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Handbuch der Vermessungskunde

Jordan, Wilhelm

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Anhang. Hilfstabeln.

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Anhang.

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φ	$\log V$	Differenzen		φ	$\log V$	Differenzen	
0° 0'	0.001 4541'798	—	—	8° 0'	0.001 4261'059	—	—
10	4541'675	0'123	0'245	10	4249'319	11'740	0'234
20	4541'307	0'368	0'245	20	4237'343	11'974	0'236
30	4540'694	0'613	0'245	30	4225'133	12'210	0'236
40	4539'836	0'858	0'246	40	4212'687	12'446	0'233
50	4538'732	1'104	0'244	50	4200'008	12'679	0'234
		1'348	0'246			12'913	
1° 0'	0.001 4537'384	1'594	0'245	9° 0'	0.001 4187'095	13'147	0'234
10	4535'790	1'839	0'245	10	4173'948	13'379	0'232
20	4533'951	2'084	0'245	20	4160'569	13'612	0'233
30	4531'867	2'329	0'245	30	4146'957	13'844	0'232
40	4529'538	2'574	0'245	40	4133'113	14'076	0'232
50	4526'964	2'818	0'244	50	4119'037	14'307	0'231
			0'246			14'537	0'230
2° 0'	0.001 4524'146	3'064	0'243	10° 0'	0.001 4104'730	14'768	0'231
10	4521'082	3'307	0'246	10	4090'193	14'997	0'229
20	4517'775	3'553	0'243	20	4075'425	15'226	0'229
30	4514'222	3'796	0'245	30	4060'428	15'455	0'228
40	4510'426	4'041	0'244	40	4045'202	15'683	0'228
50	4506'385	4'285	0'244			15'911	0'226
			0'244			16'137	0'228
3° 0'	0.001 4502'100	4'529	0'244	11° 0'	0.001 4014'064	16'365	0'225
10	4497'571	4'773	0'243	10	3998'153	16'590	0'225
20	4492'798	5'016	0'244	20	3982'016	16'815	0'226
30	4487'782	5'260	0'243	30	3965'651	17'041	0'223
40	4482'522	5'503	0'243	40	3949'061	17'264	0'224
50	4477'019	5'746	0'243	50	3932'246	17'488	0'224
			0'242			17'712	0'222
4° 0'	0.001 4471'273	5'989	0'242	12° 0'	0.001 3915'205	17'934	0'222
10	4465'284	6'231	0'244	10	3897'941	18'156	0'221
20	4459'053	6'475	0'241	20	3880'453	18'377	0'221
30	4452'578	6'716	0'241	30	3862'741	18'598	0'219
40	4445'862	6'959	0'241	40	3844'807	18'817	0'221
50	4438'903	7'200	0'242	50	3826'651	19'038	0'218
			0'241			19'256	0'218
5° 0'	0.001 4431'703	7'442	0'241	13° 0'	0.001 3808'274	19'474	0'218
10	4424'261	7'683	0'242	10	3789'676	19'692	0'216
20	4416'578	7'925	0'240	20	3770'859	19'908	0'217
30	4408'653	8'165	0'241	30	3751'821	20'125	0'215
40	4400'488	8'406	0'240	40	3732'565	20'340	0'215
50	4392'082	8'646	0'239	50	3713'091	20'555	0'214
			0'239			20'769	0'213
6° 0'	0.001 4383'436	8'885	0'241	14° 0'	0.001 3693'399	20'982	0'214
10	4374'551	9'126	0'239	10	3673'491	21'196	0'211
20	4365'425	9'365	0'239	20	3653'366	21'407	0'211
30	4356'060	9'604	0'239	30	3633'026	21'618	0'211
40	4346'456	9'843	0'238	40	3612'471	21'829	0'210
50	4336'613	10'081	0'238	50	3591'702	22'039	0'209
			0'238			22'248	
7° 0'	0.001 4326'532	10'319	0'237	15° 0'	0.001 3570'720		
10	4316'213	10'557	0'237	10	3549'524		
20	4305'656	10'794	0'237	20	3528'117		
30	4294'862	11'031	0'237	30	3506'499		
40	4283'831	11'268	0'237	40	3484'670		
50	4272'563	11'504	0'236	50	3462'631		
8° 0'	0.001 4261'059			16° 0'	0.001 3440'383		

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φ	$\log V$	Differenzen		φ	$\log V$	Differenzen	
		—	—			—	—
16° 0'	0.001 3440'383	22'456		24° 0'	0.001 2142'793	31'447	0'164
10	3417'927	22'664	0'208	10	2111'346	31'611	0'163
20	3395'263	22'871	0'207	20	2079'735	31'774	0'161
30	3372'392	23'077	0'206	30	2047'961	31'935	0'160
40	3349'315	23'282	0'205	40	2016'026	32'095	0'160
50	3326'033	23'486	0'204	50	1983'931	32'255	0'158
			0'204				
17° 0'	0.001 3302'547	23'690		25° 0'	0.001 1951'676	32'413	0'158
10	3278'857	23'894	0'204	10	1919'263	32'571	0'155
20	3254'963	24'095	0'201	20	1886'692	32'726	0'156
30	3230'868	24'296	0'201	30	1853'966	32'882	0'154
40	3206'572	24'497	0'200	40	1821'084	33'036	0'152
50	3182'075	24'697	0'199	50	1788'048	33'188	0'152
			0'199				
18° 0'	0.001 3157'378	24'896		26° 0'	0.001 1754'860	33'340	0'151
10	3132'482	25'095	0'199	10	1721'520	33'491	0'149
20	3107'389	25'291	0'196	20	1688'029	33'640	0'149
30	3082'098	25'487	0'195	30	1654'389	33'789	0'146
40	3056'611	25'682	0'196	40	1620'600	33'935	0'147
50	3030'929	25'878	0'192	50	1586'665	34'082	0'145
			0'192				
19° 0'	0.001 3005'051	26'070		27° 0'	0.001 1552'583	34'227	0'143
10	2979'081	26'364	0'194	10	1518'356	34'370	0'143
20	2952'717	26'456	0'192	20	1483'986	34'513	0'141
30	2926'261	26'646	0'190	30	1449'473	34'654	0'141
40	2899'615	26'837	0'191	40	1414'819	34'795	0'139
50	2872'778	27'026	0'189	50	1380'024	34'934	0'138
			0'189				
20° 0'	0.001 2845'752	27'215		28° 0'	0.001 1345'090	35'072	0'136
10	2818'537	27'402	0'187	10	1310'018	35'208	0'136
20	2791'135	27'588	0'186	20	1274'810	35'344	0'134
30	2763'547	27'774	0'186	30	1239'466	35'478	0'134
40	2735'773	27'959	0'185	40	1203'988	35'612	0'131
50	2707'814	28'143	0'184	50	1168'376	35'743	0'132
			0'182				
21° 0'	0.001 2679'671	28'325		29° 0'	0.001 1132'633	35'875	0'128
10	2651'346	28'507	0'182	10	1096'758	36'003	0'130
20	2622'839	28'688	0'181	20	1060'755	36'133	0'126
30	2594'151	28'868	0'180	30	1024'622	36'259	0'126
40	2565'283	29'047	0'179	40	988'363	36'385	0'125
50	2536'236	29'225	0'178	50	951'978	36'510	0'123
			0'177				
22° 0'	0.001 2507'011	29'402		30° 0'	0.001 0915'468	36'633	0'123
10	2477'609	29'578	0'176	10	0878'835	36'756	0'121
20	2448'031	29'753	0'175	20	0842'079	36'877	0'119
30	2418'278	29'927	0'174	30	0805'202	36'996	0'119
40	2388'351	30'100	0'173	40	0768'206	37'115	0'117
50	2358'251	30'272	0'172	50	0731'091	37'232	0'116
			0'171				
23° 0'	0.001 2327'979	30'443		31° 0'	0.001 0693'859	37'348	0'115
10	2297'536	30'613	0'170	10	0656'511	37'463	0'113
20	2266'923	30'782	0'169	20	0619'048	37'576	0'112
30	2236'141	30'949	0'167	30	0581'472	37'688	0'112
40	2205'192	31'117	0'168	40	0543'784	37'800	0'109
50	2174'075	31'282	0'165	50	0505'984	37'909	
24° 0'	0.001 2142'793			32° 0'	0.001 0468'075		

