81276196	0.58259591	1.395069787	0.716810019	1.716455566	1.230372546
54° 22' 30"	0.81284668	0.58247770	1.395498384	0.716589866	1.716803932	1.230244299
54° 23' 00"	0.81293139	0.58235947	1.395927155	0.716369759	1.717152475	1.230116105
54° 23' 30"	0.81301609	0.58224122	1.396356101	0.716149698	1.717501196	1.229987963
54° 24' 00"	0.81310076	0.58212297	1.396785220	0.715929683	1.717850096	1.229859875
54° 24' 30"	0.81318542	0.58200470	1.397214514	0.715709714	1.718199173	1.229731838
54° 25' 00"	0.81327006	0.58188642	1.397643983	0.715489790	1.718548429	1.229603855
54° 25' 30"	0.81335468	0.58176813	1.398073626	0.715269912	1.718897863	1.229475924
54° 26' 00"	0.81343929	0.58164983	1.398503444	0.715050080	1.719247476	1.229348046
54° 26' 30"	0.81352388	0.58153151	1.398933437	0.714830294	1.719597267	1.229220220
54° 27' 00"	0.81360845	0.58141318	1.399363605	0.714610553	1.719947237	1.229092447
54° 27' 30"	0.81369300	0.58129484	1.399793948	0.714390858	1.720297386	1.228964726
54° 28' 00"	0.81377754	0.58117649	1.400224466	0.714171209	1.720647714	1.228837058
54° 28' 30"	0.81386206	0.58105813	1.400655160	0.713951605	1.720998221	1.228709443
54° 29' 00"	0.81394656	0.58093975	1.401086029	0.713732047	1.721348907	1.228581880
54° 29' 30"	0.81403105	0.58082136	1.401517074	0.713512535	1.721699773	1.228454369
54° 30' 00"	0.81411552	0.58070296	1.401948294	0.713293068	1.722050818	1.228326911
54° 30' 30"	0.81419997	0.58058454	1.402379691	0.713073646	1.722402043	1.228199506
54° 31' 00"	0.81428440	0.58046611	1.402811263	0.712854271	1.722753448	1.228072152
54° 31' 30"	0.81436882	0.58034768	1.403243012	0.712634940	1.723105032	1.227944851
54° 32' 00"	0.81445322	0.58022922	1.403674937	0.712415655	1.723456796	1.227817603
54° 32' 30"	0.81453760	0.58011076	1.404107038	0.712196416	1.723808741	1.227690407
54° 33' 00"	0.81462197	0.57999228	1.404539316	0.711977222	1.724160866	1.227563263
54° 33' 30"	0.81470632	0.57987380	1.404971771	0.711758073	1.724513171	1.227436171
54° 34' 00"	0.81479065	0.57975530	1.405404402	0.711538970	1.724865657	1.227309132
54° 34' 30"	0.81487496	0.57963678	1.405837210	0.711319912	1.725218323	1.227182145
54° 35' 00"	0.81495926	0.57951826	1.406270195	0.711100899	1.725571170	1.227055210
54° 35' 30"	0.81504353	0.57939972	1.406703358	0.710881931	1.725924198	1.226928327

54° 36' 00"

54° 56' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
54° 36' 00"	0.81512780	0.57928117	1.407136697	0.710663009	1.726277407	1.226801497
54° 36' 30"	0.81521204	0.57916261	1.407570214	0.710444133	1.726630797	1.226674719
54° 37' 00"	0.81529627	0.57904404	1.408003909	0.710225301	1.726984368	1.226547993
54° 37' 30"	0.81538048	0.57892545	1.408437781	0.710006514	1.727338121	1.226421319
54° 38' 00"	0.81546467	0.57880685	1.408871831	0.709787773	1.727692055	1.226294697
54° 38' 30"	0.81554885	0.57868824	1.409306059	0.709569077	1.728046171	1.226168127
54° 39' 00"	0.81563300	0.57856962	1.409740465	0.709350426	1.728400469	1.226041609
54° 39' 30"	0.81571714	0.57845098	1.410175050	0.709131820	1.728754948	1.225915143
54° 40' 00"	0.81580127	0.57833234	1.410609812	0.708913260	1.729109610	1.225788730
54° 40' 30"	0.81588537	0.57821368	1.411044753	0.708694744	1.729464453	1.225662368
54° 41' 00"	0.81596946	0.57809500	1.411479873	0.708476273	1.729819479	1.225536058
54° 41' 30"	0.81605354	0.57797632	1.411915171	0.708257848	1.730174687	1.225409800
54° 42' 00"	0.81613759	0.57785762	1.412350648	0.708039467	1.730530078	1.225283595
54° 42' 30"	0.81622163	0.57773892	1.412786304	0.707821131	1.730885652	1.225157441
54° 43' 00"	0.81630565	0.57762020	1.413222139	0.707602841	1.731241408	1.225031338
54° 43' 30"	0.81638965	0.57750146	1.413658153	0.707384595	1.731597347	1.224905288
54° 44' 00"	0.81647364	0.57738272	1.414094346	0.707166394	1.731953470	1.224779290
54° 44' 30"	0.81655760	0.57726396	1.414530719	0.706948238	1.732309775	1.224653343
54° 45' 00"	0.81664156	0.57714519	1.414967272	0.706730127	1.732666264	1.224527449
54° 45' 30"	0.81672549	0.57702641	1.415404004	0.706512061	1.733022936	1.224401606
54° 46' 00"	0.81680941	0.57690761	1.415840917	0.706294039	1.733379791	1.224275814
54° 46' 30"	0.81689330	0.57678881	1.416278009	0.706076063	1.733736831	1.224150075
54° 47' 00"	0.81697719	0.57666999	1.416715281	0.705858131	1.734094054	1.224024387
54° 47' 30"	0.81706105	0.57655116	1.417152734	0.705640243	1.734451461	1.223898751
54° 48' 00"	0.81714490	0.57643232	1.417590366	0.705422401	1.734809052	1.223773167
54° 48' 30"	0.81722873	0.57631346	1.418028180	0.705204603	1.735166827	1.223647634
54° 49' 00"	0.81731254	0.57619459	1.418466174	0.704986850	1.735524787	1.223522153
54° 49' 30"	0.81739634	0.57607571	1.418904349	0.704769142	1.735882931	1.223396724
54° 50' 00"	0.81748011	0.57595682	1.419342704	0.704551478	1.736241260	1.223271346
54° 50' 30"	0.81756388	0.57583792	1.419781241	0.704333859	1.736599773	1.223146019
54° 51' 00"	0.81764762	0.57571900	1.420219959	0.704116284	1.736958471	1.223020745
54° 51' 30"	0.81773135	0.57560008	1.420658858	0.703898754	1.737317355	1.222895521
54° 52' 00"	0.81781505	0.57548113	1.421097939	0.703681268	1.737676423	1.222770349
54° 52' 30"	0.81789875	0.57536218	1.421537201	0.703463827	1.738035676	1.222645229
54° 53' 00"	0.81798242	0.57524322	1.421976644	0.703246431	1.738395115	1.222520160
54° 53' 30"	0.81806608	0.57512424	1.422416270	0.703029079	1.738754740	1.222395143
54° 54' 00"	0.81814972	0.57500525	1.422856077	0.702811771	1.739114550	1.222270177
54° 54' 30"	0.81823334	0.57488625	1.423296067	0.702594508	1.739474545	1.222145263
54° 55' 00"	0.81831695	0.57476724	1.423736239	0.702377289	1.739834727	1.222020399
54° 55' 30"	0.81840053	0.57464821	1.424176593	0.702160115	1.740195095	1.221895588
54° 56' 00"	0.81848410	0.57452917	1.424617129	0.701942985	1.740555649	1.221770827
54° 56' 30"	0.81856766	0.57441012	1.425057849	0.701725899	1.740916389	1.221646118

54° 57' 00"

55° 17' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
54° 57' 00"	0.81865119	0.57429106	1.425498751	0.701508858	1.741277315	1.221521460
54° 57' 30"	0.81873471	0.57417199	1.425939835	0.701291860	1.741638428	1.221396853
54° 58' 00"	0.81881821	0.57405290	1.426381103	0.701074908	1.741999728	1.221272298
54° 58' 30"	0.81890170	0.57393380	1.426822554	0.700857999	1.742361214	1.221147794
54° 59' 00"	0.81898516	0.57381469	1.427264188	0.700641134	1.742722888	1.221023341
54° 59' 30"	0.81906861	0.57369557	1.427706006	0.700424314	1.743084748	1.220898939
55° 00' 00"	0.81915204	0.57357644	1.428148007	0.700207538	1.743446796	1.220774589
55° 00' 30"	0.81923546	0.57345729	1.428590191	0.699990806	1.743809031	1.220650289
55° 01' 00"	0.81931886	0.57333813	1.429032560	0.699774119	1.744171453	1.220526041
55° 01' 30"	0.81940224	0.57321896	1.429475112	0.699557475	1.744534063	1.220401844
55° 02' 00"	0.81948560	0.57309978	1.429917849	0.699340875	1.744896861	1.220277698
55° 02' 30"	0.81956894	0.57298058	1.430360770	0.699124320	1.745259846	1.220153603
55° 03' 00"	0.81965227	0.57286137	1.430803875	0.698907808	1.745623020	1.220029559
55° 03' 30"	0.81973558	0.57274215	1.431247164	0.698691341	1.745986382	1.219905566
55° 04' 00"	0.81981888	0.57262292	1.431690638	0.698474917	1.746349932	1.219781624
55° 04' 30"	0.81990215	0.57250368	1.432134297	0.698258538	1.746713670	1.219657733
55° 05' 00"	0.81998541	0.57238442	1.432578141	0.698042202	1.747077597	1.219533893
55° 05' 30"	0.82006865	0.57226515	1.433022169	0.697825910	1.747441712	1.219410104
55° 06' 00"	0.82015188	0.57214587	1.433466383	0.697609663	1.747806017	1.219286366
55° 06' 30"	0.82023508	0.57202658	1.433910782	0.697393459	1.748170510	1.219162678
55° 07' 00"	0.82031827	0.57190728	1.434355367	0.697177299	1.748535192	1.219039042
55° 07' 30"	0.82040144	0.57178796	1.434800137	0.696961183	1.748900064	1.218915456
55° 08' 00"	0.82048460	0.57166863	1.435245092	0.696745110	1.749265124	1.218791922
55° 08' 30"	0.82056774	0.57154929	1.435690234	0.696529082	1.749630375	1.218668438
55° 09' 00"	0.82065085	0.57142994	1.436135561	0.696313097	1.749995814	1.218545005
55° 09' 30"	0.82073396	0.57131057	1.436581075	0.696097156	1.750361444	1.218421622
55° 10' 00"	0.82081704	0.57119120	1.437026775	0.695881258	1.750727263	1.218298291
55° 10' 30"	0.82090011	0.57107181	1.437472661	0.695665405	1.751093273	1.218175010
55° 11' 00"	0.82098316	0.57095241	1.437918733	0.695449595	1.751459472	1.218051780
55° 11' 30"	0.82106619	0.57083299	1.438364992	0.695233828	1.751825862	1.217928601
55° 12' 00"	0.82114921	0.57071357	1.438811438	0.695018106	1.752192442	1.217805472
55° 12' 30"	0.82123221	0.57059413	1.439258071	0.694802426	1.752559213	1.217682394
55° 13' 00"	0.82131519	0.57047468	1.439704891	0.694586791	1.752926174	1.217559366
55° 13' 30"	0.82139815	0.57035522	1.440151898	0.694371199	1.753293327	1.217436389
55° 14' 00"	0.82148110	0.57023575	1.440599092	0.694155651	1.753660670	1.217313463
55° 14' 30"	0.82156403	0.57011626	1.441046474	0.693940146	1.754028204	1.217190587
55° 15' 00"	0.82164694	0.56999676	1.441494043	0.693724684	1.754395929	1.217067762
55° 15' 30"	0.82172983	0.56987725	1.441941800	0.693509266	1.754763846	1.216944987
55° 16' 00"	0.82181271	0.56975773	1.442389745	0.693293892	1.755131954	1.216822263
55° 16' 30"	0.82189557	0.56963820	1.442837878	0.693078561	1.755500254	1.216699590
55° 17' 00"	0.82197841	0.56951865	1.443286199	0.692863273	1.755868746	1.216576966
55° 17' 30"	0.82206123	0.56939909	1.443734708	0.692648029	1.756237429	1.216454394

55° 18' 00"

55° 38' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
55° 18' 00"	0.82214404	0.56927952	1.444183406	0.692432828	1.756606305	1.216331871
55° 18' 30"	0.82222683	0.56915994	1.444632292	0.692217671	1.756975372	1.216209399
55° 19' 00"	0.82230960	0.56904035	1.445081367	0.692002556	1.757344632	1.216086978
55° 19' 30"	0.82239236	0.56892074	1.445530631	0.691787485	1.757714085	1.215964607
55° 20' 00"	0.82247510	0.56880112	1.445980083	0.691572458	1.758083730	1.215842286
55° 20' 30"	0.82255782	0.56868149	1.446429725	0.691357473	1.758453567	1.215720015
55° 21' 00"	0.82264052	0.56856185	1.446879556	0.691142532	1.758823598	1.215597795
55° 21' 30"	0.82272320	0.56844220	1.447329576	0.690927634	1.759193822	1.215475625
55° 22' 00"	0.82280587	0.56832253	1.447779786	0.690712780	1.759564238	1.215353506
55° 22' 30"	0.82288852	0.56820285	1.448230185	0.690497968	1.759934848	1.215231436
55° 23' 00"	0.82297115	0.56808316	1.448680775	0.690283199	1.760305651	1.215109417
55° 23' 30"	0.82305377	0.56796346	1.449131554	0.690068474	1.760676648	1.214987448
55° 24' 00"	0.82313637	0.56784375	1.449582523	0.689853792	1.761047839	1.214865529
55° 24' 30"	0.82321895	0.56772402	1.450033682	0.689639153	1.761419223	1.214743661
55° 25' 00"	0.82330151	0.56760428	1.450485032	0.689424557	1.761790801	1.214621842
55° 25' 30"	0.82338406	0.56748453	1.450936572	0.689210004	1.762162574	1.214500074
55° 26' 00"	0.82346659	0.56736477	1.451388303	0.688995493	1.762534540	1.214378355
55° 26' 30"	0.82354910	0.56724499	1.451840225	0.688781026	1.762906701	1.214256687
55° 27' 00"	0.82363159	0.56712521	1.452292337	0.688566602	1.763279057	1.214135069
55° 27' 30"	0.82371407	0.56700541	1.452744641	0.688352221	1.763651607	1.214013501
55° 28' 00"	0.82379653	0.56688560	1.453197135	0.688137883	1.764024352	1.213891983
55° 28' 30"	0.82387897	0.56676578	1.453649821	0.687923587	1.764397292	1.213770515
55° 29' 00"	0.82396139	0.56664594	1.454102699	0.687709335	1.764770427	1.213649097
55° 29' 30"	0.82404380	0.56652610	1.454555768	0.687495125	1.765143757	1.213527728
55° 30' 00"	0.82412619	0.56640624	1.455009029	0.687280959	1.765517282	1.213406410
55° 30' 30"	0.82420856	0.56628637	1.455462481	0.687066835	1.765891003	1.213285142
55° 31' 00"	0.82429091	0.56616648	1.455916126	0.686852753	1.766264920	1.213163923
55° 31' 30"	0.82437325	0.56604659	1.456369963	0.686638715	1.766639032	1.213042755
55° 32' 00"	0.82445557	0.56592668	1.456823992	0.686424719	1.767013340	1.212921636
55° 32' 30"	0.82453787	0.56580677	1.457278214	0.686210766	1.767387844	1.212800567
55° 33' 00"	0.82462016	0.56568684	1.457732628	0.685996856	1.767762545	1.212679548
55° 33' 30"	0.82470242	0.56556689	1.458187235	0.685782989	1.768137442	1.212558579
55° 34' 00"	0.82478467	0.56544694	1.458642035	0.685569164	1.768512535	1.212437660
55° 34' 30"	0.82486691	0.56532697	1.459097028	0.685355382	1.768887825	1.212316790
55° 35' 00"	0.82494912	0.56520700	1.459552214	0.685141642	1.769263311	1.212195970
55° 35' 30"	0.82503132	0.56508701	1.460007593	0.684927945	1.769638995	1.212075200
55° 36' 00"	0.82511350	0.56496700	1.460463166	0.684714290	1.770014875	1.211954479
55° 36' 30"	0.82519566	0.56484699	1.460918932	0.684500678	1.770390953	1.211833808
55° 37' 00"	0.82527781	0.56472696	1.461374892	0.684287109	1.770767228	1.211713187
55° 37' 30"	0.82535993	0.56460693	1.461831046	0.684073582	1.771143700	1.211592615
55° 38' 00"	0.82544204	0.56448688	1.462287394	0.683860098	1.771520370	1.211472093
55° 38' 30"	0.82552414	0.56436681	1.462743936	0.683646656	1.771897238	1.211351621

55° 39' 00"

55° 59' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
55° 39' 00"	0.82560621	0.56424674	1.463200672	0.683433256	1.772274304	1.211231198
55° 39' 30"	0.82568827	0.56412666	1.463657603	0.683219899	1.772651567	1.211110825
55° 40' 00"	0.82577031	0.56400656	1.464114728	0.683006585	1.773029029	1.210990501
55° 40' 30"	0.82585233	0.56388645	1.464572049	0.682793312	1.773406689	1.210870227
55° 41' 00"	0.82593434	0.56376633	1.465029563	0.682580082	1.773784548	1.210750003
55° 41' 30"	0.82601632	0.56364619	1.465487274	0.682366895	1.774162605	1.210629827
55° 42' 00"	0.82609829	0.56352605	1.465945179	0.682153749	1.774540861	1.210509702
55° 42' 30"	0.82618025	0.56340589	1.466403279	0.681940646	1.774919316	1.210389625
55° 43' 00"	0.82626218	0.56328572	1.466861575	0.681727586	1.775297969	1.210269598
55° 43' 30"	0.82634410	0.56316554	1.467320067	0.681514567	1.775676822	1.210149621
55° 44' 00"	0.82642600	0.56304535	1.467778754	0.681301591	1.776055875	1.210029693
55° 44' 30"	0.82650788	0.56292514	1.468237637	0.681088657	1.776435126	1.209909814
55° 45' 00"	0.82658975	0.56280493	1.468696716	0.680875765	1.776814578	1.209789985
55° 45' 30"	0.82667160	0.56268470	1.469155991	0.680662915	1.777194229	1.209670205
55° 46' 00"	0.82675343	0.56256446	1.469615463	0.680450108	1.777574080	1.209550474
55° 46' 30"	0.82683524	0.56244421	1.470075131	0.680237342	1.777954131	1.209430792
55° 47' 00"	0.82691704	0.56232394	1.470534996	0.680024619	1.778334382	1.209311160
55° 47' 30"	0.82699881	0.56220367	1.470995057	0.679811937	1.778714834	1.209191577
55° 48' 00"	0.82708057	0.56208338	1.471455316	0.679599298	1.779095485	1.209072043
55° 48' 30"	0.82716232	0.56196308	1.471915771	0.679386701	1.779476338	1.208952559
55° 49' 00"	0.82724404	0.56184277	1.472376424	0.679174146	1.779857391	1.208833123
55° 49' 30"	0.82732575	0.56172244	1.472837274	0.678961633	1.780238646	1.208713737
55° 50' 00"	0.82740744	0.56160211	1.473298321	0.678749161	1.780620101	1.208594400
55° 50' 30"	0.82748911	0.56148176	1.473759566	0.678536732	1.781001757	1.208475112
55° 51' 00"	0.82757077	0.56136140	1.474221009	0.678324345	1.781383615	1.208355873
55° 51' 30"	0.82765241	0.56124103	1.474682650	0.678111999	1.781765674	1.208236684
55° 52' 00"	0.82773403	0.56112065	1.475144489	0.677899696	1.782147935	1.208117543
55° 52' 30"	0.82781563	0.56100025	1.475606526	0.677687434	1.782530398	1.207998451
55° 53' 00"	0.82789722	0.56087984	1.476068761	0.677475214	1.782913062	1.207879409
55° 53' 30"	0.82797878	0.56075943	1.476531195	0.677263036	1.783295929	1.207760415
55° 54' 00"	0.82806033	0.56063899	1.476993828	0.677050900	1.783678998	1.207641470
55° 54' 30"	0.82814187	0.56051855	1.477456659	0.676838805	1.784062269	1.207522575
55° 55' 00"	0.82822338	0.56039810	1.477919690	0.676626752	1.784445743	1.207403728
55° 55' 30"	0.82830488	0.56027763	1.478382919	0.676414741	1.784829419	1.207284930
55° 56' 00"	0.82838636	0.56015715	1.478846348	0.676202772	1.785213298	1.207166181
55° 56' 30"	0.82846782	0.56003666	1.479309976	0.675990845	1.785597380	1.207047481
55° 57' 00"	0.82854927	0.55991616	1.479773804	0.675778959	1.785981666	1.206928830
55° 57' 30"	0.82863070	0.55979565	1.480237831	0.675567114	1.786366154	1.206810228
55° 58' 00"	0.82871211	0.55967512	1.480702058	0.675355312	1.786750846	1.206691674
55° 58' 30"	0.82879350	0.55955459	1.481166485	0.675143551	1.787135741	1.206573170
55° 59' 00"	0.82887487	0.55943404	1.481631113	0.674931831	1.787520840	1.206454714
55° 59' 30"	0.82895623	0.55931348	1.482095940	0.674720153	1.787906143	1.206336307



56° 00' 00"

56° 20' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
56° 00' 00"	0.82903757	0.55919290	1.482560969	0.674508517	1.788291650	1.206217949
56° 00' 30"	0.82911890	0.55907232	1.483026197	0.674296922	1.788677361	1.206099639
56° 01' 00"	0.82920020	0.55895172	1.483491627	0.674085369	1.789063276	1.205981378
56° 01' 30"	0.82928149	0.55883111	1.483957257	0.673873857	1.789449396	1.205863166
56° 02' 00"	0.82936276	0.55871049	1.484423088	0.673662386	1.789835720	1.205745002
56° 02' 30"	0.82944401	0.55858986	1.484889121	0.673450957	1.790222249	1.205626888
56° 03' 00"	0.82952524	0.55846922	1.485355355	0.673239570	1.790608983	1.205508821
56° 03' 30"	0.82960646	0.55834856	1.485821790	0.673028224	1.790995922	1.205390804
56° 04' 00"	0.82968766	0.55822790	1.486288427	0.672816919	1.791383066	1.205272835
56° 04' 30"	0.82976884	0.55810722	1.486755266	0.672605655	1.791770415	1.205154914
56° 05' 00"	0.82985001	0.55798653	1.487222307	0.672394433	1.792157970	1.205037043
56° 05' 30"	0.82993116	0.55786582	1.487689549	0.672183252	1.792545730	1.204919219
56° 06' 00"	0.83001229	0.55774511	1.488156995	0.671972113	1.792933697	1.204801444
56° 06' 30"	0.83009340	0.55762438	1.488624642	0.671761015	1.793321869	1.204683718
56° 07' 00"	0.83017449	0.55750364	1.489092492	0.671549958	1.793710247	1.204566040
56° 07' 30"	0.83025557	0.55738289	1.489560545	0.671338942	1.794098831	1.204448411
56° 08' 00"	0.83033663	0.55726213	1.490028800	0.671127967	1.794487622	1.204330830
56° 08' 30"	0.83041767	0.55714136	1.490497259	0.670917034	1.794876619	1.204213298
56° 09' 00"	0.83049869	0.55702057	1.490965921	0.670706142	1.795265823	1.204095814
56° 09' 30"	0.83057970	0.55689978	1.491434786	0.670495291	1.795655234	1.203978378
56° 10' 00"	0.83066069	0.55677897	1.491903854	0.670284481	1.796044852	1.203860991
56° 10' 30"	0.83074166	0.55665815	1.492373126	0.670073712	1.796434677	1.203743652
56° 11' 00"	0.83082261	0.55653732	1.492842602	0.669862984	1.796824709	1.203626361
56° 11' 30"	0.83090355	0.55641647	1.493312282	0.669652297	1.797214948	1.203509119
56° 12' 00"	0.83098447	0.55629562	1.493782166	0.669441652	1.797605396	1.203391925
56° 12' 30"	0.83106537	0.55617475	1.494252254	0.669231047	1.797996051	1.203274779
56° 13' 00"	0.83114625	0.55605387	1.494722546	0.669020483	1.798386913	1.203157682
56° 13' 30"	0.83122712	0.55593298	1.495193043	0.668809960	1.798777984	1.203040632
56° 14' 00"	0.83130797	0.55581207	1.495663745	0.668599479	1.799169263	1.202923631
56° 14' 30"	0.83138880	0.55569116	1.496134651	0.668389038	1.799560750	1.202806679
56° 15' 00"	0.83146961	0.55557023	1.496605763	0.668178638	1.799952446	1.202689774
56° 15' 30"	0.83155041	0.55544929	1.497077079	0.667968279	1.800344351	1.202572917
56° 16' 00"	0.83163119	0.55532834	1.497548601	0.667757961	1.800736464	1.202456109
56° 16' 30"	0.83171195	0.55520738	1.498020328	0.667547683	1.801128786	1.202339349
56° 17' 00"	0.83179269	0.55508641	1.498492261	0.667337447	1.801521318	1.202222637
56° 17' 30"	0.83187341	0.55496542	1.498964400	0.667127251	1.801914058	1.202105973
56° 18' 00"	0.83195412	0.55484443	1.499436745	0.666917096	1.802307008	1.201989357
56° 18' 30"	0.83203481	0.55472342	1.499909295	0.666706982	1.802700168	1.201872789
56° 19' 00"	0.83211548	0.55460240	1.500382052	0.666496909	1.803093537	1.201756269
56° 19' 30"	0.83219614	0.55448137	1.500855016	0.666286876	1.803487116	1.201639797
56° 20' 00"	0.83227678	0.55436032	1.501328185	0.666076884	1.803880905	1.201523373
56° 20' 30"	0.83235740	0.55423927	1.501801562	0.665866933	1.804274905	1.201406997

56° 21' 00"

56° 41' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
56° 21' 00"	0.83243800	0.55411820	1.502275145	0.665657022	1.804669114	1.201290669
56° 21' 30"	0.83251858	0.55399712	1.502748936	0.665447152	1.805063534	1.201174389
56° 22' 00"	0.83259915	0.55387603	1.503222933	0.665237323	1.805458165	1.201058157
56° 22' 30"	0.83267970	0.55375493	1.503697138	0.665027534	1.805853007	1.200941973
56° 23' 00"	0.83276023	0.55363381	1.504171550	0.664817786	1.806248059	1.200825836
56° 23' 30"	0.83284074	0.55351269	1.504646170	0.664608079	1.806643323	1.200709748
56° 24' 00"	0.83292124	0.55339155	1.505120998	0.664398412	1.807038798	1.200593707
56° 24' 30"	0.83300172	0.55327040	1.505596033	0.664188785	1.807434484	1.200477714
56° 25' 00"	0.83308218	0.55314924	1.506071277	0.663979199	1.807830382	1.200361769
56° 25' 30"	0.83316262	0.55302807	1.506546729	0.663769653	1.808226492	1.200245872
56° 26' 00"	0.83324305	0.55290688	1.507022389	0.663560148	1.808622814	1.200130022
56° 26' 30"	0.83332346	0.55278569	1.507498258	0.663350684	1.809019347	1.200014220
56° 27' 00"	0.83340385	0.55266448	1.507974336	0.663141259	1.809416093	1.199898466
56° 27' 30"	0.83348422	0.55254326	1.508450622	0.662931875	1.809813051	1.199782760
56° 28' 00"	0.83356458	0.55242203	1.508927118	0.662722532	1.810210222	1.199667101
56° 28' 30"	0.83364491	0.55230078	1.509403823	0.662513229	1.810607605	1.199551490
56° 29' 00"	0.83372523	0.55217953	1.509880737	0.662303966	1.811005201	1.199435927
56° 29' 30"	0.83380554	0.55205826	1.510357860	0.662094743	1.811403010	1.199320411
56° 30' 00"	0.83388582	0.55193699	1.510835194	0.661885561	1.811801033	1.199204943
56° 30' 30"	0.83396609	0.55181570	1.511312737	0.661676419	1.812199268	1.199089523
56° 31' 00"	0.83404634	0.55169439	1.511790490	0.661467318	1.812597717	1.198974150
56° 31' 30"	0.83412657	0.55157308	1.512268453	0.661258256	1.812996380	1.198858825
56° 32' 00"	0.83420678	0.55145176	1.512746627	0.661049235	1.813395256	1.198743547
56° 32' 30"	0.83428698	0.55133042	1.513225011	0.660840254	1.813794347	1.198628316
56° 33' 00"	0.83436716	0.55120907	1.513703605	0.660631313	1.814193651	1.198513134
56° 33' 30"	0.83444732	0.55108771	1.514182411	0.660422412	1.814593170	1.198397998
56° 34' 00"	0.83452747	0.55096634	1.514661427	0.660213552	1.814992903	1.198282911
56° 34' 30"	0.83460759	0.55084496	1.515140654	0.660004731	1.815392851	1.198167870
56° 35' 00"	0.83468770	0.55072356	1.515620093	0.659795951	1.815793013	1.198052877
56° 35' 30"	0.83476779	0.55060216	1.516099743	0.659587210	1.816193390	1.197937932
56° 36' 00"	0.83484786	0.55048074	1.516579605	0.659378510	1.816593983	1.197823033
56° 36' 30"	0.83492792	0.55035931	1.517059678	0.659169850	1.816994790	1.197708183
56° 37' 00"	0.83500796	0.55023787	1.517539964	0.658961229	1.817395813	1.197593379
56° 37' 30"	0.83508798	0.55011642	1.518020461	0.658752649	1.817797051	1.197478623
56° 38' 00"	0.83516798	0.54999495	1.518501171	0.658544109	1.818198505	1.197363914
56° 38' 30"	0.83524796	0.54987348	1.518982093	0.658335608	1.818600175	1.197249253
56° 39' 00"	0.83532793	0.54975199	1.519463227	0.658127148	1.819002061	1.197134639
56° 39' 30"	0.83540788	0.54963049	1.519944574	0.657918727	1.819404163	1.197020072
56° 40' 00"	0.83548781	0.54950898	1.520426135	0.657710347	1.819806482	1.196905552
56° 40' 30"	0.83556773	0.54938746	1.520907908	0.657502006	1.820209016	1.196791079
56° 41' 00"	0.83564762	0.54926592	1.521389894	0.657293705	1.820611768	1.196676654
56° 41' 30"	0.83572750	0.54914438	1.521872094	0.657085444	1.821014736	1.196562276

56° 42' 00"

57° 02' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
56° 42' 00"	0.83580736	0.54902282	1.522354507	0.656877222	1.821417921	1.196447945
56° 42' 30"	0.83588720	0.54890125	1.522837134	0.656669041	1.821821324	1.196333661
56° 43' 00"	0.83596703	0.54877967	1.523319974	0.656460899	1.822224943	1.196219425
56° 43' 30"	0.83604684	0.54865808	1.523803029	0.656252797	1.822628781	1.196105235
56° 44' 00"	0.83612663	0.54853647	1.524286298	0.656044735	1.823032835	1.195991093
56° 44' 30"	0.83620640	0.54841486	1.524769781	0.655836712	1.823437108	1.195876997
56° 45' 00"	0.83628616	0.54829323	1.525253479	0.655628729	1.823841598	1.195762949
56° 45' 30"	0.83636589	0.54817159	1.525737391	0.655420786	1.824246307	1.195648948
56° 46' 00"	0.83644561	0.54804994	1.526221519	0.655212882	1.824651233	1.195534994
56° 46' 30"	0.83652531	0.54792828	1.526705861	0.655005018	1.825056379	1.195421086
56° 47' 00"	0.83660500	0.54780661	1.527190418	0.654797194	1.825461742	1.195307226
56° 47' 30"	0.83668466	0.54768492	1.527675191	0.654589409	1.825867325	1.195193413
56° 48' 00"	0.83676431	0.54756322	1.528160179	0.654381664	1.826273126	1.195079647
56° 48' 30"	0.83684394	0.54744152	1.528645382	0.654173958	1.826679147	1.194965927
56° 49' 00"	0.83692356	0.54731980	1.529130802	0.653966292	1.827085386	1.194852255
56° 49' 30"	0.83700315	0.54719806	1.529616437	0.653758665	1.827491846	1.194738629
56° 50' 00"	0.83708273	0.54707632	1.530102289	0.653551078	1.827898524	1.194625050
56° 50' 30"	0.83716229	0.54695457	1.530588357	0.653343530	1.828305423	1.194511519
56° 51' 00"	0.83724183	0.54683280	1.531074641	0.653136022	1.828712541	1.194398034
56° 51' 30"	0.83732136	0.54671102	1.531561142	0.652928553	1.829119879	1.194284595
56° 52' 00"	0.83740087	0.54658923	1.532047860	0.652721123	1.829527438	1.194171204
56° 52' 30"	0.83748035	0.54646743	1.532534795	0.652513733	1.829935217	1.194057859
56° 53' 00"	0.83755983	0.54634562	1.533021947	0.652306382	1.830343216	1.193944562
56° 53' 30"	0.83763928	0.54622380	1.533509316	0.652099071	1.830751436	1.193831311
56° 54' 00"	0.83771872	0.54610196	1.533996902	0.651891799	1.831159877	1.193718106
56° 54' 30"	0.83779814	0.54598011	1.534484707	0.651684566	1.831568540	1.193604949
56° 55' 00"	0.83787754	0.54585826	1.534972729	0.651477372	1.831977423	1.193491838
56° 55' 30"	0.83795692	0.54573639	1.535460969	0.651270218	1.832386528	1.193378773
56° 56' 00"	0.83803628	0.54561450	1.535949427	0.651063103	1.832795854	1.193265756
56° 56' 30"	0.83811563	0.54549261	1.536438103	0.650856027	1.833205402	1.193152785
56° 57' 00"	0.83819496	0.54537071	1.536926998	0.650648991	1.833615171	1.193039861
56° 57' 30"	0.83827427	0.54524879	1.537416111	0.650441993	1.834025163	1.192926983
56° 58' 00"	0.83835357	0.54512686	1.537905444	0.650235035	1.834435377	1.192814152
56° 58' 30"	0.83843284	0.54500492	1.538394995	0.650028116	1.834845814	1.192701367
56° 59' 00"	0.83851210	0.54488297	1.538884765	0.649821236	1.835256473	1.192588629
56° 59' 30"	0.83859134	0.54476101	1.539374755	0.649614395	1.835667354	1.192475938
57° 00' 00"	0.83867057	0.54463904	1.539864964	0.649407593	1.836078459	1.192363293
57° 00' 30"	0.83874977	0.54451705	1.540355393	0.649200830	1.836489786	1.192250694
57° 01' 00"	0.83882896	0.54439505	1.540846041	0.648994107	1.836901337	1.192138142
57° 01' 30"	0.83890813	0.54427304	1.541336909	0.648787422	1.837313111	1.192025637
57° 02' 00"	0.83898728	0.54415102	1.541827998	0.648580776	1.837725109	1.191913178
57° 02' 30"	0.83906642	0.54402899	1.542319307	0.648374170	1.838137330	1.191800765

57° 03' 00"

57° 23' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
57° 03' 00"	0.83914554	0.54390695	1.542810836	0.648167602	1.838549775	1.191688399
57° 03' 30"	0.83922463	0.54378490	1.543302586	0.647961073	1.838962445	1.191576079
57° 04' 00"	0.83930372	0.54366283	1.543794557	0.647754583	1.839375338	1.191463806
57° 04' 30"	0.83938278	0.54354075	1.544286749	0.647548132	1.839788456	1.191351579
57° 05' 00"	0.83946183	0.54341866	1.544779162	0.647341720	1.840201798	1.191239398
57° 05' 30"	0.83954085	0.54329656	1.545271796	0.647135347	1.840615366	1.191127263
57° 06' 00"	0.83961986	0.54317445	1.545764652	0.646929013	1.841029158	1.191015175
57° 06' 30"	0.83969886	0.54305233	1.546257729	0.646722717	1.841443175	1.190903133
57° 07' 00"	0.83977783	0.54293019	1.546751029	0.646516460	1.841857417	1.190791138
57° 07' 30"	0.83985679	0.54280804	1.547244550	0.646310242	1.842271885	1.190679188
57° 08' 00"	0.83993573	0.54268589	1.547738293	0.646104063	1.842686578	1.190567285
57° 08' 30"	0.84001465	0.54256372	1.548232259	0.645897923	1.843101497	1.190455428
57° 09' 00"	0.84009355	0.54244154	1.548726447	0.645691821	1.843516642	1.190343618
57° 09' 30"	0.84017244	0.54231934	1.549220858	0.645485758	1.843932013	1.190231853
57° 10' 00"	0.84025131	0.54219714	1.549715492	0.645279734	1.844347610	1.190120135
57° 10' 30"	0.84033016	0.54207493	1.550210349	0.645073748	1.844763434	1.190008462
57° 11' 00"	0.84040899	0.54195270	1.550705429	0.644867801	1.845179484	1.189896836
57° 11' 30"	0.84048781	0.54183046	1.551200732	0.644661893	1.845595761	1.189785256
57° 12' 00"	0.84056660	0.54170821	1.551696259	0.644456023	1.846012265	1.189673722
57° 12' 30"	0.84064538	0.54158595	1.552192010	0.644250192	1.846428996	1.189562234
57° 13' 00"	0.84072414	0.54146368	1.552687984	0.644044399	1.846845954	1.189450793
57° 13' 30"	0.84080289	0.54134139	1.553184183	0.643838645	1.847263140	1.189339397
57° 14' 00"	0.84088161	0.54121910	1.553680606	0.643632930	1.847680553	1.189228047
57° 14' 30"	0.84096032	0.54109679	1.554177253	0.643427253	1.848098194	1.189116743
57° 15' 00"	0.84103901	0.54097447	1.554674125	0.643221614	1.848516063	1.189005486
57° 15' 30"	0.84111769	0.54085214	1.555171222	0.643016014	1.848934160	1.188894274
57° 16' 00"	0.84119634	0.54072980	1.555668543	0.642810452	1.849352486	1.188783108
57° 16' 30"	0.84127498	0.54060745	1.556166090	0.642604929	1.849771040	1.188671988
57° 17' 00"	0.84135360	0.54048508	1.556663862	0.642399444	1.850189822	1.188560914
57° 17' 30"	0.84143220	0.54036271	1.557161859	0.642193998	1.850608834	1.188449886
57° 18' 00"	0.84151078	0.54024032	1.557660082	0.641988590	1.851028074	1.188338904
57° 18' 30"	0.84158935	0.54011792	1.558158531	0.641783221	1.851447544	1.188227967
57° 19' 00"	0.84166790	0.53999551	1.558657206	0.641577889	1.851867243	1.188117077
57° 19' 30"	0.84174643	0.53987309	1.559156107	0.641372596	1.852287171	1.188006232
57° 20' 00"	0.84182494	0.53975066	1.559655234	0.641167342	1.852707329	1.187895433
57° 20' 30"	0.84190343	0.53962821	1.560154587	0.640962125	1.853127717	1.187784680
57° 21' 00"	0.84198191	0.53950576	1.560654168	0.640756947	1.853548335	1.187673973
57° 21' 30"	0.84206037	0.53938329	1.561153975	0.640551807	1.853969184	1.187563311
57° 22' 00"	0.84213881	0.53926081	1.561654009	0.640346705	1.854390262	1.187452695
57° 22' 30"	0.84221723	0.53913832	1.562154271	0.640141642	1.854811572	1.187342125
57° 23' 00"	0.84229564	0.53901582	1.562654760	0.639936617	1.855233112	1.187231601
57° 23' 30"	0.84237403	0.53889331	1.563155476	0.639731630	1.855654882	1.187121122

57° 24' 00"

57° 44' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
57° 24' 00"	0.84245240	0.53877079	1.563656420	0.639526681	1.856076884	1.187010689
57° 24' 30"	0.84253075	0.53864825	1.564157592	0.639321770	1.856499118	1.186900301
57° 25' 00"	0.84260908	0.53852570	1.564658992	0.639116897	1.856921582	1.186789960
57° 25' 30"	0.84268740	0.53840314	1.565160621	0.638912062	1.857344278	1.186679663
57° 26' 00"	0.84276570	0.53828057	1.565662478	0.638707266	1.857767207	1.186569413
57° 26' 30"	0.84284398	0.53815799	1.566164563	0.638502507	1.858190367	1.186459208
57° 27' 00"	0.84292224	0.53803540	1.566666877	0.638297787	1.858613759	1.186349048
57° 27' 30"	0.84300049	0.53791280	1.567169420	0.638093104	1.859037383	1.186238934
57° 28' 00"	0.84307871	0.53779018	1.567672193	0.637888459	1.859461240	1.186128866
57° 28' 30"	0.84315692	0.53766756	1.568175194	0.637683853	1.859885330	1.186018843
57° 29' 00"	0.84323512	0.53754492	1.568678426	0.637479284	1.860309652	1.185908866
57° 29' 30"	0.84331329	0.53742227	1.569181886	0.637274754	1.860734208	1.185798934
57° 30' 00"	0.84339145	0.53729961	1.569685577	0.637070261	1.861158997	1.185689047
57° 30' 30"	0.84346958	0.53717694	1.570189498	0.636865806	1.861584019	1.185579206
57° 31' 00"	0.84354770	0.53705425	1.570693649	0.636661389	1.862009275	1.185469411
57° 31' 30"	0.84362581	0.53693156	1.571198030	0.636457010	1.862434764	1.185359661
57° 32' 00"	0.84370389	0.53680885	1.571702642	0.636252668	1.862860487	1.185249956
57° 32' 30"	0.84378196	0.53668613	1.572207485	0.636048365	1.863286445	1.185140297
57° 33' 00"	0.84386001	0.53656341	1.572712558	0.635844099	1.863712637	1.185030682
57° 33' 30"	0.84393804	0.53644067	1.573217863	0.635639871	1.864139063	1.184921114
57° 34' 00"	0.84401605	0.53631791	1.573723399	0.635435681	1.864565724	1.184811590
57° 34' 30"	0.84409405	0.53619515	1.574229167	0.635231529	1.864992619	1.184702112
57° 35' 00"	0.84417202	0.53607238	1.574735166	0.635027414	1.865419750	1.184592680
57° 35' 30"	0.84424998	0.53594959	1.575241397	0.634823337	1.865847116	1.184483292
57° 36' 00"	0.84432793	0.53582679	1.575747860	0.634619298	1.866274717	1.184373950
57° 36' 30"	0.84440585	0.53570399	1.576254555	0.634415296	1.866702553	1.184264653
57° 37' 00"	0.84448376	0.53558117	1.576761483	0.634211332	1.867130626	1.184155401
57° 37' 30"	0.84456164	0.53545834	1.577268643	0.634007405	1.867558934	1.184046194
57° 38' 00"	0.84463951	0.53533549	1.577776036	0.633803517	1.867987478	1.183937033
57° 38' 30"	0.84471737	0.53521264	1.578283662	0.633599665	1.868416259	1.183827917
57° 39' 00"	0.84479520	0.53508978	1.578791521	0.633395852	1.868845276	1.183718845
57° 39' 30"	0.84487302	0.53496690	1.579299613	0.633192076	1.869274530	1.183609819
57° 40' 00"	0.84495082	0.53484401	1.579807939	0.632988337	1.869704020	1.183500839
57° 40' 30"	0.84502860	0.53472111	1.580316498	0.632784636	1.870133748	1.183391903
57° 41' 00"	0.84510636	0.53459820	1.580825291	0.632580972	1.870563712	1.183283012
57° 41' 30"	0.84518411	0.53447528	1.581334318	0.632377346	1.870993914	1.183174166
57° 42' 00"	0.84526183	0.53435235	1.581843580	0.632173758	1.871424354	1.183065366
57° 42' 30"	0.84533954	0.53422941	1.582353076	0.631970207	1.871855031	1.182956610
57° 43' 00"	0.84541723	0.53410645	1.582862806	0.631766693	1.872285946	1.182847900
57° 43' 30"	0.84549491	0.53398348	1.583372771	0.631563216	1.872717099	1.182739234
57° 44' 00"	0.84557256	0.53386051	1.583882971	0.631359777	1.873148490	1.182630614
57° 44' 30"	0.84565020	0.53373752	1.584393406	0.631156376	1.873580120	1.182522038

57° 45' 00"

58° 05' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
57° 45' 00"	0.84572782	0.53361452	1.584904077	0.630953011	1.874011988	1.182413507
57° 45' 30"	0.84580542	0.53349150	1.585414983	0.630749684	1.874444096	1.182305022
57° 46' 00"	0.84588301	0.53336848	1.585926124	0.630546395	1.874876442	1.182196581
57° 46' 30"	0.84596057	0.53324545	1.586437502	0.630343142	1.875309027	1.182088185
57° 47' 00"	0.84603812	0.53312240	1.586949115	0.630139927	1.875741852	1.181979834
57° 47' 30"	0.84611565	0.53299934	1.587460965	0.629936749	1.876174916	1.181871528
57° 48' 00"	0.84619317	0.53287628	1.587973051	0.629733609	1.876608220	1.181763266
57° 48' 30"	0.84627066	0.53275320	1.588485374	0.629530505	1.877041764	1.181655050
57° 49' 00"	0.84634814	0.53263011	1.588997934	0.629327439	1.877475548	1.181546878
57° 49' 30"	0.84642560	0.53250700	1.589510730	0.629124410	1.877909572	1.181438751
57° 50' 00"	0.84650304	0.53238389	1.590023764	0.628921418	1.878343837	1.181330669
57° 50' 30"	0.84658046	0.53226077	1.590537035	0.628718463	1.878778342	1.181222632
57° 51' 00"	0.84665787	0.53213763	1.591050544	0.628515545	1.879213089	1.181114639
57° 51' 30"	0.84673525	0.53201448	1.591564290	0.628312665	1.879648076	1.181006691
57° 52' 00"	0.84681262	0.53189133	1.592078274	0.628109821	1.880083304	1.180898788
57° 52' 30"	0.84688997	0.53176816	1.592592496	0.627907015	1.880518774	1.180790929
57° 53' 00"	0.84696731	0.53164497	1.593106957	0.627704245	1.880954485	1.180683116
57° 53' 30"	0.84704462	0.53152178	1.593621656	0.627501513	1.881390439	1.180575346
57° 54' 00"	0.84712192	0.53139858	1.594136594	0.627298817	1.881826634	1.180467622
57° 54' 30"	0.84719920	0.53127537	1.594651770	0.627096159	1.882263071	1.180359942
57° 55' 00"	0.84727646	0.53115214	1.595167186	0.626893538	1.882699750	1.180252307
57° 55' 30"	0.84735371	0.53102890	1.595682840	0.626690953	1.883136672	1.180144716
57° 56' 00"	0.84743093	0.53090565	1.596198735	0.626488405	1.883573837	1.180037170
57° 56' 30"	0.84750814	0.53078239	1.596714868	0.626285895	1.884011245	1.179929668
57° 57' 00"	0.84758533	0.53065912	1.597231242	0.626083421	1.884448896	1.179822211
57° 57' 30"	0.84766250	0.53053584	1.597747855	0.625880984	1.884886789	1.179714799
57° 58' 00"	0.84773966	0.53041255	1.598264709	0.625678584	1.885324927	1.179607431
57° 58' 30"	0.84781679	0.53028924	1.598781803	0.625476221	1.885763308	1.179500107
57° 59' 00"	0.84789391	0.53016593	1.599299138	0.625273894	1.886201933	1.179392828
57° 59' 30"	0.84797101	0.53004260	1.599816713	0.625071605	1.886640802	1.179285594
58° 00' 00"	0.84804810	0.52991926	1.600334529	0.624869352	1.887079915	1.179178403
58° 00' 30"	0.84812516	0.52979592	1.600852586	0.624667136	1.887519272	1.179071258
58° 01' 00"	0.84820221	0.52967255	1.601370885	0.624464956	1.887958874	1.178964156
58° 01' 30"	0.84827924	0.52954918	1.601889425	0.624262814	1.888398721	1.178857099
58° 02' 00"	0.84835625	0.52942580	1.602408207	0.624060708	1.888838813	1.178750087
58° 02' 30"	0.84843324	0.52930241	1.602927230	0.623858639	1.889279150	1.178643119
58° 03' 00"	0.84851021	0.52917900	1.603446496	0.623656606	1.889719732	1.178536195
58° 03' 30"	0.84858717	0.52905558	1.603966004	0.623454610	1.890160560	1.178429315
58° 04' 00"	0.84866411	0.52893216	1.604485755	0.623252651	1.890601634	1.178322480
58° 04' 30"	0.84874103	0.52880872	1.605005748	0.623050728	1.891042953	1.178215689
58° 05' 00"	0.84881794	0.52868527	1.605525984	0.622848842	1.891484519	1.178108942
58° 05' 30"	0.84889482	0.52856181	1.606046462	0.622646993	1.891926330	1.178002240

58° 06' 00"

58° 26' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
58° 06' 00"	0.84897169	0.52843833	1.606567185	0.622445180	1.892368389	1.177895582
58° 06' 30"	0.84904854	0.52831485	1.607088150	0.622243403	1.892810694	1.177788968
58° 07' 00"	0.84912537	0.52819136	1.607609359	0.622041663	1.893253246	1.177682398
58° 07' 30"	0.84920218	0.52806785	1.608130812	0.621839960	1.893696044	1.177575873
58° 08' 00"	0.84927898	0.52794433	1.608652509	0.621638293	1.894139091	1.177469391
58° 08' 30"	0.84935575	0.52782081	1.609174450	0.621436663	1.894582384	1.177362954
58° 09' 00"	0.84943251	0.52769727	1.609696636	0.621235069	1.895025926	1.177256561
58° 09' 30"	0.84950926	0.52757372	1.610219066	0.621033511	1.895469715	1.177150212
58° 10' 00"	0.84958598	0.52745015	1.610741740	0.620831990	1.895913752	1.177043907
58° 10' 30"	0.84966268	0.52732658	1.611264660	0.620630505	1.896358037	1.176937647
58° 11' 00"	0.84973937	0.52720300	1.611787825	0.620429057	1.896802571	1.176831430
58° 11' 30"	0.84981604	0.52707940	1.612311235	0.620227645	1.897247353	1.176725257
58° 12' 00"	0.84989269	0.52695580	1.612834891	0.620026269	1.897692384	1.176619129
58° 12' 30"	0.84996933	0.52683218	1.613358792	0.619824930	1.898137664	1.176513044
58° 13' 00"	0.85004594	0.52670855	1.613882940	0.619623627	1.898583194	1.176407004
58° 13' 30"	0.85012254	0.52658491	1.614407333	0.619422360	1.899028972	1.176301007
58° 14' 00"	0.85019912	0.52646126	1.614931973	0.619221129	1.899475001	1.176195055
58° 14' 30"	0.85027568	0.52633760	1.615456860	0.619019935	1.899921279	1.176089146
58° 15' 00"	0.85035222	0.52621392	1.615981993	0.618818777	1.900367807	1.175983282
58° 15' 30"	0.85042875	0.52609024	1.616507373	0.618617655	1.900814585	1.175877461
58° 16' 00"	0.85050526	0.52596654	1.617033000	0.618416569	1.901261613	1.175771684
58° 16' 30"	0.85058175	0.52584284	1.617558874	0.618215520	1.901708893	1.175665951
58° 17' 00"	0.85065822	0.52571912	1.618084996	0.618014506	1.902156422	1.175560262
58° 17' 30"	0.85073467	0.52559539	1.618611366	0.617813529	1.902604203	1.175454617
58° 18' 00"	0.85081111	0.52547165	1.619137983	0.617612588	1.903052235	1.175349016
58° 18' 30"	0.85088753	0.52534790	1.619664849	0.617411683	1.903500518	1.175243458
58° 19' 00"	0.85096393	0.52522414	1.620191963	0.617210814	1.903949053	1.175137945
58° 19' 30"	0.85104031	0.52510036	1.620719325	0.617009981	1.904397839	1.175032475
58° 20' 00"	0.85111667	0.52497658	1.621246936	0.616809184	1.904846878	1.174927049
58° 20' 30"	0.85119302	0.52485278	1.621774796	0.616608423	1.905296168	1.174821666
58° 21' 00"	0.85126935	0.52472898	1.622302905	0.616407698	1.905745711	1.174716328
58° 21' 30"	0.85134566	0.52460516	1.622831263	0.616207010	1.906195507	1.174611033
58° 22' 00"	0.85142195	0.52448133	1.623359871	0.616006357	1.906645555	1.174505782
58° 22' 30"	0.85149822	0.52435749	1.623888729	0.615805740	1.907095856	1.174400574
58° 23' 00"	0.85157448	0.52423364	1.624417836	0.615605159	1.907546410	1.174295411
58° 23' 30"	0.85165071	0.52410978	1.624947193	0.615404614	1.907997217	1.174190291
58° 24' 00"	0.85172693	0.52398591	1.625476801	0.615204105	1.908448278	1.174085214
58° 24' 30"	0.85180314	0.52386202	1.626006659	0.615003631	1.908899593	1.173980182
58° 25' 00"	0.85187932	0.52373813	1.626536768	0.614803194	1.909351161	1.173875192
58° 25' 30"	0.85195549	0.52361422	1.627067127	0.614602792	1.909802984	1.173770247
58° 26' 00"	0.85203163	0.52349030	1.627597738	0.614402427	1.910255061	1.173665345
58° 26' 30"	0.85210776	0.52336637	1.628128600	0.614202097	1.910707392	1.173560487

58° 27' 00"

58° 47' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
58° 27' 00"	0.85218387	0.52324243	1.628659714	0.614001803	1.911159978	1.173455672
58° 27' 30"	0.85225997	0.52311848	1.629191079	0.613801544	1.911612820	1.173350900
58° 28' 00"	0.85233604	0.52299452	1.629722696	0.613601322	1.912065916	1.173246173
58° 28' 30"	0.85241210	0.52287055	1.630254565	0.613401135	1.912519267	1.173141488
58° 29' 00"	0.85248814	0.52274657	1.630786687	0.613200983	1.912972874	1.173036848
58° 29' 30"	0.85256416	0.52262257	1.631319061	0.613000868	1.913426737	1.172932250
58° 30' 00"	0.85264016	0.52249856	1.631851687	0.612800788	1.913880855	1.172827697
58° 30' 30"	0.85271615	0.52237455	1.632384567	0.612600744	1.914335230	1.172723186
58° 31' 00"	0.85279212	0.52225052	1.632917699	0.612400735	1.914789861	1.172618719
58° 31' 30"	0.85286807	0.52212648	1.633451085	0.612200763	1.915244749	1.172514296
58° 32' 00"	0.85294400	0.52200243	1.633984724	0.612000825	1.915699893	1.172409916
58° 32' 30"	0.85301991	0.52187837	1.634518618	0.611800924	1.916155294	1.172305579
58° 33' 00"	0.85309581	0.52175430	1.635052765	0.611601058	1.916610952	1.172201285
58° 33' 30"	0.85317168	0.52163021	1.635587166	0.611401227	1.917066868	1.172097035
58° 34' 00"	0.85324754	0.52150612	1.636121821	0.611201432	1.917523041	1.171992829
58° 34' 30"	0.85332338	0.52138201	1.636656731	0.611001673	1.917979472	1.171888665
58° 35' 00"	0.85339921	0.52125790	1.637191896	0.610801949	1.918436161	1.171784545
58° 35' 30"	0.85347501	0.52113377	1.637727315	0.610602260	1.918893108	1.171680468
58° 36' 00"	0.85355080	0.52100963	1.638262990	0.610402607	1.919350313	1.171576435
58° 36' 30"	0.85362657	0.52088548	1.638798920	0.610202989	1.919807777	1.171472445
58° 37' 00"	0.85370232	0.52076132	1.639335106	0.610003407	1.920265500	1.171368497
58° 37' 30"	0.85377805	0.52063715	1.639871547	0.609803860	1.920723481	1.171264594
58° 38' 00"	0.85385376	0.52051297	1.640408244	0.609604349	1.921181722	1.171160733
58° 38' 30"	0.85392946	0.52038877	1.640945198	0.609404873	1.921640222	1.171056916
58° 39' 00"	0.85400514	0.52026457	1.641482408	0.609205432	1.922098981	1.170953141
58° 39' 30"	0.85408080	0.52014035	1.642019874	0.609006027	1.922558001	1.170849410
58° 40' 00"	0.85415644	0.52001613	1.642557597	0.608806657	1.923017280	1.170745722
58° 40' 30"	0.85423207	0.51989189	1.643095577	0.608607323	1.923476820	1.170642077
58° 41' 00"	0.85430767	0.51976764	1.643633815	0.608408023	1.923936620	1.170538476
58° 41' 30"	0.85438326	0.51964338	1.644172309	0.608208759	1.924396680	1.170434917
58° 42' 00"	0.85445883	0.51951911	1.644711062	0.608009530	1.924857002	1.170331401
58° 42' 30"	0.85453438	0.51939483	1.645250072	0.607810337	1.925317584	1.170227929
58° 43' 00"	0.85460992	0.51927054	1.645789340	0.607611178	1.925778428	1.170124499
58° 43' 30"	0.85468543	0.51914623	1.646328867	0.607412055	1.926239533	1.170021113
58° 44' 00"	0.85476093	0.51902192	1.646868652	0.607212967	1.926700899	1.169917769
58° 44' 30"	0.85483641	0.51889759	1.647408695	0.607013914	1.927162528	1.169814469
58° 45' 00"	0.85491187	0.51877326	1.647948997	0.606814896	1.927624418	1.169711212
58° 45' 30"	0.85498731	0.51864891	1.648489559	0.606615914	1.928086571	1.169607997
58° 46' 00"	0.85506274	0.51852455	1.649030380	0.606416966	1.928548986	1.169504826
58° 46' 30"	0.85513815	0.51840018	1.649571460	0.606218054	1.929011664	1.169401697
58° 47' 00"	0.85521354	0.51827580	1.650112800	0.606019176	1.929474605	1.169298611
58° 47' 30"	0.85528891	0.51815141	1.650654400	0.605820334	1.929937809	1.169195568



58° 48' 00"

