

Table 4.11 CIRCULAR TANGENTS, COTANGENTS, SECANTS AND COSECANTS
TO FIVE TENTHS OF A DEGREE

θ	$\tan \theta$			$\cot \theta$			$\sec \theta$			$\csc \theta$			$90^\circ - \theta$
0.0°	0.00000	00000	00000	∞			1.00000	000		∞			90.0°
0.5	0.00872	68677	90759	114.58865	01293	09608	1.00003	808	114.59301	348			89.5
1.0	0.01745	50649	28217	57.28996	16307	59424	1.00015	233	57.29868	850			89.0
1.5	0.02618	59215	69187	38.18845	92970	25609	1.00034	279	38.20155	001			88.5
2.0	0.03492	07694	91747	28.63625	32829	15603	1.00060	954	28.65370	835			88.0
2.5	0.04366	09429	08512	22.90376	55484	31198	1.00095	269	22.92558	563			87.5
3.0	0.05240	77792	83041	19.08113	66877	28211	1.00137	235	19.10732	261			87.0
3.5	0.06116	26201	50484	16.34985	54760	99672	1.00186	869	16.38040	824			86.5
4.0	0.06992	68119	43510	14.30066	62567	11928	1.00244	190	14.33558	703			86.0
4.5	0.07870	17068	24618	12.70620	47361	74704	1.00309	220	12.74549	484			85.5
5.0	0.08748	86635	25924	11.43005	23027	61343	1.00381	984	11.47371	325			85.0
5.5	0.09628	90481	97538	10.38539	70801	38159	1.00462	509	10.43343	052			84.5
6.0	0.10510	42352	65676	9.51436	44542	22585	1.00550	828	9.56677	223			84.0
6.5	0.11393	56083	01645	8.77688	73568	69956	1.00646	973	8.83367	147			83.5
7.0	0.12278	45609	02904	8.14434	64279	74594	1.00750	983	8.20550	905			83.0
7.5	0.13165	24975	87396	7.59575	41127	25150	1.00862	896	7.66129	758			82.5
8.0	0.14054	08347	02391	7.11536	97223	84209	1.00982	757	7.18529	653			82.0
8.5	0.14945	10013	49128	6.69115	62383	17409	1.01110	613	6.76546	908			81.5
9.0	0.15838	44403	24536	6.31375	15146	75043	1.01246	513	6.39245	322			81.0
9.5	0.16734	26090	81419	5.97576	43644	33065	1.01390	510	6.05885	796			80.5
10.0	0.17632	69807	08465	5.67128	18196	17709	1.01542	661	5.75877	049			80.0
10.5	0.18533	90449	31534	5.39551	71743	19137	1.01703	027	5.48740	427			79.5
11.0	0.19438	03091	37718	5.14455	40159	70310	1.01871	670	5.24084	307			79.0
11.5	0.20345	22994	23699	4.91515	70310	71205	1.02048	657	5.01585	174			78.5
12.0	0.21255	65616	70022	4.70463	01094	78454	1.02234	059	4.80973	435			78.0
12.5	0.22169	46626	42940	4.51070	85036	62057	1.02427	951	4.62022	632			77.5
13.0	0.23086	81911	25563	4.33147	58742	84155	1.02630	411	4.44541	148			77.0
13.5	0.24007	87590	80116	4.16529	97700	90417	1.02841	519	4.28365	757			76.5
14.0	0.24932	80028	43180	4.01078	09335	35844	1.03061	363	4.13356	550			76.0
14.5	0.25861	75843	55890	3.86671	30948	98738	1.03290	031	3.99392	916			75.5
15.0	0.26794	91924	31122	3.73205	08075	68877	1.03527	618	3.86370	331			75.0
15.5	0.27732	45440	59838	3.60588	35087	60874	1.03774	221	3.74197	754			74.5
16.0	0.28674	53857	58808	3.48741	44438	40908	1.04029	944	3.62795	528			74.0
16.5	0.29621	34949	62080	3.37594	34225	91246	1.04294	891	3.52093	652			73.5
17.0	0.30573	06814	58660	3.27085	26184	84141	1.04569	176	3.42030	362			73.0
17.5	0.31529	87888	78983	3.17159	48023	63212	1.04852	913	3.32550	952			72.5
18.0	0.32491	96962	32906	3.07768	35371	75253	1.05146	222	3.23606	798			72.0
18.5	0.33459	53195	02073	2.98868	49627	42893	1.05449	231	3.15154	530			71.5
19.0	0.34432	76132	89665	2.90421	08776	75823	1.05762	068	3.07155	349			71.0
19.5	0.35411	85725	30698	2.82391	28856	00801	1.06084	870	2.99574	431			70.5
20.0	0.36397	02342	66202	2.74747	74194	54622	1.06417	777	2.92380	440			70.0
20.5	0.37388	46794	84804	2.67462	14939	26824	1.06760	936	2.85545	095			69.5
21.0	0.38386	40350	35416	2.60508	90646	93801	1.07114	499	2.79042	811			69.0
21.5	0.39391	04756	14942	2.53864	78956	64307	1.07478	624	2.72850	383			68.5
22.0	0.40402	62258	35157	2.47508	68534	16296	1.07853	474	2.66946	716			68.0
22.5	0.41421	35623	73095	2.41421	35623	73095	1.08239	220	2.61312	593			67.5
$90^\circ - \theta$	$\cot \theta$			$\tan \theta$			$\csc \theta$			$\sec \theta$			θ
	$\left[\begin{smallmatrix} (-5)1 \\ 8 \end{smallmatrix} \right]$						$\left[\begin{smallmatrix} (-5)1 \\ 4 \end{smallmatrix} \right]$						