vgl. § 34.

φ	$\log V$	Differenzen		φ	$\log V$	Differenzen	
		—	—			—	—
32° 0'	0.001 0468 075	38° 017	0° 108	40° 0'	0.000 8545 279	41° 655	+
10	0430 058	38° 125	0° 105	10	8503 624	41° 697	0° 042
20	0391 933	38° 230	0° 105	20	8461 927	41° 738	0° 041
30	0353 703	38° 335	0° 103	30	8420 189	41° 777	0° 039
40	0315 368	38° 438	0° 102	40	8378 412	41° 815	0° 038
50	0276 930	38° 540	0° 101	50	8336 597	41° 851	0° 036
33° 0'	0.001 0238 390	38° 641	0° 099	41° 0'	0.000 8294 746	41° 886	0° 035
10	0199 749	38° 740	0° 098	10	8252 860	41° 920	0° 034
20	0161 009	38° 838	0° 097	20	8210 940	41° 953	0° 033
30	0122 171	38° 935	0° 095	30	8168 987	41° 982	0° 029
40	0083 236	39° 030	0° 094	40	8127 005	42° 013	0° 031
50	0044 206	39° 124	0° 094	50	8084 992	42° 040	0° 027
34° 0'	0.001 0005 082	39° 218	0° 090	42° 0'	0.000 8042 952	42° 067	0° 027
10	0.000 9965 864	39° 308	0° 091	10	8000 885	42° 092	0° 025
20	9926 556	39° 399	0° 088	20	7958 793	42° 115	0° 023
30	9887 157	39° 487	0° 088	30	7916 678	42° 138	0° 023
40	9847 670	39° 575	0° 086	40	7874 540	42° 159	0° 021
50	9808 095	39° 661	0° 085	50	7832 381	42° 178	0° 019
35° 0'	0.000 9768 434	39° 746	0° 084	43° 0'	0.000 7790 203	42° 196	0° 018
10	9728 688	39° 830	0° 081	10	7748 007	42° 213	0° 017
20	9688 858	39° 911	0° 081	20	7705 794	42° 227	0° 014
30	9648 947	39° 992	0° 080	30	7663 567	42° 242	0° 015
40	9608 955	40° 072	0° 078	40	7621 325	42° 254	0° 012
50	9568 883	40° 150	0° 076	50	7579 071	42° 264	0° 010
36° 0'	0.000 9528 733	40° 226	0° 076	44° 0'	0.000 7536 807	42° 274	0° 010
10	9488 507	40° 302	0° 074	10	7494 533	42° 282	0° 008
20	9448 205	40° 376	0° 072	20	7452 251	42° 289	0° 007
30	9407 829	40° 448	0° 070	30	7409 962	42° 293	0° 004
40	9367 381	40° 520	0° 068	40	7367 669	42° 298	0° 005
50	9326 861	40° 590	0° 067	50	7325 371	42° 299	0° 001
37° 0'	0.000 9286 271	40° 658	0° 067	45° 0'	0.000 7283 072	42° 301	+
10	9245 613	40° 725	0° 066	10	7240 771	42° 299	0° 002
20	9204 888	40° 791	0° 064	20	7198 472	42° 298	0° 001
30	9164 097	40° 855	0° 064	30	7156 174	42° 294	0° 004
40	9123 242	40° 919	0° 061	40	7113 880	42° 290	0° 004
50	9082 323	40° 980	0° 061	50	7071 590	42° 283	0° 007
38° 0'	0.000 9041 343	41° 041	0° 058	46° 0'	0.000 7029 307	42° 275	0° 008
10	9000 302	41° 099	0° 058	10	6987 032	42° 266	0° 009
20	8959 203	41° 157	0° 055	20	6944 766	42° 266	0° 010
30	8918 046	41° 212	0° 053	30	6902 510	42° 256	0° 013
40	8876 834	41° 268	0° 053	40	6860 267	42° 243	0° 013
50	8835 566	41° 321	0° 052	50	6818 037	42° 230	0° 015
39° 0'	0.000 8794 245	41° 373	0° 050	47° 0'	0.000 6775 822	42° 215	0° 017
10	8752 872	41° 423	0° 049	10	6733 624	42° 198	0° 017
20	8711 449	41° 472	0° 049	20	6691 443	42° 181	0° 019
30	8669 977	41° 521	0° 045	30	6649 281	42° 162	0° 021
40	8628 456	41° 566	0° 045	40	6607 140	42° 141	0° 022
50	8586 890	41° 611		50	6565 021	42° 119	0° 024
40° 0'	0.000 8545 279			48° 0'	0.000 6522 926		

vgl. § 34.