59° 08' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
58° 48' 00"	0.85536426	0.51802701	1.651196259	0.605621527	1.930401276	1.169092569
58° 48' 30"	0.85543960	0.51790260	1.651738380	0.605422755	1.930865007	1.168989612
58° 49' 00"	0.85551491	0.51777817	1.652280760	0.605224018	1.931329001	1.168886697
58° 49' 30"	0.85559021	0.51765374	1.652823402	0.605025315	1.931793260	1.168783826
58° 50' 00"	0.85566549	0.51752929	1.653366304	0.604826648	1.932257782	1.168680998
58° 50' 30"	0.85574075	0.51740483	1.653909468	0.604628016	1.932722569	1.168578212
58° 51' 00"	0.85581600	0.51728037	1.654452893	0.604429418	1.933187620	1.168475469
58° 51' 30"	0.85589122	0.51715589	1.654996580	0.604230856	1.933652937	1.168372769
58° 52' 00"	0.85596643	0.51703140	1.655540528	0.604032328	1.934118518	1.168270112
58° 52' 30"	0.85604162	0.51690690	1.656084739	0.603833836	1.934584364	1.168167497
58° 53' 00"	0.85611679	0.51678239	1.656629211	0.603635378	1.935050476	1.168064925
58° 53' 30"	0.85619195	0.51665786	1.657173946	0.603436955	1.935516853	1.167962396
58° 54' 00"	0.85626708	0.51653333	1.657718944	0.603238567	1.935983496	1.167859910
58° 54' 30"	0.85634220	0.51640878	1.658264205	0.603040213	1.936450406	1.167757466
58° 55' 00"	0.85641730	0.51628423	1.658809729	0.602841895	1.936917581	1.167655065
58° 55' 30"	0.85649238	0.51615966	1.659355516	0.602643611	1.937385023	1.167552706
58° 56' 00"	0.85656745	0.51603509	1.659901566	0.602445362	1.937852732	1.167450390
58° 56' 30"	0.85664249	0.51591050	1.660447880	0.602247148	1.938320707	1.167348117
58° 57' 00"	0.85671752	0.51578590	1.660994459	0.602048968	1.938788950	1.167245887
58° 57' 30"	0.85679253	0.51566129	1.661541301	0.601850823	1.939257460	1.167143699
58° 58' 00"	0.85686752	0.51553667	1.662088408	0.601652713	1.939726237	1.167041553
58° 58' 30"	0.85694249	0.51541204	1.662635779	0.601454638	1.940195282	1.166939451
58° 59' 00"	0.85701745	0.51528739	1.663183415	0.601256597	1.940664595	1.166837390
58° 59' 30"	0.85709238	0.51516274	1.663731316	0.601058591	1.941134177	1.166735372
59° 00' 00"	0.85716730	0.51503807	1.664279482	0.600860619	1.941604026	1.166633397
59° 00' 30"	0.85724220	0.51491340	1.664827914	0.600662682	1.942074145	1.166531464
59° 01' 00"	0.85731708	0.51478871	1.665376612	0.600464780	1.942544532	1.166429574
59° 01' 30"	0.85739195	0.51466402	1.665925575	0.600266912	1.943015188	1.166327726
59° 02' 00"	0.85746679	0.51453931	1.666474804	0.600069078	1.943486113	1.166225921
59° 02' 30"	0.85754162	0.51441459	1.667024300	0.599871280	1.943957308	1.166124158
59° 03' 00"	0.85761643	0.51428986	1.667574062	0.599673515	1.944428773	1.166022438
59° 03' 30"	0.85769122	0.51416512	1.668124091	0.599475786	1.944900507	1.165920760
59° 04' 00"	0.85776599	0.51404037	1.668674387	0.599278090	1.945372512	1.165819124
59° 04' 30"	0.85784075	0.51391560	1.669224950	0.599080430	1.945844787	1.165717531
59° 05' 00"	0.85791549	0.51379083	1.669775780	0.598882803	1.946317332	1.165615980
59° 05' 30"	0.85799021	0.51366605	1.670326879	0.598685211	1.946790148	1.165514471
59° 06' 00"	0.85806491	0.51354125	1.670878245	0.598487654	1.947263235	1.165413005
59° 06' 30"	0.85813959	0.51341645	1.671429878	0.598290130	1.947736594	1.165311581
59° 07' 00"	0.85821425	0.51329163	1.671981781	0.598092642	1.948210224	1.165210199
59° 07' 30"	0.85828890	0.51316680	1.672533951	0.597895187	1.948684125	1.165108860
59° 08' 00"	0.85836353	0.51304196	1.673086391	0.597697767	1.949158298	1.165007563
59° 08' 30"	0.85843814	0.51291711	1.673639099	0.597500381	1.949632744	1.164906308

59° 09' 00"

59° 29' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
59° 09' 00"	0.85851273	0.51279225	1.674192077	0.597303030	1.950107461	1.164805095
59° 09' 30"	0.85858730	0.51266738	1.674745324	0.597105713	1.950582451	1.164703925
59° 10' 00"	0.85866186	0.51254250	1.675298840	0.596908430	1.951057714	1.164602796
59° 10' 30"	0.85873639	0.51241761	1.675852626	0.596711181	1.951533250	1.164501710
59° 11' 00"	0.85881091	0.51229270	1.676406683	0.596513967	1.952009059	1.164400667
59° 11' 30"	0.85888541	0.51216779	1.676961009	0.596316786	1.952485141	1.164299665
59° 12' 00"	0.85895990	0.51204286	1.677515606	0.596119640	1.952961497	1.164198705
59° 12' 30"	0.85903436	0.51191793	1.678070474	0.595922529	1.953438127	1.164097788
59° 13' 00"	0.85910881	0.51179298	1.678625613	0.595725451	1.953915031	1.163996913
59° 13' 30"	0.85918324	0.51166802	1.679181022	0.595528407	1.954392209	1.163896080
59° 14' 00"	0.85925765	0.51154306	1.679736704	0.595331398	1.954869661	1.163795288
59° 14' 30"	0.85933204	0.51141808	1.680292656	0.595134423	1.955347389	1.163694539
59° 15' 00"	0.85940641	0.51129309	1.680848881	0.594937482	1.955825391	1.163593832
59° 15' 30"	0.85948077	0.51116809	1.681405377	0.594740574	1.956303668	1.163493168
59° 16' 00"	0.85955510	0.51104307	1.681962146	0.594543701	1.956782221	1.163392545
59° 16' 30"	0.85962942	0.51091805	1.682519187	0.594346862	1.957261050	1.163291964
59° 17' 00"	0.85970372	0.51079302	1.683076501	0.594150057	1.957740154	1.163191425
59° 17' 30"	0.85977801	0.51066797	1.683634088	0.593953287	1.958219534	1.163090928
59° 18' 00"	0.85985227	0.51054292	1.684191948	0.593756550	1.958699190	1.162990473
59° 18' 30"	0.85992652	0.51041785	1.684750082	0.593559847	1.959179123	1.162890060
59° 19' 00"	0.86000075	0.51029278	1.685308489	0.593363178	1.959659333	1.162789689
59° 19' 30"	0.86007496	0.51016769	1.685867169	0.593166542	1.960139820	1.162689360
59° 20' 00"	0.86014915	0.51004259	1.686426124	0.592969941	1.960620584	1.162589072
59° 20' 30"	0.86022332	0.50991748	1.686985353	0.592773374	1.961101625	1.162488827
59° 21' 00"	0.86029748	0.50979236	1.687544857	0.592576841	1.961582944	1.162388624
59° 21' 30"	0.86037161	0.50966723	1.688104635	0.592380341	1.962064540	1.162288462
59° 22' 00"	0.86044573	0.50954209	1.688664689	0.592183876	1.962546415	1.162188342
59° 22' 30"	0.86051983	0.50941694	1.689225017	0.591987444	1.963028568	1.162088264
59° 23' 00"	0.86059392	0.50929177	1.689785621	0.591791046	1.963510999	1.161988228
59° 23' 30"	0.86066798	0.50916660	1.690346500	0.591594682	1.963993710	1.161888234
59° 24' 00"	0.86074203	0.50904142	1.690907656	0.591398351	1.964476699	1.161788281
59° 24' 30"	0.86081605	0.50891622	1.691469087	0.591202055	1.964959967	1.161688370
59° 25' 00"	0.86089006	0.50879101	1.692030795	0.591005792	1.965443515	1.161588501
59° 25' 30"	0.86096406	0.50866580	1.692592779	0.590809563	1.965927343	1.161488674
59° 26' 00"	0.86103803	0.50854057	1.693155040	0.590613368	1.966411450	1.161388888
59° 26' 30"	0.86111198	0.50841533	1.693717578	0.590417206	1.966895837	1.161289144
59° 27' 00"	0.86118592	0.50829008	1.694280393	0.590221078	1.967380505	1.161189442
59° 27' 30"	0.86125984	0.50816482	1.694843486	0.590024984	1.967865453	1.161089782
59° 28' 00"	0.86133374	0.50803955	1.695406856	0.589828923	1.968350682	1.160990163
59° 28' 30"	0.86140762	0.50791427	1.695970505	0.589632896	1.968836193	1.160890586
59° 29' 00"	0.86148149	0.50778898	1.696534431	0.589436902	1.969321984	1.160791050
59° 29' 30"	0.86155533	0.50766368	1.697098636	0.589240943	1.969808057	1.160691556

59° 30' 00"

59° 50' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
59° 30' 00"	0.86162916	0.50753836	1.697663119	0.589045016	1.970294411	1.160592104
59° 30' 30"	0.86170297	0.50741304	1.698227882	0.588849124	1.970781048	1.160492693
59° 31' 00"	0.86177676	0.50728770	1.698792923	0.588653265	1.971267966	1.160393324
59° 31' 30"	0.86185053	0.50716236	1.699358243	0.588457439	1.971755167	1.160293996
59° 32' 00"	0.86192429	0.50703700	1.699923843	0.588261647	1.972242651	1.160194710
59° 32' 30"	0.86199802	0.50691163	1.700489723	0.588065889	1.972730417	1.160095466
59° 33' 00"	0.86207174	0.50678626	1.701055883	0.587870163	1.973218467	1.159996263
59° 33' 30"	0.86214544	0.50666087	1.701622323	0.587674472	1.973706799	1.159897101
59° 34' 00"	0.86221912	0.50653547	1.702189044	0.587478814	1.974195416	1.159797981
59° 34' 30"	0.86229279	0.50641006	1.702756045	0.587283189	1.974684316	1.159698902
59° 35' 00"	0.86236643	0.50628464	1.703323327	0.587087598	1.975173500	1.159599865
59° 35' 30"	0.86244006	0.50615921	1.703890890	0.586892040	1.975662968	1.159500870
59° 36' 00"	0.86251367	0.50603376	1.704458734	0.586696515	1.976152721	1.159401915
59° 36' 30"	0.86258726	0.50590831	1.705026861	0.586501024	1.976642759	1.159303002
59° 37' 00"	0.86266083	0.50578285	1.705595269	0.586305566	1.977133081	1.159204131
59° 37' 30"	0.86273439	0.50565737	1.706163959	0.586110142	1.977623689	1.159105301
59° 38' 00"	0.86280792	0.50553189	1.706732931	0.585914751	1.978114582	1.159006512
59° 38' 30"	0.86288144	0.50540639	1.707302186	0.585719393	1.978605760	1.158907765
59° 39' 00"	0.86295494	0.50528089	1.707871724	0.585524068	1.979097225	1.158809059
59° 39' 30"	0.86302842	0.50515537	1.708441545	0.585328777	1.979588975	1.158710394
59° 40' 00"	0.86310188	0.50502984	1.709011649	0.585133519	1.980081012	1.158611771
59° 40' 30"	0.86317533	0.50490430	1.709582036	0.584938294	1.980573336	1.158513189
59° 41' 00"	0.86324875	0.50477875	1.710152708	0.584743103	1.981065946	1.158414648
59° 41' 30"	0.86332216	0.50465319	1.710723663	0.584547944	1.981558843	1.158316148
59° 42' 00"	0.86339555	0.50452762	1.711294902	0.584352819	1.982052028	1.158217690
59° 42' 30"	0.86346892	0.50440204	1.711866426	0.584157727	1.982545500	1.158119273
59° 43' 00"	0.86354228	0.50427645	1.712438234	0.583962668	1.983039260	1.158020897
59° 43' 30"	0.86361561	0.50415085	1.713010328	0.583767642	1.983533308	1.157922562
59° 44' 00"	0.86368893	0.50402524	1.713582706	0.583572649	1.984027644	1.157824269
59° 44' 30"	0.86376223	0.50389961	1.714155370	0.583377690	1.984522268	1.157726016
59° 45' 00"	0.86383551	0.50377398	1.714728320	0.583182763	1.985017181	1.157627805
59° 45' 30"	0.86390877	0.50364833	1.715301555	0.582987870	1.985512384	1.157529635
59° 46' 00"	0.86398201	0.50352268	1.715875077	0.582793010	1.986007875	1.157431506
59° 46' 30"	0.86405524	0.50339701	1.716448884	0.582598182	1.986503655	1.157333419
59° 47' 00"	0.86412844	0.50327133	1.717022979	0.582403388	1.986999726	1.157235372
59° 47' 30"	0.86420163	0.50314564	1.717597360	0.582208627	1.987496086	1.157137366
59° 48' 00"	0.86427480	0.50301995	1.718172028	0.582013898	1.987992736	1.157039402
59° 48' 30"	0.86434795	0.50289424	1.718746984	0.581819203	1.988489677	1.156941479
59° 49' 00"	0.86442109	0.50276852	1.719322227	0.581624540	1.988986908	1.156843596
59° 49' 30"	0.86449420	0.50264279	1.719897758	0.581429911	1.989484430	1.156745755
59° 50' 00"	0.86456730	0.50251705	1.720473576	0.581235314	1.989982243	1.156647954
59° 50' 30"	0.86464038	0.50239130	1.721049684	0.581040751	1.990480347	1.156550195

59° 51' 00"

60° 11' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
59° 51' 00"	0.86471344	0.50226553	1.721626079	0.580846220	1.990978743	1.156452477
59° 51' 30"	0.86478648	0.50213976	1.722202763	0.580651722	1.991477431	1.156354799
59° 52' 00"	0.86485951	0.50201398	1.722779737	0.580457257	1.991976411	1.156257163
59° 52' 30"	0.86493251	0.50188818	1.723356999	0.580262825	1.992475683	1.156159567
59° 53' 00"	0.86500550	0.50176238	1.723934551	0.580068425	1.992975247	1.156062013
59° 53' 30"	0.86507847	0.50163656	1.724512393	0.579874058	1.993475105	1.155964499
59° 54' 00"	0.86515142	0.50151074	1.725090524	0.579679725	1.993975255	1.155867027
59° 54' 30"	0.86522435	0.50138490	1.725668946	0.579485423	1.994475698	1.155769595
59° 55' 00"	0.86529727	0.50125905	1.726247658	0.579291155	1.994976435	1.155672204
59° 55' 30"	0.86537016	0.50113320	1.726826661	0.579096919	1.995477466	1.155574854
59° 56' 00"	0.86544304	0.50100733	1.727405955	0.578902717	1.995978791	1.155477544
59° 56' 30"	0.86551590	0.50088145	1.727985540	0.578708546	1.996480410	1.155380276
59° 57' 00"	0.86558874	0.50075556	1.728565416	0.578514409	1.996982323	1.155283048
59° 57' 30"	0.86566156	0.50062966	1.729145584	0.578320304	1.997484531	1.155185861
59° 58' 00"	0.86573437	0.50050375	1.729726044	0.578126232	1.997987034	1.155088715
59° 58' 30"	0.86580716	0.50037783	1.730306796	0.577932192	1.998489832	1.154991610
59° 59' 00"	0.86587992	0.50025190	1.730887841	0.577738185	1.998992926	1.154894545
59° 59' 30"	0.86595267	0.50012595	1.731469178	0.577544211	1.999496315	1.154797521
60° 00' 00"	0.86602540	0.50000000	1.732050808	0.577350269	2.000000000	1.154700538
60° 00' 30"	0.86609812	0.49987404	1.732632731	0.577156360	2.000503981	1.154603596
60° 01' 00"	0.86617081	0.49974806	1.733214947	0.576962483	2.001008259	1.154506694
60° 01' 30"	0.86624349	0.49962208	1.733797457	0.576768639	2.001512833	1.154409833
60° 02' 00"	0.86631615	0.49949608	1.734380261	0.576574828	2.002017704	1.154313013
60° 02' 30"	0.86638879	0.49937008	1.734963359	0.576381049	2.002522873	1.154216233
60° 03' 00"	0.86646141	0.49924406	1.735546751	0.576187302	2.003028339	1.154119494
60° 03' 30"	0.86653401	0.49911803	1.736130438	0.575993588	2.003534102	1.154022796
60° 04' 00"	0.86660659	0.49899200	1.736714420	0.575799906	2.004040163	1.153926138
60° 04' 30"	0.86667916	0.49886595	1.737298697	0.575606257	2.004546523	1.153829521
60° 05' 00"	0.86675171	0.49873989	1.737883269	0.575412640	2.005053180	1.153732944
60° 05' 30"	0.86682424	0.49861382	1.738468137	0.575219056	2.005560137	1.153636408
60° 06' 00"	0.86689675	0.49848774	1.739053300	0.575025504	2.006067392	1.153539913
60° 06' 30"	0.86696924	0.49836165	1.739638760	0.574831984	2.006574946	1.153443458
60° 07' 00"	0.86704172	0.49823555	1.740224516	0.574638497	2.007082800	1.153347043
60° 07' 30"	0.86711417	0.49810944	1.740810569	0.574445042	2.007590953	1.153250669
60° 08' 00"	0.86718661	0.49798332	1.741396918	0.574251619	2.008099407	1.153154336
60° 08' 30"	0.86725903	0.49785718	1.741983565	0.574058229	2.008608160	1.153058043
60° 09' 00"	0.86733143	0.49773104	1.742570509	0.573864871	2.009117214	1.152961790
60° 09' 30"	0.86740381	0.49760489	1.743157750	0.573671545	2.009626568	1.152865578
60° 10' 00"	0.86747618	0.49747872	1.743745290	0.573478252	2.010136223	1.152769407
60° 10' 30"	0.86754852	0.49735255	1.744333127	0.573284990	2.010646179	1.152673276
60° 11' 00"	0.86762085	0.49722636	1.744921263	0.573091761	2.011156437	1.152577185
60° 11' 30"	0.86769316	0.49710017	1.745509697	0.572898565	2.011666996	1.152481134

60° 12' 00"

60° 32' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
60° 12' 00"	0.86776545	0.49697396	1.746098431	0.572705400	2.012177857	1.152385124
60° 12' 30"	0.86783773	0.49684774	1.746687463	0.572512267	2.012689020	1.152289155
60° 13' 00"	0.86790998	0.49672152	1.747276795	0.572319167	2.013200486	1.152193226
60° 13' 30"	0.86798222	0.49659528	1.747866426	0.572126099	2.013712254	1.152097337
60° 14' 00"	0.86805443	0.49646903	1.748456357	0.571933063	2.014224325	1.152001488
60° 14' 30"	0.86812663	0.49634277	1.749046589	0.571740059	2.014736700	1.151905680
60° 15' 00"	0.86819881	0.49621650	1.749637120	0.571547087	2.015249377	1.151809912
60° 15' 30"	0.86827098	0.49609022	1.750227953	0.571354148	2.015762358	1.151714184
60° 16' 00"	0.86834312	0.49596393	1.750819086	0.571161240	2.016275644	1.151618497
60° 16' 30"	0.86841525	0.49583763	1.751410520	0.570968364	2.016789233	1.151522850
60° 17' 00"	0.86848735	0.49571132	1.752002256	0.570775521	2.017303127	1.151427243
60° 17' 30"	0.86855944	0.49558500	1.752594293	0.570582709	2.017817325	1.151331676
60° 18' 00"	0.86863151	0.49545867	1.753186632	0.570389930	2.018331828	1.151236149
60° 18' 30"	0.86870357	0.49533233	1.753779274	0.570197182	2.018846636	1.151140663
60° 19' 00"	0.86877560	0.49520597	1.754372218	0.570004466	2.019361750	1.151045217
60° 19' 30"	0.86884762	0.49507961	1.754965464	0.569811783	2.019877170	1.150949811
60° 20' 00"	0.86891961	0.49495324	1.755559014	0.569619131	2.020392895	1.150854445
60° 20' 30"	0.86899159	0.49482685	1.756152866	0.569426511	2.020908927	1.150759120
60° 21' 00"	0.86906355	0.49470046	1.756747022	0.569233923	2.021425265	1.150663834
60° 21' 30"	0.86913549	0.49457405	1.757341482	0.569041367	2.021941909	1.150568589
60° 22' 00"	0.86920742	0.49444763	1.757936246	0.568848843	2.022458861	1.150473384
60° 22' 30"	0.86927932	0.49432121	1.758531314	0.568656351	2.022976120	1.150378218
60° 23' 00"	0.86935121	0.49419477	1.759126686	0.568463890	2.023493686	1.150283093
60° 23' 30"	0.86942308	0.49406832	1.759722364	0.568271462	2.024011560	1.150188008
60° 24' 00"	0.86949493	0.49394187	1.760318346	0.568079065	2.024529743	1.150092963
60° 24' 30"	0.86956676	0.49381540	1.760914633	0.567886700	2.025048233	1.149997958
60° 25' 00"	0.86963857	0.49368892	1.761511226	0.567694367	2.025567032	1.149902993
60° 25' 30"	0.86971037	0.49356243	1.762108125	0.567502065	2.026086139	1.149808068
60° 26' 00"	0.86978215	0.49343593	1.762705330	0.567309795	2.026605556	1.149713183
60° 26' 30"	0.86985390	0.49330942	1.763302841	0.567117557	2.027125282	1.149618338
60° 27' 00"	0.86992564	0.49318290	1.763900658	0.566925351	2.027645317	1.149523533
60° 27' 30"	0.86999737	0.49305637	1.764498783	0.566733176	2.028165662	1.149428768
60° 28' 00"	0.87006907	0.49292983	1.765097214	0.566541034	2.028686318	1.149334043
60° 28' 30"	0.87014075	0.49280328	1.765695953	0.566348922	2.029207283	1.149239358
60° 29' 00"	0.87021242	0.49267672	1.766294999	0.566156843	2.029728559	1.149144713
60° 29' 30"	0.87028407	0.49255014	1.766894354	0.565964795	2.030250147	1.149050107
60° 30' 00"	0.87035570	0.49242356	1.767494016	0.565772778	2.030772045	1.148955542
60° 30' 30"	0.87042731	0.49229697	1.768093987	0.565580793	2.031294254	1.148861016
60° 31' 00"	0.87049890	0.49217036	1.768694267	0.565388840	2.031816775	1.148766530
60° 31' 30"	0.87057047	0.49204375	1.769294855	0.565196919	2.032339608	1.148672084
60° 32' 00"	0.87064203	0.49191712	1.769895753	0.565005028	2.032862754	1.148577678
60° 32' 30"	0.87071357	0.49179049	1.770496960	0.564813170	2.033386211	1.148483312

60° 33' 00"

60° 53' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
60° 33' 00"	0.87078509	0.49166384	1.771098476	0.564621343	2.033909982	1.148388985
60° 33' 30"	0.87085659	0.49153719	1.771700303	0.564429547	2.034434065	1.148294698
60° 34' 00"	0.87092807	0.49141052	1.772302440	0.564237783	2.034958461	1.148200451
60° 34' 30"	0.87099953	0.49128385	1.772904887	0.564046051	2.035483171	1.148106244
60° 35' 00"	0.87107098	0.49115716	1.773507646	0.563854350	2.036008195	1.148012076
60° 35' 30"	0.87114240	0.49103046	1.774110715	0.563662680	2.036533533	1.147917949
60° 36' 00"	0.87121381	0.49090375	1.774714096	0.563471042	2.037059184	1.147823860
60° 36' 30"	0.87128520	0.49077704	1.775317788	0.563279435	2.037585151	1.147729812
60° 37' 00"	0.87135657	0.49065031	1.775921792	0.563087859	2.038111432	1.147635803
60° 37' 30"	0.87142793	0.49052357	1.776526108	0.562896315	2.038638029	1.147541834
60° 38' 00"	0.87149926	0.49039682	1.777130736	0.562704802	2.039164940	1.147447905
60° 38' 30"	0.87157058	0.49027006	1.777735677	0.562513321	2.039692168	1.147354015
60° 39' 00"	0.87164187	0.49014329	1.778340931	0.562321871	2.040219711	1.147260165
60° 39' 30"	0.87171315	0.49001651	1.778946499	0.562130452	2.040747570	1.147166355
60° 40' 00"	0.87178441	0.48988972	1.779552379	0.561939065	2.041275746	1.147072584
60° 40' 30"	0.87185566	0.48976292	1.780158574	0.561747709	2.041804238	1.146978853
60° 41' 00"	0.87192688	0.48963611	1.780765082	0.561556384	2.042333048	1.146885161
60° 41' 30"	0.87199809	0.48950928	1.781371905	0.561365090	2.042862174	1.146791509
60° 42' 00"	0.87206927	0.48938245	1.781979042	0.561173828	2.043391618	1.146697896
60° 42' 30"	0.87214044	0.48925561	1.782586494	0.560982597	2.043921380	1.146604323
60° 43' 00"	0.87221159	0.48912876	1.783194261	0.560791397	2.044451460	1.146510790
60° 43' 30"	0.87228272	0.48900189	1.783802343	0.560600228	2.044981858	1.146417296
60° 44' 00"	0.87235384	0.48887502	1.784410741	0.560409090	2.045512575	1.146323841
60° 44' 30"	0.87242493	0.48874814	1.785019455	0.560217984	2.046043610	1.146230426
60° 45' 00"	0.87249601	0.48862124	1.785628485	0.560026908	2.046574965	1.146137050
60° 45' 30"	0.87256706	0.48849434	1.786237831	0.559835864	2.047106639	1.146043714
60° 46' 00"	0.87263810	0.48836742	1.786847494	0.559644851	2.047638632	1.145950418
60° 46' 30"	0.87270913	0.48824050	1.787457474	0.559453869	2.048170946	1.145857160
60° 47' 00"	0.87278013	0.48811356	1.788067772	0.559262918	2.048703579	1.145763942
60° 47' 30"	0.87285111	0.48798662	1.788678386	0.559071998	2.049236533	1.145670764
60° 48' 00"	0.87292208	0.48785966	1.789289319	0.558881110	2.049769808	1.145577625
60° 48' 30"	0.87299302	0.48773269	1.789900570	0.558690252	2.050303404	1.145484525
60° 49' 00"	0.87306395	0.48760572	1.790512139	0.558499425	2.050837321	1.145391465
60° 49' 30"	0.87313486	0.48747873	1.791124026	0.558308629	2.051371560	1.145298444
60° 50' 00"	0.87320575	0.48735173	1.791736233	0.558117865	2.051906121	1.145205462
60° 50' 30"	0.87327663	0.48722472	1.792348758	0.557927131	2.052441003	1.145112520
60° 51' 00"	0.87334748	0.48709771	1.792961604	0.557736428	2.052976208	1.145019617
60° 51' 30"	0.87341832	0.48697068	1.793574768	0.557545756	2.053511736	1.144926753
60° 52' 00"	0.87348914	0.48684364	1.794188253	0.557355115	2.054047587	1.144833929
60° 52' 30"	0.87355994	0.48671659	1.794802058	0.557164505	2.054583760	1.144741143
60° 53' 00"	0.87363072	0.48658953	1.795416184	0.556973926	2.055120258	1.144648397
60° 53' 30"	0.87370148	0.48646246	1.796030630	0.556783377	2.055657079	1.144555691

60° 54' 00"

61° 14' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
60° 54' 00"	0.87377222	0.48633538	1.796645398	0.556592860	2.056194224	1.144463023
60° 54' 30"	0.87384295	0.48620829	1.797260487	0.556402373	2.056731693	1.144370395
60° 55' 00"	0.87391366	0.48608119	1.797875897	0.556211917	2.057269487	1.144277806
60° 55' 30"	0.87398434	0.48595408	1.798491630	0.556021492	2.057807606	1.144185256
60° 56' 00"	0.87405501	0.48582696	1.799107684	0.555831098	2.058346050	1.144092745
60° 56' 30"	0.87412567	0.48569983	1.799724062	0.555640735	2.058884819	1.144000274
60° 57' 00"	0.87419630	0.48557269	1.800340762	0.555450402	2.059423914	1.143907841
60° 57' 30"	0.87426691	0.48544553	1.800957785	0.555260100	2.059963335	1.143815448
60° 58' 00"	0.87433751	0.48531837	1.801575131	0.555069829	2.060503082	1.143723094
60° 58' 30"	0.87440809	0.48519120	1.802192801	0.554879589	2.061043156	1.143630779
60° 59' 00"	0.87447864	0.48506402	1.802810795	0.554689379	2.061583557	1.143538503
60° 59' 30"	0.87454919	0.48493682	1.803429113	0.554499200	2.062124285	1.143446266
61° 00' 00"	0.87461971	0.48480962	1.804047755	0.554309051	2.062665340	1.143354068
61° 00' 30"	0.87469021	0.48468241	1.804666722	0.554118934	2.063206722	1.143261909
61° 01' 00"	0.87476070	0.48455518	1.805286015	0.553928847	2.063748433	1.143169789
61° 01' 30"	0.87483116	0.48442795	1.805905632	0.553738790	2.064290472	1.143077709
61° 02' 00"	0.87490161	0.48430071	1.806525575	0.553548764	2.064832839	1.142985667
61° 02' 30"	0.87497204	0.48417345	1.807145844	0.553358769	2.065375535	1.142893664
61° 03' 00"	0.87504245	0.48404619	1.807766439	0.553168804	2.065918561	1.142801700
61° 03' 30"	0.87511284	0.48391891	1.808387361	0.552978870	2.066461915	1.142709776
61° 04' 00"	0.87518322	0.48379163	1.809008609	0.552788967	2.067005599	1.142617890
61° 04' 30"	0.87525357	0.48366433	1.809630184	0.552599094	2.067549613	1.142526043
61° 05' 00"	0.87532391	0.48353703	1.810252087	0.552409251	2.068093958	1.142434235
61° 05' 30"	0.87539423	0.48340971	1.810874317	0.552219439	2.068638633	1.142342466
61° 06' 00"	0.87546453	0.48328238	1.811496875	0.552029658	2.069183638	1.142250736
61° 06' 30"	0.87553481	0.48315505	1.812119761	0.551839907	2.069728975	1.142159044
61° 07' 00"	0.87560507	0.48302770	1.812742976	0.551650186	2.070274643	1.142067392
61° 07' 30"	0.87567532	0.48290034	1.813366519	0.551460496	2.070820642	1.141975779
61° 08' 00"	0.87574554	0.48277298	1.813990391	0.551270836	2.071366973	1.141884204
61° 08' 30"	0.87581575	0.48264560	1.814614593	0.551081207	2.071913637	1.141792668
61° 09' 00"	0.87588594	0.48251821	1.815239124	0.550891608	2.072460633	1.141701171
61° 09' 30"	0.87595611	0.48239081	1.815863985	0.550702040	2.073007962	1.141609713
61° 10' 00"	0.87602626	0.48226341	1.816489176	0.550512501	2.073555624	1.141518293
61° 10' 30"	0.87609639	0.48213599	1.817114697	0.550322994	2.074103619	1.141426913
61° 11' 00"	0.87616651	0.48200856	1.817740549	0.550133516	2.074651948	1.141335571
61° 11' 30"	0.87623660	0.48188112	1.818366733	0.549944069	2.075200611	1.141244268
61° 12' 00"	0.87630668	0.48175367	1.818993247	0.549754652	2.075749608	1.141153004
61° 12' 30"	0.87637674	0.48162622	1.819620093	0.549565266	2.076298939	1.141061778
61° 13' 00"	0.87644678	0.48149875	1.820247271	0.549375909	2.076848605	1.140970591
61° 13' 30"	0.87651680	0.48137127	1.820874782	0.549186583	2.077398607	1.140879443
61° 14' 00"	0.87658680	0.48124378	1.821502624	0.548997288	2.077948943	1.140788333
61° 14' 30"	0.87665679	0.48111628	1.822130800	0.548808022	2.078499615	1.140697263

61° 15' 00"

61° 35' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
61° 15' 00"	0.87672676	0.48098877	1.822759308	0.548618787	2.079050624	1.140606230
61° 15' 30"	0.87679670	0.48086125	1.823388150	0.548429581	2.079601968	1.140515237
61° 16' 00"	0.87686663	0.48073372	1.824017325	0.548240407	2.080153649	1.140424282
61° 16' 30"	0.87693654	0.48060618	1.824646835	0.548051262	2.080705667	1.140333366
61° 17' 00"	0.87700644	0.48047863	1.825276678	0.547862147	2.081258022	1.140242488
61° 17' 30"	0.87707631	0.48035107	1.825906856	0.547673063	2.081810714	1.140151649
61° 18' 00"	0.87714616	0.48022350	1.826537369	0.547484008	2.082363744	1.140060849
61° 18' 30"	0.87721600	0.48009592	1.827168217	0.547294984	2.082917112	1.139970087
61° 19' 00"	0.87728582	0.47996833	1.827799401	0.547105990	2.083470818	1.139879364
61° 19' 30"	0.87735562	0.47984072	1.828430920	0.546917026	2.084024863	1.139788679
61° 20' 00"	0.87742540	0.47971311	1.829062775	0.546728091	2.084579246	1.139698033
61° 20' 30"	0.87749516	0.47958549	1.829694966	0.546539187	2.085133969	1.139607425
61° 21' 00"	0.87756490	0.47945786	1.830327494	0.546350313	2.085689031	1.139516856
61° 21' 30"	0.87763463	0.47933022	1.830960358	0.546161470	2.086244433	1.139426325
61° 22' 00"	0.87770434	0.47920257	1.831593560	0.545972656	2.086800175	1.139335833
61° 22' 30"	0.87777402	0.47907490	1.832227100	0.545783872	2.087356257	1.139245379
61° 23' 00"	0.87784369	0.47894723	1.832860977	0.545595118	2.087912680	1.139154964
61° 23' 30"	0.87791334	0.47881955	1.833495192	0.545406393	2.088469444	1.139064587
61° 24' 00"	0.87798298	0.47869186	1.834129745	0.545217699	2.089026549	1.138974249
61° 24' 30"	0.87805259	0.47856416	1.834764637	0.545029035	2.089583995	1.138883949
61° 25' 00"	0.87812218	0.47843644	1.835399868	0.544840401	2.090141784	1.138793687
61° 25' 30"	0.87819176	0.47830872	1.836035439	0.544651796	2.090699914	1.138703464
61° 26' 00"	0.87826132	0.47818099	1.836671348	0.544463222	2.091258387	1.138613279
61° 26' 30"	0.87833086	0.47805324	1.837307598	0.544274677	2.091817203	1.138523133
61° 27' 00"	0.87840038	0.47792549	1.837944188	0.544086162	2.092376361	1.138433025
61° 27' 30"	0.87846988	0.47779773	1.838581118	0.543897678	2.092935863	1.138342955
61° 28' 00"	0.87853936	0.47766995	1.839218389	0.543709222	2.093495709	1.138252924
61° 28' 30"	0.87860883	0.47754217	1.839856001	0.543520797	2.094055898	1.138162931
61° 29' 00"	0.87867828	0.47741438	1.840493954	0.543332401	2.094616432	1.138072976
61° 29' 30"	0.87874770	0.47728657	1.841132249	0.543144036	2.095177310	1.137983059
61° 30' 00"	0.87881711	0.47715876	1.841770886	0.542955700	2.095738533	1.137893181
61° 30' 30"	0.87888650	0.47703094	1.842409865	0.542767393	2.096300100	1.137803341
61° 31' 00"	0.87895588	0.47690310	1.843049187	0.542579117	2.096862014	1.137713540
61° 31' 30"	0.87902523	0.47677526	1.843688851	0.542390870	2.097424273	1.137623776
61° 32' 00"	0.87909456	0.47664740	1.844328859	0.542202653	2.097986878	1.137534051
61° 32' 30"	0.87916388	0.47651954	1.844969210	0.542014465	2.098549829	1.137444364
61° 33' 00"	0.87923318	0.47639167	1.845609905	0.541826308	2.099113127	1.137354715
61° 33' 30"	0.87930246	0.47626378	1.846250944	0.541638179	2.099676772	1.137265104
61° 34' 00"	0.87937172	0.47613589	1.846892327	0.541450081	2.100240764	1.137175532
61° 34' 30"	0.87944096	0.47600798	1.847534055	0.541262012	2.100805104	1.137085997
61° 35' 00"	0.87951018	0.47588007	1.848176128	0.541073973	2.101369792	1.136996501
61° 35' 30"	0.87957939	0.47575214	1.848818546	0.540885963	2.101934827	1.136907043



61° 36' 00"

61° 56' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
61° 36' 00"	0.87964857	0.47562421	1.849461310	0.540697983	2.102500211	1.136817623
61° 36' 30"	0.87971774	0.47549626	1.850104420	0.540510032	2.103065944	1.136728242
61° 37' 00"	0.87978689	0.47536831	1.850747876	0.540322111	2.103632026	1.136638898
61° 37' 30"	0.87985602	0.47524034	1.851391678	0.540134220	2.104198457	1.136549592
61° 38' 00"	0.87992513	0.47511237	1.852035827	0.539946358	2.104765238	1.136460325
61° 38' 30"	0.87999422	0.47498438	1.852680324	0.539758526	2.105332369	1.136371095
61° 39' 00"	0.88006330	0.47485639	1.853325167	0.539570723	2.105899850	1.136281904
61° 39' 30"	0.88013235	0.47472838	1.853970359	0.539382949	2.106467681	1.136192750
61° 40' 00"	0.88020139	0.47460037	1.854615899	0.539195205	2.107035864	1.136103635
61° 40' 30"	0.88027041	0.47447234	1.855261786	0.539007491	2.107604397	1.136014558
61° 41' 00"	0.88033941	0.47434431	1.855908023	0.538819806	2.108173283	1.135925518
61° 41' 30"	0.88040839	0.47421626	1.856554609	0.538632150	2.108742520	1.135836517
61° 42' 00"	0.88047735	0.47408821	1.857201543	0.538444523	2.109312109	1.135747553
61° 42' 30"	0.88054630	0.47396014	1.857848828	0.538256927	2.109882050	1.135658628
61° 43' 00"	0.88061522	0.47383207	1.858496462	0.538069359	2.110452345	1.135569740
61° 43' 30"	0.88068413	0.47370398	1.859144447	0.537881821	2.111022992	1.135480891
61° 44' 00"	0.88075302	0.47357589	1.859792782	0.537694312	2.111593993	1.135392079
61° 44' 30"	0.88082189	0.47344778	1.860441467	0.537506832	2.112165347	1.135303305
61° 45' 00"	0.88089074	0.47331967	1.861090505	0.537319382	2.112737056	1.135214569
61° 45' 30"	0.88095957	0.47319154	1.861739893	0.537131961	2.113309118	1.135125871
61° 46' 00"	0.88102838	0.47306341	1.862389633	0.536944570	2.113881536	1.135037211
61° 46' 30"	0.88109718	0.47293526	1.863039726	0.536757207	2.114454308	1.134948589
61° 47' 00"	0.88116596	0.47280711	1.863690170	0.536569874	2.115027435	1.134860004
61° 47' 30"	0.88123471	0.47267894	1.864340968	0.536382570	2.115600918	1.134771458
61° 48' 00"	0.88130345	0.47255076	1.864992118	0.536195295	2.116174757	1.134682949
61° 48' 30"	0.88137217	0.47242258	1.865643622	0.536008050	2.116748952	1.134594478
61° 49' 00"	0.88144087	0.47229438	1.866295480	0.535820834	2.117323503	1.134506045
61° 49' 30"	0.88150956	0.47216618	1.866947691	0.535633647	2.117898412	1.134417649
61° 50' 00"	0.88157822	0.47203796	1.867600257	0.535446489	2.118473677	1.134329292
61° 50' 30"	0.88164687	0.47190974	1.868253178	0.535259360	2.119049300	1.134240972
61° 51' 00"	0.88171549	0.47178150	1.868906453	0.535072260	2.119625281	1.134152690
61° 51' 30"	0.88178410	0.47165326	1.869560084	0.534885190	2.120201619	1.134064445
61° 52' 00"	0.88185269	0.47152500	1.870214070	0.534698148	2.120778316	1.133976239
61° 52' 30"	0.88192126	0.47139674	1.870868412	0.534511136	2.121355372	1.133888070
61° 53' 00"	0.88198982	0.47126846	1.871523110	0.534324153	2.121932787	1.133799938
61° 53' 30"	0.88205835	0.47114018	1.872178165	0.534137198	2.122510561	1.133711845
61° 54' 00"	0.88212687	0.47101188	1.872833576	0.533950273	2.123088695	1.133623789
61° 54' 30"	0.88219536	0.47088358	1.873489345	0.533763377	2.123667188	1.133535770
61° 55' 00"	0.88226384	0.47075526	1.874145471	0.533576510	2.124246042	1.133447790
61° 55' 30"	0.88233230	0.47062694	1.874801955	0.533389672	2.124825257	1.133359847
61° 56' 00"	0.88240074	0.47049860	1.875458797	0.533202863	2.125404832	1.133271941
61° 56' 30"	0.88246916	0.47037026	1.876115998	0.533016083	2.125984769	1.133184073

61° 57' 00"

62° 17' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
61° 57' 00"	0.88253757	0.47024190	1.876773557	0.532829332	2.126565067	1.133096243
61° 57' 30"	0.88260595	0.47011354	1.877431476	0.532642609	2.127145728	1.133008451
61° 58' 00"	0.88267432	0.46998516	1.878089754	0.532455916	2.127726750	1.132920696
61° 58' 30"	0.88274266	0.46985678	1.878748391	0.532269252	2.128308135	1.132832978
61° 59' 00"	0.88281099	0.46972838	1.879407389	0.532082616	2.128889883	1.132745298
61° 59' 30"	0.88287930	0.46959998	1.880066747	0.531896009	2.129471994	1.132657656
62° 00' 00"	0.88294759	0.46947156	1.880726465	0.531709432	2.130054468	1.132570051
62° 00' 30"	0.88301587	0.46934314	1.881386545	0.531522883	2.130637306	1.132482483
62° 01' 00"	0.88308412	0.46921470	1.882046986	0.531336363	2.131220509	1.132394953
62° 01' 30"	0.88315235	0.46908626	1.882707789	0.531149871	2.131804076	1.132307461
62° 02' 00"	0.88322057	0.46895781	1.883368953	0.530963409	2.132388008	1.132220006
62° 02' 30"	0.88328877	0.46882934	1.884030480	0.530776975	2.132972304	1.132132588
62° 03' 00"	0.88335695	0.46870087	1.884692370	0.530590571	2.133556967	1.132045208
62° 03' 30"	0.88342511	0.46857238	1.885354623	0.530404195	2.134141995	1.131957866
62° 04' 00"	0.88349325	0.46844389	1.886017239	0.530217847	2.134727389	1.131870560
62° 04' 30"	0.88356137	0.46831539	1.886680218	0.530031529	2.135313149	1.131783293
62° 05' 00"	0.88362948	0.46818687	1.887343562	0.529845239	2.135899276	1.131696062
62° 05' 30"	0.88369756	0.46805835	1.888007269	0.529658978	2.136485771	1.131608869
62° 06' 00"	0.88376563	0.46792981	1.888671342	0.529472745	2.137072633	1.131521713
62° 06' 30"	0.88383368	0.46780127	1.889335779	0.529286541	2.137659862	1.131434595
62° 07' 00"	0.88390171	0.46767272	1.890000581	0.529100366	2.138247460	1.131347514
62° 07' 30"	0.88396972	0.46754415	1.890665750	0.528914220	2.138835425	1.131260470
62° 08' 00"	0.88403771	0.46741558	1.891331284	0.528728102	2.139423760	1.131173464
62° 08' 30"	0.88410568	0.46728700	1.891997184	0.528542013	2.140012464	1.131086495
62° 09' 00"	0.88417364	0.46715841	1.892663451	0.528355952	2.140601537	1.130999563
62° 09' 30"	0.88424158	0.46702980	1.893330085	0.528169920	2.141190979	1.130912669
62° 10' 00"	0.88430949	0.46690119	1.893997086	0.527983917	2.141780792	1.130825812
62° 10' 30"	0.88437739	0.46677257	1.894664455	0.527797942	2.142370975	1.130738992
62° 11' 00"	0.88444527	0.46664393	1.895332191	0.527611996	2.142961529	1.130652209
62° 11' 30"	0.88451313	0.46651529	1.896000296	0.527426078	2.143552454	1.130565464
62° 12' 00"	0.88458098	0.46638664	1.896668769	0.527240189	2.144143750	1.130478755
62° 12' 30"	0.88464880	0.46625798	1.897337612	0.527054328	2.144735418	1.130392084
62° 13' 00"	0.88471660	0.46612931	1.898006823	0.526868496	2.145327458	1.130305451
62° 13' 30"	0.88478439	0.46600062	1.898676404	0.526682692	2.145919870	1.130218854
62° 14' 00"	0.88485216	0.46587193	1.899346356	0.526496917	2.146512655	1.130132295
62° 14' 30"	0.88491991	0.46574323	1.900016677	0.526311170	2.147105813	1.130045772
62° 15' 00"	0.88498764	0.46561452	1.900687369	0.526125451	2.147699344	1.129959287
62° 15' 30"	0.88505535	0.46548580	1.901358432	0.525939762	2.148293249	1.129872839
62° 16' 00"	0.88512304	0.46535707	1.902029866	0.525754100	2.148887528	1.129786428
62° 16' 30"	0.88519072	0.46522833	1.902701671	0.525568467	2.149482182	1.129700055
62° 17' 00"	0.88525837	0.46509958	1.903373849	0.525382862	2.150077210	1.129613718
62° 17' 30"	0.88532601	0.46497082	1.904046399	0.525197285	2.150672613	1.129527418

62° 18' 00"

62° 38' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
62° 18' 00"	0.88539363	0.46484205	1.904719321	0.525011737	2.151268391	1.129441156
62° 18' 30"	0.88546122	0.46471327	1.905392617	0.524826218	2.151864546	1.129354930
62° 19' 00"	0.88552881	0.46458448	1.906066285	0.524640726	2.152461076	1.129268742
62° 19' 30"	0.88559637	0.46445568	1.906740327	0.524455263	2.153057983	1.129182591
62° 20' 00"	0.88566391	0.46432687	1.907414744	0.524269828	2.153655266	1.129096476
62° 20' 30"	0.88573143	0.46419805	1.908089534	0.524084422	2.154252926	1.129010399
62° 21' 00"	0.88579894	0.46406922	1.908764700	0.523899043	2.154850964	1.128924359
62° 21' 30"	0.88586643	0.46394038	1.909440240	0.523713693	2.155449380	1.128838355
62° 22' 00"	0.88593389	0.46381153	1.910116155	0.523528371	2.156048173	1.128752389
62° 22' 30"	0.88600134	0.46368267	1.910792446	0.523343078	2.156647346	1.128666460
62° 23' 00"	0.88606877	0.46355380	1.911469114	0.523157812	2.157246896	1.128580567
62° 23' 30"	0.88613619	0.46342492	1.912146157	0.522972575	2.157846826	1.128494712
62° 24' 00"	0.88620358	0.46329604	1.912823577	0.522787366	2.158447136	1.128408893
62° 24' 30"	0.88627095	0.46316714	1.913501375	0.522602185	2.159047825	1.128323112
62° 25' 00"	0.88633831	0.46303823	1.914179549	0.522417033	2.159648894	1.128237367
62° 25' 30"	0.88640565	0.46290931	1.914858101	0.522231908	2.160250344	1.128151659
62° 26' 00"	0.88647296	0.46278038	1.915537032	0.522046812	2.160852175	1.128065988
62° 26' 30"	0.88654026	0.46265145	1.916216341	0.521861743	2.161454386	1.127980354
62° 27' 00"	0.88660754	0.46252250	1.916896028	0.521676703	2.162056980	1.127894757
62° 27' 30"	0.88667481	0.46239354	1.917576095	0.521491691	2.162659955	1.127809196
62° 28' 00"	0.88674205	0.46226458	1.918256541	0.521306707	2.163263312	1.127723673
62° 28' 30"	0.88680927	0.46213560	1.918937367	0.521121751	2.163867052	1.127638186
62° 29' 00"	0.88687648	0.46200661	1.919618573	0.520936823	2.164471175	1.127552736
62° 29' 30"	0.88694367	0.46187762	1.920300160	0.520751923	2.165075681	1.127467323
62° 30' 00"	0.88701083	0.46174861	1.920982127	0.520567051	2.165680570	1.127381947
62° 30' 30"	0.88707798	0.46161960	1.921664476	0.520382207	2.166285844	1.127296607
62° 31' 00"	0.88714511	0.46149057	1.922347206	0.520197390	2.166891501	1.127211305
62° 31' 30"	0.88721222	0.46136154	1.923030318	0.520012602	2.167497544	1.127126039
62° 32' 00"	0.88727932	0.46123249	1.923713812	0.519827842	2.168103971	1.127040809
62° 32' 30"	0.88734639	0.46110344	1.924397689	0.519643110	2.168710784	1.126955617
62° 33' 00"	0.88741345	0.46097437	1.925081948	0.519458406	2.169317982	1.126870461
62° 33' 30"	0.88748048	0.46084530	1.925766591	0.519273729	2.169925567	1.126785342
62° 34' 00"	0.88754750	0.46071622	1.926451618	0.519089081	2.170533537	1.126700259
62° 34' 30"	0.88761450	0.46058712	1.927137029	0.518904460	2.171141895	1.126615213
62° 35' 00"	0.88768148	0.46045802	1.927822824	0.518719868	2.171750639	1.126530204
62° 35' 30"	0.88774844	0.46032891	1.928509003	0.518535303	2.172359771	1.126445232
62° 36' 00"	0.88781539	0.46019978	1.929195568	0.518350766	2.172969291	1.126360296
62° 36' 30"	0.88788231	0.46007065	1.929882518	0.518166257	2.173579199	1.126275397
62° 37' 00"	0.88794921	0.45994151	1.930569854	0.517981775	2.174189495	1.126190534
62° 37' 30"	0.88801610	0.45981236	1.931257576	0.517797322	2.174800180	1.126105708
62° 38' 00"	0.88808297	0.45968320	1.931945684	0.517612896	2.175411255	1.126020919
62° 38' 30"	0.88814982	0.45955403	1.932634179	0.517428498	2.176022718	1.125936166

62° 39' 00"

62° 59' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
62° 39' 00"	0.88821665	0.45942484	1.933323062	0.517244127	2.176634572	1.125851450
62° 39' 30"	0.88828346	0.45929565	1.934012332	0.517059785	2.177246816	1.125766770
62° 40' 00"	0.88835025	0.45916645	1.934701989	0.516875470	2.177859451	1.125682127
62° 40' 30"	0.88841702	0.45903724	1.935392035	0.516691183	2.178472476	1.125597521
62° 41' 00"	0.88848378	0.45890802	1.936082470	0.516506923	2.179085893	1.125512951
62° 41' 30"	0.88855052	0.45877879	1.936773293	0.516322692	2.179699702	1.125428417
62° 42' 00"	0.88861723	0.45864955	1.937464506	0.516138488	2.180313902	1.125343920
62° 42' 30"	0.88868393	0.45852031	1.938156109	0.515954311	2.180928495	1.125259459
62° 43' 00"	0.88875061	0.45839105	1.938848101	0.515770162	2.181543481	1.125175035
62° 43' 30"	0.88881727	0.45826178	1.939540484	0.515586041	2.182158860	1.125090648
62° 44' 00"	0.88888391	0.45813250	1.940233258	0.515401948	2.182774632	1.125006297
62° 44' 30"	0.88895054	0.45800321	1.940926423	0.515217882	2.183390798	1.124921982
62° 45' 00"	0.88901714	0.45787392	1.941619979	0.515033843	2.184007359	1.124837704
62° 45' 30"	0.88908373	0.45774461	1.942313927	0.514849832	2.184624314	1.124753462
62° 46' 00"	0.88915029	0.45761529	1.943008267	0.514665849	2.185241663	1.124669256
62° 46' 30"	0.88921684	0.45748596	1.943703000	0.514481894	2.185859408	1.124585087
62° 47' 00"	0.88928337	0.45735663	1.944398126	0.514297965	2.186477549	1.124500955
62° 47' 30"	0.88934988	0.45722728	1.945093645	0.514114065	2.187096086	1.124416858
62° 48' 00"	0.88941637	0.45709793	1.945789558	0.513930192	2.187715019	1.124332798
62° 48' 30"	0.88948285	0.45696856	1.946485864	0.513746346	2.188334348	1.124248775
62° 49' 00"	0.88954930	0.45683919	1.947182565	0.513562528	2.188954075	1.124164788
62° 49' 30"	0.88961574	0.45670980	1.947879661	0.513378737	2.189574199	1.124080837
62° 50' 00"	0.88968215	0.45658041	1.948577152	0.513194974	2.190194721	1.123996922
62° 50' 30"	0.88974855	0.45645100	1.949275038	0.513011238	2.190815641	1.123913044
62° 51' 00"	0.88981493	0.45632159	1.949973320	0.512827529	2.191436960	1.123829202
62° 51' 30"	0.88988129	0.45619217	1.950671999	0.512643848	2.192058678	1.123745396
62° 52' 00"	0.88994763	0.45606273	1.951371074	0.512460195	2.192680795	1.123661627
62° 52' 30"	0.89001395	0.45593329	1.952070545	0.512276568	2.193303311	1.123577893
62° 53' 00"	0.89008025	0.45580384	1.952770415	0.512092969	2.193926228	1.123494196
62° 53' 30"	0.89014654	0.45567438	1.953470681	0.511909398	2.194549544	1.123410536
62° 54' 00"	0.89021280	0.45554491	1.954171346	0.511725853	2.195173262	1.123326911
62° 54' 30"	0.89027905	0.45541543	1.954872409	0.511542337	2.195797381	1.123243323
62° 55' 00"	0.89034528	0.45528594	1.955573871	0.511358847	2.196421901	1.123159771
62° 55' 30"	0.89041149	0.45515644	1.956275733	0.511175385	2.197046823	1.123076255
62° 56' 00"	0.89047768	0.45502693	1.956977993	0.510991950	2.197672147	1.122992775
62° 56' 30"	0.89054385	0.45489741	1.957680654	0.510808542	2.198297874	1.122909331
62° 57' 00"	0.89061000	0.45476788	1.958383715	0.510625161	2.198924004	1.122825924
62° 57' 30"	0.89067614	0.45463834	1.959087176	0.510441808	2.199550537	1.122742553
62° 58' 00"	0.89074225	0.45450879	1.959791038	0.510258482	2.200177473	1.122659217
62° 58' 30"	0.89080835	0.45437923	1.960495302	0.510075183	2.200804814	1.122575918
62° 59' 00"	0.89087443	0.45424966	1.961199968	0.509891911	2.201432559	1.122492655
62° 59' 30"	0.89094048	0.45412009	1.961905035	0.509708667	2.202060709	1.122409428

63° 00' 00"

63° 20' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
63° 00' 00"	0.89100652	0.45399050	1.962610506	0.509525449	2.202689265	1.122326238
63° 00' 30"	0.89107255	0.45386090	1.963316379	0.509342259	2.203318225	1.122243083
63° 01' 00"	0.89113855	0.45373130	1.964022655	0.509159096	2.203947592	1.122159964
63° 01' 30"	0.89120453	0.45360168	1.964729335	0.508975960	2.204577365	1.122076882
63° 02' 00"	0.89127049	0.45347206	1.965436419	0.508792852	2.205207545	1.121993835
63° 02' 30"	0.89133644	0.45334242	1.966143907	0.508609770	2.205838131	1.121910824
63° 03' 00"	0.89140237	0.45321278	1.966851800	0.508426715	2.206469126	1.121827850
63° 03' 30"	0.89146827	0.45308312	1.967560098	0.508243688	2.207100528	1.121744911
63° 04' 00"	0.89153416	0.45295346	1.968268802	0.508060687	2.207732338	1.121662009
63° 04' 30"	0.89160003	0.45282379	1.968977911	0.507877714	2.208364556	1.121579142
63° 05' 00"	0.89166588	0.45269410	1.969687427	0.507694767	2.208997184	1.121496312
63° 05' 30"	0.89173172	0.45256441	1.970397349	0.507511848	2.209630221	1.121413517
63° 06' 00"	0.89179753	0.45243471	1.971107679	0.507328956	2.210263668	1.121330758
63° 06' 30"	0.89186332	0.45230500	1.971818415	0.507146090	2.210897524	1.121248035
63° 07' 00"	0.89192910	0.45217528	1.972529560	0.506963252	2.211531792	1.121165348
63° 07' 30"	0.89199486	0.45204555	1.973241113	0.506780440	2.212166470	1.121082698
63° 08' 00"	0.89206059	0.45191581	1.973953074	0.506597656	2.212801559	1.121000082
63° 08' 30"	0.89212631	0.45178606	1.974665444	0.506414898	2.213437060	1.120917503
63° 09' 00"	0.89219201	0.45165630	1.975378224	0.506232168	2.214072973	1.120834960
63° 09' 30"	0.89225770	0.45152653	1.976091413	0.506049464	2.214709298	1.120752453
63° 10' 00"	0.89232336	0.45139675	1.976805012	0.505866787	2.215346036	1.120669981
63° 10' 30"	0.89238900	0.45126696	1.977519022	0.505684137	2.215983187	1.120587545
63° 11' 00"	0.89245463	0.45113716	1.978233443	0.505501514	2.216620751	1.120505145
63° 11' 30"	0.89252023	0.45100736	1.978948275	0.505318918	2.217258730	1.120422781
63° 12' 00"	0.89258582	0.45087754	1.979663518	0.505136348	2.217897122	1.120340453
63° 12' 30"	0.89265139	0.45074771	1.980379174	0.504953805	2.218535930	1.120258160
63° 13' 00"	0.89271694	0.45061788	1.981095241	0.504771290	2.219175152	1.120175904
63° 13' 30"	0.89278247	0.45048803	1.981811722	0.504588801	2.219814790	1.120093683
63° 14' 00"	0.89284798	0.45035818	1.982528616	0.504406338	2.220454844	1.120011497
63° 14' 30"	0.89291347	0.45022831	1.983245923	0.504223903	2.221095313	1.119929348
63° 15' 00"	0.89297894	0.45009844	1.983963644	0.504041494	2.221736200	1.119847234
63° 15' 30"	0.89304440	0.44996856	1.984681780	0.503859112	2.222377503	1.119765156
63° 16' 00"	0.89310983	0.44983866	1.985400330	0.503676757	2.223019224	1.119683114
63° 16' 30"	0.89317525	0.44970876	1.986119296	0.503494429	2.223661363	1.119601107
63° 17' 00"	0.89324065	0.44957885	1.986838677	0.503312127	2.224303920	1.119519137
63° 17' 30"	0.89330603	0.44944893	1.987558473	0.503129852	2.224946895	1.119437201
63° 18' 00"	0.89337139	0.44931900	1.988278686	0.502947603	2.225590289	1.119355302
63° 18' 30"	0.89343673	0.44918906	1.988999316	0.502765382	2.226234103	1.119273438
63° 19' 00"	0.89350205	0.44905911	1.989720363	0.502583186	2.226878336	1.119191610
63° 19' 30"	0.89356736	0.44892915	1.990441827	0.502401018	2.227522989	1.119109817
63° 20' 00"	0.89363264	0.44879918	1.991163709	0.502218876	2.228168063	1.119028060
63° 20' 30"	0.89369791	0.44866920	1.991886009	0.502036761	2.228813558	1.118946339

