

《附》錄

三角函數值表的查法

利用角度換算，可將任意角化為銳角，即可利用  $0^\circ \sim 90^\circ$  ( $1^\circ = 60'$ ，以  $10'$  為單位) 的函數值表求其值。由餘角關係  $\sin = \cos(90^\circ - \theta)$ ， $\tan = \cot(90^\circ - \theta)$ ， $\sec = \csc(90^\circ - \theta)$ ，列出左邊角度為  $0^\circ \sim 45^\circ$ ，右邊角度為  $45^\circ \sim 90^\circ$ 。

角度	sin	cos	tan	cot	sec	csc	
21°00'							
10'							
20'							
30'							
40'		.9293					
50'							
							50'
							40'
							30'
				1.343			20'
							10'
							53°00'
	cos	sin	cot	tan	csc	sec	角度

例如：查表可得  $\cos 21^\circ 40' = 0.9293$

$$\tan 53^\circ 20' = 1.343$$

【註】口訣：左上配、右下配

附表 三角函數值表

角度	sin	cos	tan	cot	sec	csc	
0°00'	.0000	1.0000	.0000	.....	1.000	.....	90°00'
10'	.0029	1.0000	.0029	343.8	1.000	343.8	50'
20'	.0058	1.0000	.0058	171.9	1.000	171.9	40'
30'	.0087	1.0000	.0087	114.6	1.000	114.6	30'
40'	.0116	.9999	.0116	85.94	1.000	85.95	20'
50'	.0145	.9999	.0145	68.75	1.000	68.76	10'
1°00'	.0175	.9998	.0175	57.29	1.000	57.30	89°00'
10'	.0204	.9998	.0204	49.10	1.000	49.11	50'
20'	.0233	.9997	.0233	42.96	1.000	42.98	40'
30'	.0262	.9997	.0262	38.19	1.000	38.20	30'
40'	.0291	.9996	.0291	34.37	1.000	34.38	20'
50'	.0320	.9995	.0320	31.24	1.001	31.26	10'
2°00'	.0349	.9994	.0349	28.64	1.001	28.65	88°00'
10'	.0378	.9993	.0378	26.43	1.001	26.45	50'
20'	.0407	.9992	.0407	24.54	1.001	24.56	40'
30'	.0436	.9990	.0437	22.90	1.001	22.93	30'
40'	.0465	.9989	.0466	21.47	1.001	21.49	20'
50'	.0494	.9988	.0495	20.21	1.001	20.23	10'
3°00'	.0523	.9986	.0524	19.08	1.001	19.11	87°00'
10'	.0552	.9985	.0553	18.07	1.002	18.10	50'
20'	.0581	.9983	.0582	17.17	1.002	17.20	40'
30'	.0610	.9981	.0612	16.35	1.002	16.38	30'
40'	.0640	.9980	.0641	15.60	1.002	15.64	20'
50'	.0669	.9978	.0670	14.92	1.002	14.96	10'
4°00'	.0698	.9976	.0699	14.30	1.002	14.34	86°00'
10'	.0727	.9974	.0729	13.73	1.003	13.76	50'
20'	.0756	.9971	.0758	13.20	1.003	13.23	40'
30'	.0785	.9969	.0787	12.71	1.003	12.75	30'
40'	.0814	.9967	.0816	12.25	1.003	12.29	20'
50'	.0843	.9964	.0846	11.83	1.004	11.87	10'
5°00'	.0872	.9962	.0875	11.43	1.004	11.47	85°00'
10'	.0901	.9959	.0904	11.06	1.004	11.10	50'
20'	.0929	.9957	.0934	10.71	1.004	10.76	40'
30'	.0958	.9954	.0963	10.39	1.005	10.43	30'
40'	.0987	.9951	.0992	10.08	1.005	10.13	20'
50'	.1016	.9948	.1022	9.788	1.005	9.839	10'
6°00'	.1045	.9945	.1051	9.514	1.006	9.567	84°00'
10'	.1074	.9942	.1080	9.255	1.006	9.309	50'
20'	.1103	.9939	.1110	9.010	1.006	9.065	40'
30'	.1132	.9936	.1139	8.777	1.006	8.834	30'
40'	.1161	.9932	.1169	8.556	1.007	8.614	20'
50'	.1190	.9929	.1198	8.345	1.007	8.405	10'
7°00'	.1219	.9925	.1228	8.144	1.008	8.206	83°00'
10'	.1248	.9922	.1257	7.953	1.008	8.016	50'
20'	.1276	.9918	.1287	7.770	1.008	7.834	40'
30'	.1305	.9914	.1317	7.596	1.009	7.661	30'
40'	.1334	.9911	.1346	7.429	1.009	7.496	20'
8°00'	.1392	.9903	.1405	7.115	1.010	7.185	82°00'
10'	.1421	.9899	.1435	6.968	1.010	7.040	50'
20'	.1449	.9894	.1465	6.827	1.011	6.900	40'
30'	.1478	.9890	.1495	6.691	1.011	6.765	30'
40'	.1507	.9886	.1524	6.561	1.012	6.636	20'
50'	.1536	.9881	.1554	6.435	1.012	6.512	10'
9°00'	.1564	.9877	.1584	6.314	1.012	6.392	81°00'
	cos	sin	cot	tan	csc	sec	角度