φ	$\log V$	Differenzen		φ	$\log V$	Differenzen	
		—	+			—	+
48° 0'	0.000 6522'926	42'071	0'027	56° 0'	0.000 4557'646	39'224	0'094
10	6480'855	42'044	0'028	10	4518'422	39'130	0'094
20	6438'811	42'016	0'028	20	4479'292	39'036	0'095
30	6396'795	41'988	0'032	30	4440'256	38'941	0'098
40	6354'807	41'956	0'031	40	4401'315	38'843	0'097
50	6312'851	41'925	0'034	50	4362'472	38'746	0'100
49° 0'	0.000 6270'926	41'891	0'035	57° 0'	0.000 4323'726	38'646	0'101
10	6229'035	41'856	0'036	10	4285'080	38'545	0'102
20	6187'179	41'820	0'038	20	4246'535	38'443	0'104
30	6145'359	41'782	0'039	30	4208'092	38'339	0'104
40	6103'577	41'743	0'040	40	4169'753	38'235	0'107
50	6061'834	41'703	0'042	50	4131'518	38'128	0'107
50° 0'	0.000 6020'131	41'661	0'044	58° 0'	0.000 4093'390	38'021	0'108
10	5978'470	41'617	0'045	10	4055'369	37'913	0'111
20	5936'853	41'572	0'045	20	4017'456	37'802	0'110
30	5895'281	41'527	0'049	30	3979'654	37'692	0'114
40	5853'754	41'478	0'048	40	3941'962	37'578	0'113
50	5812'276	41'430	0'051	50	3904'384	37'465	0'115
51° 0'	0.000 5770'846	41'379	0'051	59° 0'	0.000 3866'919	37'350	0'116
10	5729'467	41'328	0'054	10	3829'569	37'234	0'118
20	5688'139	41'274	0'055	20	3792'335	37'116	0'119
30	5646'865	41'219	0'055	30	3755'219	36'997	0'120
40	5605'646	41'164	0'058	40	3718'222	36'877	0'121
50	5564'482	41'106	0'059	50	3681'345	36'756	0'123
52° 0'	0.000 5523'376	41'047	0'059	60° 0'	0.000 3644'589	36'633	0'124
10	5482'329	40'988	0'063	10	3607'956	36'509	0'125
20	5441'341	40'925	0'062	20	3571'447	36'384	0'127
30	5400'416	40'863	0'065	30	3535'063	36'257	0'127
40	5359'553	40'798	0'066	40	3498'806	36'130	0'128
50	5318'755	40'732	0'066	50	3462'676	36'002	0'131
53° 0'	0.000 5278'023	40'666	0'069	61° 0'	0.000 3426'674	35'871	0'131
10	5237'357	40'597	0'070	10	3390'803	35'740	0'133
20	5196'760	40'527	0'072	20	3355'063	35'607	0'133
30	5156'233	40'455	0'072	30	3319'456	35'474	0'135
40	5115'778	40'383	0'074	40	3283'982	35'339	0'137
50	5075'395	40'309	0'075	50	3248'643	35'202	0'136
54° 0'	0.000 5035'086	40'234	0'077	62° 0'	0.000 3213'441	35'066	0'139
10	4994'852	40'157	0'078	10	3178'375	34'927	0'140
20	4954'695	40'079	0'080	20	3143'448	34'787	0'141
30	4914'616	39'999	0'080	30	3108'661	34'646	0'142
40	4874'617	39'919	0'083	40	3074'015	34'504	0'142
50	4834'698	39'836	0'083	50	3039'511	34'362	0'146
55° 0'	0.000 4794'862	39'753	0'085	63° 0'	0.000 3005'149	34'216	0'145
10	4755'109	39'668	0'087	10	2970'933	34'071	0'146
20	4715'441	39'581	0'087	20	2936'862	33'925	0'149
30	4675'860	39'494	0'089	30	2902'937	33'776	0'148
40	4636'366	39'405	0'090	40	2869'161	33'628	0'151
50	4596'961	39'315		50	2835'533	33'477	
56° 0'	0.000 4557'646			64° 0'	0.000 2802'056		

vgl. § 34.

φ	$\log V$	Differenzen		φ	$\log V$	Differenzen	
		—	+			—	+
64° 0'	0.000 2802'056			72° 0'	0.000 1392'831		
10	2768'730	33'326	0'152	10	1368'000	24'831	0'200
20	2735'556	33'174	0'154	20	1343'369	24'631	0'201
30	2702'536	33'020	0'155	30	1318'939	24'430	0'202
40	2669'671	32'865	0'155	40	1294'711	24'228	0'203
50	2636'961	32'710	0'158	50	1270'686	24'025	0'203
		32'552	0'157			23'822	0'204
65° 0'	0.000 2604'409			73° 0'	0.000 1246'864		
10	2572'014	32'395	0'160	10	1223'246	23'618	0'206
20	2539'779	32'235	0'160	20	1199'834	23'412	0'206
30	2507'704	32'075	0'161	30	1176'628	23'206	0'206
40	2475'790	31'914	0'162	40	1153'628	23'000	0'208
50	2444'038	31'752	0'165	50	1130'836	22'792	0'208
		31'587	0'163			22'584	0'209
66° 0'	0.000 2412'451			74° 0'	0.000 1108'252		
10	2381'027	31'424	0'167	10	1085'877	22'375	0'210
20	2349'770	31'257	0'166	20	1063'712	22'165	0'210
30	2318'679	31'091	0'168	30	1041'757	21'955	0'212
40	2287'756	30'923	0'168	40	1020'014	21'743	0'212
50	2257'001	30'755	0'171	50	0998'483	21'531	0'213
		30'584	0'170			21'318	0'213
67° 0'	0.000 2226'417			75° 0'	0.000 0977'165		
10	2196'003	30'414	0'173	10	0956'060	21'105	0'215
20	2165'762	30'241	0'172	20	0935'170	20'890	0'214
30	2135'693	30'069	0'174	30	0914'494	20'776	0'216
40	2105'798	29'895	0'176	40	0894'034	20'460	0'217
50	2076'079	29'719	0'175	50	0873'791	20'243	0'216
		29'544	0'178			20'027	0'219
68° 0'	0.000 2046'535			76° 0'	0.000 0853'764		
10	2017'169	29'366	0'178	10	833'956	19'808	0'218
20	1987'981	29'188	0'178	20	814'366	19'590	0'218
30	1958'971	29'010	0'181	30	794'994	19'372	0'221
40	1930'142	28'829	0'181	40	775'843	19'151	0'220
50	1901'494	28'648	0'181	50	756'912	18'931	0'221
		28'467	0'184			18'710	0'222
69° 0'	0.000 1873'027			77° 0'	0.000 0738'202		
10	1844'744	28'283	0'184	10	719'714	18'488	0'222
20	1816'645	28'099	0'184	20	701'448	18'266	0'223
30	1788'730	27'915	0'186	30	683'405	18'043	0'224
40	1761'001	27'729	0'187	40	665'586	17'819	0'224
50	1733'459	27'542	0'188	50	647'991	17'595	0'224
		27'354	0'189			17'371	0'226
70° 0'	0.000 1706'105			78° 0'	0.000 0630'620		
10	1678'940	27'165	0'189	10	613'475	17'145	0'226
20	1651'964	26'976	0'191	20	596'556	16'919	0'226
30	1625'179	26'785	0'191	30	579'863	16'693	0'228
40	1598'585	26'594	0'192	40	563'398	16'465	0'227
50	1572'183	26'402	0'194	50	547'160	16'238	0'229
		26'208	0'193			16'009	0'228
71° 0'	0.000 1545'975			79° 0'	0.000 0531'151		
10	1519'960	26'015	0'196	10	515'370	15'781	0'229
20	1494'141	25'819	0'196	20	499'818	15'552	0'231
30	1468'518	25'623	0'196	30	484'497	15'321	0'229
40	1443'091	25'427	0'198	40	469'405	15'092	0'232
50	1417'862	25'229	0'198	50	454'545	14'860	0'231
		25'031				14'629	
72° 0'	0.000 1392'831			80° 0'	0.000 0439'916		