63° 21' 00"

63° 41' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
63° 21' 00"	0.89376315	0.44853921	1.992608728	0.501854672	2.229459474	1.118864653
63° 21' 30"	0.89382838	0.44840922	1.993331866	0.501672610	2.230105811	1.118783003
63° 22' 00"	0.89389359	0.44827921	1.994055424	0.501490574	2.230752571	1.118701388
63° 22' 30"	0.89395878	0.44814919	1.994779401	0.501308565	2.231399753	1.118619809
63° 23' 00"	0.89402395	0.44801917	1.995503798	0.501126583	2.232047358	1.118538266
63° 23' 30"	0.89408910	0.44788913	1.996228617	0.500944627	2.232695387	1.118456758
63° 24' 00"	0.89415424	0.44775909	1.996953856	0.500762698	2.233343839	1.118375286
63° 24' 30"	0.89421935	0.44762903	1.997679516	0.500580795	2.233992715	1.118293849
63° 25' 00"	0.89428445	0.44749897	1.998405598	0.500398918	2.234642015	1.118212447
63° 25' 30"	0.89434952	0.44736890	1.999132103	0.500217068	2.235291740	1.118131082
63° 26' 00"	0.89441458	0.44723881	1.999859030	0.500035245	2.235941891	1.118049751
63° 26' 30"	0.89447962	0.44710872	2.000586380	0.499853448	2.236592467	1.117968456
63° 27' 00"	0.89454464	0.44697862	2.001314153	0.499671677	2.237243469	1.117887197
63° 27' 30"	0.89460964	0.44684851	2.002042351	0.499489933	2.237894898	1.117805973
63° 28' 00"	0.89467462	0.44671839	2.002770972	0.499308215	2.238546753	1.117724785
63° 28' 30"	0.89473959	0.44658826	2.003500018	0.499126524	2.239199036	1.117643631
63° 29' 00"	0.89480453	0.44645812	2.004229489	0.498944859	2.239851746	1.117562514
63° 29' 30"	0.89486946	0.44632797	2.004959386	0.498763220	2.240504885	1.117481432
63° 30' 00"	0.89493436	0.44619781	2.005689708	0.498581608	2.241158452	1.117400385
63° 30' 30"	0.89499925	0.44606765	2.006420457	0.498400022	2.241812447	1.117319373
63° 31' 00"	0.89506412	0.44593747	2.007151632	0.498218462	2.242466872	1.117238397
63° 31' 30"	0.89512897	0.44580728	2.007883234	0.498036929	2.243121727	1.117157457
63° 32' 00"	0.89519380	0.44567709	2.008615264	0.497855422	2.243777012	1.117076551
63° 32' 30"	0.89525861	0.44554688	2.009347721	0.497673941	2.244432727	1.116995681
63° 33' 00"	0.89532340	0.44541667	2.010080607	0.497492487	2.245088873	1.116914847
63° 33' 30"	0.89538818	0.44528644	2.010813921	0.497311059	2.245745450	1.116834047
63° 34' 00"	0.89545293	0.44515621	2.011547665	0.497129657	2.246402459	1.116753283
63° 34' 30"	0.89551767	0.44502596	2.012281838	0.496948281	2.247059900	1.116672554
63° 35' 00"	0.89558238	0.44489571	2.013016440	0.496766931	2.247717773	1.116591861
63° 35' 30"	0.89564708	0.44476545	2.013751473	0.496585608	2.248376080	1.116511203
63° 36' 00"	0.89571176	0.44463518	2.014486937	0.496404311	2.249034820	1.116430580
63° 36' 30"	0.89577642	0.44450490	2.015222832	0.496223040	2.249693993	1.116349992
63° 37' 00"	0.89584106	0.44437461	2.015959158	0.496041795	2.250353601	1.116269440
63° 37' 30"	0.89590568	0.44424431	2.016695917	0.495860577	2.251013643	1.116188923
63° 38' 00"	0.89597029	0.44411400	2.017433107	0.495679384	2.251674120	1.116108441
63° 38' 30"	0.89603487	0.44398368	2.018170730	0.495498218	2.252335032	1.116027994
63° 39' 00"	0.89609944	0.44385335	2.018908787	0.495317077	2.252996380	1.115947583
63° 39' 30"	0.89616398	0.44372302	2.019647277	0.495135963	2.253658165	1.115867206
63° 40' 00"	0.89622851	0.44359267	2.020386201	0.494954875	2.254320386	1.115786865
63° 40' 30"	0.89629302	0.44346231	2.021125559	0.494773813	2.254983044	1.115706559
63° 41' 00"	0.89635751	0.44333195	2.021865353	0.494592777	2.255646139	1.115626288
63° 41' 30"	0.89642198	0.44320157	2.022605581	0.494411767	2.256309672	1.115546053

63° 42' 00"

64° 02' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
63° 42' 00"	0.89648643	0.44307119	2.023346245	0.494230783	2.256973644	1.115465852
63° 42' 30"	0.89655086	0.44294080	2.024087346	0.494049826	2.257638054	1.115385687
63° 43' 00"	0.89661528	0.44281039	2.024828882	0.493868894	2.258302903	1.115305556
63° 43' 30"	0.89667967	0.44267998	2.025570856	0.493687988	2.258968192	1.115225461
63° 44' 00"	0.89674405	0.44254956	2.026313267	0.493507108	2.259633920	1.115145401
63° 44' 30"	0.89680840	0.44241913	2.027056115	0.493326254	2.260300089	1.115065376
63° 45' 00"	0.89687274	0.44228869	2.027799402	0.493145426	2.260966699	1.114985386
63° 45' 30"	0.89693706	0.44215824	2.028543127	0.492964624	2.261633750	1.114905431
63° 46' 00"	0.89700136	0.44202778	2.029287292	0.492783848	2.262301243	1.114825511
63° 46' 30"	0.89706564	0.44189731	2.030031895	0.492603098	2.262969177	1.114745627
63° 47' 00"	0.89712990	0.44176684	2.030776939	0.492422373	2.263637554	1.114665777
63° 47' 30"	0.89719415	0.44163635	2.031522423	0.492241675	2.264306374	1.114585962
63° 48' 00"	0.89725837	0.44150585	2.032268347	0.492061002	2.264975637	1.114506182
63° 48' 30"	0.89732257	0.44137535	2.033014713	0.491880356	2.265645343	1.114426437
63° 49' 00"	0.89738676	0.44124483	2.033761520	0.491699735	2.266315494	1.114346728
63° 49' 30"	0.89745093	0.44111431	2.034508769	0.491519140	2.266986089	1.114267053
63° 50' 00"	0.89751508	0.44098377	2.035256460	0.491338571	2.267657130	1.114187413
63° 50' 30"	0.89757920	0.44085323	2.036004594	0.491158027	2.268328615	1.114107808
63° 51' 00"	0.89764331	0.44072268	2.036753172	0.490977510	2.269000547	1.114028238
63° 51' 30"	0.89770741	0.44059212	2.037502193	0.490797018	2.269672925	1.113948703
63° 52' 00"	0.89777148	0.44046155	2.038251658	0.490616552	2.270345749	1.113869203
63° 52' 30"	0.89783553	0.44033097	2.039001567	0.490436112	2.271019020	1.113789738
63° 53' 00"	0.89789956	0.44020038	2.039751922	0.490255697	2.271692739	1.113710307
63° 53' 30"	0.89796358	0.44006978	2.040502722	0.490075308	2.272366906	1.113630912
63° 54' 00"	0.89802758	0.43993917	2.041253967	0.489894945	2.273041521	1.113551551
63° 54' 30"	0.89809155	0.43980855	2.042005659	0.489714608	2.273716585	1.113472225
63° 55' 00"	0.89815551	0.43967793	2.042757797	0.489534296	2.274392099	1.113392935
63° 55' 30"	0.89821945	0.43954729	2.043510383	0.489354010	2.275068062	1.113313679
63° 56' 00"	0.89828337	0.43941664	2.044263416	0.489173749	2.275744475	1.113234457
63° 56' 30"	0.89834727	0.43928599	2.045016897	0.488993515	2.276421338	1.113155271
63° 57' 00"	0.89841115	0.43915533	2.045770826	0.488813306	2.277098652	1.113076119
63° 57' 30"	0.89847502	0.43902465	2.046525204	0.488633122	2.277776418	1.112997003
63° 58' 00"	0.89853886	0.43889397	2.047280031	0.488452964	2.278454636	1.112917921
63° 58' 30"	0.89860269	0.43876328	2.048035308	0.488272832	2.279133306	1.112838874
63° 59' 00"	0.89866649	0.43863258	2.048791035	0.488092725	2.279812428	1.112759861
63° 59' 30"	0.89873028	0.43850187	2.049547213	0.487912644	2.280492004	1.112680883
64° 00' 00"	0.89879405	0.43837115	2.050303842	0.487732589	2.281172033	1.112601940
64° 00' 30"	0.89885780	0.43824042	2.051060922	0.487552559	2.281852516	1.112523032
64° 01' 00"	0.89892153	0.43810968	2.051818453	0.487372554	2.282533453	1.112444159
64° 01' 30"	0.89898524	0.43797893	2.052576437	0.487192575	2.283214846	1.112365320
64° 02' 00"	0.89904893	0.43784818	2.053334874	0.487012622	2.283896693	1.112286516
64° 02' 30"	0.89911260	0.43771741	2.054093764	0.486832694	2.284578996	1.112207747

64° 03' 00"

64° 23' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
64° 03' 00"	0.89917626	0.43758663	2.054853107	0.486652791	2.285261756	1.112129012
64° 03' 30"	0.89923989	0.43745585	2.055612905	0.486472914	2.285944972	1.112050312
64° 04' 00"	0.89930351	0.43732506	2.056373157	0.486293062	2.286628645	1.111971647
64° 04' 30"	0.89936710	0.43719425	2.057133864	0.486113236	2.287312775	1.111893016
64° 05' 00"	0.89943068	0.43706344	2.057895026	0.485933436	2.287997364	1.111814420
64° 05' 30"	0.89949424	0.43693262	2.058656644	0.485753660	2.288682411	1.111735858
64° 06' 00"	0.89955778	0.43680179	2.059418718	0.485573910	2.289367916	1.111657331
64° 06' 30"	0.89962130	0.43667095	2.060181249	0.485394186	2.290053881	1.111578839
64° 07' 00"	0.89968480	0.43654010	2.060944237	0.485214487	2.290740305	1.111500382
64° 07' 30"	0.89974828	0.43640924	2.061707682	0.485034813	2.291427190	1.111421958
64° 08' 00"	0.89981175	0.43627837	2.062471586	0.484855165	2.292114535	1.111343570
64° 08' 30"	0.89987519	0.43614750	2.063235948	0.484675541	2.292802341	1.111265216
64° 09' 00"	0.89993862	0.43601661	2.064000768	0.484495944	2.293490609	1.111186897
64° 09' 30"	0.90000202	0.43588571	2.064766049	0.484316371	2.294179338	1.111108612
64° 10' 00"	0.90006541	0.43575481	2.065531788	0.484136824	2.294868530	1.111030362
64° 10' 30"	0.90012878	0.43562390	2.066297989	0.483957302	2.295558184	1.110952146
64° 11' 00"	0.90019213	0.43549297	2.067064649	0.483777806	2.296248302	1.110873965
64° 11' 30"	0.90025546	0.43536204	2.067831771	0.483598334	2.296938884	1.110795818
64° 12' 00"	0.90031877	0.43523110	2.068599355	0.483418888	2.297629929	1.110717706
64° 12' 30"	0.90038206	0.43510015	2.069367400	0.483239467	2.298321439	1.110639628
64° 13' 00"	0.90044534	0.43496919	2.070135908	0.483060072	2.299013414	1.110561584
64° 13' 30"	0.90050859	0.43483822	2.070904879	0.482880701	2.299705855	1.110483576
64° 14' 00"	0.90057183	0.43470724	2.071674314	0.482701356	2.300398761	1.110405601
64° 14' 30"	0.90063504	0.43457625	2.072444212	0.482522036	2.301092134	1.110327661
64° 15' 00"	0.90069824	0.43444526	2.073214574	0.482342741	2.301785974	1.110249756
64° 15' 30"	0.90076142	0.43431425	2.073985401	0.482163471	2.302480281	1.110171884
64° 16' 00"	0.90082458	0.43418324	2.074756694	0.481984226	2.303175056	1.110094048
64° 16' 30"	0.90088772	0.43405221	2.075528451	0.481805007	2.303870299	1.110016245
64° 17' 00"	0.90095084	0.43392118	2.076300675	0.481625813	2.304566010	1.109938477
64° 17' 30"	0.90101394	0.43379014	2.077073366	0.481446643	2.305262191	1.109860744
64° 18' 00"	0.90107702	0.43365908	2.077846524	0.481267499	2.305958841	1.109783044
64° 18' 30"	0.90114008	0.43352802	2.078620149	0.481088380	2.306655961	1.109705380
64° 19' 00"	0.90120313	0.43339695	2.079394241	0.480909286	2.307353551	1.109627749
64° 19' 30"	0.90126616	0.43326587	2.080168803	0.480730217	2.308051613	1.109550153
64° 20' 00"	0.90132916	0.43313479	2.080943833	0.480551173	2.308750146	1.109472591
64° 20' 30"	0.90139215	0.43300369	2.081719332	0.480372154	2.309449150	1.109395063
64° 21' 00"	0.90145512	0.43287258	2.082495301	0.480193160	2.310148627	1.109317570
64° 21' 30"	0.90151807	0.43274147	2.083271741	0.480014191	2.310848577	1.109240111
64° 22' 00"	0.90158100	0.43261034	2.084048651	0.479835247	2.311549000	1.109162686
64° 22' 30"	0.90164391	0.43247921	2.084826032	0.479656329	2.312249896	1.109085296
64° 23' 00"	0.90170680	0.43234806	2.085603885	0.479477435	2.312951267	1.109007940
64° 23' 30"	0.90176967	0.43221691	2.086382209	0.479298565	2.313653112	1.108930618



64° 24' 00"

64° 44' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
64° 24' 00"	0.90183253	0.43208575	2.087161007	0.479119721	2.314355432	1.108853330
64° 24' 30"	0.90189536	0.43195458	2.087940277	0.478940902	2.315058228	1.108776077
64° 25' 00"	0.90195818	0.43182340	2.088720021	0.478762108	2.315761500	1.108698857
64° 25' 30"	0.90202097	0.43169221	2.089500238	0.478583339	2.316465248	1.108621672
64° 26' 00"	0.90208375	0.43156101	2.090280930	0.478404594	2.317169473	1.108544521
64° 26' 30"	0.90214651	0.43142980	2.091062097	0.478225875	2.317874175	1.108467405
64° 27' 00"	0.90220925	0.43129859	2.091843739	0.478047180	2.318579356	1.108390322
64° 27' 30"	0.90227197	0.43116736	2.092625857	0.477868510	2.319285014	1.108313274
64° 28' 00"	0.90233467	0.43103613	2.093408451	0.477689865	2.319991151	1.108236260
64° 28' 30"	0.90239735	0.43090488	2.094191522	0.477511245	2.320697768	1.108159279
64° 29' 00"	0.90246002	0.43077363	2.094975070	0.477332649	2.321404864	1.108082334
64° 29' 30"	0.90252266	0.43064237	2.095759095	0.477154079	2.322112440	1.108005422
64° 30' 00"	0.90258528	0.43051110	2.096543599	0.476975533	2.322820497	1.107928544
64° 30' 30"	0.90264789	0.43037982	2.097328581	0.476797012	2.323529035	1.107851700
64° 31' 00"	0.90271048	0.43024853	2.098114043	0.476618515	2.324238055	1.107774891
64° 31' 30"	0.90277304	0.43011723	2.098899984	0.476440044	2.324947557	1.107698116
64° 32' 00"	0.90283559	0.42998592	2.099686405	0.476261597	2.325657541	1.107621374
64° 32' 30"	0.90289812	0.42985460	2.100473306	0.476083175	2.326368008	1.107544667
64° 33' 00"	0.90296063	0.42972328	2.101260688	0.475904777	2.327078959	1.107467994
64° 33' 30"	0.90302312	0.42959194	2.102048552	0.475726405	2.327790393	1.107391355
64° 34' 00"	0.90308560	0.42946060	2.102836898	0.475548057	2.328502312	1.107314749
64° 34' 30"	0.90314805	0.42932925	2.103625726	0.475369733	2.329214716	1.107238178
64° 35' 00"	0.90321048	0.42919788	2.104415036	0.475191435	2.329927605	1.107161641
64° 35' 30"	0.90327290	0.42906651	2.105204831	0.475013160	2.330640980	1.107085138
64° 36' 00"	0.90333529	0.42893513	2.105995109	0.474834911	2.331354842	1.107008669
64° 36' 30"	0.90339767	0.42880374	2.106785871	0.474656686	2.332069190	1.106932234
64° 37' 00"	0.90346003	0.42867235	2.107577118	0.474478486	2.332784025	1.106855832
64° 37' 30"	0.90352237	0.42854094	2.108368850	0.474300310	2.333499348	1.106779465
64° 38' 00"	0.90358468	0.42840952	2.109161068	0.474122159	2.334215160	1.106703132
64° 38' 30"	0.90364698	0.42827810	2.109953772	0.473944033	2.334931460	1.106626832
64° 39' 00"	0.90370927	0.42814666	2.110746963	0.473765931	2.335648249	1.106550567
64° 39' 30"	0.90377153	0.42801522	2.111540641	0.473587854	2.336365528	1.106474335
64° 40' 00"	0.90383377	0.42788376	2.112334807	0.473409801	2.337083297	1.106398138
64° 40' 30"	0.90389599	0.42775230	2.113129461	0.473231772	2.337801556	1.106321974
64° 41' 00"	0.90395820	0.42762083	2.113924603	0.473053769	2.338520307	1.106245844
64° 41' 30"	0.90402038	0.42748935	2.114720234	0.472875789	2.339239550	1.106169748
64° 42' 00"	0.90408255	0.42735786	2.115516356	0.472697834	2.339959284	1.106093686
64° 42' 30"	0.90414470	0.42722637	2.116312967	0.472519904	2.340679511	1.106017658
64° 43' 00"	0.90420682	0.42709486	2.117110068	0.472341998	2.341400231	1.105941664
64° 43' 30"	0.90426893	0.42696334	2.117907661	0.472164117	2.342121445	1.105865703
64° 44' 00"	0.90433102	0.42683182	2.118705745	0.471986260	2.342843152	1.105789776
64° 44' 30"	0.90439309	0.42670028	2.119504322	0.471808427	2.343565354	1.105713883

64° 45' 00"

65° 05' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
64° 45' 00"	0.90445515	0.42656874	2.120303390	0.471630619	2.344288051	1.105638024
64° 45' 30"	0.90451718	0.42643719	2.121102952	0.471452835	2.345011244	1.105562199
64° 46' 00"	0.90457919	0.42630563	2.121903007	0.471275075	2.345734932	1.105486407
64° 46' 30"	0.90464119	0.42617406	2.122703557	0.471097340	2.346459117	1.105410650
64° 47' 00"	0.90470316	0.42604248	2.123504600	0.470919630	2.347183799	1.105334926
64° 47' 30"	0.90476512	0.42591089	2.124306139	0.470741943	2.347908979	1.105259235
64° 48' 00"	0.90482705	0.42577929	2.125108173	0.470564281	2.348634656	1.105183579
64° 48' 30"	0.90488897	0.42564769	2.125910703	0.470386643	2.349360832	1.105107956
64° 49' 00"	0.90495087	0.42551607	2.126713730	0.470209030	2.350087506	1.105032367
64° 49' 30"	0.90501275	0.42538445	2.127517253	0.470031441	2.350814681	1.104956812
64° 50' 00"	0.90507461	0.42525281	2.128321274	0.469853876	2.351542355	1.104881290
64° 50' 30"	0.90513645	0.42512117	2.129125793	0.469676335	2.352270529	1.104805802
64° 51' 00"	0.90519827	0.42498952	2.129930810	0.469498819	2.352999204	1.104730348
64° 51' 30"	0.90526007	0.42485786	2.130736326	0.469321327	2.353728381	1.104654927
64° 52' 00"	0.90532186	0.42472619	2.131542342	0.469143859	2.354458060	1.104579540
64° 52' 30"	0.90538362	0.42459451	2.132348857	0.468966415	2.355188241	1.104504187
64° 53' 00"	0.90544537	0.42446282	2.133155873	0.468788996	2.355918925	1.104428867
64° 53' 30"	0.90550709	0.42433113	2.133963390	0.468611601	2.356650112	1.104353581
64° 54' 00"	0.90556880	0.42419942	2.134771408	0.468434230	2.357381803	1.104278329
64° 54' 30"	0.90563049	0.42406771	2.135579928	0.468256883	2.358113999	1.104203110
64° 55' 00"	0.90569216	0.42393599	2.136388951	0.468079560	2.358846699	1.104127925
64° 55' 30"	0.90575380	0.42380425	2.137198476	0.467902261	2.359579905	1.104052773
64° 56' 00"	0.90581543	0.42367251	2.138008505	0.467724987	2.360313617	1.103977655
64° 56' 30"	0.90587705	0.42354076	2.138819038	0.467547736	2.361047835	1.103902571
64° 57' 00"	0.90593864	0.42340900	2.139630075	0.467370510	2.361782560	1.103827520
64° 57' 30"	0.90600021	0.42327724	2.140441618	0.467193308	2.362517792	1.103752503
64° 58' 00"	0.90606176	0.42314546	2.141253665	0.467016130	2.363253532	1.103677519
64° 58' 30"	0.90612330	0.42301367	2.142066219	0.466838976	2.363989781	1.103602569
64° 59' 00"	0.90618481	0.42288188	2.142879279	0.466661846	2.364726539	1.103527652
64° 59' 30"	0.90624631	0.42275007	2.143692846	0.466484740	2.365463806	1.103452769
65° 00' 00"	0.90630779	0.42261826	2.144506921	0.466307658	2.366201583	1.103377919
65° 00' 30"	0.90636924	0.42248644	2.145321503	0.466130600	2.366939871	1.103303103
65° 01' 00"	0.90643068	0.42235461	2.146136594	0.465953566	2.367678669	1.103228320
65° 01' 30"	0.90649210	0.42222277	2.146952194	0.465776557	2.368417979	1.103153571
65° 02' 00"	0.90655350	0.42209092	2.147768304	0.465599571	2.369157801	1.103078855
65° 02' 30"	0.90661488	0.42195906	2.148584923	0.465422609	2.369898135	1.103004173
65° 03' 00"	0.90667625	0.42182720	2.149402053	0.465245671	2.370638983	1.102929524
65° 03' 30"	0.90673759	0.42169532	2.150219695	0.465068757	2.371380344	1.102854908
65° 04' 00"	0.90679891	0.42156344	2.151037847	0.464891867	2.372122219	1.102780326
65° 04' 30"	0.90686022	0.42143155	2.151856512	0.464715000	2.372864608	1.102705777
65° 05' 00"	0.90692150	0.42129964	2.152675690	0.464538158	2.373607513	1.102631262
65° 05' 30"	0.90698277	0.42116773	2.153495380	0.464361340	2.374350933	1.102556780

65° 06' 00"

65° 26' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
65° 06' 00"	0.90704401	0.42103581	2.154315584	0.464184545	2.375094869	1.102482332
65° 06' 30"	0.90710524	0.42090388	2.155136303	0.464007775	2.375839322	1.102407917
65° 07' 00"	0.90716645	0.42077195	2.155957536	0.463831028	2.376584292	1.102333535
65° 07' 30"	0.90722764	0.42064000	2.156779284	0.463654305	2.377329779	1.102259187
65° 08' 00"	0.90728881	0.42050805	2.157601548	0.463477606	2.378075785	1.102184872
65° 08' 30"	0.90734996	0.42037608	2.158424328	0.463300931	2.378822309	1.102110590
65° 09' 00"	0.90741109	0.42024411	2.159247625	0.463124279	2.379569353	1.102036342
65° 09' 30"	0.90747220	0.42011213	2.160071439	0.462947652	2.380316916	1.101962126
65° 10' 00"	0.90753330	0.41998013	2.160895771	0.462771048	2.381065000	1.101887945
65° 10' 30"	0.90759437	0.41984814	2.161720621	0.462594468	2.381813604	1.101813796
65° 11' 00"	0.90765543	0.41971613	2.162545991	0.462417911	2.382562730	1.101739681
65° 11' 30"	0.90771646	0.41958411	2.163371879	0.462241379	2.383312377	1.101665599
65° 12' 00"	0.90777748	0.41945208	2.164198288	0.462064870	2.384062547	1.101591550
65° 12' 30"	0.90783848	0.41932005	2.165025216	0.461888385	2.384813240	1.101517535
65° 13' 00"	0.90789945	0.41918800	2.165852666	0.461711923	2.385564456	1.101443553
65° 13' 30"	0.90796041	0.41905595	2.166680637	0.461535486	2.386316195	1.101369604
65° 14' 00"	0.90802135	0.41892389	2.167509131	0.461359071	2.387068460	1.101295688
65° 14' 30"	0.90808227	0.41879182	2.168338146	0.461182681	2.387821249	1.101221806
65° 15' 00"	0.90814317	0.41865974	2.169167685	0.461006314	2.388574564	1.101147956
65° 15' 30"	0.90820406	0.41852765	2.169997748	0.460829971	2.389328405	1.101074140
65° 16' 00"	0.90826492	0.41839555	2.170828334	0.460653652	2.390082772	1.101000357
65° 16' 30"	0.90832576	0.41826345	2.171659446	0.460477356	2.390837667	1.100926608
65° 17' 00"	0.90838659	0.41813133	2.172491082	0.460301084	2.391593089	1.100852891
65° 17' 30"	0.90844739	0.41799921	2.173323244	0.460124835	2.392349039	1.100779208
65° 18' 00"	0.90850818	0.41786707	2.174155933	0.459948610	2.393105518	1.100705557
65° 18' 30"	0.90856894	0.41773493	2.174989148	0.459772409	2.393862526	1.100631940
65° 19' 00"	0.90862969	0.41760278	2.175822890	0.459596231	2.394620064	1.100558356
65° 19' 30"	0.90869042	0.41747062	2.176657161	0.459420077	2.395378132	1.100484805
65° 20' 00"	0.90875113	0.41733845	2.177491959	0.459243946	2.396136731	1.100411288
65° 20' 30"	0.90881182	0.41720628	2.178327287	0.459067839	2.396895861	1.100337803
65° 21' 00"	0.90887249	0.41707409	2.179163144	0.458891755	2.397655523	1.100264351
65° 21' 30"	0.90893314	0.41694190	2.179999531	0.458715695	2.398415718	1.100190933
65° 22' 00"	0.90899377	0.41680969	2.180836449	0.458539658	2.399176446	1.100117547
65° 22' 30"	0.90905439	0.41667748	2.181673898	0.458363645	2.399937707	1.100044195
65° 23' 00"	0.90911498	0.41654526	2.182511878	0.458187655	2.400699502	1.099970876
65° 23' 30"	0.90917555	0.41641303	2.183350391	0.458011689	2.401461832	1.099897589
65° 24' 00"	0.90923611	0.41628079	2.184189436	0.457835746	2.402224697	1.099824336
65° 24' 30"	0.90929665	0.41614854	2.185029015	0.457659827	2.402988097	1.099751116
65° 25' 00"	0.90935716	0.41601629	2.185869127	0.457483931	2.403752034	1.099677929
65° 25' 30"	0.90941766	0.41588402	2.186709774	0.457308058	2.404516508	1.099604774
65° 26' 00"	0.90947814	0.41575175	2.187550956	0.457132209	2.405281519	1.099531653
65° 26' 30"	0.90953860	0.41561947	2.188392673	0.456956383	2.406047068	1.099458565

65° 27' 00"

65° 47' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
65° 27' 00"	0.90959904	0.41548718	2.189234926	0.456780580	2.406813155	1.099385510
65° 27' 30"	0.90965946	0.41535488	2.190077716	0.456604801	2.407579781	1.099312487
65° 28' 00"	0.90971986	0.41522257	2.190921042	0.456429045	2.408346946	1.099239498
65° 28' 30"	0.90978024	0.41509025	2.191764907	0.456253313	2.409114652	1.099166541
65° 29' 00"	0.90984060	0.41495792	2.192609309	0.456077604	2.409882898	1.099093618
65° 29' 30"	0.90990095	0.41482559	2.193454251	0.455901918	2.410651686	1.099020727
65° 30' 00"	0.90996127	0.41469324	2.194299731	0.455726256	2.411421015	1.098947870
65° 30' 30"	0.91002158	0.41456089	2.195145752	0.455550616	2.412190886	1.098875045
65° 31' 00"	0.91008186	0.41442853	2.195992312	0.455375000	2.412961300	1.098802253
65° 31' 30"	0.91014213	0.41429616	2.196839414	0.455199408	2.413732258	1.098729494
65° 32' 00"	0.91020238	0.41416378	2.197687057	0.455023838	2.414503759	1.098656768
65° 32' 30"	0.91026260	0.41403139	2.198535243	0.454848292	2.415275805	1.098584074
65° 33' 00"	0.91032281	0.41389899	2.199383971	0.454672769	2.416048396	1.098511414
65° 33' 30"	0.91038300	0.41376659	2.200233242	0.454497269	2.416821532	1.098438787
65° 34' 00"	0.91044317	0.41363417	2.201083056	0.454321793	2.417595214	1.098366192
65° 34' 30"	0.91050332	0.41350175	2.201933415	0.454146339	2.418369444	1.098293630
65° 35' 00"	0.91056346	0.41336932	2.202784319	0.453970909	2.419144220	1.098221101
65° 35' 30"	0.91062357	0.41323688	2.203635769	0.453795502	2.419919544	1.098148605
65° 36' 00"	0.91068366	0.41310443	2.204487764	0.453620118	2.420695417	1.098076141
65° 36' 30"	0.91074373	0.41297197	2.205340306	0.453444757	2.421471838	1.098003710
65° 37' 00"	0.91080379	0.41283951	2.206193395	0.453269420	2.422248809	1.097931312
65° 37' 30"	0.91086382	0.41270703	2.207047031	0.453094105	2.423026331	1.097858947
65° 38' 00"	0.91092384	0.41257455	2.207901216	0.452918814	2.423804402	1.097786615
65° 38' 30"	0.91098384	0.41244205	2.208755950	0.452743546	2.424583025	1.097714315
65° 39' 00"	0.91104382	0.41230955	2.209611232	0.452568300	2.425362200	1.097642048
65° 39' 30"	0.91110377	0.41217704	2.210467065	0.452393078	2.426141926	1.097569814
65° 40' 00"	0.91116371	0.41204452	2.211323449	0.452217879	2.426922206	1.097497613
65° 40' 30"	0.91122363	0.41191199	2.212180383	0.452042703	2.427703039	1.097425444
65° 41' 00"	0.91128353	0.41177946	2.213037869	0.451867550	2.428484426	1.097353308
65° 41' 30"	0.91134341	0.41164691	2.213895907	0.451692420	2.429266368	1.097281205
65° 42' 00"	0.91140328	0.41151436	2.214754498	0.451517313	2.430048865	1.097209134
65° 42' 30"	0.91146312	0.41138180	2.215613642	0.451342229	2.430831917	1.097137096
65° 43' 00"	0.91152294	0.41124922	2.216473340	0.451167168	2.431615526	1.097065091
65° 43' 30"	0.91158275	0.41111664	2.217333593	0.450992130	2.432399692	1.096993118
65° 44' 00"	0.91164253	0.41098406	2.218194400	0.450817115	2.433184415	1.096921178
65° 44' 30"	0.91170230	0.41085146	2.219055763	0.450642123	2.433969696	1.096849271
65° 45' 00"	0.91176204	0.41071885	2.219917683	0.450467154	2.434755536	1.096777396
65° 45' 30"	0.91182177	0.41058624	2.220780159	0.450292207	2.435541934	1.096705554
65° 46' 00"	0.91188148	0.41045361	2.221643192	0.450117284	2.436328893	1.096633744
65° 46' 30"	0.91194117	0.41032098	2.222506784	0.449942384	2.437116412	1.096561968
65° 47' 00"	0.91200084	0.41018834	2.223370934	0.449767506	2.437904491	1.096490223
65° 47' 30"	0.91206049	0.41005569	2.224235643	0.449592651	2.438693132	1.096418511

65° 48' 00"

66° 08' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
65° 48' 00"	0.91212012	0.40992303	2.225100911	0.449417820	2.439482336	1.096346832
65° 48' 30"	0.91217973	0.40979037	2.225966740	0.449243011	2.440272101	1.096275186
65° 49' 00"	0.91223932	0.40965769	2.226833130	0.449068225	2.441062430	1.096203572
65° 49' 30"	0.91229889	0.40952501	2.227700081	0.448893461	2.441853323	1.096131990
65° 50' 00"	0.91235845	0.40939231	2.228567594	0.448718721	2.442644780	1.096060441
65° 50' 30"	0.91241798	0.40925961	2.229435670	0.448544003	2.443436802	1.095988925
65° 51' 00"	0.91247749	0.40912690	2.230304308	0.448369308	2.444229389	1.095917441
65° 51' 30"	0.91253699	0.40899418	2.231173511	0.448194636	2.445022543	1.095845989
65° 52' 00"	0.91259647	0.40886146	2.232043277	0.448019987	2.445816263	1.095774570
65° 52' 30"	0.91265592	0.40872872	2.232913609	0.447845360	2.446610551	1.095703184
65° 53' 00"	0.91271536	0.40859598	2.233784506	0.447670757	2.447405406	1.095631830
65° 53' 30"	0.91277478	0.40846322	2.234655970	0.447496176	2.448200830	1.095560508
65° 54' 00"	0.91283418	0.40833046	2.235528000	0.447321617	2.448996822	1.095489219
65° 54' 30"	0.91289356	0.40819769	2.236400597	0.447147082	2.449793385	1.095417962
65° 55' 00"	0.91295292	0.40806491	2.237273762	0.446972569	2.450590518	1.095346738
65° 55' 30"	0.91301226	0.40793212	2.238147495	0.446798078	2.451388221	1.095275547
65° 56' 00"	0.91307158	0.40779933	2.239021798	0.446623611	2.452186496	1.095204387
65° 56' 30"	0.91313088	0.40766652	2.239896670	0.446449166	2.452985343	1.095133260
65° 57' 00"	0.91319017	0.40753371	2.240772112	0.446274744	2.453784762	1.095062166
65° 57' 30"	0.91324943	0.40740088	2.241648125	0.446100344	2.454584755	1.094991104
65° 58' 00"	0.91330867	0.40726805	2.242524710	0.445925967	2.455385321	1.094920074
65° 58' 30"	0.91336790	0.40713521	2.243401866	0.445751613	2.456186461	1.094849076
65° 59' 00"	0.91342710	0.40700237	2.244279595	0.445577281	2.456988177	1.094778111
65° 59' 30"	0.91348629	0.40686951	2.245157898	0.445402972	2.457790468	1.094707179
66° 00' 00"	0.91354546	0.40673664	2.246036774	0.445228685	2.458593336	1.094636279
66° 00' 30"	0.91360461	0.40660377	2.246916224	0.445054421	2.459396780	1.094565411
66° 01' 00"	0.91366373	0.40647089	2.247796250	0.444880180	2.460200801	1.094494575
66° 01' 30"	0.91372284	0.40633799	2.248676851	0.444705961	2.461005400	1.094423772
66° 02' 00"	0.91378193	0.40620510	2.249558028	0.444531765	2.461810578	1.094353001
66° 02' 30"	0.91384100	0.40607219	2.250439783	0.444357591	2.462616335	1.094282262
66° 03' 00"	0.91390005	0.40593927	2.251322114	0.444183439	2.463422672	1.094211555
66° 03' 30"	0.91395909	0.40580634	2.252205024	0.444009311	2.464229589	1.094140881
66° 04' 00"	0.91401810	0.40567341	2.253088512	0.443835204	2.465037087	1.094070239
66° 04' 30"	0.91407709	0.40554047	2.253972579	0.443661120	2.465845167	1.093999630
66° 05' 00"	0.91413607	0.40540752	2.254857227	0.443487059	2.466653829	1.093929052
66° 05' 30"	0.91419502	0.40527456	2.255742454	0.443313020	2.467463074	1.093858507
66° 06' 00"	0.91425396	0.40514159	2.256628263	0.443139004	2.468272902	1.093787994
66° 06' 30"	0.91431287	0.40500861	2.257514653	0.442965010	2.469083314	1.093717514
66° 07' 00"	0.91437177	0.40487562	2.258401626	0.442791038	2.469894310	1.093647065
66° 07' 30"	0.91443064	0.40474263	2.259289182	0.442617089	2.470705892	1.093576649
66° 08' 00"	0.91448950	0.40460963	2.260177321	0.442443162	2.471518060	1.093506265
66° 08' 30"	0.91454834	0.40447662	2.261066044	0.442269257	2.472330814	1.093435913

66° 09' 00"

66° 29' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
66° 09' 00"	0.91460716	0.40434360	2.261955352	0.442095375	2.473144155	1.093365593
66° 09' 30"	0.91466596	0.40421057	2.262845245	0.441921516	2.473958084	1.093295306
66° 10' 00"	0.91472474	0.40407753	2.263735724	0.441747678	2.474772601	1.093225051
66° 10' 30"	0.91478350	0.40394448	2.264626790	0.441573863	2.475587707	1.093154827
66° 11' 00"	0.91484224	0.40381143	2.265518443	0.441400070	2.476403403	1.093084636
66° 11' 30"	0.91490096	0.40367837	2.266410683	0.441226300	2.477219689	1.093014477
66° 12' 00"	0.91495967	0.40354530	2.267303512	0.441052552	2.478036565	1.092944351
66° 12' 30"	0.91501835	0.40341222	2.268196931	0.440878826	2.478854033	1.092874256
66° 13' 00"	0.91507702	0.40327913	2.269090938	0.440705123	2.479672093	1.092804193
66° 13' 30"	0.91513566	0.40314603	2.269985537	0.440531441	2.480490745	1.092734163
66° 14' 00"	0.91519429	0.40301293	2.270880726	0.440357782	2.481309991	1.092664164
66° 14' 30"	0.91525289	0.40287981	2.271776506	0.440184145	2.482129830	1.092594198
66° 15' 00"	0.91531148	0.40274669	2.272672879	0.440010531	2.482950264	1.092524264
66° 15' 30"	0.91537005	0.40261356	2.273569844	0.439836939	2.483771293	1.092454362
66° 16' 00"	0.91542859	0.40248042	2.274467403	0.439663368	2.484592918	1.092384492
66° 16' 30"	0.91548712	0.40234727	2.275365556	0.439489821	2.485415139	1.092314654
66° 17' 00"	0.91554563	0.40221412	2.276264304	0.439316295	2.486237958	1.092244847
66° 17' 30"	0.91560412	0.40208095	2.277163647	0.439142791	2.487061373	1.092175073
66° 18' 00"	0.91566259	0.40194778	2.278063586	0.438969310	2.487885387	1.092105331
66° 18' 30"	0.91572104	0.40181459	2.278964121	0.438795851	2.488710000	1.092035621
66° 19' 00"	0.91577948	0.40168140	2.279865254	0.438622414	2.489535213	1.091965943
66° 19' 30"	0.91583789	0.40154821	2.280766984	0.438448999	2.490361025	1.091896297
66° 20' 00"	0.91589628	0.40141500	2.281669313	0.438275606	2.491187438	1.091826683
66° 20' 30"	0.91595466	0.40128178	2.282572241	0.438102235	2.492014453	1.091757101
66° 21' 00"	0.91601301	0.40114856	2.283475768	0.437928886	2.492842070	1.091687551
66° 21' 30"	0.91607135	0.40101532	2.284379896	0.437755560	2.493670289	1.091618033
66° 22' 00"	0.91612966	0.40088208	2.285284625	0.437582255	2.494499112	1.091548547
66° 22' 30"	0.91618796	0.40074883	2.286189956	0.437408973	2.495328538	1.091479093
66° 23' 00"	0.91624623	0.40061557	2.287095889	0.437235712	2.496158570	1.091409670
66° 23' 30"	0.91630449	0.40048231	2.288002425	0.437062474	2.496989206	1.091340280
66° 24' 00"	0.91636273	0.40034903	2.288909564	0.436889258	2.497820448	1.091270921
66° 24' 30"	0.91642095	0.40021575	2.289817308	0.436716063	2.498652297	1.091201595
66° 25' 00"	0.91647915	0.40008246	2.290725656	0.436542891	2.499484753	1.091132300
66° 25' 30"	0.91653733	0.39994916	2.291634610	0.436369741	2.500317817	1.091063037
66° 26' 00"	0.91659549	0.39981585	2.292544170	0.436196612	2.501151489	1.090993806
66° 26' 30"	0.91665363	0.39968253	2.293454336	0.436023506	2.501985770	1.090924607
66° 27' 00"	0.91671175	0.39954920	2.294365111	0.435850421	2.502820661	1.090855439
66° 27' 30"	0.91676985	0.39941587	2.295276493	0.435677359	2.503656162	1.090786304
66° 28' 00"	0.91682794	0.39928253	2.296188484	0.435504318	2.504492274	1.090717200
66° 28' 30"	0.91688600	0.39914917	2.297101084	0.435331300	2.505328998	1.090648129
66° 29' 00"	0.91694404	0.39901581	2.298014294	0.435158303	2.506166334	1.090579089
66° 29' 30"	0.91700207	0.39888245	2.298928115	0.434985328	2.507004284	1.090510080

66° 30' 00"

66° 50' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
66° 30' 00"	0.91706007	0.39874907	2.299842547	0.434812375	2.507842846	1.090441104
66° 30' 30"	0.91711806	0.39861568	2.300757591	0.434639444	2.508682023	1.090372159
66° 31' 00"	0.91717603	0.39848229	2.301673248	0.434466535	2.509521815	1.090303247
66° 31' 30"	0.91723397	0.39834889	2.302589518	0.434293647	2.510362223	1.090234366
66° 32' 00"	0.91729190	0.39821548	2.303506402	0.434120782	2.511203246	1.090165516
66° 32' 30"	0.91734981	0.39808206	2.304423901	0.433947938	2.512044887	1.090096699
66° 33' 00"	0.91740770	0.39794863	2.305342014	0.433775116	2.512887145	1.090027913
66° 33' 30"	0.91746557	0.39781520	2.306260744	0.433602316	2.513730021	1.089959159
66° 34' 00"	0.91752342	0.39768175	2.307180090	0.433429538	2.514573516	1.089890437
66° 34' 30"	0.91758125	0.39754830	2.308100054	0.433256781	2.515417631	1.089821746
66° 35' 00"	0.91763906	0.39741484	2.309020635	0.433084046	2.516262366	1.089753087
66° 35' 30"	0.91769685	0.39728137	2.309941835	0.432911333	2.517107721	1.089684460
66° 36' 00"	0.91775463	0.39714789	2.310863654	0.432738642	2.517953698	1.089615865
66° 36' 30"	0.91781238	0.39701440	2.311786093	0.432565973	2.518800297	1.089547301
66° 37' 00"	0.91787011	0.39688091	2.312709152	0.432393325	2.519647519	1.089478769
66° 37' 30"	0.91792783	0.39674741	2.313632833	0.432220699	2.520495365	1.089410268
66° 38' 00"	0.91798552	0.39661390	2.314557135	0.432048095	2.521343835	1.089341799
66° 38' 30"	0.91804320	0.39648038	2.315482060	0.431875512	2.522192929	1.089273362
66° 39' 00"	0.91810085	0.39634685	2.316407608	0.431702951	2.523042649	1.089204957
66° 39' 30"	0.91815849	0.39621331	2.317333780	0.431530412	2.523892995	1.089136583
66° 40' 00"	0.91821611	0.39607977	2.318260577	0.431357894	2.524743968	1.089068241
66° 40' 30"	0.91827370	0.39594621	2.319187999	0.431185398	2.525595568	1.088999930
66° 41' 00"	0.91833128	0.39581265	2.320116046	0.431012924	2.526447796	1.088931651
66° 41' 30"	0.91838884	0.39567908	2.321044720	0.430840471	2.527300654	1.088863403
66° 42' 00"	0.91844638	0.39554550	2.321974022	0.430668040	2.528154140	1.088795188
66° 42' 30"	0.91850390	0.39541192	2.322903951	0.430495630	2.529008257	1.088727003
66° 43' 00"	0.91856140	0.39527832	2.323834509	0.430323242	2.529863005	1.088658850
66° 43' 30"	0.91861888	0.39514472	2.324765696	0.430150876	2.530718384	1.088590729
66° 44' 00"	0.91867634	0.39501111	2.325697513	0.429978531	2.531574396	1.088522640
66° 44' 30"	0.91873379	0.39487748	2.326629960	0.429806208	2.532431040	1.088454582
66° 45' 00"	0.91879121	0.39474386	2.327563039	0.429633906	2.533288318	1.088386555
66° 45' 30"	0.91884861	0.39461022	2.328496750	0.429461626	2.534146230	1.088318560
66° 46' 00"	0.91890600	0.39447657	2.329431094	0.429289367	2.535004777	1.088250596
66° 46' 30"	0.91896336	0.39434292	2.330366071	0.429117130	2.535863960	1.088182664
66° 47' 00"	0.91902071	0.39420926	2.331301681	0.428944914	2.536723779	1.088114764
66° 47' 30"	0.91907803	0.39407559	2.332237927	0.428772720	2.537584235	1.088046895
66° 48' 00"	0.91913534	0.39394191	2.333174808	0.428600547	2.538445328	1.087979057
66° 48' 30"	0.91919263	0.39380822	2.334112325	0.428428396	2.539307060	1.087911251
66° 49' 00"	0.91924989	0.39367453	2.335050479	0.428256266	2.540169431	1.087843477
66° 49' 30"	0.91930714	0.39354082	2.335989270	0.428084158	2.541032442	1.087775734
66° 50' 00"	0.91936437	0.39340711	2.336928699	0.427912071	2.541896093	1.087708022
66° 50' 30"	0.91942158	0.39327339	2.337868767	0.427740006	2.542760385	1.087640342

66° 51' 00"

67° 11' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
66° 51' 00"	0.91947877	0.39313966	2.338809475	0.427567962	2.543625319	1.087572693
66° 51' 30"	0.91953594	0.39300593	2.339750823	0.427395939	2.544490895	1.087505075
66° 52' 00"	0.91959309	0.39287218	2.340692812	0.427223938	2.545357114	1.087437489
66° 52' 30"	0.91965022	0.39273843	2.341635442	0.427051958	2.546223978	1.087369935
66° 53' 00"	0.91970733	0.39260467	2.342578715	0.426879999	2.547091486	1.087302411
66° 53' 30"	0.91976442	0.39247090	2.343522631	0.426708062	2.547959639	1.087234919
66° 54' 00"	0.91982150	0.39233712	2.344467190	0.426536146	2.548828438	1.087167459
66° 54' 30"	0.91987855	0.39220333	2.345412394	0.426364252	2.549697884	1.087100030
66° 55' 00"	0.91993558	0.39206953	2.346358243	0.426192378	2.550567977	1.087032632
66° 55' 30"	0.91999260	0.39193573	2.347304737	0.426020526	2.551438718	1.086965266
66° 56' 00"	0.92004959	0.39180192	2.348251878	0.425848696	2.552310108	1.086897931
66° 56' 30"	0.92010657	0.39166810	2.349199667	0.425676887	2.553182147	1.086830627
66° 57' 00"	0.92016353	0.39153427	2.350148103	0.425505098	2.554054836	1.086763355
66° 57' 30"	0.92022046	0.39140044	2.351097188	0.425333332	2.554928176	1.086696113
66° 58' 00"	0.92027738	0.39126659	2.352046922	0.425161586	2.555802168	1.086628904
66° 58' 30"	0.92033428	0.39113274	2.352997306	0.424989862	2.556676812	1.086561725
66° 59' 00"	0.92039116	0.39099888	2.353948341	0.424818159	2.557552109	1.086494578
66° 59' 30"	0.92044801	0.39086501	2.354900027	0.424646477	2.558428060	1.086427462
67° 00' 00"	0.92050485	0.39073113	2.355852366	0.424474816	2.559304665	1.086360377
67° 00' 30"	0.92056167	0.39059724	2.356805357	0.424303177	2.560181925	1.086293324
67° 01' 00"	0.92061847	0.39046335	2.357759002	0.424131558	2.561059841	1.086226302
67° 01' 30"	0.92067525	0.39032945	2.358713301	0.423959961	2.561938414	1.086159311
67° 02' 00"	0.92073202	0.39019553	2.359668255	0.423788385	2.562817644	1.086092351
67° 02' 30"	0.92078876	0.39006162	2.360623865	0.423616831	2.563697531	1.086025423
67° 03' 00"	0.92084548	0.38992769	2.361580131	0.423445297	2.564578078	1.085958526
67° 03' 30"	0.92090218	0.38979375	2.362537055	0.423273784	2.565459283	1.085891660
67° 04' 00"	0.92095887	0.38965981	2.363494636	0.423102293	2.566341149	1.085824825
67° 04' 30"	0.92101553	0.38952586	2.364452876	0.422930823	2.567223676	1.085758021
67° 05' 00"	0.92107218	0.38939190	2.365411775	0.422759373	2.568106864	1.085691249
67° 05' 30"	0.92112880	0.38925793	2.366371334	0.422587945	2.568990714	1.085624508
67° 06' 00"	0.92118541	0.38912395	2.367331554	0.422416538	2.569875228	1.085557798
67° 06' 30"	0.92124199	0.38898997	2.368292435	0.422245152	2.570760405	1.085491119
67° 07' 00"	0.92129856	0.38885597	2.369253979	0.422073787	2.571646246	1.085424471
67° 07' 30"	0.92135511	0.38872197	2.370216185	0.421902443	2.572532753	1.085357854
67° 08' 00"	0.92141163	0.38858796	2.371179055	0.421731121	2.573419925	1.085291269
67° 08' 30"	0.92146814	0.38845394	2.372142590	0.421559819	2.574307764	1.085224714
67° 09' 00"	0.92152463	0.38831992	2.373106789	0.421388538	2.575196271	1.085158191
67° 09' 30"	0.92158110	0.38818588	2.374071655	0.421217278	2.576085445	1.085091699
67° 10' 00"	0.92163755	0.38805184	2.375037187	0.421046039	2.576975289	1.085025238
67° 10' 30"	0.92169398	0.38791779	2.376003386	0.420874821	2.577865801	1.084958808
67° 11' 00"	0.92175039	0.38778373	2.376970253	0.420703624	2.578756984	1.084892409
67° 11' 30"	0.92180678	0.38764966	2.377937789	0.420532448	2.579648838	1.084826041



67° 12' 00"

67° 32' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
67° 12' 00"	0.92186315	0.38751559	2.378905995	0.420361293	2.580541364	1.084759705
67° 12' 30"	0.92191950	0.38738150	2.379874870	0.420190159	2.581434562	1.084693399
67° 13' 00"	0.92197584	0.38724741	2.380844417	0.420019046	2.582328433	1.084627124
67° 13' 30"	0.92203215	0.38711331	2.381814635	0.419847953	2.583222979	1.084560881
67° 14' 00"	0.92208844	0.38697920	2.382785526	0.419676882	2.584118198	1.084494668
67° 14' 30"	0.92214472	0.38684509	2.383757090	0.419505831	2.585014094	1.084428487
67° 15' 00"	0.92220097	0.38671096	2.384729328	0.419334802	2.585910665	1.084362336
67° 15' 30"	0.92225721	0.38657683	2.385702241	0.419163793	2.586807913	1.084296217
67° 16' 00"	0.92231342	0.38644269	2.386675829	0.418992805	2.587705839	1.084230128
67° 16' 30"	0.92236962	0.38630854	2.387650093	0.418821838	2.588604444	1.084164071
67° 17' 00"	0.92242579	0.38617438	2.388625034	0.418650892	2.589503727	1.084098044
67° 17' 30"	0.92248195	0.38604022	2.389600652	0.418479966	2.590403690	1.084032048
67° 18' 00"	0.92253809	0.38590604	2.390576950	0.418309061	2.591304334	1.083966084
67° 18' 30"	0.92259421	0.38577186	2.391553926	0.418138178	2.592205659	1.083900150
67° 19' 00"	0.92265031	0.38563767	2.392531582	0.417967314	2.593107667	1.083834247
67° 19' 30"	0.92270638	0.38550347	2.393509919	0.417796472	2.594010357	1.083768376
67° 20' 00"	0.92276244	0.38536927	2.394488937	0.417625651	2.594913730	1.083702535
67° 20' 30"	0.92281848	0.38523505	2.395468637	0.417454850	2.595817789	1.083636725
67° 21' 00"	0.92287450	0.38510083	2.396449020	0.417284070	2.596722532	1.083570946
67° 21' 30"	0.92293051	0.38496660	2.397430087	0.417113310	2.597627961	1.083505198
67° 22' 00"	0.92298649	0.38483236	2.398411839	0.416942572	2.598534077	1.083439481
67° 22' 30"	0.92304245	0.38469811	2.399394275	0.416771854	2.599440880	1.083373794
67° 23' 00"	0.92309839	0.38456386	2.400377397	0.416601157	2.600348371	1.083308139
67° 23' 30"	0.92315431	0.38442959	2.401361207	0.416430480	2.601256551	1.083242514
67° 24' 00"	0.92321022	0.38429532	2.402345703	0.416259824	2.602165421	1.083176921
67° 24' 30"	0.92326610	0.38416104	2.403330888	0.416089189	2.603074981	1.083111358
67° 25' 00"	0.92332197	0.38402676	2.404316762	0.415918574	2.603985232	1.083045826
67° 25' 30"	0.92337781	0.38389246	2.405303325	0.415747981	2.604896176	1.082980325
67° 26' 00"	0.92343363	0.38375816	2.406290579	0.415577407	2.605807812	1.082914854
67° 26' 30"	0.92348944	0.38362384	2.407278525	0.415406855	2.606720141	1.082849415
67° 27' 00"	0.92354523	0.38348952	2.408267162	0.415236323	2.607633165	1.082784006
67° 27' 30"	0.92360099	0.38335520	2.409256492	0.415065811	2.608546884	1.082718628
67° 28' 00"	0.92365674	0.38322086	2.410246516	0.414895320	2.609461298	1.082653281
67° 28' 30"	0.92371247	0.38308651	2.411237234	0.414724850	2.610376409	1.082587965
67° 29' 00"	0.92376818	0.38295216	2.412228647	0.414554400	2.611292218	1.082522679
67° 29' 30"	0.92382386	0.38281780	2.413220757	0.414383971	2.612208724	1.082457424
67° 30' 00"	0.92387953	0.38268343	2.414213562	0.414213562	2.613125930	1.082392200
67° 30' 30"	0.92393518	0.38254906	2.415207066	0.414043174	2.614043835	1.082327007
67° 31' 00"	0.92399081	0.38241467	2.416201267	0.413872807	2.614962440	1.082261845
67° 31' 30"	0.92404642	0.38228028	2.417196168	0.413702460	2.615881747	1.082196713
67° 32' 00"	0.92410201	0.38214588	2.418191768	0.413532133	2.616801756	1.082131612
67° 32' 30"	0.92415758	0.38201147	2.419188069	0.413361827	2.617722467	1.082066541

67° 33' 00"

67° 53' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
67° 33' 00"	0.92421313	0.38187705	2.420185071	0.413191541	2.618643882	1.082001502
67° 33' 30"	0.92426867	0.38174262	2.421182776	0.413021276	2.619566001	1.081936493
67° 34' 00"	0.92432418	0.38160819	2.422181183	0.412851032	2.620488826	1.081871515
67° 34' 30"	0.92437967	0.38147375	2.423180294	0.412680807	2.621412356	1.081806567
67° 35' 00"	0.92443515	0.38133930	2.424180110	0.412510603	2.622336593	1.081741650
67° 35' 30"	0.92449060	0.38120484	2.425180631	0.412340420	2.623261537	1.081676764
67° 36' 00"	0.92454603	0.38107038	2.426181858	0.412170257	2.624187190	1.081611909
67° 36' 30"	0.92460145	0.38093590	2.427183792	0.412000114	2.625113551	1.081547084
67° 37' 00"	0.92465684	0.38080142	2.428186433	0.411829992	2.626040623	1.081482290
67° 37' 30"	0.92471222	0.38066693	2.429189783	0.411659890	2.626968405	1.081417526
67° 38' 00"	0.92476757	0.38053243	2.430193842	0.411489809	2.627896899	1.081352793
67° 38' 30"	0.92482291	0.38039793	2.431198611	0.411319748	2.628826104	1.081288091
67° 39' 00"	0.92487823	0.38026341	2.432204091	0.411149707	2.629756023	1.081223419
67° 39' 30"	0.92493353	0.38012889	2.433210283	0.410979687	2.630686656	1.081158778
67° 40' 00"	0.92498880	0.37999436	2.434217187	0.410809687	2.631618003	1.081094167
67° 40' 30"	0.92504406	0.37985982	2.435224804	0.410639707	2.632550065	1.081029587
67° 41' 00"	0.92509930	0.37972528	2.436233135	0.410469748	2.633482844	1.080965038
67° 41' 30"	0.92515452	0.37959072	2.437242182	0.410299808	2.634416340	1.080900519
67° 42' 00"	0.92520972	0.37945616	2.438251943	0.410129889	2.635350553	1.080836031
67° 42' 30"	0.92526490	0.37932159	2.439262422	0.409959991	2.636285486	1.080771574
67° 43' 00"	0.92532006	0.37918701	2.440273617	0.409790112	2.637221137	1.080707146
67° 43' 30"	0.92537520	0.37905242	2.441285530	0.409620254	2.638157509	1.080642750
67° 44' 00"	0.92543032	0.37891783	2.442298163	0.409450417	2.639094602	1.080578384
67° 44' 30"	0.92548542	0.37878323	2.443311515	0.409280599	2.640032416	1.080514048
67° 45' 00"	0.92554050	0.37864862	2.444325587	0.409110801	2.640970953	1.080449743
67° 45' 30"	0.92559557	0.37851400	2.445340381	0.408941024	2.641910214	1.080385469
67° 46' 00"	0.92565061	0.37837937	2.446355897	0.408771267	2.642850199	1.080321225
67° 46' 30"	0.92570563	0.37824474	2.447372136	0.408601530	2.643790909	1.080257011
67° 47' 00"	0.92576064	0.37811010	2.448389098	0.408431814	2.644732345	1.080192828
67° 47' 30"	0.92581562	0.37797545	2.449406785	0.408262117	2.645674508	1.080128676
67° 48' 00"	0.92587058	0.37784079	2.450425198	0.408092441	2.646617398	1.080064554
67° 48' 30"	0.92592553	0.37770612	2.451444337	0.407922785	2.647561016	1.080000462
67° 49' 00"	0.92598046	0.37757145	2.452464202	0.407753148	2.648505364	1.079936401
67° 49' 30"	0.92603536	0.37743676	2.453484796	0.407583533	2.649450442	1.079872370
67° 50' 00"	0.92609025	0.37730207	2.454506118	0.407413937	2.650396250	1.079808370
67° 50' 30"	0.92614511	0.37716737	2.455528169	0.407244361	2.651342790	1.079744400
67° 51' 00"	0.92619996	0.37703267	2.456550951	0.407074805	2.652290062	1.079680461
67° 51' 30"	0.92625479	0.37689795	2.457574464	0.406905270	2.653238068	1.079616552
67° 52' 00"	0.92630960	0.37676323	2.458598709	0.406735754	2.654186808	1.079552673
67° 52' 30"	0.92636438	0.37662850	2.459623687	0.406566259	2.655136283	1.079488825
67° 53' 00"	0.92641915	0.37649376	2.460649398	0.406396783	2.656086493	1.079425007
67° 53' 30"	0.92647390	0.37635902	2.461675844	0.406227328	2.657037441	1.079361219