## 三角函數值表 (續)

角度	sin	cos	tan	cot	sec	csc	
9°00'	.1564	.9877	.1584	6.314	1.012	6.392	81°00'
10'	.1593	.9872	.1614	6.197	1.013	6.277	50'
20'	.1622	.9868	.1644	6.084	1.013	6.166	40'
30'	.1650	.9863	.1673	5.976	1.014	6.059	30'
40'	.1679	.9858	.1703	5.871	1.014	5.955	20'
50'	.1708	.9853	.1733	5.769	1.015	5.855	10'
10°00'	.1736	.9848	.1763	5.671	1.015	5.759	80°00'
10'	.1765	.9843	.1793	5.576	1.016	5.665	50'
20'	.1794	.9838	.1823	5.485	1.016	5.575	40'
30'	.1822	.9833	.1853	5.396	1.017	5.487	30'
40'	.1851	.9827	.1883	5.309	1.018	5.403	20'
50'	.1880	.9822	.1914	5.226	1.018	5.320	10'
11°00'	.1908	.9816	.1944	5.145	1.019	5.241	79°00'
10'	.1937	.9811	.1974	5.066	1.019	5.164	50'
20'	.1965	.9805	.2004	4.989	1.020	5.089	40'
30'	.1994	.9799	.2035	4.915	1.020	5.016	30'
40'	.2022	.9793	.2065	4.843	1.021	4.945	20'
50'	.2051	.9787	.2095	4.773	1.022	4.876	10'
12°00'	.2079	.9781	.2126	4.705	1.022	4.810	78°00'
10'	.2108	.9775	.2156	4.638	1.023	4.745	50'
20'	.2136	.9769	.2186	4.574	1.024	4.682	40'
30'	.2164	.9763	.2217	4.511	1.024	4.620	30'
40'	.2193	.9757	.2247	4.449	1.025	4.560	20'
50'	.2221	.9750	.2278	4.390	1.026	4.502	10'
13°00'	.2250	.9744	.2309	4.331	1.026	4.445	77°00'
10'	.2278	.9737	.2339	4.275	1.027	4.390	50'
20'	.2306	.9730	.2370	4.219	1.028	4.336	40'
30'	.2334	.9724	.2401	4.165	1.028	4.284	30'
40'	.2363	.9717	.2432	4.113	1.029	4.232	20'
50'	.2391	.9710	.2462	4.061	1.030	4.182	10'
14°00'	.2419	.9703	.2493	4.011	1.031	4.134	76°00'
10'	.2447	.9696	.2524	3.962	1.031	4.086	50'
20'	.2476	.9689	.2555	3.914	1.032	4.039	40'
30'	.2504	.9681	.2586	3.867	1.033	3.994	30'
40'	.2532	.9674	.2617	3.821	1.034	3.950	20'
50'	.2560	.9667	.2648	3.776	1.034	3.906	10'
15°00'	.2588	.9659	.2679	3.732	1.035	3.864	75°00'
10'	.2616	.9652	.2711	3.689	1.036	3.822	50'
20'	.2644	.9644	.2742	3.647	1.037	3.782	40'
30'	.2672	.9636	.2773	3.606	1.038	3.742	30'
40'	.2700	.9628	.2805	3.566	1.039	3.703	20'
50'	.2728	.9621	.2836	3.526	1.039	3.665	10'
16°00'	.2756	.9613	.2867	3.487	1.040	3.628	74°00'
10'	.2784	.9605	.2899	3.450	1.041	3.592	50'
20'	.2812	.9596	.2931	3.412	1.042	3.556	40'
30'	.2840	.9588	.2962	3.376	1.043	3.521	30'
40'	.2868	.9580	.2994	3.340	1.044	3.487	20'
50'	.2896	.9572	.3026	3.305	1.045	3.453	10'
17°00'	.2924	.9563	.3057	3.271	1.046	3.420	73°00'
10'	.2952	.9555	.3089	3.237	1.047	3.388	50'
20'	.2979	.9546	.3121	3.204	1.048	3.356	40'
30'	.3007	.9537	.3153	3.172	1.049	3.326	30'
40'	.3035	.9528	.3185	3.140	1.049	3.295	20'
50'	.3062	.9520	.3217	3.108	1.050	3.265	10'
18°00'	.3090	.9511	.3249	3.078	1.051	3.236	72°00'
	cos	sin	cot	tan	csc	sec	角度