vgl. § 34.

φ	$\log V$	Differenzen		φ	$\log V$	Differenzen	
		—	+			—	+
80° 0'	0.000 0439'916			88° 0'	0.000 0017'771		
10	425'519	14'397	0'232	10	14'933	2'838	0'247
20	411'354	14'165	0'233	20	12'342	2'591	0'247
30	397'422	13'932	0'233	30	9'998	2'344	0'246
40	383'723	13'699	0'235	40	7'900	2'098	0'247
50	370'259	13'464	0'235	50	6'049	1'851	0'246
		13'231	0'235			1'605	0'247
81° 0'	0.000 0357'028			89° 0'	0.000 0004'444		
10	344'032	12'996	0'236	10	3'086	1'358	0'247
20	331'272	12'760	0'234	20	1'975	1'111	0'247
30	318'746	12'526	0'237	30	1'111	0'864	0'247
40	306'457	12'289	0'237	40	0'494	0'617	0'246
50	294'405	12'052	0'236	50	0'123	0'371	0'248
		11'816	0'238			0'123	
82° 0'	0.000 0282'589			90° 0'	0.000 0000'000		
10	271'011	11'578	0'237				
20	259'670	11'341	0'238				
30	248'567	11'103	0'239				
40	237'703	10'864	0'238				
50	227'077	10'626	0'240				
		10'386	0'239				
83° 0'	0.000 0216'691						
10	206'544	10'147	0'240				
20	196'637	9'907	0'240				
30	186'970	9'667	0'241				
40	177'544	9'426	0'240				
50	168'358	9'186	0'242				
		8'944	0'241				
84° 0'	0.000 0159'414						
10	150'711	8'703	0'242				
20	142'250	8'461	0'242				
30	134'031	8'219	0'242				
40	126'054	7'977	0'343				
50	118'320	7'734	0'243				
		7'491	0'243				
85° 0'	0.000 0110'829						
10	103'581	7'248	0'243				
20	96'576	7'005	0'244				
30	89'815	6'761	0'244				
40	83'298	6'517	0'244				
50	77'025	6'273	0'244				
		6'029	0'245				
86° 0'	0.000 0070'996						
10	65'212	5'784	0'244				
20	59'672	5'540	0'245				
30	54'377	5'295	0'246				
40	49'328	5'049	0'244				
50	44'523	4'805	0'246				
		4'559	0'245				
87° 0'	0.000 0039'964						
10	35'650	4'314	0'247				
20	31'583	4'067	0'245				
30	27'761	3'822	0'246				
40	24'185	3'576	0'246				
50	20'855	3'330	0'246				
		3'084					
88° 0'	0.000 0017'771						

vgl. § 34.

Berechnungsformeln für $\log V$:

$$\begin{aligned} \log V = & + [4'164\ 073\ 0'989] \cos^2 \varphi \\ & - [1'690\ 361\ 8'9] \cos^4 \varphi \\ & + [9'341\ 589] \cos^6 \varphi \\ & - [7'043\ 97] \cos^8 \varphi \\ & + [4'774] \cos^{10} \varphi . \end{aligned}$$

Wenn φ kleiner als 45° ist, so rechnet man bequemer:

$$\begin{aligned} -\log W = & + [4'161\ 1047'393] \sin^2 \varphi \\ & + [1'684\ 5451'6] \sin^4 \varphi \\ & + [9'332\ 8643] \sin^6 \varphi \\ & + [7'032\ 336] \sin^8 \varphi \\ & + [4'7598] \sin^{10} \varphi \end{aligned}$$

$$V = \frac{W}{\sqrt{1-e^2}} \text{ oder } V = W \sqrt{1+e'^2}$$

$$\begin{aligned} \log \frac{1}{\sqrt{1-e^2}} &= \log \sqrt{1+e'^2} \\ &= 0.001\ 4541'798002 \end{aligned}$$

$$\begin{aligned} \log V = & 7276'985\ 4166 \\ & - [3.861\ 5877'062] \sin 2(\varphi - 45^\circ) \\ & + [0.784\ 3611'0] \cos 4(\varphi - 45^\circ) \\ & + [7.832\ 0728] \sin 6(\varphi - 45^\circ) \\ & - [4.93\ 069] \cos 8(\varphi - 45^\circ) . \end{aligned}$$