67° 54' 00"

68° 14' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
67° 54' 00"	0.92652863	0.37622426	2.462703025	0.406057892	2.657989125	1.079297462
67° 54' 30"	0.92658334	0.37608950	2.463730942	0.405888477	2.658941548	1.079233735
67° 55' 00"	0.92663803	0.37595473	2.464759596	0.405719082	2.659894710	1.079170039
67° 55' 30"	0.92669270	0.37581995	2.465788988	0.405549706	2.660848611	1.079106373
67° 56' 00"	0.92674735	0.37568517	2.466819118	0.405380351	2.661803254	1.079042737
67° 56' 30"	0.92680198	0.37555037	2.467849988	0.405211016	2.662758638	1.078979132
67° 57' 00"	0.92685660	0.37541557	2.468881599	0.405041700	2.663714765	1.078915557
67° 57' 30"	0.92691119	0.37528076	2.469913950	0.404872405	2.664671635	1.078852012
67° 58' 00"	0.92696576	0.37514594	2.470947043	0.404703129	2.665629249	1.078788498
67° 58' 30"	0.92702031	0.37501112	2.471980880	0.404533873	2.666587608	1.078725013
67° 59' 00"	0.92707485	0.37487628	2.473015459	0.404364638	2.667546712	1.078661560
67° 59' 30"	0.92712936	0.37474144	2.474050784	0.404195422	2.668506564	1.078598136
68° 00' 00"	0.92718385	0.37460659	2.475086853	0.404026226	2.669467163	1.078534743
68° 00' 30"	0.92723833	0.37447174	2.476123669	0.403857050	2.670428510	1.078471380
68° 01' 00"	0.92729278	0.37433687	2.477161232	0.403687894	2.671390606	1.078408047
68° 01' 30"	0.92734722	0.37420200	2.478199543	0.403518757	2.672353453	1.078344744
68° 02' 00"	0.92740163	0.37406712	2.479238603	0.403349641	2.673317050	1.078281472
68° 02' 30"	0.92745603	0.37393223	2.480278412	0.403180544	2.674281399	1.078218230
68° 03' 00"	0.92751041	0.37379733	2.481318972	0.403011467	2.675246501	1.078155018
68° 03' 30"	0.92756476	0.37366243	2.482360283	0.402842410	2.676212356	1.078091836
68° 04' 00"	0.92761910	0.37352751	2.483402346	0.402673373	2.677178966	1.078028685
68° 04' 30"	0.92767342	0.37339259	2.484445163	0.402504356	2.678146330	1.077965564
68° 05' 00"	0.92772772	0.37325766	2.485488733	0.402335358	2.679114451	1.077902473
68° 05' 30"	0.92778200	0.37312273	2.486533058	0.402166381	2.680083329	1.077839412
68° 06' 00"	0.92783625	0.37298778	2.487578139	0.401997423	2.681052964	1.077776381
68° 06' 30"	0.92789049	0.37285283	2.488623976	0.401828484	2.682023358	1.077713381
68° 07' 00"	0.92794471	0.37271787	2.489670570	0.401659566	2.682994511	1.077650410
68° 07' 30"	0.92799891	0.37258290	2.490717923	0.401490667	2.683966425	1.077587470
68° 08' 00"	0.92805309	0.37244793	2.491766035	0.401321788	2.684939100	1.077524560
68° 08' 30"	0.92810725	0.37231294	2.492814907	0.401152928	2.685912538	1.077461680
68° 09' 00"	0.92816139	0.37217795	2.493864539	0.400984089	2.686886738	1.077398830
68° 09' 30"	0.92821552	0.37204295	2.494914934	0.400815269	2.687861702	1.077336011
68° 10' 00"	0.92826962	0.37190794	2.495966091	0.400646469	2.688837430	1.077273221
68° 10' 30"	0.92832370	0.37177293	2.497018011	0.400477688	2.689813925	1.077210462
68° 11' 00"	0.92837776	0.37163791	2.498070696	0.400308927	2.690791185	1.077147732
68° 11' 30"	0.92843180	0.37150287	2.499124146	0.400140186	2.691769213	1.077085033
68° 12' 00"	0.92848583	0.37136784	2.500178362	0.399971464	2.692748010	1.077022364
68° 12' 30"	0.92853983	0.37123279	2.501233345	0.399802762	2.693727575	1.076959725
68° 13' 00"	0.92859381	0.37109773	2.502289096	0.399634080	2.694707910	1.076897116
68° 13' 30"	0.92864778	0.37096267	2.503345616	0.399465417	2.695689016	1.076834537
68° 14' 00"	0.92870172	0.37082760	2.504402905	0.399296774	2.696670894	1.076771988
68° 14' 30"	0.92875565	0.37069252	2.505460965	0.399128150	2.697653545	1.076709469

68° 15' 00"

68° 35' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
68° 15' 00"	0.92880955	0.37055744	2.506519797	0.398959546	2.698636969	1.076646980
68° 15' 30"	0.92886344	0.37042234	2.507579400	0.398790961	2.699621167	1.076584521
68° 16' 00"	0.92891730	0.37028724	2.508639777	0.398622397	2.700606141	1.076522092
68° 16' 30"	0.92897115	0.37015213	2.509700928	0.398453851	2.701591891	1.076459693
68° 17' 00"	0.92902498	0.37001702	2.510762853	0.398285325	2.702578418	1.076397325
68° 17' 30"	0.92907878	0.36988189	2.511825555	0.398116819	2.703565723	1.076334986
68° 18' 00"	0.92913257	0.36974676	2.512889034	0.397948332	2.704553807	1.076272677
68° 18' 30"	0.92918634	0.36961162	2.513953290	0.397779865	2.705542671	1.076210398
68° 19' 00"	0.92924009	0.36947647	2.515018324	0.397611417	2.706532315	1.076148149
68° 19' 30"	0.92929382	0.36934131	2.516084138	0.397442989	2.707522741	1.076085930
68° 20' 00"	0.92934752	0.36920615	2.517150733	0.397274580	2.708513949	1.076023741
68° 20' 30"	0.92940121	0.36907098	2.518218108	0.397106191	2.709505940	1.075961582
68° 21' 00"	0.92945488	0.36893580	2.519286266	0.396937821	2.710498716	1.075899453
68° 21' 30"	0.92950853	0.36880061	2.520355207	0.396769470	2.711492277	1.075837354
68° 22' 00"	0.92956216	0.36866541	2.521424932	0.396601139	2.712486624	1.075775285
68° 22' 30"	0.92961577	0.36853021	2.522495442	0.396432827	2.713481759	1.075713246
68° 23' 00"	0.92966936	0.36839500	2.523566737	0.396264535	2.714477680	1.075651236
68° 23' 30"	0.92972293	0.36825978	2.524638820	0.396096262	2.715474391	1.075589257
68° 24' 00"	0.92977649	0.36812455	2.525711689	0.395928009	2.716471892	1.075527307
68° 24' 30"	0.92983002	0.36798932	2.526785348	0.395759775	2.717470183	1.075465387
68° 25' 00"	0.92988353	0.36785408	2.527859796	0.395591560	2.718469265	1.075403497
68° 25' 30"	0.92993702	0.36771883	2.528935034	0.395423365	2.719469140	1.075341637
68° 26' 00"	0.92999049	0.36758357	2.530011063	0.395255189	2.720469809	1.075279807
68° 26' 30"	0.93004395	0.36744830	2.531087885	0.395087032	2.721471271	1.075218007
68° 27' 00"	0.93009738	0.36731303	2.532165500	0.394918895	2.722473529	1.075156237
68° 27' 30"	0.93015079	0.36717775	2.533243909	0.394750777	2.723476583	1.075094496
68° 28' 00"	0.93020419	0.36704246	2.534323112	0.394582678	2.724480434	1.075032785
68° 28' 30"	0.93025756	0.36690716	2.535403112	0.394414598	2.725485084	1.074971104
68° 29' 00"	0.93031092	0.36677186	2.536483909	0.394246538	2.726490531	1.074909453
68° 29' 30"	0.93036425	0.36663655	2.537565503	0.394078497	2.727496779	1.074847832
68° 30' 00"	0.93041757	0.36650123	2.538647896	0.393910476	2.728503828	1.074786241
68° 30' 30"	0.93047086	0.36636590	2.539731088	0.393742473	2.729511678	1.074724679
68° 31' 00"	0.93052414	0.36623056	2.540815081	0.393574490	2.730520331	1.074663147
68° 31' 30"	0.93057740	0.36609522	2.541899876	0.393406526	2.731529787	1.074601645
68° 32' 00"	0.93063063	0.36595987	2.542985473	0.393238581	2.732540048	1.074540172
68° 32' 30"	0.93068385	0.36582451	2.544071873	0.393070656	2.733551114	1.074478730
68° 33' 00"	0.93073705	0.36568914	2.545159077	0.392902750	2.734562987	1.074417317
68° 33' 30"	0.93079022	0.36555377	2.546247087	0.392734863	2.735575667	1.074355934
68° 34' 00"	0.93084338	0.36541839	2.547335903	0.392566995	2.736589155	1.074294580
68° 34' 30"	0.93089652	0.36528300	2.548425526	0.392399146	2.737603452	1.074233257
68° 35' 00"	0.93094964	0.36514760	2.549515957	0.392231316	2.738618560	1.074171963
68° 35' 30"	0.93100274	0.36501220	2.550607197	0.392063506	2.739634478	1.074110699

68° 36' 00"

68° 56' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
68° 36' 00"	0.93105582	0.36487678	2.551699247	0.391895715	2.740651209	1.074049464
68° 36' 30"	0.93110888	0.36474136	2.552792108	0.391727942	2.741668752	1.073988259
68° 37' 00"	0.93116191	0.36460594	2.553885781	0.391560189	2.742687109	1.073927084
68° 37' 30"	0.93121493	0.36447050	2.554980266	0.391392455	2.743706282	1.073865939
68° 38' 00"	0.93126793	0.36433506	2.556075565	0.391224741	2.744726270	1.073804823
68° 38' 30"	0.93132092	0.36419961	2.557171679	0.391057045	2.745747074	1.073743737
68° 39' 00"	0.93137388	0.36406415	2.558268609	0.390889368	2.746768697	1.073682680
68° 39' 30"	0.93142682	0.36392868	2.559366355	0.390721711	2.747791138	1.073621654
68° 40' 00"	0.93147974	0.36379320	2.560464919	0.390554072	2.748814399	1.073560656
68° 40' 30"	0.93153264	0.36365772	2.561564301	0.390386452	2.749838480	1.073499689
68° 41' 00"	0.93158552	0.36352223	2.562664503	0.390218852	2.750863383	1.073438751
68° 41' 30"	0.93163838	0.36338674	2.563765525	0.390051270	2.751889109	1.073377843
68° 42' 00"	0.93169123	0.36325123	2.564867368	0.389883708	2.752915658	1.073316964
68° 42' 30"	0.93174405	0.36311572	2.565970034	0.389716164	2.753943031	1.073256115
68° 43' 00"	0.93179685	0.36298020	2.567073524	0.389548640	2.754971230	1.073195296
68° 43' 30"	0.93184964	0.36284467	2.568177837	0.389381135	2.756000255	1.073134506
68° 44' 00"	0.93190240	0.36270913	2.569282976	0.389213648	2.757030107	1.073073746
68° 44' 30"	0.93195514	0.36257359	2.570388942	0.389046180	2.758060788	1.073013015
68° 45' 00"	0.93200787	0.36243804	2.571495734	0.388878732	2.759092298	1.072952314
68° 45' 30"	0.93206057	0.36230248	2.572603355	0.388711302	2.760124639	1.072891642
68° 46' 00"	0.93211326	0.36216691	2.573711804	0.388543891	2.761157810	1.072831000
68° 46' 30"	0.93216592	0.36203134	2.574821084	0.388376500	2.762191814	1.072770388
68° 47' 00"	0.93221857	0.36189576	2.575931196	0.388209127	2.763226651	1.072709805
68° 47' 30"	0.93227120	0.36176017	2.577042139	0.388041773	2.764262322	1.072649252
68° 48' 00"	0.93232380	0.36162457	2.578153915	0.387874438	2.765298828	1.072588728
68° 48' 30"	0.93237639	0.36148897	2.579266526	0.387707121	2.766336171	1.072528234
68° 49' 00"	0.93242895	0.36135335	2.580379971	0.387539824	2.767374351	1.072467769
68° 49' 30"	0.93248150	0.36121773	2.581494253	0.387372546	2.768413368	1.072407334
68° 50' 00"	0.93253403	0.36108210	2.582609372	0.387205286	2.769453225	1.072346928
68° 50' 30"	0.93258654	0.36094647	2.583725328	0.387038045	2.770493922	1.072286551
68° 51' 00"	0.93263902	0.36081083	2.584842124	0.386870823	2.771535460	1.072226205
68° 51' 30"	0.93269149	0.36067518	2.585959760	0.386703620	2.772577840	1.072165887
68° 52' 00"	0.93274394	0.36053952	2.587078237	0.386536436	2.773621063	1.072105599
68° 52' 30"	0.93279637	0.36040385	2.588197556	0.386369270	2.774665131	1.072045341
68° 53' 00"	0.93284878	0.36026818	2.589317718	0.386202123	2.775710043	1.071985112
68° 53' 30"	0.93290117	0.36013250	2.590438723	0.386034995	2.776755801	1.071924912
68° 54' 00"	0.93295353	0.35999681	2.591560574	0.385867886	2.777802407	1.071864742
68° 54' 30"	0.93300588	0.35986111	2.592683271	0.385700795	2.778849860	1.071804601
68° 55' 00"	0.93305821	0.35972541	2.593806815	0.385533724	2.779898163	1.071744490
68° 55' 30"	0.93311052	0.35958970	2.594931207	0.385366671	2.780947315	1.071684408
68° 56' 00"	0.93316281	0.35945398	2.596056449	0.385199636	2.781997319	1.071624356
68° 56' 30"	0.93321509	0.35931825	2.597182540	0.385032621	2.783048175	1.071564333

68° 57' 00"

69° 17' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
68° 57' 00"	0.93326734	0.35918252	2.598309482	0.384865624	2.784099884	1.071504339
68° 57' 30"	0.93331957	0.35904677	2.599437276	0.384698646	2.785152447	1.071444375
68° 58' 00"	0.93337178	0.35891102	2.600565924	0.384531686	2.786205865	1.071384440
68° 58' 30"	0.93342397	0.35877527	2.601695425	0.384364746	2.787260140	1.071324534
68° 59' 00"	0.93347614	0.35863950	2.602825782	0.384197823	2.788315271	1.071264658
68° 59' 30"	0.93352829	0.35850373	2.603956995	0.384030920	2.789371261	1.071204811
69° 00' 00"	0.93358043	0.35836795	2.605089065	0.383864035	2.790428110	1.071144994
69° 00' 30"	0.93363254	0.35823216	2.606221993	0.383697169	2.791485819	1.071085205
69° 01' 00"	0.93368463	0.35809637	2.607355780	0.383530321	2.792544389	1.071025447
69° 01' 30"	0.93373671	0.35796056	2.608490428	0.383363492	2.793603822	1.070965717
69° 02' 00"	0.93378876	0.35782475	2.609625937	0.383196682	2.794664118	1.070906017
69° 02' 30"	0.93384079	0.35768894	2.610762308	0.383029890	2.795725278	1.070846346
69° 03' 00"	0.93389281	0.35755311	2.611899543	0.382863117	2.796787304	1.070786704
69° 03' 30"	0.93394480	0.35741728	2.613037642	0.382696362	2.797850196	1.070727092
69° 04' 00"	0.93399677	0.35728144	2.614176606	0.382529626	2.798913955	1.070667509
69° 04' 30"	0.93404873	0.35714559	2.615316437	0.382362909	2.799978583	1.070607955
69° 05' 00"	0.93410066	0.35700973	2.616457135	0.382196210	2.801044080	1.070548431
69° 05' 30"	0.93415258	0.35687387	2.617598702	0.382029529	2.802110448	1.070488936
69° 06' 00"	0.93420447	0.35673800	2.618741138	0.381862867	2.803177688	1.070429470
69° 06' 30"	0.93425635	0.35660212	2.619884445	0.381696224	2.804245800	1.070370033
69° 07' 00"	0.93430821	0.35646624	2.621028623	0.381529599	2.805314785	1.070310625
69° 07' 30"	0.93436004	0.35633034	2.622173675	0.381362993	2.806384646	1.070251247
69° 08' 00"	0.93441186	0.35619444	2.623319600	0.381196405	2.807455382	1.070191898
69° 08' 30"	0.93446365	0.35605853	2.624466399	0.381029835	2.808526995	1.070132578
69° 09' 00"	0.93451543	0.35592262	2.625614075	0.380863284	2.809599486	1.070073288
69° 09' 30"	0.93456719	0.35578669	2.626762627	0.380696752	2.810672856	1.070014026
69° 10' 00"	0.93461893	0.35565076	2.627912058	0.380530238	2.811747105	1.069954794
69° 10' 30"	0.93467064	0.35551482	2.629062367	0.380363742	2.812822236	1.069895591
69° 11' 00"	0.93472234	0.35537888	2.630213557	0.380197265	2.813898249	1.069836417
69° 11' 30"	0.93477402	0.35524292	2.631365627	0.380030806	2.814975144	1.069777273
69° 12' 00"	0.93482568	0.35510696	2.632518580	0.379864365	2.816052925	1.069718157
69° 12' 30"	0.93487731	0.35497099	2.633672416	0.379697943	2.817131590	1.069659071
69° 13' 00"	0.93492893	0.35483502	2.634827136	0.379531540	2.818211141	1.069600014
69° 13' 30"	0.93498053	0.35469903	2.635982742	0.379365154	2.819291580	1.069540986
69° 14' 00"	0.93503211	0.35456304	2.637139234	0.379198788	2.820372908	1.069481987
69° 14' 30"	0.93508367	0.35442704	2.638296613	0.379032439	2.821455125	1.069423017
69° 15' 00"	0.93513521	0.35429104	2.639454881	0.378866109	2.822538232	1.069364077
69° 15' 30"	0.93518673	0.35415502	2.640614039	0.378699797	2.823622231	1.069305165
69° 16' 00"	0.93523823	0.35401900	2.641774088	0.378533503	2.824707123	1.069246283
69° 16' 30"	0.93528971	0.35388297	2.642935028	0.378367228	2.825792909	1.069187429
69° 17' 00"	0.93534117	0.35374694	2.644096861	0.378200971	2.826879589	1.069128605
69° 17' 30"	0.93539261	0.35361089	2.645259588	0.378034732	2.827967165	1.069069810

69° 18' 00"

69° 38' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
69° 18' 00"	0.93544403	0.35347484	2.646423210	0.377868512	2.829055639	1.069011044
69° 18' 30"	0.93549543	0.35333879	2.647587729	0.377702310	2.830145010	1.068952307
69° 19' 00"	0.93554681	0.35320272	2.648753144	0.377536126	2.831235281	1.068893599
69° 19' 30"	0.93559817	0.35306665	2.649919458	0.377369960	2.832326452	1.068834920
69° 20' 00"	0.93564952	0.35293056	2.651086671	0.377203813	2.833418525	1.068776270
69° 20' 30"	0.93570084	0.35279448	2.652254784	0.377037684	2.834511500	1.068717650
69° 21' 00"	0.93575214	0.35265838	2.653423800	0.376871573	2.835605378	1.068659058
69° 21' 30"	0.93580342	0.35252228	2.654593717	0.376705480	2.836700161	1.068600495
69° 22' 00"	0.93585468	0.35238617	2.655764539	0.376539405	2.837795850	1.068541962
69° 22' 30"	0.93590593	0.35225005	2.656936265	0.376373349	2.838892446	1.068483457
69° 23' 00"	0.93595715	0.35211392	2.658108898	0.376207311	2.839989949	1.068424981
69° 23' 30"	0.93600835	0.35197779	2.659282437	0.376041291	2.841088362	1.068366535
69° 24' 00"	0.93605954	0.35184165	2.660456884	0.375875289	2.842187685	1.068308117
69° 24' 30"	0.93611070	0.35170550	2.661632241	0.375709305	2.843287919	1.068249728
69° 25' 00"	0.93616184	0.35156934	2.662808508	0.375543340	2.844389065	1.068191369
69° 25' 30"	0.93621297	0.35143318	2.663985687	0.375377392	2.845491125	1.068133038
69° 26' 00"	0.93626407	0.35129701	2.665163778	0.375211463	2.846594099	1.068074736
69° 26' 30"	0.93631515	0.35116083	2.666342783	0.375045552	2.847697989	1.068016463
69° 27' 00"	0.93636622	0.35102465	2.667522703	0.374879659	2.848802796	1.067958219
69° 27' 30"	0.93641726	0.35088846	2.668703538	0.374713784	2.849908520	1.067900004
69° 28' 00"	0.93646829	0.35075226	2.669885291	0.374547927	2.851015164	1.067841819
69° 28' 30"	0.93651929	0.35061605	2.671067962	0.374382088	2.852122728	1.067783661
69° 29' 00"	0.93657028	0.35047983	2.672251552	0.374216267	2.853231213	1.067725533
69° 29' 30"	0.93662124	0.35034361	2.673436062	0.374050464	2.854340620	1.067667434
69° 30' 00"	0.93667219	0.35020738	2.674621494	0.373884679	2.855450951	1.067609364
69° 30' 30"	0.93672311	0.35007114	2.675807849	0.373718913	2.856562207	1.067551322
69° 31' 00"	0.93677402	0.34993490	2.676995127	0.373553164	2.857674388	1.067493310
69° 31' 30"	0.93682491	0.34979865	2.678183330	0.373387433	2.858787496	1.067435326
69° 32' 00"	0.93687577	0.34966239	2.679372459	0.373221721	2.859901533	1.067377371
69° 32' 30"	0.93692662	0.34952612	2.680562516	0.373056026	2.861016498	1.067319445
69° 33' 00"	0.93697745	0.34938985	2.681753501	0.372890349	2.862132394	1.067261548
69° 33' 30"	0.93702825	0.34925357	2.682945415	0.372724691	2.863249221	1.067203680
69° 34' 00"	0.93707904	0.34911728	2.684138260	0.372559050	2.864366980	1.067145841
69° 34' 30"	0.93712981	0.34898098	2.685332036	0.372393427	2.865485673	1.067088030
69° 35' 00"	0.93718055	0.34884468	2.686526745	0.372227822	2.866605301	1.067030249
69° 35' 30"	0.93723128	0.34870837	2.687722389	0.372062235	2.867725865	1.066972496
69° 36' 00"	0.93728199	0.34857205	2.688918967	0.371896666	2.868847367	1.066914772
69° 36' 30"	0.93733268	0.34843572	2.690116482	0.371731115	2.869969806	1.066857077
69° 37' 00"	0.93738335	0.34829939	2.691314934	0.371565582	2.871093185	1.066799410
69° 37' 30"	0.93743399	0.34816305	2.692514325	0.371400067	2.872217504	1.066741773
69° 38' 00"	0.93748462	0.34802670	2.693714656	0.371234569	2.873342765	1.066684164
69° 38' 30"	0.93753523	0.34789034	2.694915927	0.371069090	2.874468969	1.066626584

69° 39' 00"

69° 59' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
69° 39' 00"	0.93758582	0.34775398	2.696118141	0.370903628	2.875596117	1.066569033
69° 39' 30"	0.93763639	0.34761761	2.697321298	0.370738184	2.876724210	1.066511510
69° 40' 00"	0.93768694	0.34748123	2.698525399	0.370572758	2.877853250	1.066454016
69° 40' 30"	0.93773747	0.34734485	2.699730446	0.370407350	2.878983237	1.066396551
69° 41' 00"	0.93778798	0.34720846	2.700936439	0.370241960	2.880114173	1.066339115
69° 41' 30"	0.93783846	0.34707206	2.702143381	0.370076587	2.881246058	1.066281708
69° 42' 00"	0.93788893	0.34693565	2.703351271	0.369911232	2.882378895	1.066224329
69° 42' 30"	0.93793938	0.34679924	2.704560112	0.369745895	2.883512684	1.066166979
69° 43' 00"	0.93798981	0.34666282	2.705769904	0.369580576	2.884647426	1.066109658
69° 43' 30"	0.93804022	0.34652639	2.706980648	0.369415275	2.885783122	1.066052365
69° 44' 00"	0.93809061	0.34638995	2.708192347	0.369249991	2.886919775	1.065995101
69° 44' 30"	0.93814099	0.34625351	2.709405000	0.369084725	2.888057384	1.065937866
69° 45' 00"	0.93819134	0.34611706	2.710618609	0.368919477	2.889195951	1.065880660
69° 45' 30"	0.93824167	0.34598060	2.711833176	0.368754247	2.890335478	1.065823482
69° 46' 00"	0.93829198	0.34584413	2.713048701	0.368589034	2.891475965	1.065766333
69° 46' 30"	0.93834227	0.34570766	2.714265186	0.368423839	2.892617413	1.065709212
69° 47' 00"	0.93839254	0.34557118	2.715482632	0.368258662	2.893759825	1.065652121
69° 47' 30"	0.93844279	0.34543469	2.716701040	0.368093502	2.894903200	1.065595057
69° 48' 00"	0.93849302	0.34529820	2.717920410	0.367928360	2.896047541	1.065538023
69° 48' 30"	0.93854323	0.34516170	2.719140746	0.367763236	2.897192848	1.065481017
69° 49' 00"	0.93859343	0.34502519	2.720362047	0.367598129	2.898339122	1.065424040
69° 49' 30"	0.93864360	0.34488867	2.721584315	0.367433041	2.899486365	1.065367091
69° 50' 00"	0.93869375	0.34475215	2.722807551	0.367267969	2.900634578	1.065310171
69° 50' 30"	0.93874388	0.34461562	2.724031756	0.367102916	2.901783763	1.065253280
69° 51' 00"	0.93879399	0.34447908	2.725256931	0.366937880	2.902933920	1.065196417
69° 51' 30"	0.93884409	0.34434253	2.726483078	0.366772861	2.904085050	1.065139583
69° 52' 00"	0.93889416	0.34420598	2.727710198	0.366607861	2.905237155	1.065082778
69° 52' 30"	0.93894421	0.34406942	2.728938293	0.366442877	2.906390236	1.065026001
69° 53' 00"	0.93899425	0.34393285	2.730167362	0.366277912	2.907544294	1.064969252
69° 53' 30"	0.93904426	0.34379628	2.731397408	0.366112964	2.908699331	1.064912533
69° 54' 00"	0.93909425	0.34365969	2.732628431	0.365948033	2.909855347	1.064855841
69° 54' 30"	0.93914423	0.34352311	2.733860434	0.365783120	2.911012345	1.064799179
69° 55' 00"	0.93919418	0.34338651	2.735093416	0.365618225	2.912170324	1.064742545
69° 55' 30"	0.93924411	0.34324990	2.736327380	0.365453347	2.913329286	1.064685939
69° 56' 00"	0.93929403	0.34311329	2.737562327	0.365288487	2.914489234	1.064629362
69° 56' 30"	0.93934392	0.34297668	2.738798257	0.365123644	2.915650166	1.064572814
69° 57' 00"	0.93939379	0.34284005	2.740035172	0.364958819	2.916812086	1.064516294
69° 57' 30"	0.93944365	0.34270342	2.741273074	0.364794011	2.917974994	1.064459802
69° 58' 00"	0.93949348	0.34256678	2.742511963	0.364629221	2.919138892	1.064403339
69° 58' 30"	0.93954330	0.34243013	2.743751841	0.364464448	2.920303780	1.064346905
69° 59' 00"	0.93959309	0.34229347	2.744992709	0.364299693	2.921469660	1.064290499
69° 59' 30"	0.93964287	0.34215681	2.746234568	0.364134955	2.922636533	1.064234121



70° 00' 00"

70° 20' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
70° 00' 00"	0.93969262	0.34202014	2.747477419	0.363970234	2.923804400	1.064177772
70° 00' 30"	0.93974236	0.34188347	2.748721265	0.363805531	2.924973263	1.064121452
70° 01' 00"	0.93979207	0.34174678	2.749966105	0.363640846	2.926143123	1.064065160
70° 01' 30"	0.93984177	0.34161009	2.751211941	0.363476178	2.927313981	1.064008896
70° 02' 00"	0.93989144	0.34147339	2.752458775	0.363311527	2.928485839	1.063952661
70° 02' 30"	0.93994110	0.34133669	2.753706607	0.363146893	2.929658697	1.063896455
70° 03' 00"	0.93999073	0.34119998	2.754955440	0.362982278	2.930832557	1.063840276
70° 03' 30"	0.94004035	0.34106326	2.756205273	0.362817679	2.932007420	1.063784127
70° 04' 00"	0.94008994	0.34092653	2.757456109	0.362653098	2.933183287	1.063728005
70° 04' 30"	0.94013952	0.34078980	2.758707949	0.362488534	2.934360160	1.063671912
70° 05' 00"	0.94018907	0.34065305	2.759960794	0.362323987	2.935538040	1.063615848
70° 05' 30"	0.94023861	0.34051631	2.761214645	0.362159458	2.936716928	1.063559812
70° 06' 00"	0.94028813	0.34037955	2.762469503	0.361994946	2.937896825	1.063503804
70° 06' 30"	0.94033762	0.34024279	2.763725371	0.361830452	2.939077734	1.063447825
70° 07' 00"	0.94038710	0.34010602	2.764982248	0.361665975	2.940259654	1.063391874
70° 07' 30"	0.94043656	0.33996924	2.766240136	0.361501515	2.941442587	1.063335951
70° 08' 00"	0.94048599	0.33983246	2.767499038	0.361337072	2.942626535	1.063280057
70° 08' 30"	0.94053541	0.33969566	2.768758953	0.361172647	2.943811498	1.063224191
70° 09' 00"	0.94058481	0.33955886	2.770019883	0.361008239	2.944997479	1.063168354
70° 09' 30"	0.94063418	0.33942206	2.771281829	0.360843848	2.946184478	1.063112545
70° 10' 00"	0.94068354	0.33928525	2.772544794	0.360679475	2.947372497	1.063056764
70° 10' 30"	0.94073288	0.33914842	2.773808777	0.360515119	2.948561536	1.063001012
70° 11' 00"	0.94078219	0.33901160	2.775073781	0.360350779	2.949751598	1.062945288
70° 11' 30"	0.94083149	0.33887476	2.776339806	0.360186458	2.950942683	1.062889592
70° 12' 00"	0.94088077	0.33873792	2.777606854	0.360022153	2.952134793	1.062833924
70° 12' 30"	0.94093003	0.33860107	2.778874926	0.359857866	2.953327929	1.062778285
70° 13' 00"	0.94097926	0.33846421	2.780144024	0.359693596	2.954522092	1.062722674
70° 13' 30"	0.94102848	0.33832735	2.781414148	0.359529343	2.955717284	1.062667092
70° 14' 00"	0.94107768	0.33819048	2.782685301	0.359365107	2.956913506	1.062611538
70° 14' 30"	0.94112686	0.33805360	2.783957482	0.359200888	2.958110759	1.062556012
70° 15' 00"	0.94117602	0.33791672	2.785230695	0.359036687	2.959309045	1.062500514
70° 15' 30"	0.94122515	0.33777983	2.786504939	0.358872502	2.960508364	1.062445045
70° 16' 00"	0.94127427	0.33764293	2.787780217	0.358708335	2.961708719	1.062389603
70° 16' 30"	0.94132337	0.33750602	2.789056529	0.358544185	2.962910110	1.062334191
70° 17' 00"	0.94137245	0.33736911	2.790333877	0.358380052	2.964112539	1.062278806
70° 17' 30"	0.94142151	0.33723219	2.791612263	0.358215936	2.965316008	1.062223450
70° 18' 00"	0.94147054	0.33709526	2.792891687	0.358051837	2.966520516	1.062168121
70° 18' 30"	0.94151956	0.33695832	2.794172150	0.357887756	2.967726066	1.062112822
70° 19' 00"	0.94156856	0.33682138	2.795453655	0.357723691	2.968932660	1.062057550
70° 19' 30"	0.94161754	0.33668443	2.796736203	0.357559644	2.970140298	1.062002306
70° 20' 00"	0.94166650	0.33654748	2.798019794	0.357395613	2.971348981	1.061947091
70° 20' 30"	0.94171544	0.33641051	2.799304430	0.357231600	2.972558711	1.061891904

70° 21' 00"

70° 41' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
70° 21' 00"	0.94176436	0.33627354	2.800590113	0.357067603	2.973769490	1.061836745
70° 21' 30"	0.94181326	0.33613656	2.801876844	0.356903624	2.974981319	1.061781615
70° 22' 00"	0.94186214	0.33599958	2.803164624	0.356739662	2.976194199	1.061726512
70° 22' 30"	0.94191099	0.33586259	2.804453454	0.356575717	2.977408131	1.061671438
70° 23' 00"	0.94195983	0.33572559	2.805743336	0.356411788	2.978623116	1.061616392
70° 23' 30"	0.94200865	0.33558858	2.807034272	0.356247877	2.979839157	1.061561374
70° 24' 00"	0.94205745	0.33545157	2.808326261	0.356083983	2.981056254	1.061506384
70° 24' 30"	0.94210623	0.33531455	2.809619307	0.355920105	2.982274409	1.061451422
70° 25' 00"	0.94215499	0.33517752	2.810913410	0.355756245	2.983493623	1.061396489
70° 25' 30"	0.94220373	0.33504049	2.812208572	0.355592402	2.984713898	1.061341583
70° 26' 00"	0.94225245	0.33490345	2.813504793	0.355428575	2.985935234	1.061286706
70° 26' 30"	0.94230115	0.33476640	2.814802076	0.355264766	2.987157633	1.061231857
70° 27' 00"	0.94234983	0.33462934	2.816100421	0.355100973	2.988381097	1.061177036
70° 27' 30"	0.94239849	0.33449228	2.817399831	0.354937197	2.989605627	1.061122243
70° 28' 00"	0.94244713	0.33435521	2.818700306	0.354773439	2.990831224	1.061067478
70° 28' 30"	0.94249575	0.33421813	2.820001847	0.354609697	2.992057890	1.061012741
70° 29' 00"	0.94254435	0.33408105	2.821304457	0.354445972	2.993285626	1.060958033
70° 29' 30"	0.94259293	0.33394396	2.822608136	0.354282264	2.994514433	1.060903352
70° 30' 00"	0.94264149	0.33380686	2.823912886	0.354118573	2.995744312	1.060848700
70° 30' 30"	0.94269003	0.33366975	2.825218708	0.353954898	2.996975266	1.060794075
70° 31' 00"	0.94273855	0.33353264	2.826525603	0.353791241	2.998207296	1.060739479
70° 31' 30"	0.94278705	0.33339552	2.827833574	0.353627600	2.999440402	1.060684911
70° 32' 00"	0.94283553	0.33325840	2.829142621	0.353463976	3.000674586	1.060630370
70° 32' 30"	0.94288399	0.33312126	2.830452746	0.353300369	3.001909850	1.060575858
70° 33' 00"	0.94293243	0.33298412	2.831763950	0.353136779	3.003146195	1.060521374
70° 33' 30"	0.94298085	0.33284697	2.833076234	0.352973206	3.004383622	1.060466918
70° 34' 00"	0.94302925	0.33270982	2.834389601	0.352809649	3.005622133	1.060412490
70° 34' 30"	0.94307764	0.33257266	2.835704050	0.352646109	3.006861730	1.060358090
70° 35' 00"	0.94312600	0.33243549	2.837019585	0.352482586	3.008102413	1.060303718
70° 35' 30"	0.94317434	0.33229831	2.838336205	0.352319080	3.009344183	1.060249373
70° 36' 00"	0.94322266	0.33216113	2.839653913	0.352155590	3.010587043	1.060195057
70° 36' 30"	0.94327096	0.33202394	2.840972710	0.351992118	3.011830994	1.060140769
70° 37' 00"	0.94331924	0.33188675	2.842292597	0.351828661	3.013076038	1.060086509
70° 37' 30"	0.94336750	0.33174954	2.843613576	0.351665222	3.014322174	1.060032277
70° 38' 00"	0.94341574	0.33161233	2.844935648	0.351501800	3.015569406	1.059978073
70° 38' 30"	0.94346396	0.33147511	2.846258815	0.351338394	3.016817734	1.059923897
70° 39' 00"	0.94351216	0.33133789	2.847583077	0.351175005	3.018067160	1.059869749
70° 39' 30"	0.94356035	0.33120066	2.848908437	0.351011632	3.019317685	1.059815628
70° 40' 00"	0.94360851	0.33106342	2.850234896	0.350848276	3.020569311	1.059761536
70° 40' 30"	0.94365665	0.33092617	2.851562455	0.350684937	3.021822039	1.059707471
70° 41' 00"	0.94370477	0.33078892	2.852891115	0.350521615	3.023075870	1.059653435
70° 41' 30"	0.94375287	0.33065166	2.854220879	0.350358309	3.024330806	1.059599426

70° 42' 00"

71° 02' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
70° 42' 00"	0.94380095	0.33051439	2.855551747	0.350195020	3.025586849	1.059545446
70° 42' 30"	0.94384901	0.33037712	2.856883721	0.350031747	3.026843999	1.059491493
70° 43' 00"	0.94389705	0.33023984	2.858216803	0.349868491	3.028102259	1.059437568
70° 43' 30"	0.94394508	0.33010255	2.859550993	0.349705252	3.029361629	1.059383671
70° 44' 00"	0.94399308	0.32996526	2.860886294	0.349542029	3.030622112	1.059329802
70° 44' 30"	0.94404106	0.32982795	2.862222706	0.349378823	3.031883708	1.059275961
70° 45' 00"	0.94408902	0.32969065	2.863560231	0.349215633	3.033146419	1.059222148
70° 45' 30"	0.94413696	0.32955333	2.864898871	0.349052460	3.034410246	1.059168363
70° 46' 00"	0.94418488	0.32941601	2.866238627	0.348889304	3.035675192	1.059114605
70° 46' 30"	0.94423279	0.32927868	2.867579501	0.348726164	3.036941256	1.059060875
70° 47' 00"	0.94428067	0.32914134	2.868921493	0.348563041	3.038208442	1.059007174
70° 47' 30"	0.94432853	0.32900400	2.870264606	0.348399934	3.039476749	1.058953500
70° 48' 00"	0.94437637	0.32886665	2.871608841	0.348236844	3.040746181	1.058899853
70° 48' 30"	0.94442419	0.32872929	2.872954199	0.348073770	3.042016737	1.058846235
70° 49' 00"	0.94447199	0.32859192	2.874300682	0.347910713	3.043288420	1.058792645
70° 49' 30"	0.94451978	0.32845455	2.875648291	0.347747672	3.044561232	1.058739082
70° 50' 00"	0.94456754	0.32831718	2.876997028	0.347584648	3.045835172	1.058685547
70° 50' 30"	0.94461528	0.32817979	2.878346894	0.347421641	3.047110244	1.058632040
70° 51' 00"	0.94466300	0.32804240	2.879697891	0.347258649	3.048386449	1.058578561
70° 51' 30"	0.94471070	0.32790500	2.881050020	0.347095675	3.049663787	1.058525109
70° 52' 00"	0.94475838	0.32776759	2.882403282	0.346932716	3.050942261	1.058471686
70° 52' 30"	0.94480605	0.32763018	2.883757680	0.346769774	3.052221872	1.058418290
70° 53' 00"	0.94485369	0.32749276	2.885113214	0.346606849	3.053502621	1.058364922
70° 53' 30"	0.94490131	0.32735533	2.886469887	0.346443940	3.054784511	1.058311581
70° 54' 00"	0.94494891	0.32721790	2.887827699	0.346281047	3.056067541	1.058258269
70° 54' 30"	0.94499649	0.32708046	2.889186652	0.346118171	3.057351715	1.058204984
70° 55' 00"	0.94504406	0.32694301	2.890546747	0.345955311	3.058637033	1.058151727
70° 55' 30"	0.94509160	0.32680556	2.891907987	0.345792468	3.059923497	1.058098498
70° 56' 00"	0.94513912	0.32666809	2.893270373	0.345629641	3.061211108	1.058045296
70° 56' 30"	0.94518662	0.32653063	2.894633905	0.345466830	3.062499868	1.057992122
70° 57' 00"	0.94523410	0.32639315	2.895998586	0.345304036	3.063789779	1.057938976
70° 57' 30"	0.94528157	0.32625567	2.897364417	0.345141258	3.065080842	1.057885858
70° 58' 00"	0.94532901	0.32611818	2.898731400	0.344978496	3.066373058	1.057832767
70° 58' 30"	0.94537643	0.32598068	2.900099536	0.344815751	3.067666429	1.057779704
70° 59' 00"	0.94542383	0.32584318	2.901468826	0.344653022	3.068960956	1.057726669
70° 59' 30"	0.94547121	0.32570567	2.902839273	0.344490310	3.070256642	1.057673661
71° 00' 00"	0.94551858	0.32556815	2.904210878	0.344327613	3.071553487	1.057620681
71° 00' 30"	0.94556592	0.32543063	2.905583641	0.344164933	3.072851493	1.057567729
71° 01' 00"	0.94561324	0.32529310	2.906957566	0.344002270	3.074150661	1.057514804
71° 01' 30"	0.94566054	0.32515556	2.908332652	0.343839622	3.075450994	1.057461907
71° 02' 00"	0.94570782	0.32501802	2.909708903	0.343676991	3.076752492	1.057409038
71° 02' 30"	0.94575509	0.32488047	2.911086319	0.343514376	3.078055158	1.057356197

71° 03' 00"

71° 23' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
71° 03' 00"	0.94580233	0.32474291	2.912464902	0.343351777	3.079358992	1.057303383
71° 03' 30"	0.94584955	0.32460535	2.913844653	0.343189195	3.080663997	1.057250596
71° 04' 00"	0.94589675	0.32446777	2.915225574	0.343026629	3.081970173	1.057197838
71° 04' 30"	0.94594393	0.32433019	2.916607667	0.342864079	3.083277523	1.057145107
71° 05' 00"	0.94599110	0.32419261	2.917990932	0.342701545	3.084586047	1.057092403
71° 05' 30"	0.94603824	0.32405502	2.919375373	0.342539027	3.085895748	1.057039727
71° 06' 00"	0.94608536	0.32391742	2.920760989	0.342376526	3.087206627	1.056987079
71° 06' 30"	0.94613246	0.32377981	2.922147784	0.342214041	3.088518685	1.056934458
71° 07' 00"	0.94617954	0.32364220	2.923535757	0.342051571	3.089831925	1.056881865
71° 07' 30"	0.94622660	0.32350458	2.924924912	0.341889119	3.091146347	1.056829300
71° 08' 00"	0.94627365	0.32336695	2.926315249	0.341726682	3.092461954	1.056776762
71° 08' 30"	0.94632067	0.32322932	2.927706770	0.341564261	3.093778746	1.056724252
71° 09' 00"	0.94636767	0.32309168	2.929099476	0.341401857	3.095096726	1.056671769
71° 09' 30"	0.94641465	0.32295403	2.930493370	0.341239469	3.096415894	1.056619314
71° 10' 00"	0.94646161	0.32281638	2.931888452	0.341077096	3.097736253	1.056566887
71° 10' 30"	0.94650856	0.32267872	2.933284725	0.340914740	3.099057805	1.056514486
71° 11' 00"	0.94655548	0.32254105	2.934682189	0.340752400	3.100380549	1.056462114
71° 11' 30"	0.94660238	0.32240338	2.936080847	0.340590076	3.101704490	1.056409769
71° 12' 00"	0.94664926	0.32226570	2.937480700	0.340427769	3.103029627	1.056357452
71° 12' 30"	0.94669612	0.32212801	2.938881750	0.340265477	3.104355962	1.056305162
71° 13' 00"	0.94674296	0.32199031	2.940283998	0.340103201	3.105683498	1.056252899
71° 13' 30"	0.94678978	0.32185261	2.941687446	0.339940942	3.107012235	1.056200665
71° 14' 00"	0.94683659	0.32171490	2.943092095	0.339778698	3.108342176	1.056148457
71° 14' 30"	0.94688337	0.32157719	2.944497948	0.339616470	3.109673321	1.056096277
71° 15' 00"	0.94693013	0.32143947	2.945905005	0.339454259	3.111005673	1.056044125
71° 15' 30"	0.94697687	0.32130174	2.947313268	0.339292063	3.112339233	1.055992000
71° 16' 00"	0.94702359	0.32116400	2.948722739	0.339129884	3.113674002	1.055939903
71° 16' 30"	0.94707029	0.32102626	2.950133420	0.338967720	3.115009983	1.055887833
71° 17' 00"	0.94711698	0.32088851	2.951545311	0.338805573	3.116347177	1.055835790
71° 17' 30"	0.94716364	0.32075075	2.952958416	0.338643441	3.117685585	1.055783775
71° 18' 00"	0.94721028	0.32061299	2.954372735	0.338481326	3.119025209	1.055731788
71° 18' 30"	0.94725690	0.32047522	2.955788269	0.338319226	3.120366051	1.055679828
71° 19' 00"	0.94730350	0.32033744	2.957205022	0.338157143	3.121708113	1.055627895
71° 19' 30"	0.94735008	0.32019966	2.958622993	0.337995075	3.123051395	1.055575990
71° 20' 00"	0.94739664	0.32006187	2.960042186	0.337833023	3.124395900	1.055524112
71° 20' 30"	0.94744318	0.31992408	2.961462601	0.337670987	3.125741630	1.055472262
71° 21' 00"	0.94748970	0.31978627	2.962884240	0.337508967	3.127088585	1.055420439
71° 21' 30"	0.94753621	0.31964846	2.964307105	0.337346963	3.128436768	1.055368643
71° 22' 00"	0.94758269	0.31951064	2.965731198	0.337184975	3.129786181	1.055316875
71° 22' 30"	0.94762915	0.31937282	2.967156519	0.337023003	3.131136824	1.055265135
71° 23' 00"	0.94767559	0.31923499	2.968583071	0.336861047	3.132488699	1.055213421
71° 23' 30"	0.94772201	0.31909715	2.970010856	0.336699106	3.133841809	1.055161735

71° 24' 00"

71° 44' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
71° 24' 00"	0.94776841	0.31895931	2.971439875	0.336537181	3.135196155	1.055110077
71° 24' 30"	0.94781479	0.31882146	2.972870129	0.336375273	3.136551738	1.055058446
71° 25' 00"	0.94786115	0.31868360	2.974301621	0.336213380	3.137908560	1.055006842
71° 25' 30"	0.94790749	0.31854574	2.975734352	0.336051503	3.139266623	1.054955266
71° 26' 00"	0.94795381	0.31840787	2.977168323	0.335889641	3.140625929	1.054903717
71° 26' 30"	0.94800011	0.31826999	2.978603537	0.335727796	3.141986478	1.054852195
71° 27' 00"	0.94804639	0.31813210	2.980039995	0.335565966	3.143348274	1.054800700
71° 27' 30"	0.94809265	0.31799421	2.981477699	0.335404152	3.144711317	1.054749233
71° 28' 00"	0.94813889	0.31785632	2.982916650	0.335242354	3.146075610	1.054697794
71° 28' 30"	0.94818511	0.31771841	2.984356850	0.335080572	3.147441153	1.054646381
71° 29' 00"	0.94823131	0.31758050	2.985798301	0.334918805	3.148807949	1.054594996
71° 29' 30"	0.94827750	0.31744258	2.987241005	0.334757055	3.150175999	1.054543639
71° 30' 00"	0.94832366	0.31730466	2.988684963	0.334595320	3.151545305	1.054492308
71° 30' 30"	0.94836980	0.31716672	2.990130176	0.334433600	3.152915868	1.054441005
71° 31' 00"	0.94841592	0.31702879	2.991576648	0.334271897	3.154287691	1.054389729
71° 31' 30"	0.94846202	0.31689084	2.993024378	0.334110209	3.155660775	1.054338481
71° 32' 00"	0.94850810	0.31675289	2.994473370	0.333948537	3.157035122	1.054287259
71° 32' 30"	0.94855415	0.31661493	2.995923624	0.333786880	3.158410733	1.054236065
71° 33' 00"	0.94860019	0.31647697	2.997375143	0.333625240	3.159787611	1.054184899
71° 33' 30"	0.94864621	0.31633900	2.998827927	0.333463615	3.161165756	1.054133759
71° 34' 00"	0.94869221	0.31620102	3.000281980	0.333302005	3.162545171	1.054082647
71° 34' 30"	0.94873819	0.31606303	3.001737302	0.333140411	3.163925857	1.054031562
71° 35' 00"	0.94878415	0.31592504	3.003193896	0.332978833	3.165307817	1.053980504
71° 35' 30"	0.94883009	0.31578704	3.004651762	0.332817271	3.166691051	1.053929474
71° 36' 00"	0.94887601	0.31564904	3.006110903	0.332655724	3.168075562	1.053878471
71° 36' 30"	0.94892191	0.31551103	3.007571321	0.332494193	3.169461351	1.053827495
71° 37' 00"	0.94896779	0.31537301	3.009033017	0.332332678	3.170848419	1.053776546
71° 37' 30"	0.94901365	0.31523498	3.010495993	0.332171178	3.172236770	1.053725624
71° 38' 00"	0.94905949	0.31509695	3.011960251	0.332009694	3.173626404	1.053674730
71° 38' 30"	0.94910531	0.31495891	3.013425792	0.331848225	3.175017324	1.053623863
71° 39' 00"	0.94915111	0.31482087	3.014892618	0.331686772	3.176409530	1.053573023
71° 39' 30"	0.94919688	0.31468281	3.016360732	0.331525334	3.177803025	1.053522210
71° 40' 00"	0.94924264	0.31454476	3.017830134	0.331363912	3.179197810	1.053471425
71° 40' 30"	0.94928838	0.31440669	3.019300826	0.331202506	3.180593888	1.053420666
71° 41' 00"	0.94933410	0.31426862	3.020772811	0.331041115	3.181991260	1.053369935
71° 41' 30"	0.94937980	0.31413054	3.022246090	0.330879740	3.183389927	1.053319231
71° 42' 00"	0.94942548	0.31399246	3.023720665	0.330718380	3.184789892	1.053268554
71° 42' 30"	0.94947114	0.31385436	3.025196537	0.330557036	3.186191157	1.053217904
71° 43' 00"	0.94951677	0.31371627	3.026673708	0.330395707	3.187593722	1.053167282
71° 43' 30"	0.94956239	0.31357816	3.028152181	0.330234394	3.188997590	1.053116686
71° 44' 00"	0.94960799	0.31344005	3.029631956	0.330073096	3.190402763	1.053066118
71° 44' 30"	0.94965357	0.31330193	3.031113036	0.329911814	3.191809242	1.053015577

71° 45' 00"

72° 05' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
71° 45' 00"	0.94969913	0.31316381	3.032595423	0.329750547	3.193217030	1.052965063
71° 45' 30"	0.94974466	0.31302568	3.034079118	0.329589296	3.194626127	1.052914576
71° 46' 00"	0.94979018	0.31288754	3.035564123	0.329428060	3.196036537	1.052864116
71° 46' 30"	0.94983568	0.31274939	3.037050440	0.329266840	3.197448260	1.052813683
71° 47' 00"	0.94988116	0.31261124	3.038538070	0.329105635	3.198861298	1.052763278
71° 47' 30"	0.94992661	0.31247308	3.040027016	0.328944445	3.200275653	1.052712899
71° 48' 00"	0.94997205	0.31233492	3.041517279	0.328783271	3.201691328	1.052662548
71° 48' 30"	0.95001747	0.31219675	3.043008861	0.328622112	3.203108323	1.052612223
71° 49' 00"	0.95006287	0.31205857	3.044501765	0.328460969	3.204526641	1.052561926
71° 49' 30"	0.95010824	0.31192039	3.045995990	0.328299841	3.205946284	1.052511656
71° 50' 00"	0.95015360	0.31178219	3.047491541	0.328138729	3.207367252	1.052461413
71° 50' 30"	0.95019894	0.31164400	3.048988418	0.327977632	3.208789549	1.052411197
71° 51' 00"	0.95024425	0.31150579	3.050486622	0.327816550	3.210213176	1.052361008
71° 51' 30"	0.95028955	0.31136758	3.051986157	0.327655483	3.211638134	1.052310846
71° 52' 00"	0.95033483	0.31122936	3.053487024	0.327494432	3.213064426	1.052260711
71° 52' 30"	0.95038008	0.31109114	3.054989225	0.327333397	3.214492054	1.052210603
71° 53' 00"	0.95042532	0.31095291	3.056492761	0.327172376	3.215921018	1.052160522
71° 53' 30"	0.95047054	0.31081467	3.057997634	0.327011371	3.217351322	1.052110468
71° 54' 00"	0.95051573	0.31067643	3.059503847	0.326850382	3.218782967	1.052060441
71° 54' 30"	0.95056091	0.31053818	3.061011401	0.326689407	3.220215955	1.052010441
71° 55' 00"	0.95060606	0.31039992	3.062520297	0.326528448	3.221650287	1.051960469
71° 55' 30"	0.95065120	0.31026166	3.064030539	0.326367504	3.223085966	1.051910523
71° 56' 00"	0.95069631	0.31012339	3.065542127	0.326206576	3.224522993	1.051860604
71° 56' 30"	0.95074141	0.30998511	3.067055064	0.326045662	3.225961371	1.051810712
71° 57' 00"	0.95078649	0.30984683	3.068569351	0.325884764	3.227401100	1.051760847
71° 57' 30"	0.95083154	0.30970854	3.070084990	0.325723882	3.228842184	1.051711009
71° 58' 00"	0.95087658	0.30957024	3.071601984	0.325563014	3.230284623	1.051661198
71° 58' 30"	0.95092159	0.30943194	3.073120333	0.325402162	3.231728421	1.051611414
71° 59' 00"	0.95096659	0.30929363	3.074640041	0.325241325	3.233173577	1.051561657
71° 59' 30"	0.95101156	0.30915532	3.076161108	0.325080503	3.234620096	1.051511927
72° 00' 00"	0.95105652	0.30901699	3.077683537	0.324919696	3.236067977	1.051462224
72° 00' 30"	0.95110145	0.30887867	3.079207330	0.324758905	3.237517225	1.051412548
72° 01' 00"	0.95114637	0.30874033	3.080732488	0.324598129	3.238967839	1.051362899
72° 01' 30"	0.95119126	0.30860199	3.082259013	0.324437367	3.240419822	1.051313277
72° 02' 00"	0.95123613	0.30846364	3.083786908	0.324276622	3.241873177	1.051263681
72° 02' 30"	0.95128099	0.30832528	3.085316174	0.324115891	3.243327904	1.051214113
72° 03' 00"	0.95132582	0.30818692	3.086846813	0.323955175	3.244784006	1.051164571
72° 03' 30"	0.95137064	0.30804856	3.088378827	0.323794475	3.246241485	1.051115056
72° 04' 00"	0.95141543	0.30791018	3.089912218	0.323633789	3.247700342	1.051065569
72° 04' 30"	0.95146020	0.30777180	3.091446987	0.323473119	3.249160580	1.051016108
72° 05' 00"	0.95150496	0.30763341	3.092983138	0.323312464	3.250622201	1.050966674
72° 05' 30"	0.95154969	0.30749502	3.094520671	0.323151824	3.252085206	1.050917267

72° 06' 00"