## 三角函數值表 (續)

角度	sin	cos	tan	cot	sec	csc	
18°00'	.3090	.9511	.3249	3.078	1.051	3.236	72°00'
10'	.3118	.9502	.3281	3.047	1.052	3.207	50'
20'	.3145	.9492	.3314	3.018	1.053	3.179	40'
30'	.3173	.9483	.3346	2.989	1.054	3.152	30'
40'	.3201	.9474	.3378	2.960	1.056	3.124	20'
50'	.3228	.9465	.3411	2.932	1.057	3.098	10'
19°00'	.3256	.9455	.3443	2.904	1.058	3.072	71°00'
10'	.3283	.9446	.3476	2.877	1.059	3.046	50'
20'	.3311	.9436	.3508	2.850	1.060	3.021	40'
30'	.3338	.9426	.3541	2.824	1.061	2.996	30'
40'	.3365	.9417	.3574	2.798	1.062	2.971	20'
50'	.3393	.9407	.3607	2.773	1.063	2.947	10'
20°00'	.3420	.9397	.3640	2.747	1.064	2.924	70°00'
10'	.3448	.9387	.3673	2.723	1.065	2.901	50'
20'	.3475	.9377	.3706	2.699	1.066	2.878	40'
30'	.3502	.9367	.3739	2.675	1.068	2.855	30'
40'	.3529	.9356	.3772	2.651	1.069	2.833	20'
50'	.3557	.9346	.3805	2.628	1.070	2.812	10'
21°00'	.3584	.9336	.3839	2.605	1.071	2.790	69°00'
10'	.3611	.9325	.3872	2.583	1.072	2.769	50'
20'	.3638	.9315	.3906	2.560	1.074	2.749	40'
30'	.3665	.9304	.3939	2.539	1.075	2.729	30'
40'	.3692	.9293	.3973	2.517	1.076	2.709	20'
50'	.3719	.9283	.4006	2.496	1.077	2.689	10'
22°00'	.3746	.9272	.4040	2.475	1.079	2.669	68°00'
10'	.3773	.9261	.4076	2.455	1.080	2.650	50'
20'	.3800	.9250	.4108	2.434	1.081	2.632	40'
30'	.3827	.9239	.4142	2.414	1.082	2.613	30'
40'	.3854	.9228	.4176	2.394	1.084	2.595	20'
50'	.3881	.9216	.4210	2.375	1.085	2.577	10'
23°00'	.3907	.9205	.4245	2.356	1.086	2.559	67°00'
10'	.3934	.9194	.4279	2.337	1.088	2.542	50'
20'	.3961	.9182	.4314	2.318	1.089	2.525	40'
30'	.3987	.9171	.4348	2.300	1.090	2.508	30'
40'	.4014	.9159	.4383	2.282	1.092	2.491	20'
50'	.4041	.9147	.4417	2.264	1.093	2.475	10'
24°00'	.4067	.9135	.4452	2.246	1.095	2.459	66°00'
10'	.4094	.9124	.4487	2.229	1.096	2.443	50'
20'	.4120	.9112	.4522	2.211	1.097	2.427	40'
30'	.4147	.9100	.4557	2.194	1.099	2.411	30'
40'	.4173	.9088	.4592	2.177	1.100	2.396	20'
50'	.4200	.9075	.4628	2.161	1.102	2.381	10'
25°00'	.4226	.9063	.4663	2.145	1.103	2.366	65°00'
10'	.4253	.9051	.4699	2.128	1.105	2.352	50'
20'	.4279	.9038	.4734	2.112	1.106	2.337	40'
30'	.4305	.9026	.4770	2.097	1.108	2.323	30'
40'	.4331	.9013	.4806	2.081	1.109	2.309	20'
50'	.4358	.9001	.4841	2.066	1.111	2.295	10'
26°00'	.4384	.8988	.4877	2.050	1.113	2.281	64°00'
10'	.4410	.8975	.4913	2.035	1.114	2.268	50'
20'	.4436	.8962	.4950	2.020	1.116	2.254	40'
30'	.4462	.8949	.4986	2.006	1.117	2.241	30'
40'	.4488	.8936	.5022	1.991	1.119	2.228	20'
50'	.4514	.8923	.5059	1.977	1.121	2.215	10'
27°00'	.4540	.8910	.5095	1.963	1.122	2.203	63°00'
	cos	sin	cot	tan	csc	sec	角度