φ	$\log M$	Δ	$\log N$	Δ	$\log r$	Δ	$\log \frac{1}{r^2}$	Δ
	6.801	+	6.804	+	6.803	+	— 20	—
0° 0'	7351.0		6434.6		1892.8		6.393 621	
10	7351.4	0.4	6434.8	0.2	1893.1	0.3	621	0
20	7352.5	1.1	6435.1	0.3	1893.8	0.7	621	0
30	7354.4	1.9	6435.7	0.6	1895.0	1.2	621	0
40	7356.9	2.5	6436.6	0.9	1896.8	1.8	621	0
50	7360.2	3.3	6437.7	1.1	1899.0	2.2	620	1
		4.1		1.4		2.7		0
1° 0'	7364.3		6439.1		1901.7		6.393 620	
10	7369.1	4.8	6440.6	1.5	1904.9	3.2	619	1
20	7374.6	5.5	6442.5	1.9	1908.5	3.6	618	1
30	7380.8	6.2	6444.6	2.1	1912.7	4.2	617	1
40	7387.8	7.0	6446.9	2.3	1917.4	4.7	617	0
50	7395.5	7.7	6449.5	2.6	1922.5	5.1	617	0
		8.5		2.8		5.6		2
2° 0'	7404.0		6452.3		1928.1		6.393 615	
10	7413.2	9.2	6455.4	3.1	1934.3	6.2	613	2
20	7423.1	9.9	6458.7	3.3	1940.9	6.6	612	1
30	7433.8	10.7	6462.2	3.5	1948.0	7.1	610	2
40	7445.2	11.4	6466.0	3.8	1955.6	7.6	609	1
50	7457.3	12.1	6470.1	4.1	1963.7	8.1	607	2
		12.8		4.2		8.5		1
3° 0'	7470.1		6474.3		1972.2		6.393 606	
10	7483.7	18.6	6478.9	4.6	1981.3	9.1	604	2
20	7498.0	14.3	6483.6	4.7	1990.8	9.5	602	2
30	7513.1	15.1	6488.7	5.1	2000.9	10.1	600	2
40	7528.9	15.8	6493.9	5.2	2011.4	10.5	598	2
50	7545.4	16.5	6499.4	5.5	2022.4	11.0	596	2
		17.2		5.8		11.5		3
4° 0'	7562.6		6505.2		2033.9		6.393 593	
10	7580.6	18.0	6511.2	6.0	2045.9	12.0	591	2
20	7599.3	18.7	6517.4	6.2	2058.3	12.4	588	3
30	7618.7	19.4	6523.9	6.5	2071.3	13.0	586	2
40	7638.8	20.1	6530.6	6.7	2084.7	13.4	583	3
50	7659.7	20.9	6537.5	6.9	2098.6	13.9	583	3
		21.6		7.2		14.4	580	3
5° 0'	7681.3		6544.7		2113.0		6.393 577	
10	7703.7	22.4	6552.2	7.5	2127.9	14.9	574	3
20	7726.7	23.0	6559.9	7.7	2143.3	15.4	571	3
30	7750.5	23.8	6567.8	7.9	2159.1	15.8	568	3
40	7775.0	24.5	6575.9	8.1	2175.5	16.4	565	3
50	7800.2	25.2	6584.4	8.5	2192.3	16.8	562	3
		25.9		8.6		17.3		4
6° 0'	7826.1		6593.0		2209.6		6.393 558	
10	7852.8	26.7	6601.9	8.9	2227.3	17.7	555	3
20	7880.2	27.4	6611.0	9.1	2245.6	18.3	551	4
30	7908.3	28.1	6620.4	9.4	2264.3	18.7	547	4
40	7937.1	28.8	6630.0	9.6	2283.5	19.2	543	4
50	7966.6	29.5	6639.8	9.8	2303.2	19.7	539	4
		30.2		10.1		20.2		4
7° 0'	7996.8		6649.9		2323.4		6.393 535	
10	8027.8	31.0	6660.2	10.3	2344.0	20.6	531	4
20	8059.5	31.7	6670.8	10.6	2365.1	21.1	527	4
30	8091.8	32.3	6681.6	10.8	2386.7	21.6	523	4
40	8124.9	33.1	6692.6	11.0	2408.8	22.1	518	5
50	8158.7	33.8	6703.9	11.3	2431.3	22.5	514	4
		34.5		11.5		23.0		5
8° 0'	8193.2		6715.4		2454.3		509	

vgl. § 39. S. 230.