72° 26' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
72° 06' 00"	0.95159440	0.30735662	3.096059589	0.322991199	3.253549597	1.050867886
72° 06' 30"	0.95163910	0.30721821	3.097599894	0.322830590	3.255015377	1.050818533
72° 07' 00"	0.95168377	0.30707980	3.099141587	0.322669995	3.256482547	1.050769207
72° 07' 30"	0.95172842	0.30694138	3.100684670	0.322509415	3.257951109	1.050719907
72° 08' 00"	0.95177306	0.30680295	3.102229146	0.322348851	3.259421065	1.050670634
72° 08' 30"	0.95181767	0.30666452	3.103775017	0.322188301	3.260892417	1.050621388
72° 09' 00"	0.95186226	0.30652608	3.105322283	0.322027767	3.262365167	1.050572169
72° 09' 30"	0.95190683	0.30638763	3.106870948	0.321867247	3.263839317	1.050522977
72° 10' 00"	0.95195139	0.30624918	3.108421013	0.321706743	3.265314869	1.050473811
72° 10' 30"	0.95199592	0.30611072	3.109972481	0.321546254	3.266791826	1.050424673
72° 11' 00"	0.95204043	0.30597226	3.111525352	0.321385779	3.268270187	1.050375561
72° 11' 30"	0.95208492	0.30583378	3.113079630	0.321225320	3.269749957	1.050326476
72° 12' 00"	0.95212939	0.30569530	3.114635316	0.321064876	3.271231137	1.050277418
72° 12' 30"	0.95217384	0.30555682	3.116192412	0.320904446	3.272713728	1.050228386
72° 13' 00"	0.95221828	0.30541833	3.117750920	0.320744032	3.274197734	1.050179382
72° 13' 30"	0.95226269	0.30527983	3.119310842	0.320583632	3.275683155	1.050130404
72° 14' 00"	0.95230708	0.30514133	3.120872180	0.320423248	3.277169993	1.050081453
72° 14' 30"	0.95235145	0.30500282	3.122434936	0.320262878	3.278658252	1.050032529
72° 15' 00"	0.95239580	0.30486430	3.123999113	0.320102524	3.280147932	1.049983631
72° 15' 30"	0.95244013	0.30472578	3.125564711	0.319942184	3.281639036	1.049934760
72° 16' 00"	0.95248444	0.30458725	3.127131733	0.319781859	3.283131566	1.049885916
72° 16' 30"	0.95252873	0.30444871	3.128700182	0.319621549	3.284625523	1.049837099
72° 17' 00"	0.95257300	0.30431017	3.130270059	0.319461255	3.286120911	1.049788309
72° 17' 30"	0.95261725	0.30417162	3.131841365	0.319300975	3.287617730	1.049739545
72° 18' 00"	0.95266148	0.30403306	3.133414104	0.319140709	3.289115983	1.049690808
72° 18' 30"	0.95270569	0.30389450	3.134988277	0.318980459	3.290615672	1.049642098
72° 19' 00"	0.95274988	0.30375593	3.136563886	0.318820224	3.292116798	1.049593414
72° 19' 30"	0.95279405	0.30361736	3.138140934	0.318660003	3.293619365	1.049544757
72° 20' 00"	0.95283820	0.30347877	3.139719422	0.318499797	3.295123374	1.049496127
72° 20' 30"	0.95288233	0.30334019	3.141299352	0.318339607	3.296628826	1.049447524
72° 21' 00"	0.95292644	0.30320159	3.142880726	0.318179431	3.298135725	1.049398947
72° 21' 30"	0.95297053	0.30306299	3.144463547	0.318019269	3.299644071	1.049350397
72° 22' 00"	0.95301459	0.30292438	3.146047816	0.317859123	3.301153868	1.049301874
72° 22' 30"	0.95305864	0.30278577	3.147633536	0.317698992	3.302665117	1.049253377
72° 23' 00"	0.95310267	0.30264715	3.149220708	0.317538875	3.304177820	1.049204907
72° 23' 30"	0.95314668	0.30250852	3.150809335	0.317378773	3.305691980	1.049156464
72° 24' 00"	0.95319067	0.30236989	3.152399419	0.317218686	3.307207598	1.049108047
72° 24' 30"	0.95323464	0.30223125	3.153990961	0.317058613	3.308724676	1.049059657
72° 25' 00"	0.95327858	0.30209261	3.155583964	0.316898555	3.310243217	1.049011294
72° 25' 30"	0.95332251	0.30195395	3.157178430	0.316738513	3.311763222	1.048962957
72° 26' 00"	0.95336642	0.30181530	3.158774361	0.316578484	3.313284694	1.048914647
72° 26' 30"	0.95341031	0.30167663	3.160371760	0.316418471	3.314807635	1.048866364

72° 27' 00"

72° 47' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
72° 27' 00"	0.95345417	0.30153796	3.161970627	0.316258472	3.316332047	1.048818107
72° 27' 30"	0.95349802	0.30139928	3.163570966	0.316098488	3.317857932	1.048769877
72° 28' 00"	0.95354185	0.30126060	3.165172778	0.315938519	3.319385292	1.048721673
72° 28' 30"	0.95358565	0.30112191	3.166776066	0.315778564	3.320914129	1.048673496
72° 29' 00"	0.95362944	0.30098321	3.168380831	0.315618625	3.322444445	1.048625346
72° 29' 30"	0.95367320	0.30084451	3.169987076	0.315458699	3.323976242	1.048577222
72° 30' 00"	0.95371695	0.30070580	3.171594802	0.315298789	3.325509523	1.048529125
72° 30' 30"	0.95376068	0.30056708	3.173204013	0.315138893	3.327044290	1.048481055
72° 31' 00"	0.95380438	0.30042836	3.174814710	0.314979012	3.328580544	1.048433011
72° 31' 30"	0.95384807	0.30028963	3.176426895	0.314819145	3.330118289	1.048384993
72° 32' 00"	0.95389173	0.30015090	3.178040570	0.314659293	3.331657525	1.048337003
72° 32' 30"	0.95393538	0.30001216	3.179655738	0.314499456	3.333198255	1.048289038
72° 33' 00"	0.95397900	0.29987341	3.181272400	0.314339633	3.334740482	1.048241101
72° 33' 30"	0.95402261	0.29973466	3.182890559	0.314179825	3.336284207	1.048193190
72° 34' 00"	0.95406619	0.29959590	3.184510217	0.314020032	3.337829433	1.048145305
72° 34' 30"	0.95410976	0.29945713	3.186131376	0.313860253	3.339376161	1.048097447
72° 35' 00"	0.95415330	0.29931836	3.187754038	0.313700489	3.340924394	1.048049616
72° 35' 30"	0.95419682	0.29917958	3.189378205	0.313540739	3.342474134	1.048001811
72° 36' 00"	0.95424033	0.29904079	3.191003880	0.313381004	3.344025383	1.047954032
72° 36' 30"	0.95428381	0.29890200	3.192631065	0.313221284	3.345578144	1.047906280
72° 37' 00"	0.95432728	0.29876320	3.194259762	0.313061578	3.347132418	1.047858555
72° 37' 30"	0.95437072	0.29862440	3.195889973	0.312901886	3.348688208	1.047810856
72° 38' 00"	0.95441414	0.29848559	3.197521699	0.312742209	3.350245516	1.047763184
72° 38' 30"	0.95445754	0.29834677	3.199154945	0.312582547	3.351804344	1.047715538
72° 39' 00"	0.95450093	0.29820795	3.200789711	0.312422899	3.353364694	1.047667919
72° 39' 30"	0.95454429	0.29806912	3.202425999	0.312263265	3.354926569	1.047620326
72° 40' 00"	0.95458763	0.29793028	3.204063813	0.312103647	3.356489970	1.047572759
72° 40' 30"	0.95463095	0.29779144	3.205703154	0.311944042	3.358054900	1.047525219
72° 41' 00"	0.95467426	0.29765259	3.207344024	0.311784452	3.359621361	1.047477706
72° 41' 30"	0.95471754	0.29751374	3.208986426	0.311624877	3.361189355	1.047430219
72° 42' 00"	0.95476080	0.29737487	3.210630362	0.311465316	3.362758885	1.047382759
72° 42' 30"	0.95480404	0.29723601	3.212275833	0.311305769	3.364329953	1.047335325
72° 43' 00"	0.95484726	0.29709713	3.213922843	0.311146237	3.365902560	1.047287917
72° 43' 30"	0.95489046	0.29695825	3.215571394	0.310986720	3.367476710	1.047240536
72° 44' 00"	0.95493364	0.29681937	3.217221487	0.310827217	3.369052404	1.047193181
72° 44' 30"	0.95497680	0.29668047	3.218873125	0.310667728	3.370629644	1.047145853
72° 45' 00"	0.95501994	0.29654157	3.220526311	0.310508253	3.372208433	1.047098551
72° 45' 30"	0.95506306	0.29640267	3.222181046	0.310348794	3.373788774	1.047051276
72° 46' 00"	0.95510616	0.29626376	3.223837332	0.310189348	3.375370668	1.047004027
72° 46' 30"	0.95514924	0.29612484	3.225495173	0.310029917	3.376954117	1.046956804
72° 47' 00"	0.95519230	0.29598592	3.227154570	0.309870500	3.378539124	1.046909608
72° 47' 30"	0.95523534	0.29584699	3.228815525	0.309711098	3.380125692	1.046862438



72° 48' 00"

73° 08' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
72° 48' 00"	0.95527836	0.29570805	3.230478041	0.309551710	3.381713822	1.046815295
72° 48' 30"	0.95532136	0.29556911	3.232142120	0.309392336	3.383303516	1.046768178
72° 49' 00"	0.95536434	0.29543016	3.233807764	0.309232976	3.384894777	1.046721087
72° 49' 30"	0.95540730	0.29529120	3.235474976	0.309073631	3.386487608	1.046674023
72° 50' 00"	0.95545024	0.29515224	3.237143757	0.308914301	3.388082010	1.046626985
72° 50' 30"	0.95549315	0.29501327	3.238814111	0.308754984	3.389677986	1.046579973
72° 51' 00"	0.95553605	0.29487430	3.240486040	0.308595682	3.391275538	1.046532988
72° 51' 30"	0.95557893	0.29473532	3.242159545	0.308436394	3.392874668	1.046486029
72° 52' 00"	0.95562179	0.29459633	3.243834629	0.308277121	3.394475379	1.046439097
72° 52' 30"	0.95566462	0.29445734	3.245511294	0.308117862	3.396077673	1.046392191
72° 53' 00"	0.95570744	0.29431834	3.247189543	0.307958617	3.397681552	1.046345311
72° 53' 30"	0.95575024	0.29417934	3.248869378	0.307799386	3.399287019	1.046298457
72° 54' 00"	0.95579301	0.29404033	3.250550801	0.307640170	3.400894075	1.046251630
72° 54' 30"	0.95583577	0.29390131	3.252233815	0.307480967	3.402502724	1.046204830
72° 55' 00"	0.95587851	0.29376228	3.253918422	0.307321780	3.404112968	1.046158055
72° 55' 30"	0.95592122	0.29362325	3.255604624	0.307162606	3.405724808	1.046111307
72° 56' 00"	0.95596392	0.29348422	3.257292424	0.307003446	3.407338248	1.046064585
72° 56' 30"	0.95600659	0.29334518	3.258981824	0.306844301	3.408953289	1.046017889
72° 57' 00"	0.95604925	0.29320613	3.260672826	0.306685170	3.410569934	1.045971220
72° 57' 30"	0.95609188	0.29306707	3.262365432	0.306526053	3.412188186	1.045924577
72° 58' 00"	0.95613450	0.29292801	3.264059646	0.306366950	3.413808046	1.045877961
72° 58' 30"	0.95617709	0.29278894	3.265755469	0.306207862	3.415429517	1.045831370
72° 59' 00"	0.95621967	0.29264987	3.267452904	0.306048788	3.417052601	1.045784806
72° 59' 30"	0.95626222	0.29251079	3.269151953	0.305889727	3.418677302	1.045738268
73° 00' 00"	0.95630476	0.29237170	3.270852618	0.305730681	3.420303620	1.045691756
73° 00' 30"	0.95634727	0.29223261	3.272554903	0.305571650	3.421931559	1.045645271
73° 01' 00"	0.95638976	0.29209351	3.274258808	0.305412632	3.423561120	1.045598812
73° 01' 30"	0.95643224	0.29195441	3.275964338	0.305253628	3.425192307	1.045552379
73° 02' 00"	0.95647469	0.29181530	3.277671493	0.305094639	3.426825122	1.045505973
73° 02' 30"	0.95651712	0.29167618	3.279380277	0.304935663	3.428459566	1.045459592
73° 03' 00"	0.95655953	0.29153706	3.281090691	0.304776702	3.430095643	1.045413238
73° 03' 30"	0.95660193	0.29139793	3.282802739	0.304617755	3.431733355	1.045366910
73° 04' 00"	0.95664430	0.29125880	3.284516422	0.304458822	3.433372705	1.045320608
73° 04' 30"	0.95668665	0.29111965	3.286231744	0.304299903	3.435013694	1.045274333
73° 05' 00"	0.95672898	0.29098051	3.287948706	0.304140998	3.436656325	1.045228083
73° 05' 30"	0.95677129	0.29084135	3.289667311	0.303982107	3.438300600	1.045181860
73° 06' 00"	0.95681358	0.29070219	3.291387561	0.303823230	3.439946523	1.045135663
73° 06' 30"	0.95685585	0.29056303	3.293109459	0.303664367	3.441594095	1.045089493
73° 07' 00"	0.95689811	0.29042386	3.294833008	0.303505518	3.443243318	1.045043348
73° 07' 30"	0.95694034	0.29028468	3.296558209	0.303346684	3.444894196	1.044997230
73° 08' 00"	0.95698255	0.29014549	3.298285065	0.303187863	3.446546731	1.044951138
73° 08' 30"	0.95702474	0.29000630	3.300013579	0.303029056	3.448200925	1.044905072

73° 09' 00"

73° 29' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
73° 09' 00"	0.95706691	0.28986711	3.301743753	0.302870263	3.449856781	1.044859032
73° 09' 30"	0.95710905	0.28972790	3.303475589	0.302711485	3.451514301	1.044813018
73° 10' 00"	0.95715118	0.28958869	3.305209091	0.302552720	3.453173487	1.044767031
73° 10' 30"	0.95719329	0.28944948	3.306944260	0.302393969	3.454834343	1.044721069
73° 11' 00"	0.95723538	0.28931026	3.308681098	0.302235232	3.456496870	1.044675134
73° 11' 30"	0.95727745	0.28917103	3.310419610	0.302076509	3.458161071	1.044629225
73° 12' 00"	0.95731950	0.28903180	3.312159796	0.301917800	3.459826948	1.044583342
73° 12' 30"	0.95736153	0.28889256	3.313901659	0.301759105	3.461494505	1.044537485
73° 13' 00"	0.95740353	0.28875331	3.315645203	0.301600424	3.463163743	1.044491654
73° 13' 30"	0.95744552	0.28861406	3.317390429	0.301441757	3.464834665	1.044445850
73° 14' 00"	0.95748749	0.28847480	3.319137340	0.301283104	3.466507274	1.044400071
73° 14' 30"	0.95752943	0.28833554	3.320885938	0.301124465	3.468181572	1.044354319
73° 15' 00"	0.95757136	0.28819627	3.322636226	0.300965839	3.469857561	1.044308592
73° 15' 30"	0.95761327	0.28805699	3.324388207	0.300807228	3.471535244	1.044262892
73° 16' 00"	0.95765515	0.28791771	3.326141883	0.300648630	3.473214624	1.044217218
73° 16' 30"	0.95769702	0.28777842	3.327897256	0.300490046	3.474895703	1.044171570
73° 17' 00"	0.95773886	0.28763913	3.329654330	0.300331476	3.476578484	1.044125948
73° 17' 30"	0.95778069	0.28749983	3.331413106	0.300172920	3.478262969	1.044080352
73° 18' 00"	0.95782249	0.28736052	3.333173587	0.300014378	3.479949161	1.044034782
73° 18' 30"	0.95786428	0.28722121	3.334935777	0.299855849	3.481637062	1.043989239
73° 19' 00"	0.95790604	0.28708189	3.336699676	0.299697335	3.483326675	1.043943721
73° 19' 30"	0.95794779	0.28694256	3.338465288	0.299538834	3.485018003	1.043898229
73° 20' 00"	0.95798951	0.28680323	3.340232616	0.299380347	3.486711048	1.043852764
73° 20' 30"	0.95803122	0.28666390	3.342001662	0.299221874	3.488405812	1.043807324
73° 21' 00"	0.95807290	0.28652455	3.343772428	0.299063415	3.490102298	1.043761911
73° 21' 30"	0.95811456	0.28638520	3.345544918	0.298904969	3.491800510	1.043716523
73° 22' 00"	0.95815621	0.28624585	3.347319133	0.298746537	3.493500448	1.043671162
73° 22' 30"	0.95819783	0.28610649	3.349095077	0.298588119	3.495202117	1.043625826
73° 23' 00"	0.95823943	0.28596712	3.350872752	0.298429715	3.496905518	1.043580517
73° 23' 30"	0.95828101	0.28582775	3.352652160	0.298271324	3.498610654	1.043535233
73° 24' 00"	0.95832257	0.28568837	3.354433305	0.298112948	3.500317528	1.043489976
73° 24' 30"	0.95836412	0.28554898	3.356216188	0.297954585	3.502026143	1.043444744
73° 25' 00"	0.95840564	0.28540959	3.358000813	0.297796235	3.503736500	1.043399539
73° 25' 30"	0.95844714	0.28527019	3.359787182	0.297637900	3.505448603	1.043354359
73° 26' 00"	0.95848862	0.28513079	3.361575298	0.297479578	3.507162455	1.043309206
73° 26' 30"	0.95853008	0.28499138	3.363365163	0.297321269	3.508878057	1.043264078
73° 27' 00"	0.95857152	0.28485196	3.365156780	0.297162975	3.510595413	1.043218977
73° 27' 30"	0.95861294	0.28471254	3.366950152	0.297004694	3.512314525	1.043173901
73° 28' 00"	0.95865434	0.28457312	3.368745280	0.296846427	3.514035396	1.043128852
73° 28' 30"	0.95869572	0.28443368	3.370542169	0.296688174	3.515758029	1.043083828
73° 29' 00"	0.95873708	0.28429424	3.372340821	0.296529934	3.517482425	1.043038830
73° 29' 30"	0.95877842	0.28415480	3.374141238	0.296371708	3.519208589	1.042993859

73° 30' 00"

73° 50' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
73° 30' 00"	0.95881973	0.28401534	3.375943423	0.296213495	3.520936522	1.042948913
73° 30' 30"	0.95886103	0.28387589	3.377747378	0.296055296	3.522666227	1.042903993
73° 31' 00"	0.95890231	0.28373642	3.379553107	0.295897111	3.524397708	1.042859099
73° 31' 30"	0.95894357	0.28359695	3.381360612	0.295738939	3.526130966	1.042814231
73° 32' 00"	0.95898481	0.28345748	3.383169895	0.295580781	3.527866004	1.042769389
73° 32' 30"	0.95902602	0.28331800	3.384980960	0.295422637	3.529602825	1.042724573
73° 33' 00"	0.95906722	0.28317851	3.386793809	0.295264506	3.531341432	1.042679782
73° 33' 30"	0.95910840	0.28303901	3.388608445	0.295106388	3.533081827	1.042635018
73° 34' 00"	0.95914955	0.28289952	3.390424871	0.294948285	3.534824013	1.042590279
73° 34' 30"	0.95919069	0.28276001	3.392243089	0.294790195	3.536567994	1.042545567
73° 35' 00"	0.95923180	0.28262050	3.394063102	0.294632118	3.538313771	1.042500880
73° 35' 30"	0.95927290	0.28248098	3.395884913	0.294474055	3.540061347	1.042456219
73° 36' 00"	0.95931397	0.28234146	3.397708524	0.294316005	3.541810725	1.042411584
73° 36' 30"	0.95935503	0.28220193	3.399533938	0.294157969	3.543561908	1.042366975
73° 37' 00"	0.95939606	0.28206239	3.401361159	0.293999947	3.545314899	1.042322392
73° 37' 30"	0.95943708	0.28192285	3.403190188	0.293841938	3.547069700	1.042277835
73° 38' 00"	0.95947807	0.28178330	3.405021029	0.293683942	3.548826314	1.042233303
73° 38' 30"	0.95951905	0.28164375	3.406853684	0.293525961	3.550584744	1.042188797
73° 39' 00"	0.95956000	0.28150419	3.408688156	0.293367992	3.552344993	1.042144318
73° 39' 30"	0.95960093	0.28136462	3.410524448	0.293210037	3.554107063	1.042099864
73° 40' 00"	0.95964184	0.28122505	3.412362563	0.293052096	3.555870957	1.042055436
73° 40' 30"	0.95968274	0.28108548	3.414202503	0.292894168	3.557636678	1.042011033
73° 41' 00"	0.95972361	0.28094589	3.416044272	0.292736253	3.559404229	1.041966657
73° 41' 30"	0.95976446	0.28080630	3.417887871	0.292578352	3.561173613	1.041922306
73° 42' 00"	0.95980529	0.28066671	3.419733305	0.292420464	3.562944832	1.041877981
73° 42' 30"	0.95984610	0.28052711	3.421580575	0.292262590	3.564717889	1.041833682
73° 43' 00"	0.95988689	0.28038750	3.423429684	0.292104729	3.566492787	1.041789409
73° 43' 30"	0.95992766	0.28024789	3.425280636	0.291946882	3.568269529	1.041745162
73° 44' 00"	0.95996841	0.28010827	3.427133433	0.291789047	3.570048118	1.041700940
73° 44' 30"	0.96000914	0.27996864	3.428988078	0.291631227	3.571828557	1.041656744
73° 45' 00"	0.96004985	0.27982901	3.430844574	0.291473420	3.573610848	1.041612574
73° 45' 30"	0.96009054	0.27968938	3.432702923	0.291315626	3.575394994	1.041568430
73° 46' 00"	0.96013121	0.27954974	3.434563129	0.291157845	3.577180998	1.041524311
73° 46' 30"	0.96017186	0.27941009	3.436425195	0.291000078	3.578968863	1.041480218
73° 47' 00"	0.96021249	0.27927043	3.438289123	0.290842324	3.580758592	1.041436151
73° 47' 30"	0.96025310	0.27913077	3.440154916	0.290684584	3.582550187	1.041392110
73° 48' 00"	0.96029369	0.27899111	3.442022577	0.290526857	3.584343652	1.041348095
73° 48' 30"	0.96033425	0.27885143	3.443892109	0.290369143	3.586138990	1.041304105
73° 49' 00"	0.96037480	0.27871176	3.445763514	0.290211443	3.587936203	1.041260141
73° 49' 30"	0.96041533	0.27857207	3.447636797	0.290053755	3.589735294	1.041216203
73° 50' 00"	0.96045583	0.27843238	3.449511959	0.289896082	3.591536266	1.041172290
73° 50' 30"	0.96049632	0.27829269	3.451389003	0.289738421	3.593339123	1.041128404

73° 51' 00"

74° 11' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
73° 51' 00"	0.96053679	0.27815299	3.453267933	0.289580774	3.595143866	1.041084542
73° 51' 30"	0.96057723	0.27801328	3.455148752	0.289423140	3.596950500	1.041040707
73° 52' 00"	0.96061766	0.27787356	3.457031461	0.289265519	3.598759026	1.040996897
73° 52' 30"	0.96065806	0.27773385	3.458916065	0.289107912	3.600569447	1.040953114
73° 53' 00"	0.96069845	0.27759412	3.460802566	0.288950317	3.602381768	1.040909355
73° 53' 30"	0.96073881	0.27745439	3.462690967	0.288792736	3.604195990	1.040865623
73° 54' 00"	0.96077915	0.27731465	3.464581272	0.288635169	3.606012117	1.040821916
73° 54' 30"	0.96081948	0.27717491	3.466473482	0.288477614	3.607830151	1.040778235
73° 55' 00"	0.96085978	0.27703516	3.468367601	0.288320073	3.609650096	1.040734579
73° 55' 30"	0.96090006	0.27689541	3.470263632	0.288162545	3.611471954	1.040690949
73° 56' 00"	0.96094033	0.27675565	3.472161578	0.288005030	3.613295729	1.040647345
73° 56' 30"	0.96098057	0.27661588	3.474061442	0.287847528	3.615121423	1.040603767
73° 57' 00"	0.96102079	0.27647611	3.475963227	0.287690040	3.616949040	1.040560214
73° 57' 30"	0.96106099	0.27633633	3.477866936	0.287532565	3.618778582	1.040516687
73° 58' 00"	0.96110117	0.27619655	3.479772572	0.287375103	3.620610052	1.040473185
73° 58' 30"	0.96114133	0.27605676	3.481680137	0.287217654	3.622443454	1.040429710
73° 59' 00"	0.96118148	0.27591696	3.483589636	0.287060218	3.624278791	1.040386259
73° 59' 30"	0.96122160	0.27577716	3.485501070	0.286902795	3.626116064	1.040342835
74° 00' 00"	0.96126170	0.27563736	3.487414444	0.286745386	3.627955279	1.040299436
74° 00' 30"	0.96130178	0.27549754	3.489329759	0.286587989	3.629796436	1.040256063
74° 01' 00"	0.96134183	0.27535772	3.491247020	0.286430606	3.631639541	1.040212715
74° 01' 30"	0.96138187	0.27521790	3.493166228	0.286273236	3.633484595	1.040169393
74° 02' 00"	0.96142189	0.27507807	3.495087388	0.286115879	3.635331601	1.040126096
74° 02' 30"	0.96146189	0.27493823	3.497010502	0.285958535	3.637180564	1.040082825
74° 03' 00"	0.96150187	0.27479839	3.498935573	0.285801204	3.639031485	1.040039580
74° 03' 30"	0.96154183	0.27465854	3.500862605	0.285643886	3.640884368	1.039996360
74° 04' 00"	0.96158176	0.27451869	3.502791600	0.285486582	3.642739215	1.039953166
74° 04' 30"	0.96162168	0.27437883	3.504722561	0.285329290	3.644596031	1.039909998
74° 05' 00"	0.96166158	0.27423897	3.506655492	0.285172011	3.646454818	1.039866855
74° 05' 30"	0.96170145	0.27409910	3.508590396	0.285014746	3.648315579	1.039823738
74° 06' 00"	0.96174131	0.27395922	3.510527275	0.284857493	3.650178318	1.039780646
74° 06' 30"	0.96178115	0.27381934	3.512466134	0.284700254	3.652043037	1.039737580
74° 07' 00"	0.96182096	0.27367945	3.514406974	0.284543027	3.653909739	1.039694539
74° 07' 30"	0.96186076	0.27353955	3.516349800	0.284385814	3.655778428	1.039651524
74° 08' 00"	0.96190053	0.27339965	3.518294613	0.284228614	3.657649107	1.039608534
74° 08' 30"	0.96194028	0.27325975	3.520241419	0.284071426	3.659521778	1.039565570
74° 09' 00"	0.96198002	0.27311984	3.522190218	0.283914252	3.661396446	1.039522632
74° 09' 30"	0.96201973	0.27297992	3.524141016	0.283757090	3.663273113	1.039479719
74° 10' 00"	0.96205942	0.27284000	3.526093814	0.283599942	3.665151782	1.039436832
74° 10' 30"	0.96209910	0.27270007	3.528048616	0.283442806	3.667032457	1.039393970
74° 11' 00"	0.96213875	0.27256013	3.530005426	0.283285684	3.668915140	1.039351133
74° 11' 30"	0.96217838	0.27242019	3.531964246	0.283128574	3.670799836	1.039308323

74° 12' 00"

74° 32' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
74° 12' 00"	0.96221799	0.27228025	3.533925079	0.282971477	3.672686546	1.039265537
74° 12' 30"	0.96225758	0.27214030	3.535887929	0.282814393	3.674575274	1.039222777
74° 13' 00"	0.96229716	0.27200034	3.537852799	0.282657323	3.676466024	1.039180043
74° 13' 30"	0.96233671	0.27186037	3.539819692	0.282500265	3.678358799	1.039137334
74° 14' 00"	0.96237624	0.27172041	3.541788612	0.282343220	3.680253601	1.039094651
74° 14' 30"	0.96241575	0.27158043	3.543759561	0.282186188	3.682150435	1.039051993
74° 15' 00"	0.96245524	0.27144045	3.545732543	0.282029168	3.684049303	1.039009361
74° 15' 30"	0.96249471	0.27130046	3.547707560	0.281872162	3.685950208	1.038966754
74° 16' 00"	0.96253415	0.27116047	3.549684617	0.281715168	3.687853154	1.038924172
74° 16' 30"	0.96257358	0.27102047	3.551663717	0.281558188	3.689758144	1.038881617
74° 17' 00"	0.96261299	0.27088047	3.553644862	0.281401220	3.691665181	1.038839086
74° 17' 30"	0.96265238	0.27074046	3.555628057	0.281244265	3.693574268	1.038796581
74° 18' 00"	0.96269175	0.27060045	3.557613303	0.281087323	3.695485410	1.038754101
74° 18' 30"	0.96273109	0.27046043	3.559600605	0.280930394	3.697398608	1.038711647
74° 19' 00"	0.96277042	0.27032040	3.561589966	0.280773477	3.699313867	1.038669219
74° 19' 30"	0.96280973	0.27018037	3.563581389	0.280616574	3.701231189	1.038626815
74° 20' 00"	0.96284901	0.27004033	3.565574877	0.280459683	3.703150578	1.038584437
74° 20' 30"	0.96288828	0.26990029	3.567570434	0.280302805	3.705072038	1.038542085
74° 21' 00"	0.96292752	0.26976024	3.569568063	0.280145940	3.706995571	1.038499758
74° 21' 30"	0.96296675	0.26962018	3.571567768	0.279989087	3.708921180	1.038457457
74° 22' 00"	0.96300595	0.26948012	3.573569551	0.279832248	3.710848870	1.038415180
74° 22' 30"	0.96304514	0.26934005	3.575573416	0.279675421	3.712778643	1.038372930
74° 23' 00"	0.96308430	0.26919998	3.577579366	0.279518607	3.714710503	1.038330704
74° 23' 30"	0.96312344	0.26905990	3.579587405	0.279361805	3.716644453	1.038288504
74° 24' 00"	0.96316257	0.26891982	3.581597536	0.279205017	3.718580496	1.038246330
74° 24' 30"	0.96320167	0.26877973	3.583609762	0.279048241	3.720518637	1.038204181
74° 25' 00"	0.96324075	0.26863964	3.585624087	0.278891478	3.722458877	1.038162057
74° 25' 30"	0.96327981	0.26849954	3.587640514	0.278734727	3.724401221	1.038119958
74° 26' 00"	0.96331886	0.26835943	3.589659046	0.278577989	3.726345672	1.038077885
74° 26' 30"	0.96335788	0.26821932	3.591679687	0.278421264	3.728292233	1.038035838
74° 27' 00"	0.96339688	0.26807920	3.593702441	0.278264552	3.730240908	1.037993815
74° 27' 30"	0.96343586	0.26793908	3.595727310	0.278107852	3.732191700	1.037951819
74° 28' 00"	0.96347482	0.26779895	3.597754298	0.277951165	3.734144612	1.037909847
74° 28' 30"	0.96351376	0.26765881	3.599783408	0.277794491	3.736099649	1.037867901
74° 29' 00"	0.96355268	0.26751867	3.601814645	0.277637829	3.738056813	1.037825980
74° 29' 30"	0.96359157	0.26737853	3.603848010	0.277481180	3.740016107	1.037784084
74° 30' 00"	0.96363045	0.26723838	3.605883509	0.277324544	3.741977536	1.037742214
74° 30' 30"	0.96366931	0.26709822	3.607921143	0.277167920	3.743941102	1.037700369
74° 31' 00"	0.96370815	0.26695806	3.609960918	0.277011309	3.745906810	1.037658550
74° 31' 30"	0.96374697	0.26681789	3.612002835	0.276854711	3.747874662	1.037616755
74° 32' 00"	0.96378576	0.26667771	3.614046899	0.276698125	3.749844662	1.037574986
74° 32' 30"	0.96382454	0.26653753	3.616093113	0.276541552	3.751816813	1.037533243

74° 33' 00"

74° 53' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
74° 33' 00"	0.96386330	0.26639735	3.618141480	0.276384991	3.753791119	1.037491524
74° 33' 30"	0.96390203	0.26625716	3.620192004	0.276228443	3.755767584	1.037449831
74° 34' 00"	0.96394075	0.26611696	3.622244689	0.276071907	3.757746211	1.037408164
74° 34' 30"	0.96397944	0.26597676	3.624299538	0.275915384	3.759727003	1.037366521
74° 35' 00"	0.96401812	0.26583655	3.626356554	0.275758874	3.761709965	1.037324904
74° 35' 30"	0.96405677	0.26569634	3.628415742	0.275602376	3.763695098	1.037283312
74° 36' 00"	0.96409540	0.26555612	3.630477104	0.275445891	3.765682408	1.037241746
74° 36' 30"	0.96413402	0.26541589	3.632540643	0.275289418	3.767671897	1.037200204
74° 37' 00"	0.96417261	0.26527566	3.634606365	0.275132958	3.769663570	1.037158688
74° 37' 30"	0.96421118	0.26513543	3.636674272	0.274976510	3.771657429	1.037117197
74° 38' 00"	0.96424974	0.26499518	3.638744367	0.274820075	3.773653478	1.037075732
74° 38' 30"	0.96428827	0.26485494	3.640816655	0.274663652	3.775651721	1.037034292
74° 39' 00"	0.96432678	0.26471468	3.642891139	0.274507242	3.777652161	1.036992877
74° 39' 30"	0.96436527	0.26457443	3.644967822	0.274350844	3.779654802	1.036951487
74° 40' 00"	0.96440374	0.26443416	3.647046708	0.274194459	3.781659648	1.036910122
74° 40' 30"	0.96444219	0.26429389	3.649127801	0.274038087	3.783666701	1.036868783
74° 41' 00"	0.96448062	0.26415362	3.651211104	0.273881726	3.785675966	1.036827469
74° 41' 30"	0.96451903	0.26401334	3.653296620	0.273725378	3.787687447	1.036786180
74° 42' 00"	0.96455742	0.26387305	3.655384355	0.273569043	3.789701147	1.036744916
74° 42' 30"	0.96459579	0.26373276	3.657474310	0.273412720	3.791717069	1.036703678
74° 43' 00"	0.96463414	0.26359246	3.659566490	0.273256410	3.793735217	1.036662465
74° 43' 30"	0.96467246	0.26345216	3.661660898	0.273100112	3.795755595	1.036621277
74° 44' 00"	0.96471077	0.26331185	3.663757539	0.272943826	3.797778206	1.036580114
74° 44' 30"	0.96474906	0.26317153	3.665856415	0.272787553	3.799803055	1.036538976
74° 45' 00"	0.96478732	0.26303121	3.667957531	0.272631292	3.801830144	1.036497864
74° 45' 30"	0.96482557	0.26289089	3.670060889	0.272475043	3.803859478	1.036456776
74° 46' 00"	0.96486380	0.26275056	3.672166494	0.272318807	3.805891060	1.036415714
74° 46' 30"	0.96490200	0.26261022	3.674274350	0.272162584	3.807924894	1.036374677
74° 47' 00"	0.96494019	0.26246988	3.676384459	0.272006372	3.809960983	1.036333666
74° 47' 30"	0.96497835	0.26232953	3.678496827	0.271850173	3.811999332	1.036292679
74° 48' 00"	0.96501649	0.26218918	3.680611456	0.271693987	3.814039943	1.036251718
74° 48' 30"	0.96505462	0.26204882	3.682728350	0.271537812	3.816082821	1.036210781
74° 49' 00"	0.96509272	0.26190846	3.684847513	0.271381651	3.818127970	1.036169870
74° 49' 30"	0.96513080	0.26176809	3.686968949	0.271225501	3.820175393	1.036128984
74° 50' 00"	0.96516887	0.26162771	3.689092661	0.271069364	3.822225093	1.036088124
74° 50' 30"	0.96520691	0.26148733	3.691218654	0.270913239	3.824277075	1.036047288
74° 51' 00"	0.96524493	0.26134694	3.693346930	0.270757126	3.826331343	1.036006477
74° 51' 30"	0.96528293	0.26120655	3.695477494	0.270601026	3.828387900	1.035965692
74° 52' 00"	0.96532091	0.26106615	3.697610350	0.270444937	3.830446750	1.035924932
74° 52' 30"	0.96535887	0.26092575	3.699745501	0.270288862	3.832507896	1.035884197
74° 53' 00"	0.96539681	0.26078534	3.701882951	0.270132798	3.834571343	1.035843487
74° 53' 30"	0.96543473	0.26064493	3.704022704	0.269976747	3.836637095	1.035802802

74° 54' 00"

75° 14' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
74° 54' 00"	0.96547263	0.26050451	3.706164764	0.269820708	3.838705154	1.035762142
74° 54' 30"	0.96551051	0.26036408	3.708309135	0.269664681	3.840775526	1.035721507
74° 55' 00"	0.96554837	0.26022365	3.710455819	0.269508666	3.842848213	1.035680897
74° 55' 30"	0.96558621	0.26008322	3.712604822	0.269352664	3.844923220	1.035640313
74° 56' 00"	0.96562402	0.25994278	3.714756148	0.269196674	3.847000551	1.035599753
74° 56' 30"	0.96566182	0.25980233	3.716909799	0.269040696	3.849080208	1.035559219
74° 57' 00"	0.96569960	0.25966188	3.719065779	0.268884731	3.851162198	1.035518710
74° 57' 30"	0.96573735	0.25952142	3.721224094	0.268728777	3.853246522	1.035478226
74° 58' 00"	0.96577509	0.25938095	3.723384746	0.268572836	3.855333185	1.035437766
74° 58' 30"	0.96581280	0.25924049	3.725547739	0.268416907	3.857422191	1.035397332
74° 59' 00"	0.96585050	0.25910001	3.727713078	0.268260990	3.859513544	1.035356923
74° 59' 30"	0.96588817	0.25895953	3.729880766	0.268105085	3.861607247	1.035316539
75° 00' 00"	0.96592583	0.25881905	3.732050808	0.267949192	3.863703305	1.035276180
75° 00' 30"	0.96596346	0.25867855	3.734223206	0.267793312	3.865801722	1.035235847
75° 01' 00"	0.96600107	0.25853806	3.736397965	0.267637444	3.867902501	1.035195538
75° 01' 30"	0.96603867	0.25839756	3.738575090	0.267481588	3.870005646	1.035155254
75° 02' 00"	0.96607624	0.25825705	3.740754583	0.267325743	3.872111162	1.035114995
75° 02' 30"	0.96611379	0.25811654	3.742936449	0.267169912	3.874219052	1.035074761
75° 03' 00"	0.96615132	0.25797602	3.745120692	0.267014092	3.876329320	1.035034553
75° 03' 30"	0.96618883	0.25783549	3.747307316	0.266858284	3.878441971	1.034994369
75° 04' 00"	0.96622632	0.25769496	3.749496325	0.266702488	3.880557008	1.034954210
75° 04' 30"	0.96626379	0.25755443	3.751687722	0.266546705	3.882674435	1.034914077
75° 05' 00"	0.96630124	0.25741389	3.753881513	0.266390933	3.884794256	1.034873968
75° 05' 30"	0.96633867	0.25727334	3.756077700	0.266235174	3.886916475	1.034833884
75° 06' 00"	0.96637608	0.25713279	3.758276288	0.266079427	3.889041097	1.034793826
75° 06' 30"	0.96641347	0.25699224	3.760477281	0.265923691	3.891168125	1.034753792
75° 07' 00"	0.96645084	0.25685167	3.762680683	0.265767968	3.893297564	1.034713783
75° 07' 30"	0.96648818	0.25671111	3.764886497	0.265612257	3.895429416	1.034673799
75° 08' 00"	0.96652551	0.25657053	3.767094729	0.265456558	3.897563688	1.034633841
75° 08' 30"	0.96656282	0.25642996	3.769305382	0.265300871	3.899700381	1.034593907
75° 09' 00"	0.96660010	0.25628937	3.771518461	0.265145196	3.901839502	1.034553998
75° 09' 30"	0.96663737	0.25614878	3.773733968	0.264989533	3.903981053	1.034514114
75° 10' 00"	0.96667461	0.25600819	3.775951909	0.264833881	3.906125039	1.034474255
75° 10' 30"	0.96671184	0.25586759	3.778172287	0.264678242	3.908271463	1.034434421
75° 11' 00"	0.96674904	0.25572698	3.780395107	0.264522615	3.910420331	1.034394612
75° 11' 30"	0.96678623	0.25558637	3.782620373	0.264367000	3.912571646	1.034354828
75° 12' 00"	0.96682339	0.25544576	3.784848088	0.264211397	3.914725412	1.034315069
75° 12' 30"	0.96686053	0.25530514	3.787078258	0.264055806	3.916881634	1.034275335
75° 13' 00"	0.96689765	0.25516451	3.789310886	0.263900226	3.919040315	1.034235626
75° 13' 30"	0.96693476	0.25502388	3.791545975	0.263744659	3.921201459	1.034195941
75° 14' 00"	0.96697184	0.25488324	3.793783532	0.263589103	3.923365072	1.034156282
75° 14' 30"	0.96700890	0.25474260	3.796023559	0.263433560	3.925531156	1.034116647

75° 15' 00"

75° 35' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
75° 15' 00"	0.96704594	0.25460195	3.798266061	0.263278028	3.927699717	1.034077038
75° 15' 30"	0.96708296	0.25446129	3.800511042	0.263122509	3.929870759	1.034037453
75° 16' 00"	0.96711996	0.25432064	3.802758506	0.262967001	3.932044285	1.033997893
75° 16' 30"	0.96715694	0.25417997	3.805008458	0.262811505	3.934220299	1.033958359
75° 17' 00"	0.96719390	0.25403930	3.807260901	0.262656021	3.936398807	1.033918849
75° 17' 30"	0.96723083	0.25389863	3.809515841	0.262500549	3.938579813	1.033879364
75° 18' 00"	0.96726775	0.25375794	3.811773280	0.262345089	3.940763319	1.033839903
75° 18' 30"	0.96730465	0.25361726	3.814033224	0.262189641	3.942949332	1.033800468
75° 19' 00"	0.96734153	0.25347657	3.816295677	0.262034204	3.945137855	1.033761058
75° 19' 30"	0.96737838	0.25333587	3.818560642	0.261878779	3.947328892	1.033721672
75° 20' 00"	0.96741522	0.25319517	3.820828125	0.261723367	3.949522447	1.033682311
75° 20' 30"	0.96745203	0.25305446	3.823098130	0.261567966	3.951718526	1.033642975
75° 21' 00"	0.96748883	0.25291375	3.825370660	0.261412576	3.953917132	1.033603664
75° 21' 30"	0.96752560	0.25277303	3.827645720	0.261257199	3.956118269	1.033564378
75° 22' 00"	0.96756236	0.25263231	3.829923315	0.261101834	3.958321943	1.033525117
75° 22' 30"	0.96759909	0.25249158	3.832203449	0.260946480	3.960528156	1.033485881
75° 23' 00"	0.96763581	0.25235084	3.834486126	0.260791138	3.962736914	1.033446669
75° 23' 30"	0.96767250	0.25221010	3.836771351	0.260635808	3.964948221	1.033407482
75° 24' 00"	0.96770917	0.25206936	3.839059127	0.260480489	3.967162082	1.033368320
75° 24' 30"	0.96774582	0.25192861	3.841349460	0.260325183	3.969378500	1.033329183
75° 25' 00"	0.96778245	0.25178785	3.843642353	0.260169888	3.971597480	1.033290071
75° 25' 30"	0.96781906	0.25164709	3.845937812	0.260014605	3.973819026	1.033250983
75° 26' 00"	0.96785565	0.25150633	3.848235840	0.259859333	3.976043143	1.033211921
75° 26' 30"	0.96789222	0.25136555	3.850536441	0.259704074	3.978269836	1.033172883
75° 27' 00"	0.96792877	0.25122478	3.852839622	0.259548826	3.980499108	1.033133870
75° 27' 30"	0.96796530	0.25108399	3.855145384	0.259393590	3.982730964	1.033094882
75° 28' 00"	0.96800181	0.25094321	3.857453734	0.259238365	3.984965409	1.033055918
75° 28' 30"	0.96803830	0.25080241	3.859764676	0.259083152	3.987202447	1.033016979
75° 29' 00"	0.96807477	0.25066162	3.862078213	0.258927951	3.989442082	1.032978066
75° 29' 30"	0.96811121	0.25052081	3.864394352	0.258772762	3.991684319	1.032939177
75° 30' 00"	0.96814764	0.25038000	3.866713095	0.258617584	3.993929163	1.032900312
75° 30' 30"	0.96818405	0.25023919	3.869034448	0.258462418	3.996176617	1.032861473
75° 31' 00"	0.96822043	0.25009837	3.871358415	0.258307264	3.998426687	1.032822658
75° 31' 30"	0.96825680	0.24995755	3.873685000	0.258152121	4.000679377	1.032783868
75° 32' 00"	0.96829314	0.24981672	3.876014209	0.257996990	4.002934692	1.032745103
75° 32' 30"	0.96832947	0.24967588	3.878346045	0.257841871	4.005192635	1.032706362
75° 33' 00"	0.96836577	0.24953504	3.880680513	0.257686763	4.007453212	1.032667646
75° 33' 30"	0.96840205	0.24939419	3.883017618	0.257531667	4.009716427	1.032628955
75° 34' 00"	0.96843832	0.24925334	3.885357365	0.257376582	4.011982284	1.032590289
75° 34' 30"	0.96847456	0.24911249	3.887699757	0.257221510	4.014250789	1.032551648
75° 35' 00"	0.96851078	0.24897163	3.890044800	0.257066448	4.016521946	1.032513031
75° 35' 30"	0.96854698	0.24883076	3.892392497	0.256911398	4.018795759	1.032474439



75° 36' 00"

75° 56' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
75° 36' 00"	0.96858316	0.24868989	3.894742855	0.256756360	4.021072233	1.032435871
75° 36' 30"	0.96861932	0.24854901	3.897095877	0.256601334	4.023351373	1.032397329
75° 37' 00"	0.96865546	0.24840813	3.899451568	0.256446319	4.025633183	1.032358811
75° 37' 30"	0.96869158	0.24826724	3.901809932	0.256291315	4.027917669	1.032320318
75° 38' 00"	0.96872768	0.24812635	3.904170975	0.256136324	4.030204833	1.032281849
75° 38' 30"	0.96876376	0.24798545	3.906534700	0.255981343	4.032494682	1.032243405
75° 39' 00"	0.96879982	0.24784454	3.908901113	0.255826374	4.034787220	1.032204986
75° 39' 30"	0.96883585	0.24770364	3.911270218	0.255671417	4.037082452	1.032166592
75° 40' 00"	0.96887187	0.24756272	3.913642021	0.255516472	4.039380382	1.032128222
75° 40' 30"	0.96890787	0.24742180	3.916016525	0.255361537	4.041681014	1.032089877
75° 41' 00"	0.96894384	0.24728088	3.918393735	0.255206615	4.043984355	1.032051557
75° 41' 30"	0.96897980	0.24713995	3.920773657	0.255051703	4.046290408	1.032013261
75° 42' 00"	0.96901573	0.24699901	3.923156294	0.254896804	4.048599179	1.031974990
75° 42' 30"	0.96905165	0.24685807	3.925541652	0.254741916	4.050910671	1.031936744
75° 43' 00"	0.96908754	0.24671713	3.927929736	0.254587039	4.053224890	1.031898522
75° 43' 30"	0.96912341	0.24657618	3.930320549	0.254432174	4.055541840	1.031860325
75° 44' 00"	0.96915927	0.24643522	3.932714098	0.254277320	4.057861527	1.031822153
75° 44' 30"	0.96919510	0.24629426	3.935110386	0.254122477	4.060183955	1.031784005
75° 45' 00"	0.96923091	0.24615329	3.937509419	0.253967646	4.062509129	1.031745882
75° 45' 30"	0.96926670	0.24601232	3.939911201	0.253812827	4.064837053	1.031707784
75° 46' 00"	0.96930247	0.24587134	3.942315737	0.253658019	4.067167733	1.031669710
75° 46' 30"	0.96933822	0.24573036	3.944723032	0.253503222	4.069501174	1.031631661
75° 47' 00"	0.96937395	0.24558938	3.947133092	0.253348437	4.071837379	1.031593636
75° 47' 30"	0.96940966	0.24544838	3.949545920	0.253193663	4.074176355	1.031555636
75° 48' 00"	0.96944535	0.24530739	3.951961521	0.253038901	4.076518106	1.031517661
75° 48' 30"	0.96948102	0.24516638	3.954379902	0.252884150	4.078862636	1.031479711
75° 49' 00"	0.96951667	0.24502538	3.956801065	0.252729410	4.081209952	1.031441785
75° 49' 30"	0.96955229	0.24488436	3.959225017	0.252574682	4.083560057	1.031403883
75° 50' 00"	0.96958790	0.24474334	3.961651762	0.252419965	4.085912956	1.031366006
75° 50' 30"	0.96962349	0.24460232	3.964081306	0.252265260	4.088268655	1.031328154
75° 51' 00"	0.96965905	0.24446129	3.966513652	0.252110566	4.090627159	1.031290326
75° 51' 30"	0.96969460	0.24432026	3.968948807	0.251955883	4.092988472	1.031252523
75° 52' 00"	0.96973012	0.24417922	3.971386774	0.251801211	4.095352599	1.031214745
75° 52' 30"	0.96976563	0.24403818	3.973827560	0.251646551	4.097719546	1.031176991
75° 53' 00"	0.96980111	0.24389713	3.976271169	0.251491902	4.100089317	1.031139262
75° 53' 30"	0.96983657	0.24375607	3.978717606	0.251337265	4.102461918	1.031101557
75° 54' 00"	0.96987202	0.24361501	3.981166875	0.251182638	4.104837352	1.031063877
75° 54' 30"	0.96990744	0.24347395	3.983618983	0.251028024	4.107215627	1.031026221
75° 55' 00"	0.96994284	0.24333288	3.986073934	0.250873420	4.109596745	1.030988590
75° 55' 30"	0.96997822	0.24319180	3.988531734	0.250718828	4.111980714	1.030950984
75° 56' 00"	0.97001358	0.24305072	3.990992386	0.250564247	4.114367536	1.030913402
75° 56' 30"	0.97004892	0.24290964	3.993455897	0.250409677	4.116757219	1.030875844

75° 57' 00"

76° 17' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
75° 57' 00"	0.97008424	0.24276855	3.995922271	0.250255118	4.119149766	1.030838311
75° 57' 30"	0.97011954	0.24262745	3.998391514	0.250100571	4.121545183	1.030800803
75° 58' 00"	0.97015482	0.24248635	4.000863630	0.249946035	4.123943475	1.030763319
75° 58' 30"	0.97019008	0.24234524	4.003338625	0.249791510	4.126344647	1.030725860
75° 59' 00"	0.97022531	0.24220413	4.005816504	0.249636996	4.128748704	1.030688425
75° 59' 30"	0.97026053	0.24206302	4.008297271	0.249482494	4.131155651	1.030651015
76° 00' 00"	0.97029573	0.24192190	4.010780934	0.249328003	4.133565494	1.030613629
76° 00' 30"	0.97033090	0.24178077	4.013267495	0.249173523	4.135978238	1.030576268
76° 01' 00"	0.97036606	0.24163964	4.015756961	0.249019054	4.138393888	1.030538931
76° 01' 30"	0.97040119	0.24149850	4.018249337	0.248864597	4.140812448	1.030501619
76° 02' 00"	0.97043631	0.24135736	4.020744627	0.248710150	4.143233925	1.030464332
76° 02' 30"	0.97047140	0.24121621	4.023242838	0.248555715	4.145658323	1.030427068
76° 03' 00"	0.97050647	0.24107506	4.025743974	0.248401291	4.148085648	1.030389830
76° 03' 30"	0.97054153	0.24093390	4.028248041	0.248246878	4.150515905	1.030352616
76° 04' 00"	0.97057656	0.24079274	4.030755044	0.248092476	4.152949099	1.030315426
76° 04' 30"	0.97061157	0.24065157	4.033264988	0.247938086	4.155385236	1.030278261
76° 05' 00"	0.97064656	0.24051040	4.035777878	0.247783706	4.157824321	1.030241120
76° 05' 30"	0.97068153	0.24036922	4.038293720	0.247629338	4.160266358	1.030204004
76° 06' 00"	0.97071648	0.24022804	4.040812520	0.247474981	4.162711354	1.030166912
76° 06' 30"	0.97075141	0.24008685	4.043334281	0.247320635	4.165159314	1.030129844
76° 07' 00"	0.97078632	0.23994566	4.045859011	0.247166300	4.167610242	1.030092801
76° 07' 30"	0.97082121	0.23980446	4.048386713	0.247011976	4.170064146	1.030055783
76° 08' 00"	0.97085608	0.23966326	4.050917394	0.246857663	4.172521028	1.030018789
76° 08' 30"	0.97089092	0.23952205	4.053451059	0.246703361	4.174980896	1.029981819
76° 09' 00"	0.97092575	0.23938084	4.055987713	0.246549070	4.177443755	1.029944874
76° 09' 30"	0.97096056	0.23923962	4.058527361	0.246394791	4.179909609	1.029907954
76° 10' 00"	0.97099534	0.23909840	4.061070010	0.246240522	4.182378465	1.029871057
76° 10' 30"	0.97103011	0.23895717	4.063615664	0.246086265	4.184850327	1.029834186
76° 11' 00"	0.97106485	0.23881594	4.066164329	0.245932018	4.187325202	1.029797338
76° 11' 30"	0.97109958	0.23867470	4.068716010	0.245777783	4.189803094	1.029760515
76° 12' 00"	0.97113428	0.23853346	4.071270713	0.245623558	4.192284010	1.029723717
76° 12' 30"	0.97116896	0.23839221	4.073828443	0.245469345	4.194767954	1.029686942
76° 13' 00"	0.97120363	0.23825096	4.076389206	0.245315143	4.197254932	1.029650193
76° 13' 30"	0.97123827	0.23810970	4.078953008	0.245160951	4.199744949	1.029613467
76° 14' 00"	0.97127289	0.23796843	4.081519853	0.245006771	4.202238012	1.029576766
76° 14' 30"	0.97130749	0.23782717	4.084089748	0.244852602	4.204734126	1.029540090
76° 15' 00"	0.97134207	0.23768589	4.086662697	0.244698443	4.207233295	1.029503438
76° 15' 30"	0.97137663	0.23754461	4.089238707	0.244544296	4.209735527	1.029466810
76° 16' 00"	0.97141117	0.23740333	4.091817783	0.244390159	4.212240825	1.029430206
76° 16' 30"	0.97144569	0.23726204	4.094399930	0.244236034	4.214749197	1.029393627
76° 17' 00"	0.97148019	0.23712075	4.096985155	0.244081919	4.217260647	1.029357073
76° 17' 30"	0.97151466	0.23697945	4.099573463	0.243927816	4.219775181	1.029320543

76° 18' 00"

76° 38' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
76° 18' 00"	0.97154912	0.23683815	4.102164859	0.243773723	4.222292805	1.029284037
76° 18' 30"	0.97158356	0.23669684	4.104759349	0.243619641	4.224813524	1.029247555
76° 19' 00"	0.97161797	0.23655552	4.107356939	0.243465570	4.227337344	1.029211098
76° 19' 30"	0.97165237	0.23641421	4.109957634	0.243311511	4.229864271	1.029174665
76° 20' 00"	0.97168674	0.23627288	4.112561440	0.243157461	4.232394310	1.029138257
76° 20' 30"	0.97172110	0.23613155	4.115168363	0.243003423	4.234927468	1.029101872
76° 21' 00"	0.97175543	0.23599022	4.117778409	0.242849396	4.237463749	1.029065513
76° 21' 30"	0.97178974	0.23584888	4.120391583	0.242695380	4.240003160	1.029029177
76° 22' 00"	0.97182404	0.23570754	4.123007890	0.242541374	4.242545706	1.028992866
76° 22' 30"	0.97185831	0.23556619	4.125627338	0.242387380	4.245091392	1.028956579
76° 23' 00"	0.97189256	0.23542484	4.128249931	0.242233396	4.247640226	1.028920317
76° 23' 30"	0.97192679	0.23528348	4.130875675	0.242079423	4.250192212	1.028884079
76° 24' 00"	0.97196100	0.23514211	4.133504576	0.241925461	4.252747357	1.028847865
76° 24' 30"	0.97199519	0.23500074	4.136136640	0.241771510	4.255305666	1.028811675
76° 25' 00"	0.97202936	0.23485937	4.138771873	0.241617569	4.257867144	1.028775510
76° 25' 30"	0.97206351	0.23471799	4.141410280	0.241463640	4.260431799	1.028739369
76° 26' 00"	0.97209764	0.23457661	4.144051868	0.241309721	4.262999635	1.028703252
76° 26' 30"	0.97213174	0.23443522	4.146696642	0.241155813	4.265570658	1.028667160
76° 27' 00"	0.97216583	0.23429383	4.149344608	0.241001916	4.268144875	1.028631092
76° 27' 30"	0.97219990	0.23415243	4.151995772	0.240848029	4.270722292	1.028595048
76° 28' 00"	0.97223394	0.23401103	4.154650140	0.240694154	4.273302913	1.028559029
76° 28' 30"	0.97226797	0.23386962	4.157307718	0.240540289	4.275886746	1.028523034
76° 29' 00"	0.97230197	0.23372820	4.159968512	0.240386435	4.278473795	1.028487063
76° 29' 30"	0.97233596	0.23358679	4.162632527	0.240232592	4.281064068	1.028451116
76° 30' 00"	0.97236992	0.23344536	4.165299770	0.240078759	4.283657570	1.028415194
76° 30' 30"	0.97240386	0.23330394	4.167970247	0.239924937	4.286254306	1.028379296
76° 31' 00"	0.97243779	0.23316250	4.170643963	0.239771126	4.288854284	1.028343422
76° 31' 30"	0.97247169	0.23302107	4.173320925	0.239617326	4.291457508	1.028307572
76° 32' 00"	0.97250557	0.23287962	4.176001139	0.239463536	4.294063986	1.028271747
76° 32' 30"	0.97253943	0.23273817	4.178684611	0.239309757	4.296673722	1.028235946
76° 33' 00"	0.97257327	0.23259672	4.181371346	0.239155989	4.299286724	1.028200169
76° 33' 30"	0.97260709	0.23245526	4.184061352	0.239002232	4.301902997	1.028164416
76° 34' 00"	0.97264089	0.23231380	4.186754633	0.238848485	4.304522547	1.028128688
76° 34' 30"	0.97267467	0.23217233	4.189451196	0.238694749	4.307145380	1.028092984
76° 35' 00"	0.97270842	0.23203086	4.192151048	0.238541023	4.309771503	1.028057304
76° 35' 30"	0.97274216	0.23188939	4.194854194	0.238387308	4.312400922	1.028021648
76° 36' 00"	0.97277588	0.23174790	4.197560640	0.238233604	4.315033642	1.027986017
76° 36' 30"	0.97280957	0.23160642	4.200270394	0.238079911	4.317669670	1.027950409
76° 37' 00"	0.97284325	0.23146492	4.202983459	0.237926228	4.320309012	1.027914826
76° 37' 30"	0.97287690	0.23132343	4.205699844	0.237772556	4.322951675	1.027879267
76° 38' 00"	0.97291054	0.23118193	4.208419554	0.237618894	4.325597664	1.027843733
76° 38' 30"	0.97294415	0.23104042	4.211142596	0.237465243	4.328246985	1.027808222

76° 39' 00"