CIRCULAR TANGENTS, COTANGENTS, SECANTS AND COSECANTS
TO FIVE TENTHS OF A DEGREE

Table 4.11

θ	$\tan \theta$			$\cot \theta$			$\sec \theta$		$\csc \theta$		$90^\circ - \theta$
22.5°	0.41421	35623	73095	2.41421	35623	73095	1.08239	220	2.61312	593	67.5°
23.0	0.42447	48162	09604	2.35585	23658	23753	1.08636	038	2.55930	467	67.0
23.5	0.43481	23749	60933	2.29984	25472	36257	1.09044	110	2.50784	285	66.5
24.0	0.44522	86853	08536	2.24603	67739	04216	1.09463	628	2.45859	334	66.0
24.5	0.45572	62555	32584	2.19429	97311	65038	1.09894	787	2.41142	102	65.5
25.0	0.46630	76581	54998	2.14450	69205	09558	1.10337	792	2.36620	158	65.0
25.5	0.47697	55326	98160	2.09654	35990	88174	1.10792	854	2.32282	050	64.5
26.0	0.48773	25885	65861	2.05030	38415	79296	1.11260	194	2.28117	203	64.0
26.5	0.49858	16080	53431	2.00568	97082	59020	1.11740	038	2.24115	845	63.5
27.0	0.50952	54494	94429	1.96261	05055	05150	1.12232	624	2.20268	926	63.0
27.5	0.52056	70505	51746	1.92098	21269	71166	1.12738	195	2.16568	057	62.5
28.0	0.53170	94316	61479	1.88072	64653	46332	1.13257	005	2.13005	447	62.0
28.5	0.54295	56996	38437	1.84177	08860	33458	1.13789	318	2.09573	853	61.5
29.0	0.55430	90514	52769	1.80404	77552	71424	1.14335	407	2.06266	534	61.0
29.5	0.56577	27781	87770	1.76749	40162	42891	1.14895	554	2.03077	204	60.5
30.0	0.57735	02691	89626	1.73205	08075	68877	1.15470	054	2.00000	000	60.0
30.5	0.58904	50164	20551	1.69766	31193	26089	1.16059	210	1.97029	441	59.5
31.0	0.60086	06190	27560	1.66427	94823	50518	1.16663	340	1.94160	403	59.0
31.5	0.61280	07881	39932	1.63185	16871	28789	1.17282	770	1.91388	086	58.5
32.0	0.62486	93519	09327	1.60033	45290	41050	1.17917	840	1.88707	991	58.0
32.5	0.63707	02608	07493	1.56968	55771	17490	1.18568	905	1.86115	900	57.5
33.0	0.64940	75931	97510	1.53986	49638	14583	1.19236	329	1.83607	846	57.0
33.5	0.66188	55611	95691	1.51083	51936	14901	1.19920	494	1.81180	103	56.5
34.0	0.67450	85168	42426	1.48256	09685	12740	1.20621	795	1.78829	165	56.0