## 三角函數值表 (續)

角度	sin	cos	tan	cot	sec	csc	
27°00'	.4540	.8910	.5095	1.963	1.122	2.203	63°00'
10'	.4566	.8897	.5132	1.949	1.124	2.190	50'
20'	.4592	.8884	.5169	1.935	1.126	2.178	40'
30'	.4617	.8870	.5206	1.921	1.127	2.166	30'
40'	.4643	.8857	.5243	1.907	1.129	2.154	20'
50'	.4669	.8843	.5280	1.894	1.131	2.142	10'
28°00'	.4695	.8829	.5317	1.881	1.133	2.130	62°00'
10'	.4720	.8816	.5354	1.868	1.134	2.118	50'
20'	.4746	.8802	.5392	1.855	1.136	2.107	40'
30'	.4772	.8788	.5430	1.842	1.138	2.096	30'
40'	.4797	.8774	.5467	1.829	1.140	2.085	20'
50'	.4823	.8760	.5505	1.816	1.142	2.074	10'
29°00'	.4848	.8746	.5543	1.804	1.143	2.063	61°00'
10'	.4874	.8732	.5581	1.792	1.145	2.052	50'
20'	.4899	.8718	.5619	1.780	1.147	2.041	40'
30'	.4924	.8704	.5658	1.767	1.149	2.031	30'
40'	.4950	.8689	.5696	1.756	1.151	2.020	20'
50'	.4975	.8675	.5735	1.744	1.153	2.010	10'
30°00'	.5000	.8660	.5774	1.732	1.155	2.000	60°00'
10'	.5025	.8646	.5812	1.720	1.157	1.990	50'
20'	.5050	.8631	.5851	1.709	1.159	1.980	40'
30'	.5075	.8616	.5890	1.698	1.161	1.970	30'
40'	.5100	.8601	.5930	1.686	1.163	1.961	20'
50'	.5125	.8587	.5969	1.675	1.165	1.951	10'
31°00'	.5150	.8572	.6009	1.664	1.167	1.942	59°00'
10'	.5175	.8557	.6048	1.653	1.169	1.932	50'
20'	.5200	.8542	.6088	1.643	1.171	1.923	40'
30'	.5225	.8526	.6128	1.632	1.173	1.914	30'
40'	.5250	.8511	.6168	1.621	1.175	1.905	20'
50'	.5275	.8496	.6208	1.611	1.177	1.896	10'
32°00'	.5299	.8480	.6249	1.600	1.179	1.887	58°00'
10'	.5324	.8465	.6289	1.590	1.181	1.878	50'
20'	.5348	.8450	.6330	1.580	1.184	1.870	40'
30'	.5373	.8434	.6371	1.570	1.186	1.861	30'
40'	.5398	.8418	.6412	1.560	1.188	1.853	20'
50'	.5422	.8403	.6453	1.550	1.190	1.844	10'
33°00'	.5446	.8387	.6494	1.540	1.192	1.836	57°00'
10'	.5471	.8371	.6536	1.530	1.195	1.828	50'
20'	.5495	.8355	.6577	1.520	1.197	1.820	40'
30'	.5519	.8339	.6619	1.511	1.199	1.812	30'
40'	.5544	.8323	.6661	1.501	1.202	1.804	20'
50'	.5568	.8307	.6703	1.492	1.204	1.796	10'
34°00'	.5592	.8290	.6745	1.483	1.206	1.788	56°00'
10'	.5616	.8274	.6787	1.473	1.209	1.781	50'
20'	.5640	.8258	.6830	1.464	1.211	1.773	40'
30'	.5664	.8241	.6873	1.455	1.213	1.766	30'
40'	.5688	.8225	.6916	1.446	1.216	1.758	20'
50'	.5712	.8208	.6959	1.437	1.218	1.751	10'
35°00'	.5736	.8192	.7002	1.428	1.221	1.743	55°00'
10'	.5760	.8175	.7046	1.419	1.223	1.736	50'
20'	.5783	.8158	.7089	1.411	1.226	1.729	40'
30'	.5807	.8141	.7133	1.402	1.228	1.722	30'
40'	.5831	.8124	.7177	1.393	1.231	1.715	20'
50'	.5854	.8107	.7221	1.383	1.233	1.708	10'
36°00'	.5878	.8090	.7265	1.376	1.236	1.701	54°00'
	cos	sin	cot	tan	csc	sec	角度