76° 59' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
76° 39' 00"	0.97297775	0.23089891	4.213868975	0.237311603	4.330899646	1.027772736
76° 39' 30"	0.97301132	0.23075739	4.216598699	0.237157973	4.333555652	1.027737274
76° 40' 00"	0.97304487	0.23061587	4.219331772	0.237004354	4.336215009	1.027701836
76° 40' 30"	0.97307840	0.23047434	4.222068202	0.236850745	4.338877724	1.027666422
76° 41' 00"	0.97311191	0.23033281	4.224807995	0.236697147	4.341543803	1.027631033
76° 41' 30"	0.97314540	0.23019128	4.227551157	0.236543560	4.344213253	1.027595667
76° 42' 00"	0.97317887	0.23004974	4.230297694	0.236389983	4.346886079	1.027560326
76° 42' 30"	0.97321232	0.22990819	4.233047613	0.236236417	4.349562288	1.027525009
76° 43' 00"	0.97324575	0.22976664	4.235800921	0.236082861	4.352241887	1.027489716
76° 43' 30"	0.97327916	0.22962509	4.238557623	0.235929316	4.354924881	1.027454448
76° 44' 00"	0.97331255	0.22948353	4.241317726	0.235775781	4.357611278	1.027419203
76° 44' 30"	0.97334591	0.22934196	4.244081236	0.235622257	4.360301083	1.027383983
76° 45' 00"	0.97337926	0.22920039	4.246848160	0.235468743	4.362994304	1.027348787
76° 45' 30"	0.97341258	0.22905882	4.249618504	0.235315240	4.365690946	1.027313614
76° 46' 00"	0.97344589	0.22891724	4.252392275	0.235161748	4.368391015	1.027278466
76° 46' 30"	0.97347917	0.22877565	4.255169480	0.235008266	4.371094520	1.027243343
76° 47' 00"	0.97351244	0.22863406	4.257950124	0.234854794	4.373801465	1.027208243
76° 47' 30"	0.97354568	0.22849247	4.260734214	0.234701333	4.376511858	1.027173167
76° 48' 00"	0.97357890	0.22835087	4.263521757	0.234547882	4.379225704	1.027138116
76° 48' 30"	0.97361210	0.22820927	4.266312759	0.234394442	4.381943012	1.027103089
76° 49' 00"	0.97364529	0.22806766	4.269107227	0.234241013	4.384663786	1.027068085
76° 49' 30"	0.97367845	0.22792604	4.271905167	0.234087593	4.387388034	1.027033106
76° 50' 00"	0.97371159	0.22778443	4.274706587	0.233934185	4.390115762	1.026998151
76° 50' 30"	0.97374471	0.22764280	4.277511492	0.233780786	4.392846977	1.026963220
76° 51' 00"	0.97377781	0.22750118	4.280319889	0.233627398	4.395581685	1.026928314
76° 51' 30"	0.97381088	0.22735954	4.283131785	0.233474021	4.398319894	1.026893431
76° 52' 00"	0.97384394	0.22721791	4.285947187	0.233320654	4.401061610	1.026858572
76° 52' 30"	0.97387698	0.22707626	4.288766101	0.233167297	4.403806838	1.026823738
76° 53' 00"	0.97391000	0.22693462	4.291588534	0.233013951	4.406555588	1.026788927
76° 53' 30"	0.97394299	0.22679296	4.294414493	0.232860615	4.409307864	1.026754141
76° 54' 00"	0.97397597	0.22665131	4.297243984	0.232707290	4.412063673	1.026719379
76° 54' 30"	0.97400892	0.22650965	4.300077014	0.232553974	4.414823023	1.026684640
76° 55' 00"	0.97404186	0.22636798	4.302913590	0.232400670	4.417585920	1.026649926
76° 55' 30"	0.97407477	0.22622631	4.305753718	0.232247375	4.420352371	1.026615236
76° 56' 00"	0.97410766	0.22608463	4.308597407	0.232094091	4.423122383	1.026580570
76° 56' 30"	0.97414054	0.22594295	4.311444661	0.231940818	4.425895962	1.026545928
76° 57' 00"	0.97417339	0.22580127	4.314295489	0.231787554	4.428673115	1.026511310
76° 57' 30"	0.97420622	0.22565958	4.317149896	0.231634301	4.431453850	1.026476717
76° 58' 00"	0.97423903	0.22551788	4.320007890	0.231481059	4.434238173	1.026442147
76° 58' 30"	0.97427182	0.22537618	4.322869479	0.231327826	4.437026091	1.026407601
76° 59' 00"	0.97430459	0.22523448	4.325734667	0.231174604	4.439817610	1.026373079
76° 59' 30"	0.97433734	0.22509277	4.328603464	0.231021393	4.442612739	1.026338581

77° 00' 00"

77° 20' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
77° 00' 00"	0.97437006	0.22495105	4.331475874	0.230868191	4.445411483	1.026304108
77° 00' 30"	0.97440277	0.22480934	4.334351906	0.230715000	4.448213849	1.026269658
77° 01' 00"	0.97443546	0.22466761	4.337231567	0.230561819	4.451019846	1.026235233
77° 01' 30"	0.97446813	0.22452588	4.340114863	0.230408649	4.453829479	1.026200831
77° 02' 00"	0.97450077	0.22438415	4.343001802	0.230255488	4.456642755	1.026166453
77° 02' 30"	0.97453340	0.22424241	4.345892390	0.230102338	4.459459683	1.026132100
77° 03' 00"	0.97456600	0.22410067	4.348786634	0.229949198	4.462280268	1.026097770
77° 03' 30"	0.97459858	0.22395892	4.351684542	0.229796069	4.465104518	1.026063465
77° 04' 00"	0.97463115	0.22381717	4.354586121	0.229642949	4.467932439	1.026029183
77° 04' 30"	0.97466369	0.22367541	4.357491377	0.229489840	4.470764040	1.025994925
77° 05' 00"	0.97469621	0.22353365	4.360400318	0.229336741	4.473599327	1.025960692
77° 05' 30"	0.97472871	0.22339189	4.363312952	0.229183653	4.476438307	1.025926482
77° 06' 00"	0.97476119	0.22325012	4.366229284	0.229030574	4.479280987	1.025892296
77° 06' 30"	0.97479365	0.22310834	4.369149323	0.228877506	4.482127375	1.025858135
77° 07' 00"	0.97482609	0.22296656	4.372073075	0.228724448	4.484977478	1.025823997
77° 07' 30"	0.97485851	0.22282477	4.375000548	0.228571400	4.487831302	1.025789883
77° 08' 00"	0.97489091	0.22268299	4.377931749	0.228418362	4.490688856	1.025755794
77° 08' 30"	0.97492329	0.22254119	4.380866686	0.228265335	4.493550146	1.025721728
77° 09' 00"	0.97495565	0.22239939	4.383805364	0.228112317	4.496415180	1.025687686
77° 09' 30"	0.97498798	0.22225759	4.386747793	0.227959310	4.499283965	1.025653668
77° 10' 00"	0.97502030	0.22211578	4.389693979	0.227806313	4.502156508	1.025619674
77° 10' 30"	0.97505259	0.22197397	4.392643929	0.227653326	4.505032817	1.025585704
77° 11' 00"	0.97508487	0.22183215	4.395597651	0.227500349	4.507912899	1.025551758
77° 11' 30"	0.97511712	0.22169033	4.398555152	0.227347382	4.510796761	1.025517836
77° 12' 00"	0.97514935	0.22154850	4.401516439	0.227194426	4.513684411	1.025483938
77° 12' 30"	0.97518157	0.22140667	4.404481520	0.227041479	4.516575856	1.025450064
77° 13' 00"	0.97521376	0.22126483	4.407450403	0.226888543	4.519471104	1.025416214
77° 13' 30"	0.97524593	0.22112299	4.410423095	0.226735617	4.522370161	1.025382387
77° 14' 00"	0.97527808	0.22098114	4.413399602	0.226582700	4.525273036	1.025348585
77° 14' 30"	0.97531021	0.22083929	4.416379934	0.226429794	4.528179736	1.025314806
77° 15' 00"	0.97534232	0.22069744	4.419364096	0.226276898	4.531090268	1.025281052
77° 15' 30"	0.97537441	0.22055557	4.422352098	0.226124012	4.534004640	1.025247321
77° 16' 00"	0.97540648	0.22041371	4.425343945	0.225971136	4.536922860	1.025213614
77° 16' 30"	0.97543853	0.22027184	4.428339647	0.225818270	4.539844934	1.025179931
77° 17' 00"	0.97547055	0.22012997	4.431339210	0.225665415	4.542770872	1.025146272
77° 17' 30"	0.97550256	0.21998809	4.434342642	0.225512569	4.545700679	1.025112637
77° 18' 00"	0.97553454	0.21984620	4.437349950	0.225359733	4.548634364	1.025079026
77° 18' 30"	0.97556651	0.21970432	4.440361143	0.225206907	4.551571935	1.025045439
77° 19' 00"	0.97559845	0.21956242	4.443376228	0.225054091	4.554513399	1.025011875
77° 19' 30"	0.97563038	0.21942053	4.446395212	0.224901286	4.557458764	1.024978336
77° 20' 00"	0.97566228	0.21927862	4.449418104	0.224748490	4.560408037	1.024944820
77° 20' 30"	0.97569416	0.21913672	4.452444910	0.224595704	4.563361226	1.024911328

77° 21' 00"

77° 41' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
77° 21' 00"	0.97572602	0.21899481	4.455475639	0.224442928	4.566318339	1.024877860
77° 21' 30"	0.97575787	0.21885289	4.458510299	0.224290163	4.569279384	1.024844416
77° 22' 00"	0.97578969	0.21871097	4.461548897	0.224137407	4.572244368	1.024810996
77° 22' 30"	0.97582149	0.21856904	4.464591442	0.223984661	4.575213300	1.024777599
77° 23' 00"	0.97585327	0.21842711	4.467637940	0.223831925	4.578186187	1.024744227
77° 23' 30"	0.97588502	0.21828518	4.470688400	0.223679199	4.581163037	1.024710878
77° 24' 00"	0.97591676	0.21814324	4.473742829	0.223526483	4.584143857	1.024677553
77° 24' 30"	0.97594848	0.21800130	4.476801236	0.223373777	4.587128656	1.024644252
77° 25' 00"	0.97598018	0.21785935	4.479863629	0.223221081	4.590117442	1.024610975
77° 25' 30"	0.97601185	0.21771740	4.482930014	0.223068394	4.593110222	1.024577722
77° 26' 00"	0.97604351	0.21757544	4.486000401	0.222915718	4.596107005	1.024544493
77° 26' 30"	0.97607514	0.21743348	4.489074798	0.222763051	4.599107798	1.024511287
77° 27' 00"	0.97610676	0.21729151	4.492153211	0.222610395	4.602112610	1.024478105
77° 27' 30"	0.97613835	0.21714954	4.495235650	0.222457748	4.605121448	1.024444947
77° 28' 00"	0.97616992	0.21700756	4.498322122	0.222305111	4.608134320	1.024411813
77° 28' 30"	0.97620147	0.21686558	4.501412635	0.222152484	4.611151235	1.024378703
77° 29' 00"	0.97623301	0.21672360	4.504507198	0.221999867	4.614172200	1.024345616
77° 29' 30"	0.97626452	0.21658161	4.507605818	0.221847260	4.617197224	1.024312553
77° 30' 00"	0.97629601	0.21643961	4.510708504	0.221694663	4.620226315	1.024279514
77° 30' 30"	0.97632748	0.21629762	4.513815263	0.221542075	4.623259481	1.024246499
77° 31' 00"	0.97635893	0.21615561	4.516926105	0.221389497	4.626296730	1.024213508
77° 31' 30"	0.97639035	0.21601360	4.520041036	0.221236929	4.629338070	1.024180540
77° 32' 00"	0.97642176	0.21587159	4.523160066	0.221084371	4.632383510	1.024147596
77° 32' 30"	0.97645315	0.21572957	4.526283202	0.220931823	4.635433057	1.024114676
77° 33' 00"	0.97648451	0.21558755	4.529410453	0.220779285	4.638486720	1.024081780
77° 33' 30"	0.97651586	0.21544553	4.532541827	0.220626756	4.641544508	1.024048908
77° 34' 00"	0.97654719	0.21530350	4.535677333	0.220474237	4.644606428	1.024016059
77° 34' 30"	0.97657849	0.21516146	4.538816978	0.220321728	4.647672488	1.023983234
77° 35' 00"	0.97660977	0.21501942	4.541960771	0.220169229	4.650742698	1.023950433
77° 35' 30"	0.97664104	0.21487738	4.545108720	0.220016739	4.653817066	1.023917656
77° 36' 00"	0.97667228	0.21473533	4.548260834	0.219864259	4.656895599	1.023884902
77° 36' 30"	0.97670350	0.21459327	4.551417122	0.219711789	4.659978306	1.023852172
77° 37' 00"	0.97673470	0.21445122	4.554577590	0.219559329	4.663065197	1.023819466
77° 37' 30"	0.97676588	0.21430915	4.557742249	0.219406879	4.666156278	1.023786784
77° 38' 00"	0.97679704	0.21416709	4.560911106	0.219254438	4.669251559	1.023754125
77° 38' 30"	0.97682818	0.21402501	4.564084171	0.219102007	4.672351048	1.023721490
77° 39' 00"	0.97685930	0.21388294	4.567261450	0.218949585	4.675454754	1.023688879
77° 39' 30"	0.97689040	0.21374086	4.570442954	0.218797174	4.678562685	1.023656292
77° 40' 00"	0.97692147	0.21359877	4.573628690	0.218644772	4.681674850	1.023623728
77° 40' 30"	0.97695253	0.21345668	4.576818668	0.218492379	4.684791257	1.023591188
77° 41' 00"	0.97698357	0.21331459	4.580012895	0.218339997	4.687911914	1.023558672
77° 41' 30"	0.97701458	0.21317249	4.583211381	0.218187624	4.691036832	1.023526179

77° 42' 00"

78° 02' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
77° 42' 00"	0.97704557	0.21303039	4.586414133	0.218035260	4.694166018	1.023493710
77° 42' 30"	0.97707655	0.21288828	4.589621162	0.217882907	4.697299480	1.023461265
77° 43' 00"	0.97710750	0.21274617	4.592832475	0.217730563	4.700437229	1.023428844
77° 43' 30"	0.97713843	0.21260405	4.596048081	0.217578229	4.703579271	1.023396446
77° 44' 00"	0.97716935	0.21246193	4.599267989	0.217425904	4.706725617	1.023364072
77° 44' 30"	0.97720024	0.21231980	4.602492208	0.217273589	4.709876275	1.023331722
77° 45' 00"	0.97723111	0.21217767	4.605720746	0.217121284	4.713031253	1.023299395
77° 45' 30"	0.97726196	0.21203554	4.608953612	0.216968988	4.716190560	1.023267092
77° 46' 00"	0.97729279	0.21189340	4.612190816	0.216816702	4.719354206	1.023234813
77° 46' 30"	0.97732359	0.21175125	4.615432366	0.216664425	4.722522200	1.023202557
77° 47' 00"	0.97735438	0.21160911	4.618678271	0.216512158	4.725694549	1.023170325
77° 47' 30"	0.97738515	0.21146695	4.621928540	0.216359901	4.728871263	1.023138117
77° 48' 00"	0.97741589	0.21132480	4.625183181	0.216207653	4.732052352	1.023105933
77° 48' 30"	0.97744662	0.21118263	4.628442204	0.216055415	4.735237823	1.023073772
77° 49' 00"	0.97747732	0.21104047	4.631705618	0.215903186	4.738427686	1.023041634
77° 49' 30"	0.97750801	0.21089830	4.634973432	0.215750967	4.741621950	1.023009521
77° 50' 00"	0.97753867	0.21075612	4.638245655	0.215598757	4.744820624	1.022977431
77° 50' 30"	0.97756932	0.21061394	4.641522295	0.215446557	4.748023717	1.022945365
77° 51' 00"	0.97759994	0.21047176	4.644803363	0.215294367	4.751231238	1.022913322
77° 51' 30"	0.97763054	0.21032957	4.648088866	0.215142186	4.754443197	1.022881303
77° 52' 00"	0.97766112	0.21018738	4.651378815	0.214990015	4.757659601	1.022849308
77° 52' 30"	0.97769168	0.21004518	4.654673218	0.214837853	4.760880462	1.022817336
77° 53' 00"	0.97772222	0.20990298	4.657972085	0.214685700	4.764105787	1.022785388
77° 53' 30"	0.97775274	0.20976077	4.661275425	0.214533558	4.767335586	1.022753464
77° 54' 00"	0.97778324	0.20961856	4.664583247	0.214381424	4.770569868	1.022721563
77° 54' 30"	0.97781371	0.20947635	4.667895560	0.214229300	4.773808643	1.022689686
77° 55' 00"	0.97784417	0.20933413	4.671212374	0.214077186	4.777051919	1.022657832
77° 55' 30"	0.97787461	0.20919190	4.674533698	0.213925081	4.780299707	1.022626002
77° 56' 00"	0.97790502	0.20904968	4.677859541	0.213772986	4.783552015	1.022594196
77° 56' 30"	0.97793542	0.20890744	4.681189912	0.213620900	4.786808853	1.022562413
77° 57' 00"	0.97796579	0.20876521	4.684524822	0.213468823	4.790070230	1.022530654
77° 57' 30"	0.97799614	0.20862296	4.687864279	0.213316756	4.793336156	1.022498919
77° 58' 00"	0.97802648	0.20848072	4.691208293	0.213164698	4.796606639	1.022467207
77° 58' 30"	0.97805679	0.20833847	4.694556874	0.213012650	4.799881691	1.022435518
77° 59' 00"	0.97808708	0.20819621	4.697910031	0.212860611	4.803161319	1.022403854
77° 59' 30"	0.97811735	0.20805395	4.701267773	0.212708582	4.806445534	1.022372212
78° 00' 00"	0.97814760	0.20791169	4.704630109	0.212556562	4.809734345	1.022340595
78° 00' 30"	0.97817783	0.20776942	4.707997051	0.212404551	4.813027761	1.022309001
78° 01' 00"	0.97820804	0.20762715	4.711368607	0.212252550	4.816325793	1.022277431
78° 01' 30"	0.97823823	0.20748487	4.714744786	0.212100558	4.819628450	1.022245884
78° 02' 00"	0.97826839	0.20734259	4.718125599	0.211948576	4.822935742	1.022214360
78° 02' 30"	0.97829854	0.20720031	4.721511056	0.211796602	4.826247678	1.022182861

78° 03' 00"

78° 23' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
78° 03' 00"	0.97832867	0.20705802	4.724901165	0.211644639	4.829564268	1.022151385
78° 03' 30"	0.97835877	0.20691572	4.728295936	0.211492684	4.832885521	1.022119932
78° 04' 00"	0.97838885	0.20677342	4.731695381	0.211340739	4.836211448	1.022088503
78° 04' 30"	0.97841892	0.20663112	4.735099507	0.211188804	4.839542059	1.022057098
78° 05' 00"	0.97844896	0.20648881	4.738508325	0.211036877	4.842877363	1.022025716
78° 05' 30"	0.97847898	0.20634650	4.741921845	0.210884960	4.846217369	1.021994357
78° 06' 00"	0.97850899	0.20620419	4.745340077	0.210733053	4.849562089	1.021963023
78° 06' 30"	0.97853897	0.20606186	4.748763031	0.210581154	4.852911531	1.021931711
78° 07' 00"	0.97856893	0.20591954	4.752190716	0.210429265	4.856265706	1.021900424
78° 07' 30"	0.97859887	0.20577721	4.755623143	0.210277385	4.859624623	1.021869159
78° 08' 00"	0.97862878	0.20563488	4.759060322	0.210125515	4.862988294	1.021837919
78° 08' 30"	0.97865868	0.20549254	4.762502261	0.209973654	4.866356727	1.021806701
78° 09' 00"	0.97868856	0.20535020	4.765948973	0.209821802	4.869729932	1.021775508
78° 09' 30"	0.97871842	0.20520785	4.769400466	0.209669959	4.873107921	1.021744338
78° 10' 00"	0.97874825	0.20506550	4.772856751	0.209518126	4.876490702	1.021713191
78° 10' 30"	0.97877807	0.20492314	4.776317838	0.209366301	4.879878287	1.021682068
78° 11' 00"	0.97880786	0.20478078	4.779783737	0.209214486	4.883270684	1.021650968
78° 11' 30"	0.97883764	0.20463842	4.783254459	0.209062681	4.886667905	1.021619892
78° 12' 00"	0.97886739	0.20449605	4.786730012	0.208910884	4.890069960	1.021588840
78° 12' 30"	0.97889712	0.20435368	4.790210409	0.208759097	4.893476858	1.021557811
78° 13' 00"	0.97892683	0.20421130	4.793695659	0.208607319	4.896888611	1.021526805
78° 13' 30"	0.97895652	0.20406892	4.797185771	0.208455550	4.900305228	1.021495823
78° 14' 00"	0.97898619	0.20392654	4.800680758	0.208303791	4.903726720	1.021464864
78° 14' 30"	0.97901584	0.20378415	4.804180629	0.208152040	4.907153096	1.021433929
78° 15' 00"	0.97904547	0.20364175	4.807685394	0.208000299	4.910584369	1.021403018
78° 15' 30"	0.97907508	0.20349935	4.811195063	0.207848567	4.914020547	1.021372129
78° 16' 00"	0.97910467	0.20335695	4.814709649	0.207696844	4.917461642	1.021341265
78° 16' 30"	0.97913423	0.20321454	4.818229160	0.207545131	4.920907664	1.021310424
78° 17' 00"	0.97916378	0.20307213	4.821753607	0.207393426	4.924358623	1.021279606
78° 17' 30"	0.97919331	0.20292972	4.825283001	0.207241731	4.927814530	1.021248811
78° 18' 00"	0.97922281	0.20278730	4.828817352	0.207090044	4.931275395	1.021218041
78° 18' 30"	0.97925229	0.20264487	4.832356672	0.206938367	4.934741229	1.021187293
78° 19' 00"	0.97928176	0.20250244	4.835900970	0.206786699	4.938212044	1.021156569
78° 19' 30"	0.97931120	0.20236001	4.839450257	0.206635041	4.941687848	1.021125869
78° 20' 00"	0.97934062	0.20221757	4.843004544	0.206483391	4.945168654	1.021095192
78° 20' 30"	0.97937002	0.20207513	4.846563842	0.206331750	4.948654472	1.021064538
78° 21' 00"	0.97939940	0.20193269	4.850128162	0.206180119	4.952145312	1.021033908
78° 21' 30"	0.97942876	0.20179024	4.853697514	0.206028496	4.955641185	1.021003301
78° 22' 00"	0.97945810	0.20164778	4.857271909	0.205876883	4.959142103	1.020972718
78° 22' 30"	0.97948742	0.20150532	4.860851357	0.205725279	4.962648075	1.020942158
78° 23' 00"	0.97951672	0.20136286	4.864435871	0.205573683	4.966159114	1.020911622
78° 23' 30"	0.97954599	0.20122039	4.868025460	0.205422097	4.969675229	1.020881109



78° 24' 00"

78° 44' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
78° 24' 00"	0.97957525	0.20107792	4.871620136	0.205270520	4.973196432	1.020850619
78° 24' 30"	0.97960448	0.20093545	4.875219910	0.205118952	4.976722734	1.020820153
78° 25' 00"	0.97963370	0.20079297	4.878824792	0.204967393	4.980254145	1.020789710
78° 25' 30"	0.97966289	0.20065048	4.882434794	0.204815843	4.983790677	1.020759291
78° 26' 00"	0.97969207	0.20050799	4.886049926	0.204664302	4.987332341	1.020728895
78° 26' 30"	0.97972122	0.20036550	4.889670201	0.204512771	4.990879148	1.020698522
78° 27' 00"	0.97975035	0.20022300	4.893295628	0.204361248	4.994431109	1.020668173
78° 27' 30"	0.97977946	0.20008050	4.896926219	0.204209734	4.997988235	1.020637847
78° 28' 00"	0.97980855	0.19993800	4.900561986	0.204058229	5.001550537	1.020607545
78° 28' 30"	0.97983762	0.19979549	4.904202939	0.203906733	5.005118028	1.020577266
78° 29' 00"	0.97986667	0.19965297	4.907849090	0.203755246	5.008690716	1.020547010
78° 29' 30"	0.97989570	0.19951046	4.911500450	0.203603768	5.012268616	1.020516778
78° 30' 00"	0.97992470	0.19936793	4.915157031	0.203452299	5.015851736	1.020486569
78° 30' 30"	0.97995369	0.19922541	4.918818843	0.203300839	5.019440090	1.020456384
78° 31' 00"	0.97998266	0.19908288	4.922485899	0.203149388	5.023033687	1.020426222
78° 31' 30"	0.98001160	0.19894034	4.926158209	0.202997946	5.026632541	1.020396083
78° 32' 00"	0.98004053	0.19879780	4.929835785	0.202846513	5.030236661	1.020365968
78° 32' 30"	0.98006943	0.19865526	4.933518639	0.202695089	5.033846061	1.020335876
78° 33' 00"	0.98009831	0.19851271	4.937206782	0.202543674	5.037460750	1.020305807
78° 33' 30"	0.98012717	0.19837016	4.940900225	0.202392267	5.041080741	1.020275762
78° 34' 00"	0.98015602	0.19822761	4.944598981	0.202240870	5.044706045	1.020245740
78° 34' 30"	0.98018484	0.19808505	4.948303060	0.202089482	5.048336674	1.020215741
78° 35' 00"	0.98021364	0.19794248	4.952012475	0.201938102	5.051972640	1.020185766
78° 35' 30"	0.98024242	0.19779991	4.955727237	0.201786731	5.055613954	1.020155814
78° 36' 00"	0.98027117	0.19765734	4.959447358	0.201635369	5.059260628	1.020125885
78° 36' 30"	0.98029991	0.19751476	4.963172850	0.201484016	5.062912674	1.020095980
78° 37' 00"	0.98032863	0.19737218	4.966903724	0.201332672	5.066570103	1.020066098
78° 37' 30"	0.98035733	0.19722960	4.970639993	0.201181337	5.070232928	1.020036240
78° 38' 00"	0.98038600	0.19708701	4.974381668	0.201030011	5.073901160	1.020006404
78° 38' 30"	0.98041466	0.19694441	4.978128761	0.200878693	5.077574811	1.019976593
78° 39' 00"	0.98044329	0.19680182	4.981881284	0.200727385	5.081253893	1.019946804
78° 39' 30"	0.98047190	0.19665922	4.985639248	0.200576085	5.084938418	1.019917039
78° 40' 00"	0.98050050	0.19651661	4.989402667	0.200424794	5.088628398	1.019887297
78° 40' 30"	0.98052907	0.19637400	4.993171552	0.200273511	5.092323846	1.019857578
78° 41' 00"	0.98055762	0.19623139	4.996945915	0.200122238	5.096024772	1.019827883
78° 41' 30"	0.98058615	0.19608877	5.000725768	0.199970973	5.099731190	1.019798211
78° 42' 00"	0.98061466	0.19594614	5.004511124	0.199819718	5.103443111	1.019768562
78° 42' 30"	0.98064315	0.19580352	5.008301994	0.199668471	5.107160548	1.019738936
78° 43' 00"	0.98067162	0.19566089	5.012098391	0.199517233	5.110883513	1.019709334
78° 43' 30"	0.98070006	0.19551825	5.015900327	0.199366003	5.114612018	1.019679755
78° 44' 00"	0.98072849	0.19537561	5.019707814	0.199214782	5.118346075	1.019650200
78° 44' 30"	0.98075690	0.19523297	5.023520865	0.199063571	5.122085697	1.019620667

78° 45' 00"

79° 05' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
78° 45' 00"	0.98078528	0.19509032	5.027339492	0.198912367	5.125830895	1.019591158
78° 45' 30"	0.98081364	0.19494767	5.031163708	0.198761173	5.129581684	1.019561672
78° 46' 00"	0.98084199	0.19480501	5.034993524	0.198609987	5.133338074	1.019532210
78° 46' 30"	0.98087031	0.19466236	5.038828953	0.198458810	5.137100079	1.019502771
78° 47' 00"	0.98089861	0.19451969	5.042670009	0.198307642	5.140867711	1.019473355
78° 47' 30"	0.98092689	0.19437702	5.046516703	0.198156483	5.144640982	1.019443962
78° 48' 00"	0.98095516	0.19423435	5.050369047	0.198005332	5.148419905	1.019414593
78° 48' 30"	0.98098340	0.19409168	5.054227056	0.197854190	5.152204492	1.019385246
78° 49' 00"	0.98101161	0.19394899	5.058090741	0.197703057	5.155994758	1.019355923
78° 49' 30"	0.98103981	0.19380631	5.061960114	0.197551932	5.159790713	1.019326624
78° 50' 00"	0.98106799	0.19366362	5.065835190	0.197400816	5.163592371	1.019297347
78° 50' 30"	0.98109615	0.19352093	5.069715980	0.197249709	5.167399744	1.019268094
78° 51' 00"	0.98112428	0.19337823	5.073602497	0.197098610	5.171212846	1.019238864
78° 51' 30"	0.98115240	0.19323553	5.077494754	0.196947520	5.175031689	1.019209657
78° 52' 00"	0.98118049	0.19309283	5.081392764	0.196796439	5.178856286	1.019180474
78° 52' 30"	0.98120857	0.19295012	5.085296541	0.196645366	5.182686650	1.019151314
78° 53' 00"	0.98123662	0.19280740	5.089206096	0.196494302	5.186522794	1.019122177
78° 53' 30"	0.98126465	0.19266469	5.093121443	0.196343247	5.190364731	1.019093063
78° 54' 00"	0.98129266	0.19252197	5.097042596	0.196192200	5.194212474	1.019063972
78° 54' 30"	0.98132065	0.19237924	5.100969566	0.196041162	5.198066036	1.019034905
78° 55' 00"	0.98134862	0.19223651	5.104902368	0.195890132	5.201925430	1.019005861
78° 55' 30"	0.98137657	0.19209378	5.108841014	0.195739111	5.205790670	1.018976840
78° 56' 00"	0.98140450	0.19195104	5.112785517	0.195588099	5.209661769	1.018947842
78° 56' 30"	0.98143241	0.19180830	5.116735891	0.195437095	5.213538739	1.018918867
78° 57' 00"	0.98146030	0.19166555	5.120692150	0.195286100	5.217421594	1.018889916
78° 57' 30"	0.98148816	0.19152280	5.124654306	0.195135114	5.221310348	1.018860988
78° 58' 00"	0.98151601	0.19138005	5.128622373	0.194984136	5.225205014	1.018832083
78° 58' 30"	0.98154383	0.19123729	5.132596363	0.194833166	5.229105605	1.018803201
78° 59' 00"	0.98157164	0.19109453	5.136576292	0.194682205	5.233012135	1.018774343
78° 59' 30"	0.98159942	0.19095177	5.140562172	0.194531253	5.236924617	1.018745507
79° 00' 00"	0.98162718	0.19080900	5.144554016	0.194380309	5.240843064	1.018716695
79° 00' 30"	0.98165493	0.19066622	5.148551839	0.194229374	5.244767491	1.018687906
79° 01' 00"	0.98168265	0.19052344	5.152555653	0.194078447	5.248697911	1.018659140
79° 01' 30"	0.98171035	0.19038066	5.156565473	0.193927529	5.252634337	1.018630397
79° 02' 00"	0.98173803	0.19023788	5.160581312	0.193776619	5.256576783	1.018601678
79° 02' 30"	0.98176568	0.19009509	5.164603184	0.193625718	5.260525263	1.018572982
79° 03' 00"	0.98179332	0.18995229	5.168631103	0.193474825	5.264479791	1.018544308
79° 03' 30"	0.98182094	0.18980949	5.172665082	0.193323941	5.268440381	1.018515658
79° 04' 00"	0.98184854	0.18966669	5.176705135	0.193173065	5.272407046	1.018487031
79° 04' 30"	0.98187611	0.18952389	5.180751277	0.193022198	5.276379800	1.018458428
79° 05' 00"	0.98190367	0.18938108	5.184803521	0.192871339	5.280358658	1.018429847
79° 05' 30"	0.98193120	0.18923826	5.188861881	0.192720489	5.284343632	1.018401290

79° 06' 00"

79° 26' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
79° 06' 00"	0.98195871	0.18909544	5.192926372	0.192569647	5.288334738	1.018372755
79° 06' 30"	0.98198621	0.18895262	5.196997007	0.192418814	5.292331989	1.018344244
79° 07' 00"	0.98201368	0.18880979	5.201073800	0.192267989	5.296335400	1.018315756
79° 07' 30"	0.98204113	0.18866696	5.205156766	0.192117172	5.300344984	1.018287291
79° 08' 00"	0.98206856	0.18852413	5.209245918	0.191966364	5.304360756	1.018258850
79° 08' 30"	0.98209597	0.18838129	5.213341272	0.191815565	5.308382731	1.018230431
79° 09' 00"	0.98212336	0.18823845	5.217442840	0.191664773	5.312410921	1.018202036
79° 09' 30"	0.98215072	0.18809560	5.221550639	0.191513991	5.316445342	1.018173663
79° 10' 00"	0.98217807	0.18795275	5.225664682	0.191363216	5.320486008	1.018145314
79° 10' 30"	0.98220540	0.18780990	5.229784983	0.191212450	5.324532934	1.018116988
79° 11' 00"	0.98223270	0.18766704	5.233911556	0.191061692	5.328586133	1.018088685
79° 11' 30"	0.98225999	0.18752418	5.238044418	0.190910943	5.332645621	1.018060405
79° 12' 00"	0.98228725	0.18738131	5.242183581	0.190760202	5.336711412	1.018032148
79° 12' 30"	0.98231449	0.18723844	5.246329061	0.190609470	5.340783521	1.018003914
79° 13' 00"	0.98234172	0.18709557	5.250480872	0.190458745	5.344861962	1.017975704
79° 13' 30"	0.98236892	0.18695269	5.254639029	0.190308030	5.348946749	1.017947516
79° 14' 00"	0.98239610	0.18680981	5.258803547	0.190157322	5.353037899	1.017919352
79° 14' 30"	0.98242326	0.18666693	5.262974440	0.190006623	5.357135424	1.017891211
79° 15' 00"	0.98245040	0.18652404	5.267151723	0.189855932	5.361239342	1.017863092
79° 15' 30"	0.98247752	0.18638114	5.271335412	0.189705250	5.365349665	1.017834997
79° 16' 00"	0.98250461	0.18623824	5.275525521	0.189554575	5.369466409	1.017806925
79° 16' 30"	0.98253169	0.18609534	5.279722064	0.189403909	5.373589589	1.017778876
79° 17' 00"	0.98255875	0.18595244	5.283925058	0.189253252	5.377719221	1.017750850
79° 17' 30"	0.98258578	0.18580953	5.288134517	0.189102603	5.381855318	1.017722847
79° 18' 00"	0.98261280	0.18566662	5.292350456	0.188951962	5.385997897	1.017694868
79° 18' 30"	0.98263979	0.18552370	5.296572890	0.188801329	5.390146972	1.017666911
79° 19' 00"	0.98266676	0.18538078	5.300801835	0.188650704	5.394302559	1.017638977
79° 19' 30"	0.98269372	0.18523785	5.305037306	0.188500088	5.398464672	1.017611067
79° 20' 00"	0.98272065	0.18509492	5.309279318	0.188349480	5.402633328	1.017583179
79° 20' 30"	0.98274756	0.18495199	5.313527886	0.188198881	5.406808541	1.017555315
79° 21' 00"	0.98277445	0.18480905	5.317783026	0.188048289	5.410990326	1.017527473
79° 21' 30"	0.98280132	0.18466611	5.322044753	0.187897706	5.415178700	1.017499655
79° 22' 00"	0.98282816	0.18452317	5.326313084	0.187747131	5.419373678	1.017471860
79° 22' 30"	0.98285499	0.18438022	5.330588032	0.187596564	5.423575275	1.017444087
79° 23' 00"	0.98288180	0.18423727	5.334869615	0.187446006	5.427783508	1.017416338
79° 23' 30"	0.98290858	0.18409431	5.339157847	0.187295455	5.431998390	1.017388612
79° 24' 00"	0.98293535	0.18395135	5.343452744	0.187144913	5.436219939	1.017360909
79° 24' 30"	0.98296209	0.18380839	5.347754322	0.186994379	5.440448170	1.017333229
79° 25' 00"	0.98298882	0.18366542	5.352062597	0.186843854	5.444683098	1.017305571
79° 25' 30"	0.98301552	0.18352245	5.356377584	0.186693336	5.448924740	1.017277937
79° 26' 00"	0.98304220	0.18337947	5.360699300	0.186542827	5.453173112	1.017250326
79° 26' 30"	0.98306886	0.18323649	5.365027760	0.186392325	5.457428229	1.017222738

79° 27' 00"

79° 47' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
79° 27' 00"	0.98309550	0.18309351	5.369362981	0.186241832	5.461690107	1.017195173
79° 27' 30"	0.98312212	0.18295052	5.373704978	0.186091347	5.465958762	1.017167631
79° 28' 00"	0.98314872	0.18280753	5.378053768	0.185940871	5.470234211	1.017140112
79° 28' 30"	0.98317530	0.18266453	5.382409366	0.185790402	5.474516470	1.017112616
79° 29' 00"	0.98320186	0.18252154	5.386771789	0.185639942	5.478805555	1.017085143
79° 29' 30"	0.98322839	0.18237853	5.391141053	0.185489489	5.483101481	1.017057693
79° 30' 00"	0.98325491	0.18223553	5.395517174	0.185339045	5.487404266	1.017030266
79° 30' 30"	0.98328140	0.18209251	5.399900169	0.185188609	5.491713925	1.017002862
79° 31' 00"	0.98330788	0.18194950	5.404290055	0.185038181	5.496030476	1.016975481
79° 31' 30"	0.98333433	0.18180648	5.408686846	0.184887761	5.500353934	1.016948123
79° 32' 00"	0.98336076	0.18166346	5.413090561	0.184737349	5.504684316	1.016920788
79° 32' 30"	0.98338717	0.18152043	5.417501215	0.184586945	5.509021639	1.016893475
79° 33' 00"	0.98341356	0.18137740	5.421918826	0.184436550	5.513365919	1.016866186
79° 33' 30"	0.98343993	0.18123437	5.426343409	0.184286162	5.517717172	1.016838920
79° 34' 00"	0.98346628	0.18109133	5.430774982	0.184135782	5.522075416	1.016811677
79° 34' 30"	0.98349261	0.18094829	5.435213561	0.183985411	5.526440668	1.016784457
79° 35' 00"	0.98351892	0.18080525	5.439659163	0.183835047	5.530812943	1.016757259
79° 35' 30"	0.98354520	0.18066220	5.444111805	0.183684692	5.535192259	1.016730085
79° 36' 00"	0.98357147	0.18051915	5.448571504	0.183534345	5.539578634	1.016702934
79° 36' 30"	0.98359772	0.18037609	5.453038277	0.183384005	5.543972083	1.016675805
79° 37' 00"	0.98362394	0.18023303	5.457512141	0.183233674	5.548372624	1.016648700
79° 37' 30"	0.98365014	0.18008996	5.461993113	0.183083351	5.552780274	1.016621618
79° 38' 00"	0.98367633	0.17994690	5.466481211	0.182933035	5.557195050	1.016594558
79° 38' 30"	0.98370249	0.17980382	5.470976450	0.182782728	5.561616970	1.016567521
79° 39' 00"	0.98372863	0.17966075	5.475478849	0.182632429	5.566046050	1.016540508
79° 39' 30"	0.98375475	0.17951767	5.479988425	0.182482137	5.570482308	1.016513517
79° 40' 00"	0.98378085	0.17937459	5.484505196	0.182331854	5.574925761	1.016486549
79° 40' 30"	0.98380693	0.17923150	5.489029178	0.182181578	5.579376427	1.016459604
79° 41' 00"	0.98383298	0.17908841	5.493560389	0.182031311	5.583834323	1.016432683
79° 41' 30"	0.98385902	0.17894531	5.498098847	0.181881052	5.588299467	1.016405784
79° 42' 00"	0.98388504	0.17880222	5.502644569	0.181730800	5.592771876	1.016378908
79° 42' 30"	0.98391103	0.17865911	5.507197573	0.181580556	5.597251568	1.016352054
79° 43' 00"	0.98393701	0.17851601	5.511757877	0.181430321	5.601738560	1.016325224
79° 43' 30"	0.98396296	0.17837290	5.516325498	0.181280093	5.606232871	1.016298417
79° 44' 00"	0.98398889	0.17822978	5.520900455	0.181129873	5.610734518	1.016271632
79° 44' 30"	0.98401481	0.17808667	5.525482765	0.180979661	5.615243519	1.016244871
79° 45' 00"	0.98404070	0.17794355	5.530072445	0.180829457	5.619759893	1.016218132
79° 45' 30"	0.98406657	0.17780042	5.534669515	0.180679261	5.624283656	1.016191417
79° 46' 00"	0.98409242	0.17765729	5.539273992	0.180529073	5.628814827	1.016164724
79° 46' 30"	0.98411825	0.17751416	5.543885894	0.180378893	5.633353425	1.016138054
79° 47' 00"	0.98414405	0.17737102	5.548505240	0.180228720	5.637899466	1.016111407
79° 47' 30"	0.98416984	0.17722788	5.553132047	0.180078556	5.642452971	1.016084783

79° 48' 00"

80° 08' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
79° 48' 00"	0.98419561	0.17708474	5.557766334	0.179928399	5.647013956	1.016058182
79° 48' 30"	0.98422135	0.17694159	5.562408119	0.179778250	5.651582441	1.016031604
79° 49' 00"	0.98424708	0.17679844	5.567057421	0.179628109	5.656158443	1.016005048
79° 49' 30"	0.98427278	0.17665529	5.571714258	0.179477976	5.660741981	1.015978516
79° 50' 00"	0.98429847	0.17651213	5.576378649	0.179327851	5.665333074	1.015952006
79° 50' 30"	0.98432413	0.17636897	5.581050612	0.179177734	5.669931740	1.015925519
79° 51' 00"	0.98434977	0.17622580	5.585730166	0.179027624	5.674537998	1.015899055
79° 51' 30"	0.98437539	0.17608263	5.590417329	0.178877522	5.679151866	1.015872614
79° 52' 00"	0.98440099	0.17593946	5.595112121	0.178727428	5.683773364	1.015846196
79° 52' 30"	0.98442657	0.17579628	5.599814561	0.178577342	5.688402510	1.015819800
79° 53' 00"	0.98445213	0.17565310	5.604524666	0.178427264	5.693039323	1.015793428
79° 53' 30"	0.98447766	0.17550991	5.609242457	0.178277193	5.697683822	1.015767078
79° 54' 00"	0.98450318	0.17536673	5.613967951	0.178127130	5.702336026	1.015740752
79° 54' 30"	0.98452868	0.17522353	5.618701169	0.177977075	5.706995955	1.015714448
79° 55' 00"	0.98455415	0.17508034	5.623442129	0.177827028	5.711663626	1.015688167
79° 55' 30"	0.98457960	0.17493714	5.628190851	0.177676988	5.716339060	1.015661908
79° 56' 00"	0.98460504	0.17479394	5.632947353	0.177526957	5.721022276	1.015635673
79° 56' 30"	0.98463045	0.17465073	5.637711656	0.177376933	5.725713294	1.015609460
79° 57' 00"	0.98465584	0.17450752	5.642483779	0.177226916	5.730412131	1.015583271
79° 57' 30"	0.98468121	0.17436430	5.647263740	0.177076908	5.735118809	1.015557104
79° 58' 00"	0.98470656	0.17422109	5.652051560	0.176926907	5.739833346	1.015530960
79° 58' 30"	0.98473189	0.17407786	5.656847259	0.176776914	5.744555762	1.015504839
79° 59' 00"	0.98475720	0.17393464	5.661650855	0.176626928	5.749286077	1.015478740
79° 59' 30"	0.98478249	0.17379141	5.666462368	0.176476951	5.754024311	1.015452665
80° 00' 00"	0.98480775	0.17364818	5.671281820	0.176326981	5.758770483	1.015426612
80° 00' 30"	0.98483300	0.17350494	5.676109228	0.176177018	5.763524613	1.015400582
80° 01' 00"	0.98485822	0.17336170	5.680944614	0.176027064	5.768286722	1.015374575
80° 01' 30"	0.98488343	0.17321846	5.685787996	0.175877117	5.773056828	1.015348591
80° 02' 00"	0.98490861	0.17307521	5.690639396	0.175727178	5.777834953	1.015322629
80° 02' 30"	0.98493377	0.17293196	5.695498834	0.175577246	5.782621115	1.015296690
80° 03' 00"	0.98495891	0.17278870	5.700366329	0.175427322	5.787415337	1.015270774
80° 03' 30"	0.98498404	0.17264545	5.705241901	0.175277406	5.792217637	1.015244881
80° 04' 00"	0.98500914	0.17250218	5.710125572	0.175127497	5.797028036	1.015219011
80° 04' 30"	0.98503421	0.17235892	5.715017362	0.174977596	5.801846555	1.015193163
80° 05' 00"	0.98505927	0.17221565	5.719917290	0.174827703	5.806673214	1.015167339
80° 05' 30"	0.98508431	0.17207238	5.724825378	0.174677817	5.811508033	1.015141537
80° 06' 00"	0.98510933	0.17192910	5.729741647	0.174527939	5.816351033	1.015115758
80° 06' 30"	0.98513432	0.17178582	5.734666116	0.174378068	5.821202235	1.015090001
80° 07' 00"	0.98515930	0.17164254	5.739598807	0.174228205	5.826061659	1.015064268
80° 07' 30"	0.98518425	0.17149925	5.744539740	0.174078350	5.830929327	1.015038557
80° 08' 00"	0.98520918	0.17135596	5.749488936	0.173928502	5.835805259	1.015012869
80° 08' 30"	0.98523410	0.17121266	5.754446417	0.173778662	5.840689477	1.014987204

80° 09' 00"

80° 29' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
80° 09' 00"	0.98525899	0.17106936	5.759412203	0.173628830	5.845582000	1.014961561
80° 09' 30"	0.98528386	0.17092606	5.764386315	0.173479005	5.850482851	1.014935941
80° 10' 00"	0.98530871	0.17078276	5.769368775	0.173329187	5.855392050	1.014910344
80° 10' 30"	0.98533354	0.17063945	5.774359603	0.173179377	5.860309619	1.014884770
80° 11' 00"	0.98535834	0.17049614	5.779358822	0.173029575	5.865235579	1.014859219
80° 11' 30"	0.98538313	0.17035282	5.784366453	0.172879780	5.870169951	1.014833690
80° 12' 00"	0.98540790	0.17020950	5.789382516	0.172729993	5.875112758	1.014808184
80° 12' 30"	0.98543264	0.17006618	5.794407033	0.172580213	5.880064019	1.014782701
80° 13' 00"	0.98545737	0.16992285	5.799440027	0.172430441	5.885023758	1.014757240
80° 13' 30"	0.98548207	0.16977952	5.804481519	0.172280676	5.889991995	1.014731803
80° 14' 00"	0.98550676	0.16963618	5.809531530	0.172130919	5.894968753	1.014706388
80° 14' 30"	0.98553142	0.16949285	5.814590082	0.171981169	5.899954053	1.014680995
80° 15' 00"	0.98555606	0.16934950	5.819657198	0.171831427	5.904947917	1.014655626
80° 15' 30"	0.98558068	0.16920616	5.824732899	0.171681692	5.909950367	1.014630279
80° 16' 00"	0.98560528	0.16906281	5.829817207	0.171531965	5.914961426	1.014604955
80° 16' 30"	0.98562986	0.16891946	5.834910145	0.171382245	5.919981115	1.014579654
80° 17' 00"	0.98565442	0.16877610	5.840011734	0.171232533	5.925009456	1.014554375
80° 17' 30"	0.98567895	0.16863274	5.845121997	0.171082828	5.930046472	1.014529119
80° 18' 00"	0.98570347	0.16848938	5.850240957	0.170933130	5.935092186	1.014503886
80° 18' 30"	0.98572796	0.16834601	5.855368635	0.170783440	5.940146618	1.014478676
80° 19' 00"	0.98575244	0.16820264	5.860505054	0.170633758	5.945209793	1.014453488
80° 19' 30"	0.98577689	0.16805927	5.865650237	0.170484083	5.950281733	1.014428323
80° 20' 00"	0.98580133	0.16791589	5.870804207	0.170334415	5.955362460	1.014403181
80° 20' 30"	0.98582574	0.16777251	5.875966985	0.170184755	5.960451997	1.014378061
80° 21' 00"	0.98585013	0.16762913	5.881138596	0.170035102	5.965550368	1.014352964
80° 21' 30"	0.98587450	0.16748574	5.886319062	0.169885456	5.970657593	1.014327890
80° 22' 00"	0.98589885	0.16734235	5.891508406	0.169735818	5.975773698	1.014302838
80° 22' 30"	0.98592318	0.16719895	5.896706650	0.169586188	5.980898705	1.014277810
80° 23' 00"	0.98594748	0.16705555	5.901913819	0.169436564	5.986032636	1.014252803
80° 23' 30"	0.98597177	0.16691215	5.907129935	0.169286948	5.991175516	1.014227820
80° 24' 00"	0.98599604	0.16676875	5.912355021	0.169137340	5.996327368	1.014202859
80° 24' 30"	0.98602028	0.16662534	5.917589102	0.168987739	6.001488214	1.014177921
80° 25' 00"	0.98604451	0.16648193	5.922832200	0.168838145	6.006658079	1.014153006
80° 25' 30"	0.98606871	0.16633851	5.928084339	0.168688558	6.011836985	1.014128113
80° 26' 00"	0.98609289	0.16619509	5.933345543	0.168538979	6.017024957	1.014103243
80° 26' 30"	0.98611705	0.16605167	5.938615836	0.168389407	6.022222019	1.014078396
80° 27' 00"	0.98614119	0.16590824	5.943895240	0.168239843	6.027428193	1.014053571
80° 27' 30"	0.98616531	0.16576481	5.949183780	0.168090285	6.032643504	1.014028769
80° 28' 00"	0.98618941	0.16562138	5.954481481	0.167940736	6.037867977	1.014003989
80° 28' 30"	0.98621349	0.16547794	5.959788365	0.167791193	6.043101634	1.013979233
80° 29' 00"	0.98623755	0.16533450	5.965104458	0.167641658	6.048344500	1.013954499
80° 29' 30"	0.98626159	0.16519105	5.970429783	0.167492130	6.053596600	1.013929787

80° 30' 00"

80° 50' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
80° 30' 00"	0.98628560	0.16504761	5.975764364	0.167342609	6.058857957	1.013905099
80° 30' 30"	0.98630960	0.16490415	5.981108227	0.167193096	6.064128596	1.013880432
80° 31' 00"	0.98633357	0.16476070	5.986461395	0.167043590	6.069408541	1.013855789
80° 31' 30"	0.98635752	0.16461724	5.991823894	0.166894091	6.074697817	1.013831168
80° 32' 00"	0.98638146	0.16447378	5.997195747	0.166744599	6.079996449	1.013806570
80° 32' 30"	0.98640537	0.16433032	6.002576979	0.166595115	6.085304462	1.013781994
80° 33' 00"	0.98642926	0.16418685	6.007967616	0.166445638	6.090621879	1.013757442
80° 33' 30"	0.98645313	0.16404337	6.013367682	0.166296168	6.095948727	1.013732911
80° 34' 00"	0.98647698	0.16389990	6.018777202	0.166146705	6.101285029	1.013708404
80° 34' 30"	0.98650080	0.16375642	6.024196202	0.165997250	6.106630812	1.013683919
80° 35' 00"	0.98652461	0.16361294	6.029624705	0.165847801	6.111986100	1.013659456
80° 35' 30"	0.98654840	0.16346945	6.035062739	0.165698360	6.117350918	1.013635016
80° 36' 00"	0.98657216	0.16332596	6.040510327	0.165548926	6.122725293	1.013610599
80° 36' 30"	0.98659591	0.16318247	6.045967496	0.165399500	6.128109249	1.013586205
80° 37' 00"	0.98661963	0.16303897	6.051434271	0.165250080	6.133502811	1.013561833
80° 37' 30"	0.98664333	0.16289547	6.056910677	0.165100668	6.138906006	1.013537484
80° 38' 00"	0.98666701	0.16275197	6.062396741	0.164951263	6.144318859	1.013513157
80° 38' 30"	0.98669067	0.16260846	6.067892488	0.164801865	6.149741397	1.013488853
80° 39' 00"	0.98671431	0.16246495	6.073397944	0.164652474	6.155173644	1.013464571
80° 39' 30"	0.98673793	0.16232144	6.078913135	0.164503091	6.160615626	1.013440312
80° 40' 00"	0.98676153	0.16217792	6.084438086	0.164353714	6.166067371	1.013416076
80° 40' 30"	0.98678511	0.16203440	6.089972825	0.164204345	6.171528904	1.013391862
80° 41' 00"	0.98680867	0.16189088	6.095517378	0.164054983	6.177000251	1.013367671
80° 41' 30"	0.98683220	0.16174735	6.101071770	0.163905628	6.182481439	1.013343503
80° 42' 00"	0.98685572	0.16160382	6.106636029	0.163756280	6.187972495	1.013319357
80° 42' 30"	0.98687921	0.16146029	6.112210181	0.163606939	6.193473443	1.013295234
80° 43' 00"	0.98690268	0.16131675	6.117794252	0.163457606	6.198984313	1.013271133
80° 43' 30"	0.98692614	0.16117321	6.123388269	0.163308279	6.204505129	1.013247055
80° 44' 00"	0.98694957	0.16102966	6.128992260	0.163158960	6.210035919	1.013222999
80° 44' 30"	0.98697298	0.16088612	6.134606250	0.163009647	6.215576710	1.013198966
80° 45' 00"	0.98699637	0.16074257	6.140230267	0.162860342	6.221127529	1.013174956
80° 45' 30"	0.98701974	0.16059901	6.145864339	0.162711044	6.226688403	1.013150968
80° 46' 00"	0.98704308	0.16045545	6.151508492	0.162561752	6.232259359	1.013127003
80° 46' 30"	0.98706641	0.16031189	6.157162753	0.162412468	6.237840425	1.013103060
80° 47' 00"	0.98708972	0.16016833	6.162827151	0.162263191	6.243431628	1.013079140
80° 47' 30"	0.98711300	0.16002476	6.168501712	0.162113921	6.249032995	1.013055242
80° 48' 00"	0.98713627	0.15988119	6.174186465	0.161964658	6.254644555	1.013031367
80° 48' 30"	0.98715951	0.15973761	6.179881437	0.161815402	6.260266334	1.013007514
80° 49' 00"	0.98718273	0.15959403	6.185586655	0.161666153	6.265898361	1.012983685
80° 49' 30"	0.98720593	0.15945045	6.191302148	0.161516911	6.271540663	1.012959877
80° 50' 00"	0.98722911	0.15930687	6.197027944	0.161367676	6.277193269	1.012936092
80° 50' 30"	0.98725227	0.15916328	6.202764071	0.161218449	6.282856207	1.012912330

80° 51' 00"

81° 11' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
80° 51' 00"	0.98727541	0.15901969	6.208510557	0.161069228	6.288529505	1.012888590
80° 51' 30"	0.98729853	0.15887609	6.214267430	0.160920014	6.294213191	1.012864873
80° 52' 00"	0.98732163	0.15873249	6.220034719	0.160770807	6.299907294	1.012841178
80° 52' 30"	0.98734470	0.15858889	6.225812453	0.160621607	6.305611842	1.012817506
80° 53' 00"	0.98736776	0.15844529	6.231600660	0.160472414	6.311326864	1.012793856
80° 53' 30"	0.98739079	0.15830168	6.237399368	0.160323228	6.317052388	1.012770229
80° 54' 00"	0.98741381	0.15815807	6.243208607	0.160174049	6.322788444	1.012746625
80° 54' 30"	0.98743680	0.15801445	6.249028406	0.160024877	6.328535061	1.012723043
80° 55' 00"	0.98745977	0.15787083	6.254858793	0.159875712	6.334292267	1.012699483
80° 55' 30"	0.98748272	0.15772721	6.260699798	0.159726553	6.340060091	1.012675946
80° 56' 00"	0.98750565	0.15758359	6.266551451	0.159577402	6.345838564	1.012652432
80° 56' 30"	0.98752856	0.15743996	6.272413779	0.159428258	6.351627714	1.012628940
80° 57' 00"	0.98755145	0.15729633	6.278286814	0.159279120	6.357427571	1.012605470
80° 57' 30"	0.98757432	0.15715269	6.284170585	0.159129990	6.363238164	1.012582023
80° 58' 00"	0.98759716	0.15700905	6.290065120	0.158980866	6.369059524	1.012558599
80° 58' 30"	0.98761999	0.15686541	6.295970451	0.158831749	6.374891679	1.012535197
80° 59' 00"	0.98764279	0.15672177	6.301886607	0.158682639	6.380734661	1.012511817
80° 59' 30"	0.98766558	0.15657812	6.307813618	0.158533536	6.386588498	1.012488460
81° 00' 00"	0.98768834	0.15643447	6.313751515	0.158384440	6.392453221	1.012465126
81° 00' 30"	0.98771108	0.15629081	6.319700327	0.158235351	6.398328861	1.012441814
81° 01' 00"	0.98773380	0.15614715	6.325660084	0.158086269	6.404215448	1.012418524
81° 01' 30"	0.98775650	0.15600349	6.331630819	0.157937193	6.410113012	1.012395257
81° 02' 00"	0.98777918	0.15585982	6.337612560	0.157788125	6.416021583	1.012372013
81° 02' 30"	0.98780184	0.15571616	6.343605339	0.157639063	6.421941194	1.012348791
81° 03' 00"	0.98782448	0.15557248	6.349609186	0.157490008	6.427871873	1.012325591
81° 03' 30"	0.98784710	0.15542881	6.355624133	0.157340960	6.433813653	1.012302414
81° 04' 00"	0.98786969	0.15528513	6.361650211	0.157191918	6.439766565	1.012279259
81° 04' 30"	0.98789227	0.15514145	6.367687450	0.157042884	6.445730639	1.012256127
81° 05' 00"	0.98791482	0.15499777	6.373735883	0.156893856	6.451705907	1.012233018
81° 05' 30"	0.98793735	0.15485408	6.379795540	0.156744835	6.457692400	1.012209930
81° 06' 00"	0.98795987	0.15471039	6.385866453	0.156595821	6.463690150	1.012186866
81° 06' 30"	0.98798236	0.15456669	6.391948653	0.156446814	6.469699188	1.012163823
81° 07' 00"	0.98800483	0.15442299	6.398042173	0.156297813	6.475719547	1.012140804
81° 07' 30"	0.98802728	0.15427929	6.404147045	0.156148819	6.481751258	1.012117806
81° 08' 00"	0.98804971	0.15413559	6.410263299	0.155999832	6.487794353	1.012094831
81° 08' 30"	0.98807211	0.15399188	6.416390969	0.155850852	6.493848864	1.012071879
81° 09' 00"	0.98809450	0.15384817	6.422530087	0.155701879	6.499914824	1.012048949
81° 09' 30"	0.98811687	0.15370446	6.428680685	0.155552912	6.505992265	1.012026041
81° 10' 00"	0.98813921	0.15356074	6.434842795	0.155403952	6.512081219	1.012003156
81° 10' 30"	0.98816153	0.15341702	6.441016451	0.155254999	6.518181719	1.011980294
81° 11' 00"	0.98818384	0.15327329	6.447201684	0.155106052	6.524293797	1.011957453
81° 11' 30"	0.98820612	0.15312957	6.453398528	0.154957112	6.530417488	1.011934636