φ	$\log W$	Δ	$\log [1]$	Δ	$\log [2]$	Δ	$\log V^2$	Δ
	9.999 — 10	—	8.512 — 10	—	8.509 — 10	—	0.002	—
0° 0'	*0000.0	0.1	6900.3	0.4	7816.7	0.1	9083.6	0.2
10	9999.9	0.4	6899.9	1.1	7816.6	0.4	9083.4	0.8
20	9999.5	0.6	6898.8	1.8	7816.2	0.6	9082.6	1.2
30	9998.9	0.9	6897.0	2.6	7815.6	0.9	9081.4	1.7
40	9998.0	1.1	6894.4	3.3	7814.7	1.1	9079.7	2.2
50	9996.9	1.3	6891.7	4.0	7813.6	1.3	9077.5	2.7
1° 0'	9995.6	1.6	6887.1	4.8	7812.3	1.6	9074.8	3.2
10	9994.0	1.8	6882.3	5.6	7810.7	1.9	9071.6	3.7
20	9992.2	2.1	6876.7	6.2	7808.8	2.0	9067.9	4.2
30	9990.1	2.4	6870.5	7.0	7806.8	2.4	9063.7	4.6
40	9987.7	2.5	6863.5	7.7	7804.4	2.5	9059.1	5.2
50	9985.2	2.9	6855.8	8.5	7801.9	2.9	9053.9	5.6
2° 0'	9982.3	3.0	6847.3	9.2	7799.0	3.0	9048.3	6.1
10	9979.3	3.3	6838.1	9.9	7796.0	3.3	9042.2	6.7
20	9976.0	3.6	6828.2	10.6	7792.7	3.6	9035.5	7.1
30	9972.4	3.8	6817.6	11.4	7789.1	3.8	9028.4	7.5
40	9968.6	4.0	6806.2	12.1	7785.3	4.0	9020.9	8.1
50	9964.6	4.3	6794.1	12.9	7781.3	4.3	9012.8	8.6
3° 0'	9960.3	4.5	6781.2	13.6	7777.0	4.5	9004.2	9.1
10	9955.8	4.8	6767.6	14.3	7772.5	4.8	8995.1	9.5
20	9951.0	5.0	6753.3	15.1	7767.7	5.0	8985.6	10.0
30	9946.0	5.3	6738.2	15.7	7762.7	5.3	8975.6	10.5
40	9940.7	5.5	6722.5	16.5	7757.4	5.5	8965.1	11.0
50	9935.2	5.7	6706.0	17.3	7751.9	5.7	8954.1	11.5
4° 0'	9929.5	6.0	6688.7	18.0	7746.2	6.0	8942.6	11.9
10	9923.5	6.2	6670.7	18.6	7740.2	6.3	8930.7	12.5
20	9917.3	6.5	6652.1	19.5	7733.9	6.4	8918.2	12.9
30	9910.8	6.7	6632.6	20.1	7727.5	6.7	8905.3	13.5
40	9904.1	7.0	6612.5	20.9	7720.8	7.0	8891.8	13.9
50	9897.1	7.2	6591.6	21.6	7713.8	7.2	8877.9	14.4
5° 0'	9889.9	7.4	6570.0	22.3	7706.6	7.4	8863.5	14.9
10	9882.5	7.7	6547.7	23.1	7699.2	7.7	8848.6	15.3
20	9874.8	7.9	6524.6	23.7	7691.5	7.9	8833.3	15.9
30	9866.9	8.2	6500.9	24.5	7683.6	8.2	8817.4	16.3
40	9858.7	8.4	6476.4	25.3	7675.4	8.4	8801.1	16.8
50	9850.3	8.7	6451.1	25.9	7667.0	8.7	8784.3	17.3
6° 0'	9841.6	8.8	6425.2	26.7	7658.3	8.9	8766.9	17.8
10	9832.8	9.2	6398.5	27.3	7649.4	9.1	8749.1	18.3
20	9823.6	9.3	6371.2	28.1	7640.3	9.3	8730.8	18.7
30	9814.3	9.6	6343.1	28.8	7631.0	9.6	8712.1	19.2
40	9804.7	9.9	6314.3	29.6	7621.4	9.9	8692.9	19.7
50	9794.8	10.1	6284.7	30.2	7611.5	10.1	8673.2	20.1
7° 0'	9784.7	10.3	6254.5	31.0	7601.4	10.3	8653.1	20.7
10	9774.4	10.5	6223.5	31.6	7591.1	10.5	8632.4	21.1
20	9763.9	10.8	6191.9	32.4	7580.6	10.8	8611.3	21.6
30	9753.1	11.1	6159.5	33.1	7569.8	11.1	8589.2	22.0
40	9742.0	11.2	6126.4	33.8	7558.7	11.2	8567.7	22.6
50	9730.8	11.5	6092.6	34.5	7547.5	11.5	8545.1	23.0
8° 0'	9719.3		6058.1		7536.0		8522.1	

vgl. § 39. S. 230.

φ	$\log M$	Δ	$\log N$	Δ	$\log r$	Δ	$\log \frac{1}{r^2}$	Δ
	6.801	+	6.804	+	6.803	+	— 20	—
8° 0'	8193.2	35.3	6715.4	11.7	2454.3	23.5	6.393 509	5
10	8228.5	35.9	6727.1	12.0	2477.8	23.9	504	4
20	8264.4	36.6	6739.1	12.2	2501.7	24.4	500	5
30	8301.0	37.4	6751.3	12.4	2526.1	25.0	495	5
40	8338.4	38.0	6763.7	12.7	2551.1	25.3	490	5
50	8376.4	38.7	6776.4	12.9	2576.4	25.8	485	5
9° 0'	8415.1	39.5	6789.3	13.2	2602.2	26.3	6.393 480	6
10	8454.6	40.1	6802.5	13.4	2628.5	26.8	474	5
20	8494.7	40.9	6815.9	13.6	2655.3	27.2	469	6
30	8535.6	41.5	6829.5	13.8	2682.5	27.7	463	5
40	8577.1	42.2	6843.3	14.1	2710.2	28.2	458	6
50	8619.3	42.9	6857.4	14.3	2738.4	28.6	452	5
10° 0'	8662.2	43.7	6871.7	14.5	2767.0	29.0	6.393 447	6
10	8705.9	44.3	6886.2	14.8	2796.0	29.6	441	6
20	8750.2	45.0	6901.0	15.0	2825.6	30.0	435	6
30	8795.2	45.6	6916.0	15.2	2855.6	30.4	429	6
40	8840.8	46.4	6931.2	15.5	2886.0	30.9	423	6
50	8887.2	47.0	6946.7	15.7	2916.9	31.4	417	7
11° 0'	8934.2	47.8	6962.4	15.9	2948.3	31.8	6.393 410	6
10	8982.0	48.4	6978.3	16.1	2980.1	32.3	404	6
20	9030.4	49.1	6994.4	16.4	3012.4	32.7	398	7
30	9079.5	49.7	7010.8	16.6	3045.1	33.2	391	7
40	9129.2	50.5	7027.4	16.8	3078.3	33.6	384	6
50	9179.7	51.1	7044.2	17.0	3111.9	34.1	378	7
12° 0'	9230.8	51.8	7061.2	17.3	3146.0	34.6	6.393 371	7
10	9282.6	52.5	7078.5	17.5	3180.6	34.9	364	7
20	9335.1	53.1	7096.0	17.7	3215.5	35.5	357	7
30	9388.2	53.8	7113.7	17.9	3251.0	35.8	350	7
40	9442.0	54.5	7131.6	18.2	3286.8	36.3	343	8
50	9496.5	55.1	7149.8	18.4	3323.1	36.8	335	7
13° 0'	9551.6	55.8	7168.2	18.6	3359.9	37.2	6.393 328	7
10	9607.4	56.5	7186.8	18.8	3397.1	37.6	321	8
20	9663.9	57.1	7205.6	19.0	3434.7	38.1	313	8
30	9721.0	57.7	7224.6	19.3	3472.8	38.5	305	7
40	9778.7	58.5	7243.9	19.4	3511.3	39.0	298	8
50	9837.2	59.0	7263.3	19.7	3550.3	39.3	290	8
14° 0'	9896.2	59.8	7283.0	19.9	3589.6	39.9	6.393 282	8
10	9956.0	60.3	7302.9	20.2	3629.5	40.2	274	8
20	*0016.3	61.1	7323.1	20.3	3669.7	40.7	266	8
30	0077.4	61.6	7343.4	20.6	3710.4	41.1	258	8
40	0139.0	62.3	7364.0	20.7	3751.5	41.5	250	9
50	0201.3	63.0	7384.7	21.0	3793.0	42.0	241	8
15° 0'	0264.3	63.6	7405.7	21.2	3835.0	42.4	6.393 233	8
10	0327.9	64.2	7426.9	21.4	3877.4	42.8	225	9
20	0392.1	64.8	7448.3	21.6	3920.2	43.1	216	9
30	0456.9	65.5	7469.9	21.9	3963.4	43.7	207	8
40	0522.4	66.1	7491.8	22.0	4007.1	44.1	199	9
50	0588.5	66.8	7513.8	22.3	4051.2	44.5	190	9
16° 0'	0655.3		7536.1		4095.7		181	

vgl. § 39. S. 230.

