

DE=	EN=	PT=	VN=
Values of Sine and Cosine			

degress ↓	Sine A or Cosine B 0° to 45° minutes					↑	degress ↓	sine A or Cosine B 45° to 90° minutes					↑
	0°	15°	30°	45°	60°			0°	15°	30°	45°	60°	
0°	0.0000	0.0044	0.0087	0.0131	0.0175	89°	45°	0.7071	0.7102	0.7133	0.7163	0.7193	44°
1°	0.0175	0.0218	0.0262	0.0305	0.0349	88°	46°	0.7193	0.7224	0.7254	0.7284	0.7314	43°
2°	0.0349	0.0393	0.0436	0.0480	0.0523	87°	47°	0.7314	0.7343	0.7373	0.7402	0.7431	42°
3°	0.0523	0.0567	0.0610	0.0654	0.0698	86°	48°	0.7431	0.7461	0.7490	0.7518	0.7547	41°
4°	0.0698	0.0741	0.0785	0.0828	0.0872	85°	49°	0.7547	0.7576	0.7604	0.7632	0.7660	40°
5°	0.0872	0.0915	0.0958	0.1002	0.1045	84°	50°	0.7660	0.7688	0.7716	0.7744	0.7771	39°
6°	0.1045	0.1089	0.1132	0.1175	0.1219	83°	51°	0.7771	0.7799	0.7826	0.7863	0.7880	38°
7°	0.1219	0.1262	0.1305	0.1349	0.1392	82°	52°	0.7880	0.7907	0.7934	0.7960	0.7986	37°
8°	0.1392	0.1435	0.1478	0.1521	0.1564	81°	53°	0.7966	0.8013	0.8039	0.8064	0.8090	36°
9°	0.1564	0.1607	0.1650	0.1693	0.1736	80°	54°	0.8090	0.8116	0.8141	0.8166	0.8192	35°
10°	0.1736	0.1779	0.1822	0.1865	0.1908	79°	55°	0.8192	0.8216	0.8241	0.8266	0.8290	34°
11°	0.1908	0.1951	0.1994	0.2036	0.2079	78°	56°	0.8290	0.8315	0.8339	0.8363	0.8387	33°
12°	0.2079	0.2122	0.2164	0.2207	0.2250	77°	57°	0.8387	0.8410	0.8434	0.8457	0.8480	32°
13°	0.2250	0.2292	0.2334	0.2377	0.2419	76°	58°	0.8480	0.8504	0.8526	0.8549	0.8572	31°
14°	0.2419	0.2462	0.2504	0.2546	0.2588	75°	59°	0.8572	0.8594	0.8616	0.8638	0.8660	30°
15°	0.2588	0.2630	0.2672	0.2714	0.2758	74°	60°	0.8660	0.8682	0.8704	0.8725	0.8746	29°
16°	0.2756	0.2798	0.2840	0.2882	0.2924	73°	61°	0.8746	0.8767	0.8788	0.8809	0.8829	28°
17°	0.2924	0.2965	0.3007	0.3049	0.3090	72°	62°	0.8829	0.8850	0.8870	0.8890	0.8910	27°
18°	0.3090	0.3132	0.3173	0.3214	0.3256	71°	63°	0.8910	0.8930	0.8949	0.8969	0.8988	26°
19°	0.3256	0.3297	0.3338	0.3379	0.3420	70°	64°	0.8988	0.9007	0.9026	0.9045	0.9063	25°
20°	0.3420	0.3461	0.3502	0.3543	0.3584	69°	65°	0.9063	0.9081	0.9100	0.9118	0.9135	24°
21°	0.3584	0.3624	0.3665	0.3708	0.3746	68°	66°	0.9135	0.9153	0.9171	0.9188	0.9205	23°