81° 12' 00"

81° 32' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
81° 12' 00"	0.98822838	0.15298584	6.459607016	0.154808179	6.536552823	1.011911840
81° 12' 30"	0.98825062	0.15284210	6.465827181	0.154659253	6.542699835	1.011889067
81° 13' 00"	0.98827284	0.15269837	6.472059056	0.154510333	6.548858559	1.011866317
81° 13' 30"	0.98829504	0.15255463	6.478302674	0.154361420	6.555029027	1.011843589
81° 14' 00"	0.98831722	0.15241088	6.484558070	0.154212514	6.561211272	1.011820883
81° 14' 30"	0.98833937	0.15226714	6.490825276	0.154063614	6.567405329	1.011798200
81° 15' 00"	0.98836151	0.15212339	6.497104326	0.153914721	6.573611231	1.011775539
81° 15' 30"	0.98838363	0.15197963	6.503395254	0.153765835	6.579829012	1.011752901
81° 16' 00"	0.98840572	0.15183588	6.509698095	0.153616955	6.586058707	1.011730285
81° 16' 30"	0.98842779	0.15169212	6.516012882	0.153468082	6.592300348	1.011707691
81° 17' 00"	0.98844984	0.15154836	6.522339649	0.153319216	6.598553970	1.011685120
81° 17' 30"	0.98847188	0.15140459	6.528678432	0.153170356	6.604819609	1.011662571
81° 18' 00"	0.98849389	0.15126082	6.535029264	0.153021503	6.611097298	1.011640045
81° 18' 30"	0.98851588	0.15111705	6.541392180	0.152872657	6.617387072	1.011617541
81° 19' 00"	0.98853784	0.15097327	6.547767215	0.152723817	6.623688965	1.011595059
81° 19' 30"	0.98855979	0.15082949	6.554154405	0.152574983	6.630003014	1.011572600
81° 20' 00"	0.98858172	0.15068571	6.560553783	0.152426157	6.636329252	1.011550164
81° 20' 30"	0.98860363	0.15054193	6.566965385	0.152277337	6.642667715	1.011527749
81° 21' 00"	0.98862551	0.15039814	6.573389247	0.152128523	6.649018438	1.011505357
81° 21' 30"	0.98864737	0.15025435	6.579825403	0.151979717	6.655381457	1.011482988
81° 22' 00"	0.98866922	0.15011055	6.586273891	0.151830916	6.661756808	1.011460640
81° 22' 30"	0.98869104	0.14996676	6.592734744	0.151682123	6.668144525	1.011438316
81° 23' 00"	0.98871284	0.14982295	6.599208000	0.151533336	6.674544646	1.011416013
81° 23' 30"	0.98873462	0.14967915	6.605693694	0.151384555	6.680957205	1.011393733
81° 24' 00"	0.98875638	0.14953534	6.612191862	0.151235781	6.687382240	1.011371475
81° 24' 30"	0.98877812	0.14939153	6.618702541	0.151087013	6.693819786	1.011349240
81° 25' 00"	0.98879984	0.14924772	6.625225767	0.150938253	6.700269880	1.011327027
81° 25' 30"	0.98882153	0.14910390	6.631761577	0.150789498	6.706732559	1.011304837
81° 26' 00"	0.98884321	0.14896008	6.638310007	0.150640750	6.713207859	1.011282669
81° 26' 30"	0.98886486	0.14881626	6.644871095	0.150492009	6.719695817	1.011260523
81° 27' 00"	0.98888650	0.14867243	6.651444877	0.150343274	6.726196470	1.011238399
81° 27' 30"	0.98890811	0.14852860	6.658031390	0.150194546	6.732709855	1.011216298
81° 28' 00"	0.98892970	0.14838477	6.664630672	0.150045824	6.739236010	1.011194219
81° 28' 30"	0.98895128	0.14824094	6.671242760	0.149897109	6.745774971	1.011172163
81° 29' 00"	0.98897283	0.14809710	6.677867692	0.149748400	6.752326778	1.011150129
81° 29' 30"	0.98899435	0.14795326	6.684505505	0.149599697	6.758891466	1.011128117
81° 30' 00"	0.98901586	0.14780941	6.691156238	0.149451001	6.765469075	1.011106128
81° 30' 30"	0.98903735	0.14766556	6.697819929	0.149302312	6.772059642	1.011084161
81° 31' 00"	0.98905882	0.14752171	6.704496615	0.149153629	6.778663206	1.011062216
81° 31' 30"	0.98908026	0.14737786	6.711186335	0.149004952	6.785279804	1.011040294
81° 32' 00"	0.98910169	0.14723400	6.717889127	0.148856282	6.791909475	1.011018394
81° 32' 30"	0.98912309	0.14709014	6.724605031	0.148707619	6.798552259	1.010996516

81° 33' 00"

81° 53' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
81° 33' 00"	0.98914447	0.14694628	6.731334084	0.148558961	6.805208193	1.010974661
81° 33' 30"	0.98916584	0.14680241	6.738076326	0.148410311	6.811877317	1.010952828
81° 34' 00"	0.98918718	0.14665854	6.744831796	0.148261666	6.818559669	1.010931017
81° 34' 30"	0.98920850	0.14651467	6.751600534	0.148113028	6.825255290	1.010909229
81° 35' 00"	0.98922980	0.14637079	6.758382578	0.147964397	6.831964217	1.010887463
81° 35' 30"	0.98925108	0.14622691	6.765177968	0.147815771	6.838686492	1.010865719
81° 36' 00"	0.98927233	0.14608303	6.771986744	0.147667153	6.845422154	1.010843998
81° 36' 30"	0.98929357	0.14593914	6.778808946	0.147518540	6.852171242	1.010822299
81° 37' 00"	0.98931478	0.14579525	6.785644614	0.147369934	6.858933796	1.010800622
81° 37' 30"	0.98933598	0.14565136	6.792493787	0.147221335	6.865709858	1.010778968
81° 38' 00"	0.98935715	0.14550747	6.799356507	0.147072741	6.872499466	1.010757335
81° 38' 30"	0.98937831	0.14536357	6.806232814	0.146924154	6.879302662	1.010735726
81° 39' 00"	0.98939944	0.14521967	6.813122749	0.146775574	6.886119487	1.010714138
81° 39' 30"	0.98942055	0.14507577	6.820026352	0.146626999	6.892949981	1.010692573
81° 40' 00"	0.98944164	0.14493186	6.826943664	0.146478432	6.899794185	1.010671030
81° 40' 30"	0.98946271	0.14478795	6.833874727	0.146329870	6.906652140	1.010649509
81° 41' 00"	0.98948376	0.14464404	6.840819581	0.146181315	6.913523888	1.010628011
81° 41' 30"	0.98950478	0.14450012	6.847778270	0.146032766	6.920409470	1.010606535
81° 42' 00"	0.98952579	0.14435620	6.854750833	0.145884223	6.927308928	1.010585081
81° 42' 30"	0.98954677	0.14421228	6.861737313	0.145735687	6.934222304	1.010563650
81° 43' 00"	0.98956774	0.14406835	6.868737753	0.145587157	6.941149639	1.010542241
81° 43' 30"	0.98958868	0.14392443	6.875752193	0.145438633	6.948090976	1.010520854
81° 44' 00"	0.98960960	0.14378049	6.882780677	0.145290116	6.955046358	1.010499489
81° 44' 30"	0.98963051	0.14363656	6.889823246	0.145141604	6.962015826	1.010478147
81° 45' 00"	0.98965139	0.14349262	6.896879945	0.144993099	6.968999424	1.010456827
81° 45' 30"	0.98967225	0.14334868	6.903950815	0.144844601	6.975997194	1.010435529
81° 46' 00"	0.98969309	0.14320474	6.911035899	0.144696108	6.983009179	1.010414254
81° 46' 30"	0.98971390	0.14306079	6.918135241	0.144547622	6.990035423	1.010393000
81° 47' 00"	0.98973470	0.14291684	6.925248885	0.144399142	6.997075969	1.010371769
81° 47' 30"	0.98975548	0.14277289	6.932376873	0.144250669	7.004130860	1.010350561
81° 48' 00"	0.98977623	0.14262893	6.939519249	0.144102201	7.011200140	1.010329374
81° 48' 30"	0.98979696	0.14248498	6.946676058	0.143953740	7.018283854	1.010308210
81° 49' 00"	0.98981768	0.14234101	6.953847343	0.143805285	7.025382044	1.010287068
81° 49' 30"	0.98983837	0.14219705	6.961033149	0.143656836	7.032494756	1.010265948
81° 50' 00"	0.98985904	0.14205308	6.968233520	0.143508394	7.039622035	1.010244851
81° 50' 30"	0.98987969	0.14190911	6.975448501	0.143359957	7.046763923	1.010223776
81° 51' 00"	0.98990032	0.14176514	6.982678136	0.143211527	7.053920467	1.010202723
81° 51' 30"	0.98992093	0.14162116	6.989922471	0.143063103	7.061091711	1.010181692
81° 52' 00"	0.98994152	0.14147718	6.997181551	0.142914685	7.068277701	1.010160684
81° 52' 30"	0.98996208	0.14133320	7.004455421	0.142766274	7.075478482	1.010139698
81° 53' 00"	0.98998263	0.14118921	7.011744127	0.142617868	7.082694099	1.010118734
81° 53' 30"	0.99000315	0.14104522	7.019047714	0.142469469	7.089924599	1.010097792

81° 54' 00"

82° 14' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
81° 54' 00"	0.99002366	0.14090123	7.026366229	0.142321076	7.097170026	1.010076873
81° 54' 30"	0.99004414	0.14075724	7.033699717	0.142172689	7.104430428	1.010055975
81° 55' 00"	0.99006460	0.14061324	7.041048225	0.142024308	7.111705851	1.010035100
81° 55' 30"	0.99008504	0.14046924	7.048411800	0.141875933	7.118996340	1.010014248
81° 56' 00"	0.99010546	0.14032524	7.055790487	0.141727564	7.126301944	1.009993417
81° 56' 30"	0.99012586	0.14018123	7.063184334	0.141579202	7.133622708	1.009972609
81° 57' 00"	0.99014624	0.14003722	7.070593388	0.141430845	7.140958680	1.009951823
81° 57' 30"	0.99016660	0.13989321	7.078017697	0.141282495	7.148309906	1.009931059
81° 58' 00"	0.99018693	0.13974919	7.085457307	0.141134151	7.155676436	1.009910317
81° 58' 30"	0.99020725	0.13960517	7.092912267	0.140985813	7.163058315	1.009889598
81° 59' 00"	0.99022754	0.13946115	7.100382624	0.140837481	7.170455593	1.009868900
81° 59' 30"	0.99024782	0.13931713	7.107868426	0.140689155	7.177868316	1.009848225
82° 00' 00"	0.99026807	0.13917310	7.115369722	0.140540835	7.185296534	1.009827573
82° 00' 30"	0.99028830	0.13902907	7.122886560	0.140392521	7.192740295	1.009806942
82° 01' 00"	0.99030851	0.13888504	7.130418989	0.140244213	7.200199647	1.009786333
82° 01' 30"	0.99032870	0.13874100	7.137967058	0.140095911	7.207674640	1.009765747
82° 02' 00"	0.99034887	0.13859696	7.145530815	0.139947616	7.215165322	1.009745183
82° 02' 30"	0.99036902	0.13845292	7.153110310	0.139799326	7.222671743	1.009724641
82° 03' 00"	0.99038914	0.13830888	7.160705593	0.139651042	7.230193952	1.009704122
82° 03' 30"	0.99040925	0.13816483	7.168316713	0.139502765	7.237732000	1.009683624
82° 04' 00"	0.99042933	0.13802078	7.175943720	0.139354493	7.245285934	1.009663149
82° 04' 30"	0.99044940	0.13787672	7.183586664	0.139206228	7.252855807	1.009642696
82° 05' 00"	0.99046944	0.13773267	7.191245596	0.139057968	7.260441669	1.009622265
82° 05' 30"	0.99048946	0.13758861	7.198920566	0.138909714	7.268043569	1.009601857
82° 06' 00"	0.99050946	0.13744455	7.206611625	0.138761467	7.275661558	1.009581470
82° 06' 30"	0.99052944	0.13730048	7.214318823	0.138613225	7.283295688	1.009561106
82° 07' 00"	0.99054940	0.13715641	7.222042213	0.138464990	7.290946010	1.009540764
82° 07' 30"	0.99056934	0.13701234	7.229781845	0.138316760	7.298612576	1.009520444
82° 08' 00"	0.99058926	0.13686827	7.237537771	0.138168536	7.306295435	1.009500146
82° 08' 30"	0.99060915	0.13672419	7.245310043	0.138020319	7.313994642	1.009479870
82° 09' 00"	0.99062903	0.13658011	7.253098713	0.137872107	7.321710247	1.009459617
82° 09' 30"	0.99064888	0.13643603	7.260903833	0.137723901	7.329442303	1.009439385
82° 10' 00"	0.99066872	0.13629194	7.268725456	0.137575701	7.337190862	1.009419176
82° 10' 30"	0.99068853	0.13614785	7.276563634	0.137427507	7.344955978	1.009398989
82° 11' 00"	0.99070832	0.13600376	7.284418421	0.137279319	7.352737703	1.009378825
82° 11' 30"	0.99072809	0.13585967	7.292289869	0.137131137	7.360536090	1.009358682
82° 12' 00"	0.99074784	0.13571557	7.300178032	0.136982961	7.368351193	1.009338561
82° 12' 30"	0.99076757	0.13557147	7.308082964	0.136834790	7.376183065	1.009318463
82° 13' 00"	0.99078728	0.13542737	7.316004718	0.136686626	7.384031760	1.009298387
82° 13' 30"	0.99080696	0.13528326	7.323943349	0.136538467	7.391897332	1.009278333
82° 14' 00"	0.99082663	0.13513916	7.331898910	0.136390315	7.399779837	1.009258301
82° 14' 30"	0.99084627	0.13499504	7.339871457	0.136242168	7.407679327	1.009238291

82° 15' 00"

82° 35' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
82° 15' 00"	0.99086590	0.13485093	7.347861045	0.136094027	7.415595858	1.009218304
82° 15' 30"	0.99088550	0.13470681	7.355867727	0.135945892	7.423529485	1.009198338
82° 16' 00"	0.99090508	0.13456269	7.363891560	0.135797763	7.431480264	1.009178395
82° 16' 30"	0.99092464	0.13441857	7.371932599	0.135649640	7.439448249	1.009158474
82° 17' 00"	0.99094418	0.13427445	7.379990900	0.135501522	7.447433497	1.009138574
82° 17' 30"	0.99096370	0.13413032	7.388066519	0.135353410	7.455436063	1.009118698
82° 18' 00"	0.99098320	0.13398619	7.396159512	0.135205305	7.463456004	1.009098843
82° 18' 30"	0.99100268	0.13384205	7.404269935	0.135057205	7.471493376	1.009079010
82° 19' 00"	0.99102213	0.13369791	7.412397845	0.134909111	7.479548236	1.009059200
82° 19' 30"	0.99104157	0.13355377	7.420543300	0.134761022	7.487620641	1.009039411
82° 20' 00"	0.99106098	0.13340963	7.428706355	0.134612940	7.495710648	1.009019645
82° 20' 30"	0.99108038	0.13326549	7.436887070	0.134464863	7.503818314	1.008999901
82° 21' 00"	0.99109975	0.13312134	7.445085501	0.134316792	7.511943698	1.008980178
82° 21' 30"	0.99111910	0.13297719	7.453301707	0.134168727	7.520086857	1.008960479
82° 22' 00"	0.99113843	0.13283303	7.461535745	0.134020667	7.528247849	1.008940801
82° 22' 30"	0.99115774	0.13268888	7.469787675	0.133872614	7.536426733	1.008921145
82° 23' 00"	0.99117703	0.13254472	7.478057554	0.133724566	7.544623568	1.008901511
82° 23' 30"	0.99119629	0.13240056	7.486345442	0.133576524	7.552838412	1.008881900
82° 24' 00"	0.99121554	0.13225639	7.494651399	0.133428487	7.561071326	1.008862310
82° 24' 30"	0.99123477	0.13211222	7.502975483	0.133280457	7.569322367	1.008842743
82° 25' 00"	0.99125397	0.13196805	7.511317754	0.133132432	7.577591597	1.008823198
82° 25' 30"	0.99127315	0.13182388	7.519678273	0.132984413	7.585879074	1.008803675
82° 26' 00"	0.99129232	0.13167970	7.528057100	0.132836399	7.594184861	1.008784174
82° 26' 30"	0.99131146	0.13153552	7.536454295	0.132688392	7.602509016	1.008764695
82° 27' 00"	0.99133058	0.13139134	7.544869918	0.132540390	7.610851601	1.008745238
82° 27' 30"	0.99134968	0.13124716	7.553304033	0.132392394	7.619212676	1.008725803
82° 28' 00"	0.99136876	0.13110297	7.561756698	0.132244403	7.627592304	1.008706390
82° 28' 30"	0.99138781	0.13095878	7.570227977	0.132096418	7.635990546	1.008687000
82° 29' 00"	0.99140685	0.13081459	7.578717931	0.131948439	7.644407464	1.008667631
82° 29' 30"	0.99142587	0.13067039	7.587226622	0.131800465	7.652843120	1.008648285
82° 30' 00"	0.99144486	0.13052619	7.595754113	0.131652498	7.661297576	1.008628961
82° 30' 30"	0.99146384	0.13038199	7.604300466	0.131504535	7.669770895	1.008609658
82° 31' 00"	0.99148279	0.13023779	7.612865745	0.131356579	7.678263140	1.008590378
82° 31' 30"	0.99150172	0.13009358	7.621450012	0.131208628	7.686774375	1.008571120
82° 32' 00"	0.99152063	0.12994937	7.630053332	0.131060683	7.695304663	1.008551884
82° 32' 30"	0.99153952	0.12980516	7.638675768	0.130912743	7.703854068	1.008532670
82° 33' 00"	0.99155839	0.12966094	7.647317385	0.130764809	7.712422653	1.008513478
82° 33' 30"	0.99157724	0.12951673	7.655978246	0.130616881	7.721010485	1.008494308
82° 34' 00"	0.99159606	0.12937251	7.664658417	0.130468958	7.729617626	1.008475160
82° 34' 30"	0.99161487	0.12922828	7.673357962	0.130321041	7.738244143	1.008456035
82° 35' 00"	0.99163366	0.12908406	7.682076948	0.130173130	7.746890101	1.008436931
82° 35' 30"	0.99165242	0.12893983	7.690815438	0.130025224	7.755555564	1.008417849

82° 36' 00"

82° 56' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
82° 36' 00"	0.99167116	0.12879560	7.699573500	0.129877324	7.764240600	1.008398790
82° 36' 30"	0.99168988	0.12865136	7.708351200	0.129729429	7.772945273	1.008379752
82° 37' 00"	0.99170859	0.12850713	7.717148604	0.129581540	7.781669652	1.008360737
82° 37' 30"	0.99172727	0.12836289	7.725965778	0.129433656	7.790413802	1.008341743
82° 38' 00"	0.99174592	0.12821864	7.734802791	0.129285778	7.799177791	1.008322772
82° 38' 30"	0.99176456	0.12807440	7.743659709	0.129137906	7.807961685	1.008303823
82° 39' 00"	0.99178318	0.12793015	7.752536599	0.128990039	7.816765554	1.008284895
82° 39' 30"	0.99180178	0.12778590	7.761433531	0.128842178	7.825589464	1.008265990
82° 40' 00"	0.99182035	0.12764165	7.770350573	0.128694322	7.834433484	1.008247107
82° 40' 30"	0.99183891	0.12749739	7.779287792	0.128546472	7.843297683	1.008228246
82° 41' 00"	0.99185744	0.12735313	7.788245258	0.128398627	7.852182130	1.008209407
82° 41' 30"	0.99187595	0.12720887	7.797223041	0.128250788	7.861086894	1.008190589
82° 42' 00"	0.99189444	0.12706461	7.806221209	0.128102954	7.870012044	1.008171794
82° 42' 30"	0.99191291	0.12692034	7.815239833	0.127955126	7.878957650	1.008153021
82° 43' 00"	0.99193136	0.12677607	7.824278983	0.127807304	7.887923783	1.008134270
82° 43' 30"	0.99194979	0.12663180	7.833338730	0.127659487	7.896910513	1.008115541
82° 44' 00"	0.99196820	0.12648753	7.842419143	0.127511675	7.905917911	1.008096834
82° 44' 30"	0.99198658	0.12634325	7.851520296	0.127363869	7.914946049	1.008078149
82° 45' 00"	0.99200495	0.12619897	7.860642258	0.127216068	7.923994997	1.008059486
82° 45' 30"	0.99202329	0.12605469	7.869785102	0.127068273	7.933064827	1.008040845
82° 46' 00"	0.99204162	0.12591040	7.878948900	0.126920483	7.942155612	1.008022226
82° 46' 30"	0.99205992	0.12576611	7.888133725	0.126772699	7.951267425	1.008003630
82° 47' 00"	0.99207820	0.12562182	7.897339649	0.126624920	7.960400337	1.007985055
82° 47' 30"	0.99209646	0.12547753	7.906566746	0.126477146	7.969554423	1.007966502
82° 48' 00"	0.99211470	0.12533323	7.915815088	0.126329378	7.978729756	1.007947971
82° 48' 30"	0.99213292	0.12518894	7.925084751	0.126181616	7.987926409	1.007929462
82° 49' 00"	0.99215112	0.12504463	7.934375808	0.126033859	7.997144457	1.007910975
82° 49' 30"	0.99216929	0.12490033	7.943688333	0.125886107	8.006383974	1.007892510
82° 50' 00"	0.99218745	0.12475602	7.953022402	0.125738361	8.015645035	1.007874067
82° 50' 30"	0.99220558	0.12461171	7.962378090	0.125590620	8.024927716	1.007855646
82° 51' 00"	0.99222370	0.12446740	7.971755473	0.125442884	8.034232092	1.007837247
82° 51' 30"	0.99224179	0.12432309	7.981154625	0.125295154	8.043558240	1.007818870
82° 52' 00"	0.99225986	0.12417877	7.990575625	0.125147430	8.052906234	1.007800516
82° 52' 30"	0.99227791	0.12403445	8.000018547	0.124999710	8.062276152	1.007782183
82° 53' 00"	0.99229594	0.12389013	8.009483470	0.124851996	8.071668072	1.007763872
82° 53' 30"	0.99231395	0.12374580	8.018970471	0.124704288	8.081082069	1.007745583
82° 54' 00"	0.99233194	0.12360148	8.028479627	0.124556584	8.090518223	1.007727316
82° 54' 30"	0.99234990	0.12345715	8.038011017	0.124408886	8.099976611	1.007709071
82° 55' 00"	0.99236785	0.12331281	8.047564718	0.124261194	8.109457312	1.007690848
82° 55' 30"	0.99238577	0.12316848	8.057140811	0.124113507	8.118960404	1.007672647
82° 56' 00"	0.99240368	0.12302414	8.066739374	0.123965825	8.128485967	1.007654467
82° 56' 30"	0.99242156	0.12287980	8.076360486	0.123818148	8.138034081	1.007636310

82° 57' 00"

83° 17' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
82° 57' 00"	0.99243942	0.12273546	8.086004228	0.123670477	8.147604824	1.007618175
82° 57' 30"	0.99245726	0.12259111	8.095670680	0.123522811	8.157198279	1.007600062
82° 58' 00"	0.99247508	0.12244676	8.105359922	0.123375150	8.166814524	1.007581971
82° 58' 30"	0.99249288	0.12230241	8.115072037	0.123227495	8.176453642	1.007563901
82° 59' 00"	0.99251066	0.12215806	8.124807105	0.123079845	8.186115714	1.007545854
82° 59' 30"	0.99252842	0.12201370	8.134565208	0.122932200	8.195800822	1.007527829
83° 00' 00"	0.99254615	0.12186934	8.144346428	0.122784561	8.205509048	1.007509825
83° 00' 30"	0.99256387	0.12172498	8.154150848	0.122636927	8.215240475	1.007491844
83° 01' 00"	0.99258156	0.12158062	8.163978552	0.122489298	8.224995185	1.007473885
83° 01' 30"	0.99259923	0.12143625	8.173829622	0.122341674	8.234773263	1.007455947
83° 02' 00"	0.99261688	0.12129188	8.183704143	0.122194056	8.244574792	1.007438031
83° 02' 30"	0.99263452	0.12114751	8.193602199	0.122046443	8.254399857	1.007420138
83° 03' 00"	0.99265212	0.12100314	8.203523874	0.121898835	8.264248541	1.007402266
83° 03' 30"	0.99266971	0.12085876	8.213469253	0.121751232	8.274120930	1.007384416
83° 04' 00"	0.99268728	0.12071438	8.223438422	0.121603634	8.284017110	1.007366589
83° 04' 30"	0.99270483	0.12057000	8.233431467	0.121456042	8.293937167	1.007348783
83° 05' 00"	0.99272235	0.12042562	8.243448475	0.121308455	8.303881186	1.007330999
83° 05' 30"	0.99273986	0.12028123	8.253489531	0.121160873	8.313849255	1.007313237
83° 06' 00"	0.99275734	0.12013684	8.263554723	0.121013297	8.323841460	1.007295497
83° 06' 30"	0.99277480	0.11999245	8.273644138	0.120865725	8.333857890	1.007277779
83° 07' 00"	0.99279225	0.11984805	8.283757865	0.120718159	8.343898631	1.007260083
83° 07' 30"	0.99280967	0.11970366	8.293895992	0.120570598	8.353963774	1.007242408
83° 08' 00"	0.99282707	0.11955926	8.304058608	0.120423042	8.364053405	1.007224756
83° 08' 30"	0.99284445	0.11941485	8.314245802	0.120275491	8.374167616	1.007207126
83° 09' 00"	0.99286180	0.11927045	8.324457663	0.120127946	8.384306494	1.007189517
83° 09' 30"	0.99287914	0.11912604	8.334694283	0.119980406	8.394470131	1.007171931
83° 10' 00"	0.99289646	0.11898163	8.344955751	0.119832870	8.404658618	1.007154366
83° 10' 30"	0.99291375	0.11883722	8.355242158	0.119685340	8.414872044	1.007136823
83° 11' 00"	0.99293102	0.11869281	8.365553596	0.119537815	8.425110502	1.007119302
83° 11' 30"	0.99294828	0.11854839	8.375890157	0.119390295	8.435374083	1.007101804
83° 12' 00"	0.99296551	0.11840397	8.386251933	0.119242781	8.445662880	1.007084327
83° 12' 30"	0.99298272	0.11825955	8.396639017	0.119095271	8.455976986	1.007066871
83° 13' 00"	0.99299991	0.11811512	8.407051503	0.118947767	8.466316494	1.007049438
83° 13' 30"	0.99301708	0.11797069	8.417489484	0.118800267	8.476681497	1.007032027
83° 14' 00"	0.99303422	0.11782626	8.427953053	0.118652773	8.487072091	1.007014638
83° 14' 30"	0.99305135	0.11768183	8.438442307	0.118505284	8.497488368	1.006997270
83° 15' 00"	0.99306846	0.11753740	8.448957340	0.118357800	8.507930426	1.006979925
83° 15' 30"	0.99308554	0.11739296	8.459498247	0.118210321	8.518398358	1.006962601
83° 16' 00"	0.99310261	0.11724852	8.470065125	0.118062847	8.528892262	1.006945299
83° 16' 30"	0.99311965	0.11710408	8.480658070	0.117915378	8.539412234	1.006928019
83° 17' 00"	0.99313667	0.11695963	8.491277180	0.117767914	8.549958371	1.006910761
83° 17' 30"	0.99315367	0.11681519	8.501922551	0.117620455	8.560530770	1.006893525

83° 18' 00"

83° 38' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
83° 18' 00"	0.99317065	0.11667074	8.512594282	0.117473001	8.571129530	1.006876311
83° 18' 30"	0.99318761	0.11652629	8.523292472	0.117325553	8.581754748	1.006859119
83° 19' 00"	0.99320455	0.11638183	8.534017218	0.117178109	8.592406524	1.006841948
83° 19' 30"	0.99322146	0.11623737	8.544768621	0.117030670	8.603084958	1.006824800
83° 20' 00"	0.99323836	0.11609291	8.555546781	0.116883237	8.613790148	1.006807673
83° 20' 30"	0.99325523	0.11594845	8.566351798	0.116735808	8.624522197	1.006790569
83° 21' 00"	0.99327209	0.11580399	8.577183773	0.116588385	8.635281204	1.006773486
83° 21' 30"	0.99328892	0.11565952	8.588042807	0.116440966	8.646067271	1.006756425
83° 22' 00"	0.99330573	0.11551505	8.598929004	0.116293552	8.656880501	1.006739385
83° 22' 30"	0.99332252	0.11537058	8.609842464	0.116146144	8.667720995	1.006722368
83° 23' 00"	0.99333929	0.11522611	8.620783291	0.115998740	8.678588857	1.006705373
83° 23' 30"	0.99335604	0.11508163	8.631751589	0.115851341	8.689484190	1.006688399
83° 24' 00"	0.99337277	0.11493715	8.642747461	0.115703948	8.700407098	1.006671448
83° 24' 30"	0.99338947	0.11479267	8.653771013	0.115556559	8.711357686	1.006654518
83° 25' 00"	0.99340616	0.11464819	8.664822349	0.115409175	8.722336059	1.006637610
83° 25' 30"	0.99342282	0.11450370	8.675901575	0.115261796	8.733342323	1.006620724
83° 26' 00"	0.99343947	0.11435921	8.687008797	0.115114422	8.744376583	1.006603860
83° 26' 30"	0.99345609	0.11421472	8.698144122	0.114967053	8.755438947	1.006587017
83° 27' 00"	0.99347269	0.11407023	8.709307657	0.114819689	8.766529522	1.006570197
83° 27' 30"	0.99348927	0.11392573	8.720499510	0.114672330	8.777648415	1.006553398
83° 28' 00"	0.99350583	0.11378123	8.731719789	0.114524976	8.788795735	1.006536621
83° 28' 30"	0.99352237	0.11363673	8.742968604	0.114377627	8.799971591	1.006519866
83° 29' 00"	0.99353888	0.11349223	8.754246063	0.114230282	8.811176093	1.006503133
83° 29' 30"	0.99355538	0.11334772	8.765552277	0.114082943	8.822409349	1.006486422
83° 30' 00"	0.99357186	0.11320321	8.776887357	0.113935608	8.833671472	1.006469733
83° 30' 30"	0.99358831	0.11305870	8.788251413	0.113788279	8.844962572	1.006453065
83° 31' 00"	0.99360474	0.11291419	8.799644557	0.113640954	8.856282760	1.006436419
83° 31' 30"	0.99362116	0.11276968	8.811066902	0.113493634	8.867632150	1.006419796
83° 32' 00"	0.99363755	0.11262516	8.822518560	0.113346319	8.879010854	1.006403194
83° 32' 30"	0.99365392	0.11248064	8.833999645	0.113199008	8.890418985	1.006386613
83° 33' 00"	0.99367027	0.11233612	8.845510271	0.113051703	8.901856658	1.006370055
83° 33' 30"	0.99368659	0.11219159	8.857050553	0.112904402	8.913323987	1.006353518
83° 34' 00"	0.99370290	0.11204706	8.868620605	0.112757107	8.924821087	1.006337004
83° 34' 30"	0.99371919	0.11190253	8.880220545	0.112609816	8.936348075	1.006320511
83° 35' 00"	0.99373545	0.11175800	8.891850487	0.112462530	8.947905067	1.006304040
83° 35' 30"	0.99375170	0.11161347	8.903510550	0.112315249	8.959492179	1.006287591
83° 36' 00"	0.99376792	0.11146893	8.915200850	0.112167972	8.971109530	1.006271163
83° 36' 30"	0.99378412	0.11132439	8.926921507	0.112020700	8.982757237	1.006254758
83° 37' 00"	0.99380030	0.11117985	8.938672638	0.111873434	8.994435421	1.006238374
83° 37' 30"	0.99381646	0.11103531	8.950454364	0.111726172	9.006144199	1.006222012
83° 38' 00"	0.99383260	0.11089076	8.962266805	0.111578914	9.017883692	1.006205672
83° 38' 30"	0.99384872	0.11074621	8.974110082	0.111431662	9.029654022	1.006189354

83° 39' 00"

83° 59' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
83° 39' 00"	0.99386482	0.11060166	8.985984315	0.111284414	9.041455309	1.006173057
83° 39' 30"	0.99388089	0.11045711	8.997889627	0.111137171	9.053287675	1.006156782
83° 40' 00"	0.99389695	0.11031256	9.009826140	0.110989933	9.065151244	1.006140530
83° 40' 30"	0.99391298	0.11016800	9.021793979	0.110842700	9.077046138	1.006124299
83° 41' 00"	0.99392899	0.11002344	9.033793266	0.110695471	9.088972482	1.006108089
83° 41' 30"	0.99394498	0.10987888	9.045824127	0.110548247	9.100930399	1.006091902
83° 42' 00"	0.99396096	0.10973431	9.057886686	0.110401028	9.112920016	1.006075736
83° 42' 30"	0.99397691	0.10958974	9.069981071	0.110253813	9.124941458	1.006059592
83° 43' 00"	0.99399283	0.10944517	9.082107406	0.110106604	9.136994853	1.006043470
83° 43' 30"	0.99400874	0.10930060	9.094265821	0.109959399	9.149080326	1.006027370
83° 44' 00"	0.99402463	0.10915603	9.106456442	0.109812198	9.161198007	1.006011292
83° 44' 30"	0.99404049	0.10901145	9.118679398	0.109665003	9.173348024	1.005995235
83° 45' 00"	0.99405634	0.10886687	9.130934819	0.109517812	9.185530506	1.005979200
83° 45' 30"	0.99407216	0.10872229	9.143222835	0.109370625	9.197745583	1.005963187
83° 46' 00"	0.99408796	0.10857771	9.155543576	0.109223444	9.209993386	1.005947196
83° 46' 30"	0.99410375	0.10843313	9.167897174	0.109076267	9.222274046	1.005931226
83° 47' 00"	0.99411951	0.10828854	9.180283761	0.108929095	9.234587696	1.005915279
83° 47' 30"	0.99413525	0.10814395	9.192703469	0.108781927	9.246934469	1.005899353
83° 48' 00"	0.99415096	0.10799936	9.205156433	0.108634764	9.259314497	1.005883449
83° 48' 30"	0.99416666	0.10785476	9.217642787	0.108487606	9.271727916	1.005867566
83° 49' 00"	0.99418234	0.10771016	9.230162665	0.108340453	9.284174860	1.005851706
83° 49' 30"	0.99419799	0.10756557	9.242716204	0.108193304	9.296655465	1.005835867
83° 50' 00"	0.99421363	0.10742096	9.255303540	0.108046159	9.309169867	1.005820050
83° 50' 30"	0.99422924	0.10727636	9.267924809	0.107899020	9.321718204	1.005804255
83° 51' 00"	0.99424483	0.10713175	9.280580151	0.107751884	9.334300613	1.005788481
83° 51' 30"	0.99426040	0.10698715	9.293269703	0.107604754	9.346917234	1.005772729
83° 52' 00"	0.99427595	0.10684254	9.305993606	0.107457628	9.359568205	1.005756999
83° 52' 30"	0.99429148	0.10669792	9.318751999	0.107310507	9.372253668	1.005741291
83° 53' 00"	0.99430699	0.10655331	9.331545023	0.107163390	9.384973762	1.005725605
83° 53' 30"	0.99432248	0.10640869	9.344372820	0.107016278	9.397728630	1.005709940
83° 54' 00"	0.99433794	0.10626407	9.357235532	0.106869171	9.410518413	1.005694297
83° 54' 30"	0.99435339	0.10611945	9.370133304	0.106722068	9.423343257	1.005678676
83° 55' 00"	0.99436881	0.10597483	9.383066278	0.106574969	9.436203304	1.005663077
83° 55' 30"	0.99438422	0.10583020	9.396034601	0.106427875	9.449098699	1.005647499
83° 56' 00"	0.99439960	0.10568557	9.409038417	0.106280786	9.462029588	1.005631943
83° 56' 30"	0.99441496	0.10554094	9.422077872	0.106133701	9.474996118	1.005616409
83° 57' 00"	0.99443030	0.10539631	9.435153115	0.105986621	9.487998435	1.005600897
83° 57' 30"	0.99444562	0.10525167	9.448264293	0.105839546	9.501036688	1.005585406
83° 58' 00"	0.99446091	0.10510703	9.461411556	0.105692475	9.514111027	1.005569937
83° 58' 30"	0.99447619	0.10496240	9.474595052	0.105545408	9.527221599	1.005554490
83° 59' 00"	0.99449145	0.10481775	9.487814933	0.105398346	9.540368557	1.005539065
83° 59' 30"	0.99450668	0.10467311	9.501071349	0.105251288	9.553552051	1.005523661



84° 00' 00"

84° 20' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
84° 00' 00"	0.99452190	0.10452846	9.514364454	0.105104235	9.566772234	1.005508280
84° 00' 30"	0.99453709	0.10438381	9.527694400	0.104957187	9.580029258	1.005492919
84° 01' 00"	0.99455226	0.10423916	9.541061341	0.104810143	9.593323278	1.005477581
84° 01' 30"	0.99456741	0.10409451	9.554465432	0.104663103	9.606654449	1.005462264
84° 02' 00"	0.99458254	0.10394986	9.567906829	0.104516068	9.620022926	1.005446969
84° 02' 30"	0.99459765	0.10380520	9.581385688	0.104369037	9.633428865	1.005431696
84° 03' 00"	0.99461273	0.10366054	9.594902166	0.104222011	9.646872425	1.005416445
84° 03' 30"	0.99462780	0.10351588	9.608456422	0.104074989	9.660353762	1.005401215
84° 04' 00"	0.99464285	0.10337121	9.622048615	0.103927972	9.673873038	1.005386007
84° 04' 30"	0.99465787	0.10322655	9.635678905	0.103780959	9.687430411	1.005370821
84° 05' 00"	0.99467287	0.10308188	9.649347453	0.103633951	9.701026042	1.005355656
84° 05' 30"	0.99468786	0.10293721	9.663054421	0.103486947	9.714660094	1.005340514
84° 06' 00"	0.99470282	0.10279254	9.676799972	0.103339947	9.728332730	1.005325392
84° 06' 30"	0.99471776	0.10264786	9.690584269	0.103192952	9.742044112	1.005310293
84° 07' 00"	0.99473268	0.10250319	9.704407478	0.103045962	9.755794406	1.005295215
84° 07' 30"	0.99474757	0.10235851	9.718269762	0.102898975	9.769583777	1.005280160
84° 08' 00"	0.99476245	0.10221382	9.732171291	0.102751993	9.783412392	1.005265125
84° 08' 30"	0.99477731	0.10206914	9.746112229	0.102605016	9.797280418	1.005250113
84° 09' 00"	0.99479214	0.10192446	9.760092747	0.102458043	9.811188024	1.005235122
84° 09' 30"	0.99480696	0.10177977	9.774113013	0.102311074	9.825135378	1.005220153
84° 10' 00"	0.99482175	0.10163508	9.788173198	0.102164110	9.839122652	1.005205206
84° 10' 30"	0.99483652	0.10149039	9.802273474	0.102017150	9.853150017	1.005190280
84° 11' 00"	0.99485127	0.10134569	9.816414011	0.101870194	9.867217644	1.005175376
84° 11' 30"	0.99486600	0.10120100	9.830594985	0.101723243	9.881325708	1.005160494
84° 12' 00"	0.99488071	0.10105630	9.844816568	0.101576296	9.895474383	1.005145633
84° 12' 30"	0.99489540	0.10091160	9.859078937	0.101429353	9.909663843	1.005130794
84° 13' 00"	0.99491006	0.10076689	9.873382267	0.101282415	9.923894266	1.005115977
84° 13' 30"	0.99492471	0.10062219	9.887726737	0.101135481	9.938165828	1.005101182
84° 14' 00"	0.99493933	0.10047748	9.902112523	0.100988551	9.952478708	1.005086408
84° 14' 30"	0.99495394	0.10033277	9.916539807	0.100841626	9.966833085	1.005071656
84° 15' 00"	0.99496852	0.10018806	9.931008767	0.100694705	9.981229140	1.005056926
84° 15' 30"	0.99498308	0.10004335	9.945519586	0.100547789	9.995667053	1.005042217
84° 16' 00"	0.99499762	0.09989863	9.960072447	0.100400876	10.01014701	1.005027530
84° 16' 30"	0.99501214	0.09975392	9.974667532	0.100253968	10.02466919	1.005012865
84° 17' 00"	0.99502664	0.09960920	9.989305026	0.100107064	10.03923378	1.004998221
84° 17' 30"	0.99504111	0.09946447	10.00398512	0.099960165	10.05384097	1.004983599
84° 18' 00"	0.99505557	0.09931975	10.01870799	0.099813269	10.06849094	1.004968999
84° 18' 30"	0.99507000	0.09917502	10.03347383	0.099666378	10.08318387	1.004954420
84° 19' 00"	0.99508442	0.09903030	10.04828283	0.099519492	10.09791997	1.004939863
84° 19' 30"	0.99509881	0.09888557	10.06313518	0.099372609	10.11269942	1.004925328
84° 20' 00"	0.99511318	0.09874083	10.07803107	0.099225731	10.12752241	1.004910815
84° 20' 30"	0.99512753	0.09859610	10.09297069	0.099078857	10.14238913	1.004896323

84° 21' 00"

84° 41' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
84° 21' 00"	0.99514186	0.09845136	10.10795424	0.098931987	10.15729978	1.004881853
84° 21' 30"	0.99515617	0.09830662	10.12298190	0.098785122	10.17225455	1.004867404
84° 22' 00"	0.99517046	0.09816188	10.13805389	0.098638260	10.18725364	1.004852978
84° 22' 30"	0.99518473	0.09801714	10.15317039	0.098491403	10.20229724	1.004838572
84° 23' 00"	0.99519897	0.09787240	10.16833160	0.098344550	10.21738555	1.004824189
84° 23' 30"	0.99521320	0.09772765	10.18353772	0.098197702	10.23251878	1.004809827
84° 24' 00"	0.99522740	0.09758290	10.19878895	0.098050857	10.24769711	1.004795487
84° 24' 30"	0.99524158	0.09743815	10.21408550	0.097904017	10.26292076	1.004781168
84° 25' 00"	0.99525574	0.09729340	10.22942756	0.097757181	10.27818993	1.004766872
84° 25' 30"	0.99526988	0.09714864	10.24481534	0.097610349	10.29350482	1.004752597
84° 26' 00"	0.99528400	0.09700388	10.26024905	0.097463521	10.30886563	1.004738343
84° 26' 30"	0.99529810	0.09685912	10.27572889	0.097316698	10.32427258	1.004724111
84° 27' 00"	0.99531218	0.09671436	10.29125507	0.097169878	10.33972586	1.004709901
84° 27' 30"	0.99532623	0.09656960	10.30682780	0.097023063	10.35522570	1.004695712
84° 28' 00"	0.99534027	0.09642483	10.32244729	0.096876252	10.37077229	1.004681546
84° 28' 30"	0.99535428	0.09628007	10.33811374	0.096729445	10.38636586	1.004667400
84° 29' 00"	0.99536828	0.09613530	10.35382739	0.096582642	10.40200661	1.004653277
84° 29' 30"	0.99538225	0.09599053	10.36958843	0.096435843	10.41769476	1.004639175
84° 30' 00"	0.99539620	0.09584575	10.38539708	0.096289048	10.43343052	1.004625095
84° 30' 30"	0.99541013	0.09570098	10.40125356	0.096142258	10.44921412	1.004611036
84° 31' 00"	0.99542404	0.09555620	10.41715810	0.095995471	10.46504576	1.004596999
84° 31' 30"	0.99543792	0.09541142	10.43311089	0.095848689	10.48092567	1.004582984
84° 32' 00"	0.99545179	0.09526664	10.44911218	0.095701911	10.49685407	1.004568990
84° 32' 30"	0.99546564	0.09512185	10.46516218	0.095555136	10.51283118	1.004555018
84° 33' 00"	0.99547946	0.09497707	10.48126111	0.095408366	10.52885722	1.004541068
84° 33' 30"	0.99549326	0.09483228	10.49740920	0.095261600	10.54493243	1.004527139
84° 34' 00"	0.99550705	0.09468749	10.51360667	0.095114838	10.56105702	1.004513232
84° 34' 30"	0.99552081	0.09454270	10.52985376	0.094968081	10.57723122	1.004499346
84° 35' 00"	0.99553455	0.09439791	10.54615069	0.094821327	10.59345526	1.004485482
84° 35' 30"	0.99554827	0.09425311	10.56249769	0.094674577	10.60972938	1.004471640
84° 36' 00"	0.99556196	0.09410831	10.57889499	0.094527831	10.62605380	1.004457819
84° 36' 30"	0.99557564	0.09396351	10.59534283	0.094381089	10.64242875	1.004444020
84° 37' 00"	0.99558930	0.09381871	10.61184145	0.094234352	10.65885448	1.004430243
84° 37' 30"	0.99560293	0.09367391	10.62839107	0.094087618	10.67533122	1.004416487
84° 38' 00"	0.99561655	0.09352910	10.64499193	0.093940889	10.69185920	1.004402753
84° 38' 30"	0.99563014	0.09338430	10.66164428	0.093794163	10.70843867	1.004389041
84° 39' 00"	0.99564371	0.09323949	10.67834835	0.093647441	10.72506986	1.004375350
84° 39' 30"	0.99565726	0.09309467	10.69510439	0.093500724	10.74175302	1.004361681
84° 40' 00"	0.99567079	0.09294986	10.71191265	0.093354010	10.75848839	1.004348033
84° 40' 30"	0.99568430	0.09280505	10.72877335	0.093207300	10.77527622	1.004334407
84° 41' 00"	0.99569779	0.09266023	10.74568676	0.093060595	10.79211675	1.004320802
84° 41' 30"	0.99571125	0.09251541	10.76265312	0.092913893	10.80901023	1.004307220

84° 42' 00"

85° 02' 30"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
84° 42' 00"	0.99572470	0.09237059	10.77967268	0.092767195	10.82595692	1.004293659
84° 42' 30"	0.99573812	0.09222576	10.79674569	0.092620501	10.84295705	1.004280119
84° 43' 00"	0.99575153	0.09208094	10.81387241	0.092473812	10.86001089	1.004266601
84° 43' 30"	0.99576491	0.09193611	10.83105309	0.092327126	10.87711869	1.004253105
84° 44' 00"	0.99577827	0.09179128	10.84828798	0.092180444	10.89428070	1.004239630
84° 44' 30"	0.99579161	0.09164645	10.86557734	0.092033766	10.91149719	1.004226177
84° 45' 00"	0.99580493	0.09150162	10.88292144	0.091887092	10.92876842	1.004212745
84° 45' 30"	0.99581823	0.09135678	10.90032053	0.091740422	10.94609463	1.004199335
84° 46' 00"	0.99583150	0.09121195	10.91777488	0.091593755	10.96347610	1.004185947
84° 46' 30"	0.99584476	0.09106711	10.93528474	0.091447093	10.98091310	1.004172580
84° 47' 00"	0.99585799	0.09092227	10.95285040	0.091300434	10.99840588	1.004159235
84° 47' 30"	0.99587121	0.09077742	10.97047211	0.091153780	11.01595471	1.004145912
84° 48' 00"	0.99588440	0.09063258	10.98815014	0.091007129	11.03355987	1.004132610
84° 48' 30"	0.99589757	0.09048773	11.00588477	0.090860482	11.05122163	1.004119329
84° 49' 00"	0.99591072	0.09034289	11.02367626	0.090713840	11.06894025	1.004106070
84° 49' 30"	0.99592385	0.09019804	11.04152490	0.090567201	11.08671602	1.004092833
84° 50' 00"	0.99593696	0.09005318	11.05943096	0.090420565	11.10454921	1.004079618
84° 50' 30"	0.99595005	0.08990833	11.07739471	0.090273934	11.12244009	1.004066424
84° 51' 00"	0.99596311	0.08976347	11.09541644	0.090127307	11.14038896	1.004053251
84° 51' 30"	0.99597616	0.08961861	11.11349644	0.089980683	11.15839608	1.004040100
84° 52' 00"	0.99598918	0.08947375	11.13163497	0.089834063	11.17646175	1.004026971
84° 52' 30"	0.99600218	0.08932889	11.14983234	0.089687447	11.19458624	1.004013864
84° 53' 00"	0.99601516	0.08918403	11.16808882	0.089540835	11.21276986	1.004000777
84° 53' 30"	0.99602813	0.08903916	11.18640471	0.089394227	11.23101288	1.003987713
84° 54' 00"	0.99604107	0.08889430	11.20478029	0.089247622	11.24931559	1.003974670
84° 54' 30"	0.99605398	0.08874943	11.22321586	0.089101022	11.26767830	1.003961649
84° 55' 00"	0.99606688	0.08860456	11.24171172	0.088954425	11.28610130	1.003948649
84° 55' 30"	0.99607976	0.08845968	11.26026816	0.088807832	11.30458487	1.003935671
84° 56' 00"	0.99609261	0.08831481	11.27888549	0.088661242	11.32312933	1.003922714
84° 56' 30"	0.99610545	0.08816993	11.29756399	0.088514657	11.34173497	1.003909779
84° 57' 00"	0.99611826	0.08802505	11.31630398	0.088368075	11.36040209	1.003896866
84° 57' 30"	0.99613105	0.08788017	11.33510576	0.088221497	11.37913101	1.003883974
84° 58' 00"	0.99614382	0.08773529	11.35396963	0.088074923	11.39792202	1.003871103
84° 58' 30"	0.99615657	0.08759041	11.37289591	0.087928352	11.41677544	1.003858255
84° 59' 00"	0.99616930	0.08744552	11.39188491	0.087781786	11.43569157	1.003845427
84° 59' 30"	0.99618201	0.08730063	11.41093693	0.087635223	11.45467074	1.003832622
85° 00' 00"	0.99619470	0.08715574	11.43005230	0.087488664	11.47371325	1.003819838
85° 00' 30"	0.99620736	0.08701085	11.44923134	0.087342108	11.49281942	1.003807075
85° 01' 00"	0.99622001	0.08686596	11.46847435	0.087195556	11.51198957	1.003794334
85° 01' 30"	0.99623263	0.08672106	11.48778167	0.087049008	11.53122403	1.003781615
85° 02' 00"	0.99624523	0.08657617	11.50715361	0.086902464	11.55052311	1.003768917
85° 02' 30"	0.99625782	0.08643127	11.52659050	0.086755923	11.56988715	1.003756240

85° 03' 00"

85° 23' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
85° 03' 00"	0.99627038	0.08628637	11.54609268	0.086609386	11.58931647	1.003743586
85° 03' 30"	0.99628292	0.08614146	11.56566047	0.086462853	11.60881140	1.003730952
85° 04' 00"	0.99629543	0.08599656	11.58529420	0.086316323	11.62837227	1.003718341
85° 04' 30"	0.99630793	0.08585165	11.60499420	0.086169797	11.64799942	1.003705751
85° 05' 00"	0.99632041	0.08570674	11.62476082	0.086023275	11.66769318	1.003693182
85° 05' 30"	0.99633286	0.08556183	11.64459440	0.085876757	11.68745390	1.003680635
85° 06' 00"	0.99634530	0.08541692	11.66449527	0.085730242	11.70728192	1.003668110
85° 06' 30"	0.99635771	0.08527201	11.68446378	0.085583731	11.72717758	1.003655606
85° 07' 00"	0.99637010	0.08512709	11.70450028	0.085437223	11.74714122	1.003643123
85° 07' 30"	0.99638247	0.08498218	11.72460512	0.085290719	11.76717320	1.003630663
85° 08' 00"	0.99639482	0.08483726	11.74477863	0.085144219	11.78727386	1.003618223
85° 08' 30"	0.99640715	0.08469234	11.76502119	0.084997722	11.80744357	1.003605805
85° 09' 00"	0.99641946	0.08454742	11.78533314	0.084851229	11.82768267	1.003593409
85° 09' 30"	0.99643174	0.08440249	11.80571485	0.084704739	11.84799152	1.003581035
85° 10' 00"	0.99644401	0.08425757	11.82616667	0.084558254	11.86837049	1.003568681
85° 10' 30"	0.99645625	0.08411264	11.84668896	0.084411771	11.88881993	1.003556350
85° 11' 00"	0.99646848	0.08396771	11.86728210	0.084265293	11.90934022	1.003544040
85° 11' 30"	0.99648068	0.08382278	11.88794646	0.084118818	11.92993172	1.003531751
85° 12' 00"	0.99649286	0.08367784	11.90868239	0.083972346	11.95059481	1.003519484
85° 12' 30"	0.99650502	0.08353291	11.92949028	0.083825878	11.97132985	1.003507239
85° 13' 00"	0.99651716	0.08338797	11.95037050	0.083679414	11.99213722	1.003495015
85° 13' 30"	0.99652928	0.08324303	11.97132343	0.083532953	12.01301730	1.003482812
85° 14' 00"	0.99654137	0.08309809	11.99234946	0.083386496	12.03397048	1.003470631
85° 14' 30"	0.99655345	0.08295315	12.01344896	0.083240042	12.05499713	1.003458472
85° 15' 00"	0.99656550	0.08280821	12.03462232	0.083093592	12.07609765	1.003446334
85° 15' 30"	0.99657754	0.08266326	12.05586994	0.082947146	12.09727242	1.003434218
85° 16' 00"	0.99658955	0.08251831	12.07719220	0.082800703	12.11852183	1.003422123
85° 16' 30"	0.99660154	0.08237337	12.09858950	0.082654263	12.13984628	1.003410049
85° 17' 00"	0.99661351	0.08222842	12.12006223	0.082507827	12.16124617	1.003397998
85° 17' 30"	0.99662546	0.08208346	12.14161081	0.082361395	12.18272190	1.003385967
85° 18' 00"	0.99663739	0.08193851	12.16323562	0.082214966	12.20427387	1.003373958
85° 18' 30"	0.99664929	0.08179355	12.18493708	0.082068540	12.22590249	1.003361971
85° 19' 00"	0.99666118	0.08164860	12.20671560	0.081922118	12.24760816	1.003350005
85° 19' 30"	0.99667304	0.08150364	12.22857159	0.081775700	12.26939131	1.003338061
85° 20' 00"	0.99668489	0.08135867	12.25050546	0.081629285	12.29125234	1.003326138
85° 20' 30"	0.99669671	0.08121371	12.27251763	0.081482873	12.31319166	1.003314237
85° 21' 00"	0.99670851	0.08106875	12.29460852	0.081336465	12.33520972	1.003302358
85° 21' 30"	0.99672029	0.08092378	12.31677856	0.081190061	12.35730692	1.003290499
85° 22' 00"	0.99673205	0.08077881	12.33902818	0.081043660	12.37948369	1.003278663
85° 22' 30"	0.99674379	0.08063384	12.36135780	0.080897262	12.40174047	1.003266847
85° 23' 00"	0.99675551	0.08048887	12.38376785	0.080750868	12.42407768	1.003255054
85° 23' 30"	0.99676720	0.08034390	12.40625878	0.080604477	12.44649577	1.003243281

85° 24' 00"