34.5	0.68728	09586	01613	1.45500	90286	72445	1.21340	641	1.76551	728	55.5
35.0	0.70020	75382	09710	1.42814	80067	42114	1.22077	459	1.74344	680	55.0
35.5	0.71329	30678	97005	1.40194	82944	76336	1.22832	691	1.72205	082	54.5
36.0	0.72654	52580	05361	1.37638	19204	71173	1.23606	798	1.70130	162	54.0
36.5	0.73996	10750	28487	1.35142	24379	45808	1.24400	257	1.68117	299	53.5
37.0	0.75355	40501	02794	1.32704	48216	20410	1.25213	566	1.66164	014	53.0
37.5	0.76732	69879	78960	1.30322	53728	41206	1.26047	241	1.64267	963	52.5
38.0	0.78128	56265	06717	1.27994	16321	93079	1.26901	822	1.62426	925	52.0
38.5	0.79543	59166	67828	1.25717	22989	18954	1.27777	866	1.60638	793	51.5
39.0	0.80978	40331	95007	1.23489	71565	35051	1.28675	957	1.58901	573	51.0
39.5	0.82433	63858	17495	1.21309	70040	92932	1.29596	700	1.57213	369	50.5
40.0	0.83909	96311	77280	1.19175	35925	94210	1.30540	729	1.55572	383	50.0
40.5	0.85408	06854	63466	1.17084	95661	12539	1.31508	700	1.53976	904	49.5
41.0	0.86928	67378	16226	1.15036	84072	21009	1.32501	299	1.52425	309	49.0
41.5	0.88472	52645	55944	1.13029	43863	61753	1.33519	242	1.50916	050	48.5
42.0	0.90040	40442	97840	1.11061	25148	29193	1.34563	273	1.49447	655	48.0
42.5	0.91633	11740	17423	1.09130	85010	69271	1.35634	170	1.48018	723	47.5
43.0	0.93251	50861	37661	1.07236	87100	24682	1.36732	746	1.46627	919	47.0
43.5	0.94896	45667	14880	1.05378	01252	80962	1.37859	847	1.45273	967	46.5
44.0	0.96568	87748	07074	1.03553	03137	90569	1.39016	359	1.43955	654	46.0
44.5	0.98269	72631	15690	1.01760	73929	72125	1.40203	206	1.42671	819	45.5
45.0	1.00000	00000	00000	1.00000	00000	00000	1.41421	356	1.41421	356	45.0
90° - θ	$\cot \theta$			$\tan \theta$			$\sec \theta$		$\sec \theta$		θ
	$\left[\begin{smallmatrix} (-5)4 \\ 9 \end{smallmatrix} \right]$			$\left[\begin{smallmatrix} (-4)3 \end{smallmatrix} \right]$			$\left[\begin{smallmatrix} (-5)4 \\ 5 \end{smallmatrix} \right]$		$\left[\begin{smallmatrix} (-4)3 \\ 6 \end{smallmatrix} \right]$		