22°	0.3746	0.3786	0.3827	0.3867	0.3907	67°	67°	0.9205	0.9222	0.9239	0.9255	0.9272	22°
23°	0.3907	0.3947	0.3987	0.4027	0.4067	66°	68°	0.9272	0.9288	0.9304	0.9320	0.9336	21°
24°	0.4067	0.4107	0.4147	0.4187	0.4226	65°	69°	0.9336	0.9351	0.9367	0.9382	0.9397	20°
25°	0.4226	0.4266	0.4305	0.4344	0.4384	64°	70°	0.9397	0.9412	0.9426	0.9441	0.9455	19°
26°	0.4384	0.4423	0.4462	0.4501	0.4540	63°	71°	0.9455	0.9469	0.9483	0.9497	0.9511	18°
27°	0.4540	0.4579	0.4617	0.4656	0.4695	62°	72°	0.9511	0.9524	0.9537	0.9550	0.9563	17°
28°	0.4695	0.4733	0.4772	0.4810	0.4848	61°	73°	0.9563	0.9576	0.9588	0.9600	0.9613	16°
29°	0.4848	0.4886	0.4924	0.4962	0.5000	60°	74°	0.9613	0.9625	0.9636	0.9648	0.9659	15°
30°	0.5000	0.5038	0.5075	0.5113	0.5150	59°	75°	0.9659	0.9670	0.9681	0.9692	0.9703	14°
31°	0.5150	0.5188	0.5225	0.5262	0.5299	58°	76°	0.9703	0.9713	0.9724	0.9734	0.9744	13°
32°	0.5299	0.5336	0.5373	0.5410	0.5446	57°	77°	0.9744	0.9753	0.9763	0.9772	0.9781	12°
33°	0.5446	0.5483	0.5519	0.5556	0.5592	56°	78°	0.9781	0.9790	0.9799	0.9808	0.9816	11°
34°	0.5592	0.5628	0.5664	0.5700	0.5736	55°	79°	0.9816	0.9825	0.9833	0.9840	0.9848	10°
35°	0.5736	0.5771	0.5807	0.5842	0.5878	54°	80°	0.9848	0.9856	0.9863	0.9870	0.9877	9°
36°	0.5878	0.5913	0.5948	0.5983	0.6018	53°	81°	0.9877	0.9884	0.9890	0.9897	0.9903	8°
37°	0.6018	0.6053	0.6088	0.6122	0.6157	52°	82°	0.9903	0.9909	0.9914	0.9920	0.9925	7°
38°	0.6157	0.6191	0.6225	0.6259	0.6293	51°	83°	0.9925	0.9931	0.9936	0.9941	0.9945	6°
39°	0.6293	0.6327	0.6361	0.6394	0.6428	50°	84°	0.9945	0.9950	0.9954	0.9958	0.9962	5°
40°	0.6428	0.6461	0.6494	0.6528	0.6561	49°	85°	0.9962	0.9966	0.9969	0.9973	0.9976	4°
41°	0.6561	0.6593	0.6626	0.6659	0.6691	48°	86°	0.9976	0.9979	0.9981	0.9984	0.9986	3°
42°	0.6691	0.6724	0.6756	0.6788	0.6820	47°	87°	0.9986	0.9988	0.9990	0.9992	0.9994	2°
43°	0.6820	0.6852	0.6884	0.6915	0.6947	46°	88°	0.9994	0.9995	0.9997	0.9998	0.9998	1°
44°	0.6947	0.6978	0.7009	0.7040	0.7071	45°	89°	0.9998	0.9999	0.9999	0.9999	1.0000	0°
	60°	45°	30°	15°	0°	↑		60°	45°	30°	15°	0°	↑
← Sinue B or Cosine A 45° to 90°						← Sinue B or Cosine A 0° to 45°							