85° 44' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
85° 24' 00"	0.99677888	0.08019892	12.42883102	0.080458090	12.46899517	1.003231531
85° 24' 30"	0.99679053	0.08005395	12.45148502	0.080311706	12.49157633	1.003219801
85° 25' 00"	0.99680217	0.07990897	12.47422121	0.080165325	12.51423968	1.003208094
85° 25' 30"	0.99681378	0.07976399	12.49704006	0.080018948	12.53698569	1.003196408
85° 26' 00"	0.99682537	0.07961901	12.51994201	0.079872574	12.55981481	1.003184743
85° 26' 30"	0.99683694	0.07947403	12.54292752	0.079726204	12.58272748	1.003173100
85° 27' 00"	0.99684849	0.07932904	12.56599705	0.079579837	12.60572417	1.003161478
85° 27' 30"	0.99686001	0.07918405	12.58915106	0.079433474	12.62880534	1.003149878
85° 28' 00"	0.99687152	0.07903907	12.61239001	0.079287114	12.65197146	1.003138299
85° 28' 30"	0.99688300	0.07889408	12.63571439	0.079140757	12.67522300	1.003126741
85° 29' 00"	0.99689447	0.07874908	12.65912464	0.078994403	12.69856042	1.003115206
85° 29' 30"	0.99690591	0.07860409	12.68262127	0.078848053	12.72198421	1.003103691
85° 30' 00"	0.99691733	0.07845910	12.70620474	0.078701707	12.74549484	1.003092198
85° 30' 30"	0.99692873	0.07831410	12.72987553	0.078555364	12.76909281	1.003080727
85° 31' 00"	0.99694011	0.07816910	12.75363414	0.078409024	12.79277858	1.003069277
85° 31' 30"	0.99695147	0.07802410	12.77748106	0.078262687	12.81655267	1.003057849
85° 32' 00"	0.99696281	0.07787910	12.80141678	0.078116354	12.84041555	1.003046442
85° 32' 30"	0.99697413	0.07773410	12.82544179	0.077970024	12.86436773	1.003035057
85° 33' 00"	0.99698542	0.07758909	12.84955660	0.077823697	12.88840971	1.003023693
85° 33' 30"	0.99699670	0.07744408	12.87376172	0.077677374	12.91254200	1.003012350
85° 34' 00"	0.99700795	0.07729908	12.89805765	0.077531054	12.93676510	1.003001029
85° 34' 30"	0.99701918	0.07715407	12.92244491	0.077384737	12.96107953	1.002989730
85° 35' 00"	0.99703039	0.07700906	12.94692401	0.077238423	12.98548580	1.002978451
85° 35' 30"	0.99704158	0.07686404	12.97149548	0.077092113	13.00998444	1.002967195
85° 36' 00"	0.99705275	0.07671903	12.99615984	0.076945806	13.03457596	1.002955960
85° 36' 30"	0.99706390	0.07657401	13.02091761	0.076799503	13.05926091	1.002944746
85° 37' 00"	0.99707503	0.07642899	13.04576934	0.076653203	13.08403981	1.002933554
85° 37' 30"	0.99708613	0.07628397	13.07071556	0.076506906	13.10891320	1.002922383
85° 38' 00"	0.99709722	0.07613895	13.09575680	0.076360612	13.13388161	1.002911234
85° 38' 30"	0.99710828	0.07599393	13.12089362	0.076214321	13.15894560	1.002900106
85° 39' 00"	0.99711932	0.07584891	13.14612656	0.076068034	13.18410572	1.002889000
85° 39' 30"	0.99713034	0.07570388	13.17145618	0.075921750	13.20936251	1.002877915
85° 40' 00"	0.99714134	0.07555885	13.19688303	0.075775469	13.23471654	1.002866851
85° 40' 30"	0.99715232	0.07541382	13.22240768	0.075629191	13.26016836	1.002855809
85° 41' 00"	0.99716328	0.07526879	13.24803070	0.075482917	13.28571855	1.002844789
85° 41' 30"	0.99717422	0.07512376	13.27375265	0.075336646	13.31136767	1.002833790
85° 42' 00"	0.99718513	0.07497873	13.29957410	0.075190378	13.33711630	1.002822812
85° 42' 30"	0.99719603	0.07483369	13.32549565	0.075044113	13.36296502	1.002811856
85° 43' 00"	0.99720690	0.07468865	13.35151787	0.074897851	13.38891442	1.002800921
85° 43' 30"	0.99721775	0.07454362	13.37764135	0.074751593	13.41496508	1.002790008
85° 44' 00"	0.99722859	0.07439858	13.40386668	0.074605338	13.44111759	1.002779116
85° 44' 30"	0.99723940	0.07425353	13.43019447	0.074459086	13.46737255	1.002768246

85° 45' 00"

86° 05' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
85° 45' 00"	0.99725019	0.07410849	13.45662531	0.074312837	13.49373057	1.002757397
85° 45' 30"	0.99726095	0.07396345	13.48315982	0.074166591	13.52019226	1.002746570
85° 46' 00"	0.99727170	0.07381840	13.50979860	0.074020348	13.54675822	1.002735764
85° 46' 30"	0.99728243	0.07367335	13.53654228	0.073874109	13.57342907	1.002724979
85° 47' 00"	0.99729313	0.07352830	13.56339147	0.073727873	13.60020544	1.002714216
85° 47' 30"	0.99730381	0.07338325	13.59034680	0.073581640	13.62708795	1.002703474
85° 48' 00"	0.99731448	0.07323820	13.61740890	0.073435410	13.65407723	1.002692754
85° 48' 30"	0.99732512	0.07309314	13.64457841	0.073289183	13.68117393	1.002682055
85° 49' 00"	0.99733574	0.07294809	13.67185597	0.073142959	13.70837867	1.002671378
85° 49' 30"	0.99734634	0.07280303	13.69924224	0.072996738	13.73569211	1.002660722
85° 50' 00"	0.99735692	0.07265797	13.72673785	0.072850521	13.76311491	1.002650088
85° 50' 30"	0.99736747	0.07251291	13.75434347	0.072704306	13.79064771	1.002639475
85° 51' 00"	0.99737801	0.07236785	13.78205976	0.072558095	13.81829118	1.002628883
85° 51' 30"	0.99738852	0.07222278	13.80988739	0.072411887	13.84604600	1.002618313
85° 52' 00"	0.99739902	0.07207772	13.83782703	0.072265681	13.87391282	1.002607764
85° 52' 30"	0.99740949	0.07193265	13.86587937	0.072119479	13.90189234	1.002597237
85° 53' 00"	0.99741994	0.07178759	13.89404508	0.071973280	13.92998523	1.002586731
85° 53' 30"	0.99743037	0.07164252	13.92232485	0.071827084	13.95819219	1.002576246
85° 54' 00"	0.99744078	0.07149744	13.95071939	0.071680891	13.98651391	1.002565783
85° 54' 30"	0.99745117	0.07135237	13.97922939	0.071534701	14.01495110	1.002555342
85° 55' 00"	0.99746154	0.07120730	14.00785555	0.071388515	14.04350445	1.002544922
85° 55' 30"	0.99747188	0.07106222	14.03659860	0.071242331	14.07217468	1.002534523
85° 56' 00"	0.99748221	0.07091714	14.06545925	0.071096150	14.10096252	1.002524146
85° 56' 30"	0.99749251	0.07077207	14.09443823	0.070949972	14.12986868	1.002513790
85° 57' 00"	0.99750280	0.07062699	14.12353626	0.070803797	14.15889390	1.002503455
85° 57' 30"	0.99751306	0.07048190	14.15275408	0.070657626	14.18803890	1.002493142
85° 58' 00"	0.99752330	0.07033682	14.18209243	0.070511457	14.21730445	1.002482851
85° 58' 30"	0.99753352	0.07019174	14.21155207	0.070365291	14.24669127	1.002472580
85° 59' 00"	0.99754372	0.07004665	14.24113374	0.070219128	14.27620013	1.002462331
85° 59' 30"	0.99755389	0.06990156	14.27083822	0.070072969	14.30583180	1.002452104
86° 00' 00"	0.99756405	0.06975647	14.30066626	0.069926812	14.33558703	1.002441898
86° 00' 30"	0.99757419	0.06961138	14.33061864	0.069780658	14.36546660	1.002431714
86° 01' 00"	0.99758430	0.06946629	14.36069614	0.069634507	14.39547129	1.002421550
86° 01' 30"	0.99759439	0.06932120	14.39089955	0.069488359	14.42560188	1.002411409
86° 02' 00"	0.99760446	0.06917610	14.42122965	0.069342214	14.45585918	1.002401288
86° 02' 30"	0.99761451	0.06903101	14.45168726	0.069196073	14.48624399	1.002391189
86° 03' 00"	0.99762454	0.06888591	14.48227318	0.069049933	14.51675709	1.002381112
86° 03' 30"	0.99763455	0.06874081	14.51298822	0.068903797	14.54739933	1.002371056
86° 04' 00"	0.99764454	0.06859571	14.54383321	0.068757664	14.57817150	1.002361021
86° 04' 30"	0.99765451	0.06845061	14.57480896	0.068611534	14.60907445	1.002351008
86° 05' 00"	0.99766445	0.06830550	14.60591632	0.068465407	14.64010900	1.002341016
86° 05' 30"	0.99767438	0.06816040	14.63715612	0.068319282	14.67127600	1.002331045

86° 06' 00"

86° 26' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
86° 06' 00"	0.99768428	0.06801529	14.66852922	0.068173161	14.70257629	1.002321096
86° 06' 30"	0.99769416	0.06787018	14.70003648	0.068027042	14.73401074	1.002311168
86° 07' 00"	0.99770402	0.06772507	14.73167875	0.067880926	14.76558020	1.002301262
86° 07' 30"	0.99771386	0.06757996	14.76345690	0.067734814	14.79728555	1.002291377
86° 08' 00"	0.99772368	0.06743485	14.79537182	0.067588704	14.82912767	1.002281514
86° 08' 30"	0.99773348	0.06728974	14.82742440	0.067442596	14.86110744	1.002271672
86° 09' 00"	0.99774325	0.06714462	14.85961552	0.067296492	14.89322575	1.002261851
86° 09' 30"	0.99775301	0.06699950	14.89194608	0.067150391	14.92548351	1.002252052
86° 10' 00"	0.99776274	0.06685439	14.92441700	0.067004292	14.95788163	1.002242274
86° 10' 30"	0.99777246	0.06670927	14.95702920	0.066858197	14.99042102	1.002232517
86° 11' 00"	0.99778215	0.06656415	14.98978359	0.066712104	15.02310262	1.002222782
86° 11' 30"	0.99779182	0.06641902	15.02268112	0.066566014	15.05592734	1.002213068
86° 12' 00"	0.99780147	0.06627390	15.05572272	0.066419927	15.08889614	1.002203376
86° 12' 30"	0.99781110	0.06612878	15.08890935	0.066273842	15.12200997	1.002193705
86° 13' 00"	0.99782070	0.06598365	15.12224196	0.066127761	15.15526977	1.002184055
86° 13' 30"	0.99783029	0.06583852	15.15572152	0.065981682	15.18867653	1.002174427
86° 14' 00"	0.99783986	0.06569339	15.18934900	0.065835606	15.22223121	1.002164820
86° 14' 30"	0.99784940	0.06554826	15.22312539	0.065689533	15.25593481	1.002155235
86° 15' 00"	0.99785892	0.06540313	15.25705169	0.065543463	15.28978830	1.002145671
86° 15' 30"	0.99786843	0.06525800	15.29112888	0.065397395	15.32379270	1.002136128
86° 16' 00"	0.99787791	0.06511286	15.32535800	0.065251331	15.35794901	1.002126607
86° 16' 30"	0.99788737	0.06496772	15.35974004	0.065105269	15.39225825	1.002117107
86° 17' 00"	0.99789680	0.06482259	15.39427604	0.064959209	15.42672146	1.002107628
86° 17' 30"	0.99790622	0.06467745	15.42896705	0.064813153	15.46133966	1.002098171
86° 18' 00"	0.99791562	0.06453231	15.46381410	0.064667099	15.49611392	1.002088735
86° 18' 30"	0.99792499	0.06438717	15.49881826	0.064521048	15.53104527	1.002079321
86° 19' 00"	0.99793435	0.06424202	15.53398058	0.064375000	15.56613480	1.002069928
86° 19' 30"	0.99794368	0.06409688	15.56930215	0.064228955	15.60138358	1.002060556
86° 20' 00"	0.99795299	0.06395173	15.60478406	0.064082912	15.63679268	1.002051206
86° 20' 30"	0.99796228	0.06380659	15.64042739	0.063936872	15.67236322	1.002041877
86° 21' 00"	0.99797155	0.06366144	15.67623325	0.063790834	15.70809629	1.002032570
86° 21' 30"	0.99798080	0.06351629	15.71220277	0.063644800	15.74399301	1.002023283
86° 22' 00"	0.99799003	0.06337114	15.74833705	0.063498768	15.78005450	1.002014019
86° 22' 30"	0.99799924	0.06322598	15.78463725	0.063352739	15.81628190	1.002004775
86° 23' 00"	0.99800842	0.06308083	15.82110451	0.063206712	15.85267637	1.001995553
86° 23' 30"	0.99801759	0.06293568	15.85773999	0.063060688	15.88923905	1.001986352
86° 24' 00"	0.99802673	0.06279052	15.89454484	0.062914667	15.92597111	1.001977173
86° 24' 30"	0.99803585	0.06264536	15.93152026	0.062768649	15.96287374	1.001968015
86° 25' 00"	0.99804495	0.06250020	15.96866744	0.062622633	15.99994812	1.001958878
86° 25' 30"	0.99805403	0.06235504	16.00598757	0.062476620	16.03719545	1.001949763
86° 26' 00"	0.99806309	0.06220988	16.04348186	0.062330609	16.07461695	1.001940669
86° 26' 30"	0.99807213	0.06206472	16.08115154	0.062184601	16.11221384	1.001931597

86° 27' 00"

86° 47' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
86° 27' 00"	0.99808114	0.06191955	16.11899785	0.062038596	16.14998736	1.001922546
86° 27' 30"	0.99809014	0.06177439	16.15702203	0.061892594	16.18793875	1.001913516
86° 28' 00"	0.99809911	0.06162922	16.19522534	0.061746594	16.22606927	1.001904507
86° 28' 30"	0.99810807	0.06148405	16.23360905	0.061600596	16.26438019	1.001895520
86° 29' 00"	0.99811700	0.06133888	16.27217445	0.061454602	16.30287279	1.001886554
86° 29' 30"	0.99812591	0.06119371	16.31092282	0.061308610	16.34154837	1.001877610
86° 30' 00"	0.99813480	0.06104854	16.34985548	0.061162620	16.38040824	1.001868687
86° 30' 30"	0.99814367	0.06090337	16.38897374	0.061016633	16.41945371	1.001859785
86° 31' 00"	0.99815251	0.06075819	16.42827894	0.060870649	16.45868612	1.001850905
86° 31' 30"	0.99816134	0.06061302	16.46777241	0.060724667	16.49810681	1.001842046
86° 32' 00"	0.99817015	0.06046784	16.50745553	0.060578688	16.53771714	1.001833208
86° 32' 30"	0.99817893	0.06032266	16.54732966	0.060432712	16.57751848	1.001824392
86° 33' 00"	0.99818769	0.06017748	16.58739618	0.060286738	16.61751221	1.001815597
86° 33' 30"	0.99819644	0.06003230	16.62765650	0.060140766	16.65769974	1.001806824
86° 34' 00"	0.99820516	0.05988712	16.66811201	0.059994797	16.69808247	1.001798071
86° 34' 30"	0.99821386	0.05974193	16.70876416	0.059848831	16.73866182	1.001789340
86° 35' 00"	0.99822253	0.05959675	16.74961437	0.059702867	16.77943925	1.001780631
86° 35' 30"	0.99823119	0.05945156	16.79066410	0.059556906	16.82041619	1.001771943
86° 36' 00"	0.99823983	0.05930637	16.83191481	0.059410947	16.86159412	1.001763276
86° 36' 30"	0.99824844	0.05916118	16.87336800	0.059264991	16.90297452	1.001754630
86° 37' 00"	0.99825704	0.05901599	16.91502514	0.059119037	16.94455888	1.001746006
86° 37' 30"	0.99826561	0.05887080	16.95688777	0.058973086	16.98634872	1.001737403
86° 38' 00"	0.99827416	0.05872561	16.99895739	0.058827137	17.02834555	1.001728822
86° 38' 30"	0.99828269	0.05858042	17.04123555	0.058681191	17.07055093	1.001720261
86° 39' 00"	0.99829120	0.05843522	17.08372381	0.058535247	17.11296641	1.001711723
86° 39' 30"	0.99829969	0.05829003	17.12642374	0.058389306	17.15559355	1.001703205
86° 40' 00"	0.99830816	0.05814483	17.16933693	0.058243367	17.19843396	1.001694709
86° 40' 30"	0.99831660	0.05799963	17.21246498	0.058097431	17.24148922	1.001686234
86° 41' 00"	0.99832503	0.05785443	17.25580950	0.057951497	17.28476097	1.001677781
86° 41' 30"	0.99833343	0.05770923	17.29937215	0.057805566	17.32825083	1.001669348
86° 42' 00"	0.99834182	0.05756403	17.34315456	0.057659637	17.37196046	1.001660938
86° 42' 30"	0.99835018	0.05741882	17.38715841	0.057513711	17.41589152	1.001652548
86° 43' 00"	0.99835852	0.05727362	17.43138538	0.057367787	17.46004571	1.001644180
86° 43' 30"	0.99836684	0.05712841	17.47583718	0.057221865	17.50442473	1.001635833
86° 44' 00"	0.99837514	0.05698321	17.52051552	0.057075946	17.54903029	1.001627507
86° 44' 30"	0.99838341	0.05683800	17.56542216	0.056930029	17.59386414	1.001619203
86° 45' 00"	0.99839167	0.05669279	17.61055883	0.056784115	17.63892804	1.001610920
86° 45' 30"	0.99839991	0.05654758	17.65592732	0.056638203	17.68422374	1.001602659
86° 46' 00"	0.99840812	0.05640236	17.70152941	0.056492294	17.72975306	1.001594419
86° 46' 30"	0.99841631	0.05625715	17.74736693	0.056346387	17.77551780	1.001586200
86° 47' 00"	0.99842448	0.05611194	17.79344169	0.056200482	17.82151978	1.001578002
86° 47' 30"	0.99843263	0.05596672	17.83975555	0.056054580	17.86776086	1.001569826



86° 48' 00"

87° 08' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
86° 48' 00"	0.99844076	0.05582150	17.88631038	0.055908680	17.91424291	1.001561671
86° 48' 30"	0.99844887	0.05567629	17.93310806	0.055762782	17.96096781	1.001553537
86° 49' 00"	0.99845696	0.05553107	17.98015050	0.055616887	18.00793747	1.001545425
86° 49' 30"	0.99846503	0.05538585	18.02743962	0.055470994	18.05515382	1.001537334
86° 50' 00"	0.99847307	0.05524063	18.07497738	0.055325104	18.10261880	1.001529264
86° 50' 30"	0.99848109	0.05509540	18.12276575	0.055179216	18.15033439	1.001521216
86° 51' 00"	0.99848910	0.05495018	18.17080670	0.055033330	18.19830256	1.001513189
86° 51' 30"	0.99849708	0.05480495	18.21910226	0.054887446	18.24652534	1.001505183
86° 52' 00"	0.99850504	0.05465973	18.26765445	0.054741565	18.29500476	1.001497199
86° 52' 30"	0.99851298	0.05451450	18.31646532	0.054595687	18.34374286	1.001489236
86° 53' 00"	0.99852090	0.05436927	18.36553696	0.054449810	18.39274172	1.001481294
86° 53' 30"	0.99852879	0.05422404	18.41487146	0.054303936	18.44200344	1.001473373
86° 54' 00"	0.99853667	0.05407881	18.46447093	0.054158064	18.49153014	1.001465474
86° 54' 30"	0.99854453	0.05393358	18.51433753	0.054012195	18.54132395	1.001457596
86° 55' 00"	0.99855236	0.05378835	18.56447341	0.053866327	18.59138706	1.001449740
86° 55' 30"	0.99856017	0.05364311	18.61488076	0.053720462	18.64172164	1.001441904
86° 56' 00"	0.99856796	0.05349788	18.66556181	0.053574600	18.69232992	1.001434091
86° 56' 30"	0.99857573	0.05335264	18.71651878	0.053428739	18.74321412	1.001426298
86° 57' 00"	0.99858348	0.05320740	18.76775395	0.053282881	18.79437650	1.001418527
86° 57' 30"	0.99859121	0.05306217	18.81926958	0.053137025	18.84581937	1.001410777
86° 58' 00"	0.99859892	0.05291693	18.87106800	0.052991171	18.89754502	1.001403048
86° 58' 30"	0.99860660	0.05277169	18.92315155	0.052845320	18.94955579	1.001395340
86° 59' 00"	0.99861427	0.05262644	18.97552258	0.052699471	19.00185405	1.001387654
86° 59' 30"	0.99862191	0.05248120	19.02818349	0.052553624	19.05444218	1.001379990
87° 00' 00"	0.99862953	0.05233596	19.08113669	0.052407779	19.10732261	1.001372346
87° 00' 30"	0.99863714	0.05219071	19.13438462	0.052261937	19.16049777	1.001364724
87° 01' 00"	0.99864472	0.05204546	19.18792975	0.052116097	19.21397013	1.001357123
87° 01' 30"	0.99865228	0.05190022	19.24177459	0.051970259	19.26774220	1.001349543
87° 02' 00"	0.99865981	0.05175497	19.29592165	0.051824423	19.32181649	1.001341985
87° 02' 30"	0.99866733	0.05160972	19.35037350	0.051678589	19.37619556	1.001334448
87° 03' 00"	0.99867483	0.05146447	19.40513270	0.051532758	19.43088200	1.001326932
87° 03' 30"	0.99868230	0.05131922	19.46020188	0.051386928	19.48587841	1.001319438
87° 04' 00"	0.99868975	0.05117396	19.51558368	0.051241101	19.54118744	1.001311965
87° 04' 30"	0.99869719	0.05102871	19.57128077	0.051095276	19.59681176	1.001304513
87° 05' 00"	0.99870460	0.05088345	19.62729585	0.050949454	19.65275407	1.001297082
87° 05' 30"	0.99871199	0.05073820	19.68363166	0.050803633	19.70901710	1.001289673
87° 06' 00"	0.99871936	0.05059294	19.74029095	0.050657815	19.76560363	1.001282285
87° 06' 30"	0.99872671	0.05044768	19.79727653	0.050511998	19.82251644	1.001274918
87° 07' 00"	0.99873403	0.05030242	19.85459123	0.050366184	19.87975837	1.001267573
87° 07' 30"	0.99874134	0.05015716	19.91223791	0.050220372	19.93733228	1.001260249
87° 08' 00"	0.99874862	0.05001190	19.97021946	0.050074562	19.99524106	1.001252946
87° 08' 30"	0.99875589	0.04986664	20.02853881	0.049928755	20.05348764	1.001245664

87° 09' 00"

87° 29' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
87° 09' 00"	0.99876313	0.04972137	20.08719892	0.049782949	20.11207499	1.001238404
87° 09' 30"	0.99877035	0.04957611	20.14620280	0.049637146	20.17100610	1.001231165
87° 10' 00"	0.99877755	0.04943084	20.20555348	0.049491344	20.23028401	1.001223948
87° 10' 30"	0.99878473	0.04928558	20.26525401	0.049345545	20.28991179	1.001216751
87° 11' 00"	0.99879189	0.04914031	20.32530753	0.049199748	20.34989253	1.001209576
87° 11' 30"	0.99879902	0.04899504	20.38571715	0.049053952	20.41022939	1.001202422
87° 12' 00"	0.99880614	0.04884977	20.44648606	0.048908159	20.47092554	1.001195290
87° 12' 30"	0.99881323	0.04870450	20.50761749	0.048762368	20.53198420	1.001188178
87° 13' 00"	0.99882030	0.04855923	20.56911468	0.048616580	20.59340862	1.001181088
87° 13' 30"	0.99882736	0.04841395	20.63098093	0.048470793	20.65520211	1.001174020
87° 14' 00"	0.99883439	0.04826868	20.69321958	0.048325008	20.71736799	1.001166972
87° 14' 30"	0.99884140	0.04812340	20.75583400	0.048179225	20.77990965	1.001159946
87° 15' 00"	0.99884839	0.04797813	20.81882760	0.048033444	20.84283049	1.001152941
87° 15' 30"	0.99885535	0.04783285	20.88220386	0.047887666	20.90613398	1.001145958
87° 16' 00"	0.99886230	0.04768757	20.94596625	0.047741889	20.96982361	1.001138995
87° 16' 30"	0.99886923	0.04754229	21.01011833	0.047596115	21.03390293	1.001132054
87° 17' 00"	0.99887613	0.04739701	21.07466369	0.047450342	21.09837552	1.001125135
87° 17' 30"	0.99888301	0.04725173	21.13960595	0.047304571	21.16324502	1.001118236
87° 18' 00"	0.99888987	0.04710645	21.20494879	0.047158803	21.22851510	1.001111359
87° 18' 30"	0.99889672	0.04696117	21.27069593	0.047013036	21.29418947	1.001104503
87° 19' 00"	0.99890354	0.04681588	21.33685113	0.046867272	21.36027191	1.001097668
87° 19' 30"	0.99891033	0.04667060	21.40341821	0.046721509	21.42676623	1.001090855
87° 20' 00"	0.99891711	0.04652531	21.47040104	0.046575749	21.49367630	1.001084063
87° 20' 30"	0.99892387	0.04638003	21.53780351	0.046429990	21.56100601	1.001077292
87° 21' 00"	0.99893060	0.04623474	21.60562960	0.046284233	21.62875933	1.001070542
87° 21' 30"	0.99893732	0.04608945	21.67388330	0.046138479	21.69694028	1.001063814
87° 22' 00"	0.99894401	0.04594416	21.74256868	0.045992726	21.76555290	1.001057107
87° 22' 30"	0.99895068	0.04579887	21.81168986	0.045846975	21.83460131	1.001050421
87° 23' 00"	0.99895733	0.04565357	21.88125098	0.045701226	21.90408967	1.001043756
87° 23' 30"	0.99896396	0.04550828	21.95125627	0.045555479	21.97402221	1.001037113
87° 24' 00"	0.99897057	0.04536299	22.02171001	0.045409734	22.04440319	1.001030491
87° 24' 30"	0.99897716	0.04521769	22.09261651	0.045263991	22.11523693	1.001023890
87° 25' 00"	0.99898372	0.04507240	22.16398016	0.045118250	22.18652782	1.001017311
87° 25' 30"	0.99899027	0.04492710	22.23580540	0.044972511	22.25828030	1.001010753
87° 26' 00"	0.99899679	0.04478180	22.30809672	0.044826774	22.33049886	1.001004216
87° 26' 30"	0.99900329	0.04463650	22.38085868	0.044681038	22.40318806	1.000997700
87° 27' 00"	0.99900978	0.04449120	22.45409588	0.044535305	22.47635251	1.000991205
87° 27' 30"	0.99901624	0.04434590	22.52781302	0.044389573	22.54999688	1.000984732
87° 28' 00"	0.99902268	0.04420060	22.60201481	0.044243843	22.62412592	1.000978280
87° 28' 30"	0.99902909	0.04405530	22.67670607	0.044098115	22.69874442	1.000971850
87° 29' 00"	0.99903549	0.04391000	22.75189165	0.043952389	22.77385724	1.000965440
87° 29' 30"	0.99904187	0.04376469	22.82757648	0.043806665	22.84946931	1.000959052

87° 30' 00"

87° 50' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
87° 30' 00"	0.99904822	0.04361939	22.90376555	0.043660943	22.92558563	1.000952685
87° 30' 30"	0.99905456	0.04347408	22.98046392	0.043515222	23.00221124	1.000946340
87° 31' 00"	0.99906087	0.04332877	23.05767672	0.043369504	23.07935129	1.000940015
87° 31' 30"	0.99906716	0.04318347	23.13540915	0.043223787	23.15701096	1.000933712
87° 32' 00"	0.99907343	0.04303816	23.21366646	0.043078072	23.23519552	1.000927430
87° 32' 30"	0.99907968	0.04289285	23.29245401	0.042932359	23.31391031	1.000921169
87° 33' 00"	0.99908591	0.04274754	23.37177719	0.042786648	23.39316074	1.000914930
87° 33' 30"	0.99909211	0.04260223	23.45164150	0.042640938	23.47295229	1.000908712
87° 34' 00"	0.99909830	0.04245691	23.53205250	0.042495231	23.55329053	1.000902515
87° 34' 30"	0.99910446	0.04231160	23.61301581	0.042349525	23.63418109	1.000896339
87° 35' 00"	0.99911061	0.04216629	23.69453715	0.042203821	23.71562968	1.000890185
87° 35' 30"	0.99911673	0.04202097	23.77662233	0.042058119	23.79764209	1.000884052
87° 36' 00"	0.99912283	0.04187565	23.85927720	0.041912418	23.88022421	1.000877940
87° 36' 30"	0.99912891	0.04173034	23.94250772	0.041766719	23.96338198	1.000871849
87° 37' 00"	0.99913497	0.04158502	24.02631994	0.041621022	24.04712144	1.000865780
87° 37' 30"	0.99914101	0.04143970	24.11071997	0.041475327	24.13144872	1.000859732
87° 38' 00"	0.99914702	0.04129438	24.19571403	0.041329634	24.21637003	1.000853705
87° 38' 30"	0.99915302	0.04114906	24.28130841	0.041183942	24.30189165	1.000847699
87° 39' 00"	0.99915899	0.04100374	24.36750949	0.041038252	24.38801999	1.000841715
87° 39' 30"	0.99916495	0.04085842	24.45432376	0.040892564	24.47476151	1.000835752
87° 40' 00"	0.99917088	0.04071309	24.54175779	0.040746878	24.56212278	1.000829810
87° 40' 30"	0.99917679	0.04056777	24.62981824	0.040601193	24.65011048	1.000823889
87° 41' 00"	0.99918268	0.04042244	24.71851187	0.040455510	24.73873135	1.000817990
87° 41' 30"	0.99918855	0.04027712	24.80784553	0.040309829	24.82799226	1.000812111
87° 42' 00"	0.99919440	0.04013179	24.89782619	0.040164149	24.91790017	1.000806254
87° 42' 30"	0.99920022	0.03998647	24.98846090	0.040018471	25.00846213	1.000800419
87° 43' 00"	0.99920603	0.03984114	25.07975682	0.039872795	25.09968530	1.000794604
87° 43' 30"	0.99921181	0.03969581	25.17172122	0.039727120	25.19157695	1.000788811
87° 44' 00"	0.99921757	0.03955048	25.26436148	0.039581448	25.28414446	1.000783039
87° 44' 30"	0.99922332	0.03940515	25.35768506	0.039435776	25.37739529	1.000777288
87° 45' 00"	0.99922904	0.03925982	25.45169958	0.039290107	25.47133706	1.000771559
87° 45' 30"	0.99923474	0.03911448	25.54641273	0.039144439	25.56597745	1.000765850
87° 46' 00"	0.99924041	0.03896915	25.64183232	0.038998773	25.66132430	1.000760163
87° 46' 30"	0.99924607	0.03882382	25.73796631	0.038853109	25.75738554	1.000754497
87° 47' 00"	0.99925171	0.03867848	25.83482275	0.038707446	25.85416923	1.000748853
87° 47' 30"	0.99925732	0.03853315	25.93240981	0.038561785	25.95168354	1.000743229
87° 48' 00"	0.99926292	0.03838781	26.03073580	0.038416125	26.04993678	1.000737627
87° 48' 30"	0.99926849	0.03824247	26.12980915	0.038270467	26.14893738	1.000732046
87° 49' 00"	0.99927404	0.03809713	26.22963841	0.038124811	26.24869390	1.000726487
87° 49' 30"	0.99927957	0.03795179	26.33023228	0.037979156	26.34921501	1.000720948
87° 50' 00"	0.99928508	0.03780646	26.43159957	0.037833503	26.45050956	1.000715431
87° 50' 30"	0.99929057	0.03766111	26.53374925	0.037687851	26.55258649	1.000709935

87° 51' 00"

88° 11' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
87° 51' 00"	0.99929604	0.03751577	26.63669041	0.037542202	26.65545490	1.000704460
87° 51' 30"	0.99930148	0.03737043	26.74043229	0.037396553	26.75912403	1.000699007
87° 52' 00"	0.99930691	0.03722509	26.84498427	0.037250907	26.86360327	1.000693574
87° 52' 30"	0.99931231	0.03707974	26.95035589	0.037105261	26.96890214	1.000688163
87° 53' 00"	0.99931769	0.03693440	27.05655682	0.036959618	27.07503033	1.000682774
87° 53' 30"	0.99932305	0.03678905	27.16359691	0.036813976	27.18199766	1.000677405
87° 54' 00"	0.99932839	0.03664371	27.27148613	0.036668335	27.28981414	1.000672058
87° 54' 30"	0.99933371	0.03649836	27.38023464	0.036522697	27.39848991	1.000666731
87° 55' 00"	0.99933901	0.03635301	27.48985276	0.036377059	27.50803527	1.000661426
87° 55' 30"	0.99934429	0.03620767	27.60035095	0.036231423	27.61846072	1.000656143
87° 56' 00"	0.99934954	0.03606232	27.71173986	0.036085789	27.72977688	1.000650880
87° 56' 30"	0.99935478	0.03591697	27.82403031	0.035940156	27.84199459	1.000645639
87° 57' 00"	0.99935999	0.03577162	27.93723330	0.035794525	27.95512484	1.000640419
87° 57' 30"	0.99936518	0.03562626	28.05136000	0.035648895	28.06917879	1.000635220
87° 58' 00"	0.99937035	0.03548091	28.16642177	0.035503267	28.18416782	1.000630043
87° 58' 30"	0.99937550	0.03533556	28.28243015	0.035357641	28.30010345	1.000624886
87° 59' 00"	0.99938063	0.03519021	28.39939688	0.035212015	28.41699743	1.000619751
87° 59' 30"	0.99938574	0.03504485	28.51733388	0.035066392	28.53486169	1.000614637
88° 00' 00"	0.99939083	0.03489950	28.63625328	0.034920769	28.65370835	1.000609544
88° 00' 30"	0.99939589	0.03475414	28.75616742	0.034775149	28.77354974	1.000604473
88° 01' 00"	0.99940094	0.03460878	28.87708884	0.034629530	28.89439842	1.000599423
88° 01' 30"	0.99940596	0.03446343	28.99903028	0.034483912	29.01626711	1.000594393
88° 02' 00"	0.99941096	0.03431807	29.12200471	0.034338295	29.13916880	1.000589386
88° 02' 30"	0.99941594	0.03417271	29.24602532	0.034192681	29.26311666	1.000584399
88° 03' 00"	0.99942090	0.03402735	29.37110552	0.034047067	29.38812412	1.000579434
88° 03' 30"	0.99942584	0.03388199	29.49725895	0.033901455	29.51420481	1.000574489
88° 04' 00"	0.99943076	0.03373663	29.62449949	0.033755845	29.64137261	1.000569566
88° 04' 30"	0.99943565	0.03359127	29.75284127	0.033610235	29.76964164	1.000564665
88° 05' 00"	0.99944053	0.03344591	29.88229863	0.033464628	29.89902627	1.000559784
88° 05' 30"	0.99944538	0.03330054	30.01288621	0.033319021	30.02954110	1.000554925
88° 06' 00"	0.99945022	0.03315518	30.14461887	0.033173417	30.16120101	1.000550086
88° 06' 30"	0.99945503	0.03300981	30.27751173	0.033027813	30.29402114	1.000545270
88° 07' 00"	0.99945982	0.03286445	30.41158022	0.032882211	30.42801688	1.000540474
88° 07' 30"	0.99946459	0.03271908	30.54683999	0.032736610	30.56320391	1.000535699
88° 08' 00"	0.99946934	0.03257372	30.68330700	0.032591011	30.69959818	1.000530946
88° 08' 30"	0.99947406	0.03242835	30.82099750	0.032445413	30.83721594	1.000526214
88° 09' 00"	0.99947877	0.03228298	30.95992802	0.032299817	30.97607372	1.000521503
88° 09' 30"	0.99948345	0.03213761	31.10011538	0.032154222	31.11618834	1.000516813
88° 10' 00"	0.99948812	0.03199224	31.24157674	0.032008628	31.25757696	1.000512145
88° 10' 30"	0.99949276	0.03184687	31.38432954	0.031863035	31.40025702	1.000507498
88° 11' 00"	0.99949738	0.03170150	31.52839155	0.031717444	31.54424629	1.000502872
88° 11' 30"	0.99950198	0.03155613	31.67378088	0.031571854	31.68956287	1.000498267

88° 12' 00"

88° 32' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
88° 12' 00"	0.99950656	0.03141076	31.82051595	0.031426266	31.83622521	1.000493683
88° 12' 30"	0.99951112	0.03126539	31.96861555	0.031280679	31.98425207	1.000489121
88° 13' 00"	0.99951566	0.03112001	32.11809881	0.031135093	32.13366259	1.000484580
88° 13' 30"	0.99952017	0.03097464	32.26898521	0.030989509	32.28447625	1.000480060
88° 14' 00"	0.99952467	0.03082926	32.42129461	0.030843926	32.43671290	1.000475561
88° 14' 30"	0.99952914	0.03068389	32.57504724	0.030698344	32.59039279	1.000471083
88° 15' 00"	0.99953359	0.03053851	32.73026372	0.030552763	32.74553653	1.000466627
88° 15' 30"	0.99953802	0.03039314	32.88696505	0.030407184	32.90216513	1.000462192
88° 16' 00"	0.99954243	0.03024776	33.04517267	0.030261606	33.06030001	1.000457778
88° 16' 30"	0.99954682	0.03010238	33.20490840	0.030116029	33.21996300	1.000453385
88° 17' 00"	0.99955119	0.02995700	33.36619448	0.029970454	33.38117634	1.000449013
88° 17' 30"	0.99955553	0.02981162	33.52905362	0.029824880	33.54396274	1.000444663
88° 18' 00"	0.99955986	0.02966624	33.69350893	0.029679307	33.70834532	1.000440334
88° 18' 30"	0.99956416	0.02952086	33.85958402	0.029533736	33.87434767	1.000436026
88° 19' 00"	0.99956845	0.02937548	34.02730294	0.029388165	34.04199385	1.000431739
88° 19' 30"	0.99957271	0.02923010	34.19669022	0.029242596	34.21130839	1.000427473
88° 20' 00"	0.99957695	0.02908472	34.36777089	0.029097028	34.38231632	1.000423229
88° 20' 30"	0.99958117	0.02893934	34.54057047	0.028951462	34.55504317	1.000419006
88° 21' 00"	0.99958537	0.02879395	34.71511501	0.028805896	34.72951498	1.000414804
88° 21' 30"	0.99958955	0.02864857	34.89143109	0.028660332	34.90575832	1.000410623
88° 22' 00"	0.99959370	0.02850318	35.06954582	0.028514769	35.08380031	1.000406463
88° 22' 30"	0.99959784	0.02835780	35.24948687	0.028369207	35.26366862	1.000402325
88° 23' 00"	0.99960195	0.02821241	35.43128247	0.028223647	35.44539149	1.000398208
88° 23' 30"	0.99960604	0.02806703	35.61496147	0.028078087	35.62899775	1.000394112
88° 24' 00"	0.99961012	0.02792164	35.80055329	0.027932529	35.81451683	1.000390037
88° 24' 30"	0.99961417	0.02777625	35.98808797	0.027786972	36.00197877	1.000385983
88° 25' 00"	0.99961819	0.02763086	36.17759618	0.027641416	36.19141425	1.000381951
88° 25' 30"	0.99962220	0.02748547	36.36910927	0.027495862	36.38285460	1.000377940
88° 26' 00"	0.99962619	0.02734008	36.56265921	0.027350308	36.57633180	1.000373950
88° 26' 30"	0.99963016	0.02719469	36.75827868	0.027204756	36.77187854	1.000369981
88° 27' 00"	0.99963410	0.02704930	36.95600107	0.027059205	36.96952819	1.000366033
88° 27' 30"	0.99963802	0.02690391	37.15586047	0.026913655	37.16931486	1.000362107
88° 28' 00"	0.99964193	0.02675852	37.35789173	0.026768106	37.37127338	1.000358202
88° 28' 30"	0.99964581	0.02661313	37.56213045	0.026622558	37.57543937	1.000354318
88° 29' 00"	0.99964967	0.02646774	37.76861302	0.026477011	37.78184921	1.000350455
88° 29' 30"	0.99965351	0.02632234	37.97737663	0.026331466	37.99054008	1.000346613
88° 30' 00"	0.99965732	0.02617695	38.18845930	0.026185922	38.20155001	1.000342792
88° 30' 30"	0.99966112	0.02603155	38.40189989	0.026040378	38.41491787	1.000338993
88° 31' 00"	0.99966490	0.02588616	38.61773814	0.025894836	38.63068339	1.000335215
88° 31' 30"	0.99966865	0.02574076	38.83601470	0.025749295	38.84888721	1.000331458
88° 32' 00"	0.99967238	0.02559537	39.05677112	0.025603755	39.06957090	1.000327722
88° 32' 30"	0.99967610	0.02544997	39.28004992	0.025458216	39.29277696	1.000324008

88° 33' 00"

88° 53' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
88° 33' 00"	0.99967979	0.02530457	39.50589458	0.025312678	39.51854889	1.000320315
88° 33' 30"	0.99968346	0.02515918	39.73434960	0.025167142	39.74693118	1.000316642
88° 34' 00"	0.99968711	0.02501378	39.96546052	0.025021606	39.97796936	1.000312991
88° 34' 30"	0.99969073	0.02486838	40.19927391	0.024876071	40.21171003	1.000309362
88° 35' 00"	0.99969434	0.02472298	40.43583749	0.024730538	40.44820087	1.000305753
88° 35' 30"	0.99969793	0.02457758	40.67520006	0.024585005	40.68749070	1.000302166
88° 36' 00"	0.99970149	0.02443218	40.91741160	0.024439474	40.92962951	1.000298599
88° 36' 30"	0.99970503	0.02428678	41.16252330	0.024293943	41.17466848	1.000295054
88° 37' 00"	0.99970855	0.02414138	41.41058757	0.024148414	41.42266002	1.000291530
88° 37' 30"	0.99971206	0.02399597	41.66165809	0.024002885	41.67365781	1.000288028
88° 38' 00"	0.99971553	0.02385057	41.91578986	0.023857358	41.92771684	1.000284546
88° 38' 30"	0.99971899	0.02370517	42.17303921	0.023711832	42.18489346	1.000281086
88° 39' 00"	0.99972243	0.02355976	42.43346389	0.023566306	42.44524540	1.000277647
88° 39' 30"	0.99972585	0.02341436	42.69712304	0.023420782	42.70883183	1.000274229
88° 40' 00"	0.99972924	0.02326896	42.96407734	0.023275258	42.97571339	1.000270832
88° 40' 30"	0.99973261	0.02312355	43.23438893	0.023129736	43.24595225	1.000267457
88° 41' 00"	0.99973597	0.02297815	43.50812158	0.022984215	43.51961217	1.000264102
88° 41' 30"	0.99973930	0.02283274	43.78534065	0.022838694	43.79675851	1.000260769
88° 42' 00"	0.99974261	0.02268733	44.06611320	0.022693175	44.07745832	1.000257457
88° 42' 30"	0.99974590	0.02254193	44.35050798	0.022547656	44.36178038	1.000254166
88° 43' 00"	0.99974917	0.02239652	44.63859558	0.022402138	44.64979524	1.000250896
88° 43' 30"	0.99975241	0.02225111	44.93044839	0.022256622	44.94157532	1.000247648
88° 44' 00"	0.99975564	0.02210570	45.22614073	0.022111106	45.23719494	1.000244421
88° 44' 30"	0.99975884	0.02196029	45.52574889	0.021965591	45.53673036	1.000241215
88° 45' 00"	0.99976203	0.02181489	45.82935117	0.021820078	45.84025991	1.000238030
88° 45' 30"	0.99976519	0.02166948	46.13702801	0.021674565	46.14786402	1.000234866
88° 46' 00"	0.99976833	0.02152407	46.44886198	0.021529053	46.45962526	1.000231723
88° 46' 30"	0.99977145	0.02137865	46.76493793	0.021383542	46.77562848	1.000228602
88° 47' 00"	0.99977455	0.02123324	47.08534303	0.021238032	47.09596084	1.000225502
88° 47' 30"	0.99977763	0.02108783	47.41016683	0.021092522	47.42071192	1.000222423
88° 48' 00"	0.99978068	0.02094242	47.73950141	0.020947014	47.74997376	1.000219365
88° 48' 30"	0.99978372	0.02079701	48.07344138	0.020801506	48.08384101	1.000216328
88° 49' 00"	0.99978673	0.02065159	48.41208405	0.020656000	48.42241095	1.000213312
88° 49' 30"	0.99978973	0.02050618	48.75552948	0.020510494	48.76578365	1.000210318
88° 50' 00"	0.99979270	0.02036077	49.10388057	0.020364989	49.11406201	1.000207345
88° 50' 30"	0.99979565	0.02021535	49.45724322	0.020219485	49.46735193	1.000204393
88° 51' 00"	0.99979858	0.02006994	49.81572636	0.020073982	49.82576234	1.000201462
88° 51' 30"	0.99980149	0.01992452	50.17944212	0.019928480	50.18940537	1.000198552
88° 52' 00"	0.99980437	0.01977911	50.54850593	0.019782978	50.55839645	1.000195664
88° 52' 30"	0.99980724	0.01963369	50.92303664	0.019637478	50.93285443	1.000192797
88° 53' 00"	0.99981009	0.01948828	51.30315663	0.019491978	51.31290169	1.000189951
88° 53' 30"	0.99981291	0.01934286	51.68899198	0.019346479	51.69866431	1.000187126

88° 54' 00"

89° 14' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
88° 54' 00"	0.99981571	0.01919744	52.08067259	0.019200981	52.09027219	1.000184322
88° 54' 30"	0.99981849	0.01905202	52.47833231	0.019055484	52.48785919	1.000181539
88° 55' 00"	0.99982125	0.01890661	52.88210913	0.018909987	52.89156328	1.000178778
88° 55' 30"	0.99982399	0.01876119	53.29214530	0.018764491	53.30152672	1.000176038
88° 56' 00"	0.99982671	0.01861577	53.70858754	0.018618996	53.71789623	1.000173318
88° 56' 30"	0.99982941	0.01847035	54.13158715	0.018473502	54.14082311	1.000170621
88° 57' 00"	0.99983208	0.01832493	54.56130027	0.018328009	54.57046351	1.000167944
88° 57' 30"	0.99983474	0.01817951	54.99788803	0.018182516	55.00697853	1.000165288
88° 58' 00"	0.99983737	0.01803409	55.44151674	0.018037025	55.45053452	1.000162654
88° 58' 30"	0.99983998	0.01788867	55.89235814	0.017891534	55.90130319	1.000160041
88° 59' 00"	0.99984258	0.01774325	56.35058959	0.017746043	56.35946191	1.000157449
88° 59' 30"	0.99984515	0.01759783	56.81639431	0.017600554	56.82519390	1.000154878
89° 00' 00"	0.99984770	0.01745241	57.28996163	0.017455065	57.29868850	1.000152328
89° 00' 30"	0.99985022	0.01730698	57.77148725	0.017309577	57.78014139	1.000149800
89° 01' 00"	0.99985273	0.01716156	58.26117351	0.017164090	58.26975492	1.000147292
89° 01' 30"	0.99985522	0.01701614	58.75922964	0.017018603	58.76773832	1.000144806
89° 02' 00"	0.99985768	0.01687072	59.26587210	0.016873117	59.27430806	1.000142341
89° 02' 30"	0.99986012	0.01672529	59.78132490	0.016727632	59.78968813	1.000139897
89° 03' 00"	0.99986254	0.01657987	60.30581988	0.016582147	60.31411038	1.000137474
89° 03' 30"	0.99986495	0.01643444	60.83959710	0.016436664	60.84781487	1.000135073
89° 04' 00"	0.99986733	0.01628902	61.38290518	0.016291181	61.39105023	1.000132692
89° 04' 30"	0.99986968	0.01614359	61.93600173	0.016145698	61.94407406	1.000130333
89° 05' 00"	0.99987202	0.01599817	62.49915370	0.016000217	62.50715330	1.000127995
89° 05' 30"	0.99987434	0.01585274	63.07263784	0.015854736	63.08056471	1.000125678
89° 06' 00"	0.99987663	0.01570732	63.65674116	0.015709255	63.66459531	1.000123383
89° 06' 30"	0.99987891	0.01556189	64.25176140	0.015563776	64.25954281	1.000121108
89° 07' 00"	0.99988116	0.01541646	64.85800751	0.015418297	64.86571620	1.000118855
89° 07' 30"	0.99988339	0.01527104	65.47580025	0.015272818	65.48343621	1.000116623
89° 08' 00"	0.99988560	0.01512561	66.10547268	0.015127341	66.11303592	1.000114412
89° 08' 30"	0.99988779	0.01498018	66.74737083	0.014981864	66.75486134	1.000112222
89° 09' 00"	0.99988996	0.01483475	67.40185426	0.014836387	67.40927204	1.000110053
89° 09' 30"	0.99989211	0.01468933	68.06929679	0.014690911	68.07664185	1.000107906
89° 10' 00"	0.99989423	0.01454390	68.75008721	0.014545436	68.75735954	1.000105779
89° 10' 30"	0.99989634	0.01439847	69.44462999	0.014399962	69.45182960	1.000103674
89° 11' 00"	0.99989842	0.01425304	70.15334612	0.014254488	70.16047301	1.000101590
89° 11' 30"	0.99990048	0.01410761	70.87667396	0.014109014	70.88372812	1.000099527
89° 12' 00"	0.99990252	0.01396218	71.61507012	0.013963541	71.62205155	1.000097485
89° 12' 30"	0.99990454	0.01381675	72.36901044	0.013818069	72.37591914	1.000095465
89° 13' 00"	0.99990654	0.01367132	73.13899101	0.013672598	73.14582699	1.000093466
89° 13' 30"	0.99990852	0.01352589	73.92552926	0.013527127	73.93229251	1.000091487
89° 14' 00"	0.99991048	0.01338046	74.72916511	0.013381656	74.73585564	1.000089530
89° 14' 30"	0.99991241	0.01323503	75.55046223	0.013236186	75.55708003	1.000087594

89° 15' 00"

89° 35' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
89° 15' 00"	0.99991433	0.01308960	76.39000931	0.013090717	76.39655439	1.000085680
89° 15' 30"	0.99991622	0.01294416	77.24842153	0.012945248	77.25489389	1.000083786
89° 16' 00"	0.99991809	0.01279873	78.12634202	0.012799780	78.13274165	1.000081914
89° 16' 30"	0.99991994	0.01265330	79.02444347	0.012654312	79.03077038	1.000080063
89° 17' 00"	0.99992177	0.01250787	79.94342988	0.012508845	79.94968406	1.000078233
89° 17' 30"	0.99992358	0.01236243	80.88403835	0.012363379	80.89021981	1.000076424
89° 18' 00"	0.99992537	0.01221700	81.84704111	0.012217913	81.85314984	1.000074636
89° 18' 30"	0.99992714	0.01207157	82.83324759	0.012072447	82.83928360	1.000072869
89° 19' 00"	0.99992888	0.01192613	83.84350670	0.011926982	83.84946998	1.000071124
89° 19' 30"	0.99993061	0.01178070	84.87870929	0.011781518	84.88459984	1.000069400
89° 20' 00"	0.99993231	0.01163527	85.93979073	0.011636053	85.94560855	1.000067697
89° 20' 30"	0.99993399	0.01148983	87.02773376	0.011490590	87.03347886	1.000066015
89° 21' 00"	0.99993565	0.01134440	88.14357152	0.011345127	88.14924390	1.000064354
89° 21' 30"	0.99993729	0.01119896	89.28839082	0.011199664	89.29399048	1.000062714
89° 22' 00"	0.99993891	0.01105353	90.46333567	0.011054202	90.46886260	1.000061096
89° 22' 30"	0.99994051	0.01090809	91.66961109	0.010908741	91.67506530	1.000059499
89° 23' 00"	0.99994208	0.01076266	92.90848724	0.010763279	92.91386872	1.000057922
89° 23' 30"	0.99994364	0.01061722	94.18130387	0.010617819	94.18661263	1.000056367
89° 24' 00"	0.99994517	0.01047178	95.48947517	0.010472358	95.49471121	1.000054834
89° 24' 30"	0.99994668	0.01032635	96.83449500	0.010326898	96.83965832	1.000053321
89° 25' 00"	0.99994817	0.01018091	98.21794259	0.010181439	98.22303318	1.000051830
89° 25' 30"	0.99994964	0.01003547	99.64148870	0.010035980	99.64650656	1.000050359
89° 26' 00"	0.99995109	0.00989004	101.1069024	0.009890522	101.1118475	1.000048910
89° 26' 30"	0.99995252	0.00974460	102.6160583	0.009745063	102.6209307	1.000047482
89° 27' 00"	0.99995393	0.00959916	104.1709448	0.009599606	104.1757445	1.000046075
89° 27' 30"	0.99995531	0.00945373	105.7736724	0.009454148	105.7783994	1.000044689
89° 28' 00"	0.99995668	0.00930829	107.4264838	0.009308692	107.4311380	1.000043325
89° 28' 30"	0.99995802	0.00916285	109.1317638	0.009163235	109.1363453	1.000041982
89° 29' 00"	0.99995934	0.00901741	110.8920513	0.009017779	110.8965601	1.000040659
89° 29' 30"	0.99996064	0.00887197	112.7100515	0.008872323	112.7144876	1.000039358
89° 30' 00"	0.99996192	0.00872654	114.5886501	0.008726868	114.5930135	1.000038078
89° 30' 30"	0.99996318	0.00858110	116.5309284	0.008581413	116.5352191	1.000036820
89° 31' 00"	0.99996442	0.00843566	118.5401802	0.008435958	118.5443981	1.000035582
89° 31' 30"	0.99996564	0.00829022	120.6199303	0.008290504	120.6240754	1.000034366
89° 32' 00"	0.99996683	0.00814478	122.7739554	0.008145050	122.7780279	1.000033170
89° 32' 30"	0.99996800	0.00799934	125.0063070	0.007999596	125.0103067	1.000031996
89° 33' 00"	0.99996916	0.00785390	127.3213365	0.007854143	127.3252635	1.000030843
89° 33' 30"	0.99997029	0.00770846	129.7237237	0.007708690	129.7275780	1.000029712
89° 34' 00"	0.99997140	0.00756302	132.2185086	0.007563238	132.2222902	1.000028601
89° 34' 30"	0.99997249	0.00741758	134.8111263	0.007417785	134.8148351	1.000027511
89° 35' 00"	0.99997356	0.00727214	137.5074468	0.007272333	137.5110829	1.000026443
89° 35' 30"	0.99997460	0.00712670	140.3138191	0.007126882	140.3173825	1.000025396



89° 36' 00"

89° 56' 30"

$x$	$\sin(x)$	$\cos(x)$	$\tan(x)$	$\cot(x)$	$\sec(x)$	$\csc(x)$
89° 36' 00"	0.99997563	0.00698126	143.2371217	0.006981430	143.2406123	1.000024370
89° 36' 30"	0.99997664	0.00683582	146.2848180	0.006835979	146.2882359	1.000023365
89° 37' 00"	0.99997762	0.00669038	149.4650208	0.006690529	149.4683660	1.000022381
89° 37' 30"	0.99997858	0.00654494	152.7865637	0.006545078	152.7898362	1.000021419
89° 38' 00"	0.99997952	0.00639950	156.2590837	0.006399628	156.2622834	1.000020477
89° 38' 30"	0.99998044	0.00625406	159.8931139	0.006254178	159.8962410	1.000019557
89° 39' 00"	0.99998134	0.00610861	163.7001910	0.006108728	163.7032453	1.000018658
89° 39' 30"	0.99998222	0.00596317	167.6929767	0.005963279	167.6959583	1.000017780
89° 40' 00"	0.99998308	0.00581773	171.8853993	0.005817830	171.8883082	1.000016923
89° 40' 30"	0.99998391	0.00567229	176.2928154	0.005672381	176.2956516	1.000016088
89° 41' 00"	0.99998473	0.00552685	180.9321983	0.005526932	180.9349617	1.000015273
89° 41' 30"	0.99998552	0.00538141	185.8223560	0.005381484	185.8250467	1.000014480
89° 42' 00"	0.99998629	0.00523596	190.9841864	0.005236036	190.9868044	1.000013708
89° 42' 30"	0.99998704	0.00509052	196.4409758	0.005090588	196.4435210	1.000012957
89° 43' 00"	0.99998777	0.00494508	202.2187499	0.004945140	202.2212225	1.000012227
89° 43' 30"	0.99998848	0.00479964	208.3466893	0.004799692	208.3490891	1.000011518
89° 44' 00"	0.99998917	0.00465419	214.8576218	0.004654245	214.8599489	1.000010831
89° 44' 30"	0.99998984	0.00450875	221.7886113	0.004508798	221.7908657	1.000010165
89° 45' 00"	0.99999048	0.00436331	229.1816636	0.004363351	229.1838453	1.000009519
89° 45' 30"	0.99999110	0.00421787	237.0845782	0.004217904	237.0866872	1.000008895
89° 46' 00"	0.99999171	0.00407242	245.5519833	0.004072457	245.5540195	1.000008292
89° 46' 30"	0.99999229	0.00392698	254.6465999	0.003927011	254.6485634	1.000007711
89° 47' 00"	0.99999285	0.00378154	264.4407988	0.003781565	264.4426895	1.000007150
89° 47' 30"	0.99999339	0.00363609	275.0185296	0.003636119	275.0203477	1.000006611
89° 48' 00"	0.99999391	0.00349065	286.4777340	0.003490673	286.4794793	1.000006092
89° 48' 30"	0.99999440	0.00334521	298.9333867	0.003345227	298.9350593	1.000005595
89° 49' 00"	0.99999488	0.00319976	312.5213671	0.003199781	312.5229670	1.000005119
89° 49' 30"	0.99999534	0.00305432	327.4034363	0.003054336	327.4049634	1.000004664
89° 50' 00"	0.99999577	0.00290888	343.7737075	0.002908890	343.7751619	1.000004231
89° 50' 30"	0.99999618	0.00276343	361.8671600	0.002763445	361.8685417	1.000003818
89° 51' 00"	0.99999657	0.00261799	381.9709908	0.002618000	381.9722998	1.000003427
89° 51' 30"	0.99999694	0.00247255	404.4399724	0.002472555	404.4412087	1.000003057
89° 52' 00"	0.99999729	0.00232710	429.7175706	0.002327110	429.7187342	1.000002708
89° 52' 30"	0.99999762	0.00218166	458.3655089	0.002181665	458.3665997	1.000002380
89° 53' 00"	0.99999793	0.00203622	491.1060028	0.002036220	491.1070209	1.000002073
89° 53' 30"	0.99999821	0.00189077	528.8834883	0.001890776	528.8844337	1.000001788
89° 54' 00"	0.99999848	0.00174533	572.9572134	0.001745331	572.9580860	1.000001523
89° 54' 30"	0.99999872	0.00159988	625.0443341	0.001599887	625.0451341	1.000001280
89° 55' 00"	0.99999894	0.00145444	687.5488693	0.001454442	687.5495966	1.000001058
89° 55' 30"	0.99999914	0.00130900	763.9432905	0.001308998	763.9439450	1.000000857
89° 56' 00"	0.99999932	0.00116355	859.4363048	0.001163553	859.4368866	1.000000677
89° 56' 30"	0.99999948	0.00101811	982.2130237	0.001018109	982.2135328	1.000000518

90° 00' 00"

90° 00' 00"

x	sin(x)	cos(x)	tan(x)	cot(x)	sec(x)	csc(x)
89° 57' 00"	0.99999962	0.00087266	1145.915299	0.000872665	1145.915736	1.000000381
89° 57' 30"	0.99999974	0.00072722	1375.098466	0.000727221	1375.098830	1.000000264
89° 58' 00"	0.99999983	0.00058178	1718.873191	0.000581776	1718.873482	1.000000169
89° 58' 30"	0.99999990	0.00043633	2291.831035	0.000436332	2291.831253	1.000000095
89° 59' 00"	0.99999996	0.00029089	3437.746674	0.000290888	3437.746819	1.000000042
89° 59' 30"	0.99999999	0.00014544	6875.493493	0.000145444	6875.493566	1.000000011
90° 00' 00"	1	0	∞	0	∞	1