φ	$\log W$	Δ	$\log [1]$	Δ	$\log [2]$	Δ	$\log V^2$	Δ
	9.999 — 10	—	8.512 — 10	—	8.509 — 10	—	0.002	—
8° 0'	9719.3	11.8	6058.1	35.2	7536.0	11.8	8522.1	23.5
10	9707.5	12.0	6022.9	36.0	7524.2	12.0	8498.6	23.9
20	9695.5	12.2	5986.9	36.6	7512.2	12.2	8474.7	24.4
30	9683.3	12.4	5950.3	37.3	7500.0	12.4	8450.3	24.9
40	9670.9	12.7	5913.0	38.1	7487.6	12.7	8425.4	25.4
50	9658.2	12.9	5874.9	38.7	7474.9	12.9	8400.0	25.8
9° 0'	9645.8	13.2	5836.2	39.5	7462.0	13.2	8374.2	26.3
10	9632.1	13.3	5796.7	40.1	7448.8	13.3	8347.9	26.8
20	9618.8	13.6	5756.6	40.8	7435.5	13.6	8321.1	27.2
30	9605.2	13.9	5715.8	41.6	7421.9	13.9	8293.9	27.7
40	9591.3	14.1	5674.2	42.2	7408.0	14.1	8266.2	28.1
50	9577.2	14.3	5632.0	42.9	7393.9	14.3	8238.1	28.6
10° 0'	9562.9	14.5	5589.1	43.6	7379.6	14.5	8209.5	29.1
10	9548.4	14.6	5545.5	44.3	7365.1	14.8	8180.4	29.6
20	9533.6	15.0	5501.2	45.0	7350.3	15.0	8150.8	29.9
30	9518.6	15.2	5456.2	45.7	7335.3	15.2	8120.9	30.5
40	9503.4	15.5	5410.5	46.4	7320.1	15.5	8090.4	30.9
50	9487.9	15.6	5364.1	47.0	7304.6	15.6	8059.5	31.4
11° 0'	9472.3	15.9	5317.1	47.7	7289.0	15.9	8028.1	31.8
10	9456.4	16.2	5269.4	48.5	7273.1	16.2	7996.3	32.3
20	9440.2	16.3	5220.9	49.0	7256.9	16.4	7964.0	32.7
30	9423.9	16.6	5171.9	49.8	7240.5	16.5	7931.3	33.2
40	9407.3	16.8	5122.1	50.5	7224.0	16.9	7898.1	33.6
50	9390.4	17.1	5071.6	51.1	7207.1	17.0	7864.5	34.1
12° 0'	9373.4	17.3	5020.5	51.8	7190.1	17.3	7830.4	34.5
10	9356.1	17.4	4968.7	52.4	7172.8	17.5	7795.9	35.0
20	9338.7	17.8	4916.3	53.2	7155.3	17.7	7760.9	35.4
30	9320.9	17.9	4863.1	53.8	7137.6	17.9	7725.5	35.9
40	9303.0	18.1	4809.3	54.5	7119.7	18.2	7689.6	36.3
50	9284.9	18.4	4754.8	55.1	7101.5	18.3	7653.3	36.7
13° 0'	9266.5	18.6	4699.7	55.8	7083.2	18.6	7616.6	37.2
10	9247.9	18.8	4643.9	56.4	7064.6	18.8	7579.4	37.7
20	9229.1	19.1	4587.5	57.1	7045.8	19.1	7541.7	38.1
30	9210.0	19.2	4530.4	57.8	7026.7	19.2	7503.6	38.5
40	9190.8	19.5	4472.6	58.4	7007.5	19.5	7465.1	38.9
50	9171.3	19.7	4414.2	59.1	6988.0	19.7	7426.2	39.4
14° 0'	9151.6	19.9	4355.1	59.7	6968.3	19.9	7386.8	39.8
10	9131.7	20.1	4295.4	60.4	6948.4	20.1	7347.0	40.3
20	9111.6	20.4	4235.0	61.0	6928.3	20.4	7306.7	40.6
30	9091.2	20.5	4174.0	61.7	6907.9	20.5	7266.1	41.2
40	9070.7	20.8	4112.3	62.3	6887.4	20.8	7224.9	41.5
50	9049.9	21.0	4050.0	62.9	6866.6	21.0	7183.4	42.0
15° 0'	9028.9	21.2	3987.1	63.6	6845.6	21.2	7141.4	42.4
10	9007.7	21.4	3923.5	64.3	6824.4	21.4	7099.0	42.8
20	8986.3	21.6	3859.2	64.8	6803.0	21.6	7056.2	43.2
30	8964.7	21.8	3794.4	65.5	6781.4	21.8	7013.0	43.7
40	8942.9	22.1	3728.9	66.1	6759.6	22.1	6969.3	44.0
50	8920.8	22.2	3662.8	66.8	6737.5	22.2	6925.3	44.5
16° 0'	8898.6		3596.0		6715.3		6880.8	

vgl. § 39. S. 230.