de= Sinus
en= sine
pt= seno
vn= sin

de= Cosinus
en= cosine
pt= co-seno
vn= cô sin

gez/erfasst:	hpw	Datum: 2009	eduction project	Werte von Sinus und Cosinus	translate/en_iwhp/p_cu/vn_ha	orign:HBM_engl_page11
Aenderung:	an	Datum: 18.05.2015	WIAP KFKOK	Values of Sine and Cosine	r2	datei_wi_8_f_17_c15_r2_11
Aenderung:	control 2	Data:	Safenwil Schweiz	spear 2	www.wiap.ch	idee of / from HPW

DE=	EN=	PT=	VN=
Values of Tangent and Cotangent			

degress ↓	tangent A or cotangent B 0° to 45° minutes →					degress ↓	tangent A or cotangent B 45° to 90° minutes →					degress ↓	
	0°	15°	30°	45°	60°		0°	15°	30°	45°	60°		
0°	0.0000	0.0044	0.0087	0.0131	0.0175	89°	46°	1.0000	1.0088	1.0176	1.0265	1.0355	44°
1°	0.0175	0.0218	0.0262	0.0306	0.0349	88°	46°	1.0355	1.0446	1.0538	1.0630	1.0724	43°
2°	0.0349	0.0393	0.0437	0.0480	0.524	87°	47°	1.0724	1.0818	1.0913	1.1009	1.1106	42°
3°	0.0524	0.0568	0.0612	0.0655	0.699	86°	48°	1.1106	1.1204	1.1303	1.1403	1.1504	41°
4°	0.0699	0.0743	0.0787	0.0831	0.875	85°	49°	1.1504	1.1606	1.1708	1.1812	1.1918	40°
5°	0.0875	0.0919	0.963	0.1007	0.1051	84°	50°	1.1918	1.2024	1.2131	1.2239	1.2349	39°
6°	0.1051	0.1095	0.1139	0.1184	0.1228	83°	51°	1.2349	1.2460	1.2572	1.2685	1.2799	38°
7°	0.1228	0.1272	0.1317	0.1361	0.1405	82°	52°	1.2799	1.2915	1.3032	1.3151	1.3270	37°
8°	0.1405	0.1450	0.1495	0.1539	0.1584	81°	53°	1.3270	1.3392	1.3514	1.3638	1.3764	36°
9°	0.1584	0.1629	0.1673	0.1718	0.1763	80°	54°	1.3764	1.3891	1.4019	1.4150	1.4281	35°
10°	0.1763	0.1808	0.1853	0.1899	0.1944	79°	55°	1.4281	1.4415	1.4550	1.4687	1.4826	34°
11°	0.1944	0.1989	0.2035	0.2080	0.2126	78°	56°	1.4826	1.4966	1.5108	1.5253	1.5399	33°
12°	0.2126	0.2171	0.2217	0.2263	0.2309	77°	57°	1.5399	1.5547	1.5697	1.5849	1.6003	32°
13°	0.2309	0.2355	0.2401	0.2447	0.2493	76°	58°	1.6003	1.6160	1.6319	1.6479	1.6643	31°
14°	0.2493	0.2540	0.2586	0.2633	0.2679	75°	59°	1.6643	1.6808	1.6977	1.7147	1.7321	30°
15°	0.2679	0.2726	0.2773	0.2820	0.2867	74°	60°	1.7321	1.7496	1.7675	1.7856	1.8040	29°
16°	0.2867	0.2915	0.2962	0.3010	0.3057	73°	61°	1.8040	1.8228	1.8418	1.8611	1.8807	28°
17°	0.3057	0.3105	0.3153	0.3201	0.3249	72°	62°	1.8607	1.9007	1.9210	1.9416	1.9626	27°
18°	0.3249	0.3298	0.3346	0.3395	0.3443	71°	63°	1.9626	1.9840	2.0057	2.0278	2.0503	26°
19°	0.3443	0.3492	0.3541	0.3590	0.3640	70°	64°	2.0503	2.0732	2.0965	2.1203	2.1445	25°
20°	0.3640	0.3689	0.3739	0.3789	0.3839	69°	65°	2.1445	2.1692	2.1943	2.2199	2.2460	24°
21°	0.3839	0.3889	0.3939	0.3990	0.4040	68°	66°	2.2460	2.2727	2.2998	2.3276	2.3559	23°