## 三角函數值表 (續)

角度	sin	cos	tan	cot	sec	csc	
36°00'	.5878	.8090	.7265	1.376	1.236	1.701	54°00'
10'	.5901	.8073	.7310	1.368	1.239	1.695	50'
20'	.5925	.8056	.7355	1.360	1.241	1.688	40'
30'	.5948	.8039	.7400	1.351	1.244	1.681	30'
40'	.5972	.8021	.7445	1.343	1.247	1.675	20'
50'	.5995	.8004	.7490	1.335	1.249	1.668	10'
37°00'	.6018	.7986	.7536	1.327	1.252	1.662	53°00'
10'	.6041	.7969	.7581	1.319	1.255	1.655	50'
20'	.6065	.7951	.7627	1.311	1.258	1.649	40'
30'	.6088	.7934	.7673	1.303	1.260	1.643	30'
40'	.6111	.7916	.7720	1.295	1.263	1.636	20'
50'	.6134	.7898	.7766	1.288	1.266	1.630	10'
38°00'	.6157	.7880	.7813	1.280	1.269	1.624	52°00'
10'	.6180	.7862	.7860	1.272	1.272	1.618	50'
20'	.6202	.7844	.7907	1.265	1.275	1.612	40'
30'	.6225	.7826	.7954	1.257	1.278	1.606	30'
40'	.6248	.7808	.8002	1.250	1.281	1.601	20'
50'	.6271	.7790	.8050	1.242	1.284	1.595	10'
39°00'	.6293	.7771	.8098	1.235	1.287	1.589	51°00'
10'	.6316	.7753	.8146	1.228	1.290	1.583	50'
20'	.6338	.7735	.8195	1.220	1.293	1.578	40'
30'	.6361	.7716	.8243	1.213	1.296	1.572	30'
40'	.6383	.7698	.8292	1.206	1.299	1.567	20'
50'	.6406	.7679	.8342	1.199	1.302	1.561	10'
40°00'	.6428	.7660	.8391	1.192	1.305	1.556	50°00'
10'	.6450	.7642	.8441	1.185	1.309	1.550	50'
20'	.6472	.7623	.8491	1.178	1.312	1.545	40'
30'	.6494	.7604	.8541	1.171	1.315	1.540	30'
40'	.6517	.7585	.8591	1.164	1.318	1.535	20'
50'	.6539	.7566	.8642	1.157	1.322	1.529	10'
41°00'	.6561	.7547	.8693	1.150	1.325	1.524	49°00'
10'	.6583	.7528	.8744	1.144	1.328	1.519	50'
20'	.6604	.7509	.8796	1.137	1.332	1.514	40'
30'	.6626	.7490	.8847	1.130	1.335	1.509	30'
40'	.6648	.7470	.8899	1.124	1.339	1.504	20'
50'	.6670	.7451	.8952	1.117	1.342	1.499	10'
42°00'	.6691	.7431	.9004	1.111	1.346	1.494	48°00'
10'	.6713	.7412	.9057	1.104	1.349	1.490	50'
20'	.6734	.7392	.9110	1.098	1.353	1.485	40'
30'	.6756	.7373	.9163	1.091	1.356	1.480	30'
40'	.6777	.7353	.9217	1.085	1.360	1.476	20'
50'	.6799	.7333	.9271	1.079	1.364	1.471	10'
43°00'	.6820	.7314	.9325	1.072	1.367	1.466	47°00'
10'	.6841	.7294	.9380	1.066	1.371	1.462	50'
20'	.6862	.7274	.9435	1.060	1.375	1.457	40'
30'	.6884	.7254	.9490	1.054	1.379	1.453	30'
40'	.6905	.7234	.9545	1.048	1.382	1.448	20'
50'	.6926	.7214	.9601	1.042	1.386	1.444	10'
44°00'	.6947	.7193	.9657	1.036	1.390	1.440	46°00'
10'	.6967	.7173	.9713	1.030	1.394	1.435	50'
20'	.6988	.7153	.9770	1.024	1.398	1.431	40'
30'	.7009	.7133	.9827	1.018	1.402	1.427	30'
40'	.7030	.7112	.9884	1.012	1.406	1.423	20'
50'	.7050	.7092	.9942	1.006	1.410	1.418	10'
45°00'	.7071	.7071	1.000	1.000	1.414	1.414	45°00'
	cos	sin	cot	tan	csc	sec	角度