22°	0.4040	0.4091	0.4142	0.4193	0.4245	67°	67°	2.3559	2.3847	2.4142	2.4443	2.4751	22°
23°	0.4245	0.4296	0.4348	0.4400	0.4452	66°	68°	2.4751	2.5065	2.5386	2.5715	2.6051	21°
24°	0.4452	0.4505	0.4557	0.4610	0.4663	65°	69°	2.6051	2.6395	2.6746	2.7106	2.7475	20°
25°	0.4663	0.4716	0.4770	0.4823	0.4877	64°	70°	2.7475	2.7852	2.8239	2.8636	2.9042	19°
26°	0.4877	0.4931	0.4986	0.5040	0.5095	63°	71°	2.9042	2.9459	2.9887	3.0326	3.0777	18°
27°	0.5095	0.5150	0.5206	0.5261	0.5317	62°	72°	3.0777	3.1240	3.1716	3.2205	3.2709	17°
28°	0.5317	0.5373	0.5430	0.5486	0.5543	61°	73°	3.2709	3.3226	3.3759	3.4308	3.4874	16°
29°	0.5543	0.5600	0.5658	0.5715	0.5774	60°	74°	3.4874	3.5457	3.6059	3.6680	3.7321	15°
30°	0.5774	0.5832	0.5890	0.5949	0.6009	59°	75°	3.7321	3.7983	3.8667	3.9375	4.0108	14°
31°	0.6009	0.6068	0.6128	0.6188	0.6249	58°	76°	4.0108	4.0876	4.1653	4.2468	4.3315	13°
32°	0.6249	0.6310	0.6371	0.6432	0.6494	57°	77°	4.3315	4.4194	4.5107	4.6057	4.7046	12°
33°	0.6494	0.6556	0.6619	0.6682	0.6745	56°	78°	4.7046	4.8077	4.9152	5.0273	5.1446	11°
34°	0.6745	0.6809	0.6873	0.6937	0.7002	55°	79°	5.1446	5.2672	5.3955	5.5301	5.6713	10°
35°	0.7002	0.7067	0.7133	0.7199	0.7265	54°	80°	5.6713	5.8197	5.9758	6.1402	6.3138	9°
36°	0.7265	0.7332	0.7400	0.7467	0.7536	53°	81°	6.3138	6.4971	6.6912	6.8969	7.1154	8°
37°	0.7536	0.7604	0.7673	0.7743	0.7813	52°	82°	7.1154	7.3479	7.5958	7.8606	8.1443	7°
38°	0.7813	0.7883	0.7954	0.8026	0.8098	51°	83°	8.1443	8.4490	8.7769	9.1309	9.5144	6°
39°	0.8098	0.8170	0.8243	0.8317	0.8391	50°	84°	9.5144	9.9310	10.3854	10.8829	11.4301	5°
40°	0.8391	0.8466	0.8541	0.8617	0.8693	49°	85°	11.4301	12.0346	12.7062	13.4566	14.3007	4°
41°	0.8693	0.8770	0.8847	0.8925	0.9004	48°	86°	14.3007	15.2571	16.3499	17.6106	19.0811	3°
42°	0.9004	0.9083	0.9163	0.9244	0.9325	47°	87°	19.0811	20.8188	22.9038	25.4517	28.6363	2°
43°	0.9325	0.9407	0.9490	0.9573	0.9657	46°	88°	28.6363	32.7303	38.1885	45.8294	57.2900	1°
44°	0.9657	0.9742	0.9827	0.9913	1.0000	46°	89°	57.2900	76.3900	114.5887	229.1817	∞	0°
	60°	45°	30°	15°	0°	↑		60°	45°	30°	15°	0°	↑
	← minutes						← minutes						
	← tangent A or cotangent B 45° to 90°						← cotangent A or tangent B 0° to 45°						

de= Tangente
en= tangent
pt= tangente
vn= tiếp tuyến

de= Kotangens
en= cotangent
pt= co-tangente
vn= cotang

gez/erfasst:	hpw	Datum: 2009	eduction project	Werte von Sinus und Cosinus	translate/en_iwhp/p_cu/vn_ha	orig:HBM_engl_page12
Aenderung:	an	Datum: 18.05.2015	WIAP KFKOK	Values of Sine and Cosine	r2	datei_wi_8_f_17_c15_r2_11
Aenderung:	control 2	Data:	Safenwil Schweiz	spear 2	www.wiap.ch	idee of / from HPW