φ	$\log M$	Δ	$\log N$	Δ	$\log r$	Δ	$\log \frac{1}{r^2}$	Δ
	6.802		6.804		6.803		— 20	—
16° 0'	0655.3	67.4	7536.1	22.4	4095.7	44.9	6.393 181	9
10	0722.7	67.9	7558.5	22.7	4140.6	45.3	172	9
20	0790.6	68.7	7581.2	22.8	4185.9	45.7	163	9
30	0859.3	69.2	7604.0	23.1	4231.6	46.2	154	10
40	0928.5	69.8	7627.1	23.3	4277.8	46.6	144	9
50	0998.3	70.5	7650.4	23.5	4324.4	46.9	135	9
17° 0'	1068.8	71.1	7673.9	23.7	4371.3	47.4	6.393 126	10
10	1139.9	71.6	7697.6	23.9	4418.7	47.8	116	9
20	1211.5	72.3	7721.5	24.1	4466.5	48.2	107	10
30	1283.8	72.9	7745.6	24.3	4514.7	48.6	097	10
40	1356.7	73.5	7769.9	24.5	4563.3	49.0	087	9
50	1430.2	74.1	7794.4	24.7	4612.3	49.4	078	10
18° 0'	1504.3	74.7	7819.1	24.9	4661.7	49.8	6.393 068	10
10	1579.0	75.3	7844.0	25.0	4711.5	50.2	058	10
20	1654.3	75.8	7869.0	25.3	4761.7	50.5	048	10
30	1730.1	76.5	7894.3	25.5	4812.2	51.0	038	11
40	1806.6	77.1	7919.8	25.7	4863.2	51.4	027	10
50	1883.7	77.6	7945.5	25.9	4914.6	51.7	017	10
19° 0'	1961.3	78.2	7971.4	26.1	4966.3	52.2	6.393 007	11
10	2039.5	78.8	7997.5	26.2	5018.5	52.5	6.392 996	10
20	2118.3	79.4	8023.7	26.5	5071.0	52.9	986	11
30	2197.7	79.9	8050.2	26.6	5123.9	53.3	975	10
40	2277.6	80.5	8076.8	26.9	5177.2	53.7	965	11
50	2358.1	81.1	8103.7	27.0	5230.9	54.0	954	11
20° 0'	2439.2	81.6	8130.7	27.2	5284.9	54.5	6.392 943	11
10	2520.8	82.2	8157.9	27.4	5339.4	54.8	932	11
20	2603.0	82.8	8185.3	27.6	5394.2	55.2	921	11
30	2685.8	83.3	8212.9	27.8	5449.4	55.5	910	11
40	2769.1	83.9	8240.7	27.9	5504.9	55.9	899	11
50	2853.0	84.4	8268.6	28.2	5560.8	56.3	888	11
21° 0'	2937.4	85.0	8296.8	28.3	5617.1	56.6	6.392 877	12
10	3022.4	85.5	8325.1	28.5	5673.7	57.1	865	11
20	3107.9	86.1	8353.6	28.7	5730.8	57.3	854	12
30	3194.0	86.6	8382.3	28.9	5788.1	57.8	842	11
40	3280.6	87.1	8411.2	29.0	5845.9	58.1	831	12
50	3367.7	87.7	8440.2	29.2	5904.0	58.4	819	11
22° 0'	3455.4	88.2	8469.4	29.4	5962.4	58.8	6.392 808	12
10	3543.6	88.8	8498.8	29.6	6021.2	59.2	796	12
20	3632.4	89.2	8528.4	29.8	6080.4	59.5	784	12
30	3721.6	89.8	8558.2	29.9	6139.9	59.8	772	12
40	3811.4	90.3	8588.1	30.1	6199.7	60.2	760	12
50	3901.7	90.8	8618.2	30.3	6259.9	60.6	748	12
23° 0'	3992.5	91.3	8648.5	30.4	6320.5	60.9	6.392 736	12
10	4083.8	91.9	8678.9	30.6	6381.4	61.2	724	13
20	4175.7	92.3	8709.5	30.8	6442.6	61.6	711	12
30	4268.0	92.9	8740.3	30.9	6504.2	61.9	699	12
40	4360.9	93.3	8771.2	31.2	6566.1	62.2	687	13
50	4454.2	93.9	8802.4	31.2	6628.3	62.5	674	12
24° 0'	4548.1		8833.6		6690.8		6.392 662	

vgl. § 39, S. 230.

φ	$\log W$	Δ	$\log [1]$	Δ	$\log [2]$	Δ	$\log V^2$	Δ
	9.999 — 10	—	8.512 — 10	—	8.509 — 10	—	0.002	—
16° 0'	8898.6	22.5	3596.0	67.3	6715.3	22.5	6880.8	44.9
10	8876.1	22.6	3528.7	68.0	6692.8	22.6	6885.9	45.4
20	8853.5	22.9	3460.7	68.6	6670.2	22.9	6790.5	45.7
30	8830.6	23.1	3392.1	69.2	6647.3	23.1	6744.8	46.2
40	8807.5	23.3	3322.9	69.9	6624.2	23.3	6698.6	46.5
50	8784.2	23.5	3253.0	70.5	6600.9	23.5	6652.1	47.0
17° 0'	8760.7	23.6	3182.5	71.0	6577.4	23.6	6605.1	47.4
10	8737.1	23.9	3111.5	71.6	6553.8	23.9	6557.7	47.8
20	8713.2	24.1	3039.9	72.4	6529.9	24.1	6519.9	48.2
30	8689.1	24.3	2967.5	72.9	6505.8	24.3	6461.7	48.5
40	8664.8	24.5	2894.6	73.5	6481.5	24.5	6413.2	49.0
50	8640.3	24.7	2821.1	74.1	6457.0	24.7	6364.2	49.4
18° 0'	8615.6	24.9	2747.0	74.7	6432.3	24.9	6314.8	49.8
10	8590.7	25.1	2672.3	75.2	6407.4	25.1	6265.0	50.2
20	8565.6	25.3	2597.1	75.9	6382.3	25.3	6214.8	50.6
30	8540.3	25.5	2521.2	76.5	6357.0	25.5	6164.2	51.0
40	8514.8	25.7	2444.7	77.0	6331.5	25.7	6113.2	51.3
50	8489.1	25.8	2367.7	77.6	6305.8	25.9	6061.9	51.8
19° 0'	8463.3	26.1	2290.1	78.3	6279.9	26.0	6010.1	52.1
10	8437.2	26.3	2211.8	78.7	6253.9	26.3	5958.0	52.6
20	8410.9	26.4	2133.1	79.4	6227.6	26.4	5905.4	52.9
30	8384.5	26.7	2053.7	80.0	6201.2	26.7	5852.5	53.3
40	8357.8	26.8	1973.7	80.5	6174.5	26.8	5799.2	53.6
50	8331.0	27.0	1893.2	81.0	6147.7	27.1	5745.6	54.1
20° 0'	8304.0	27.3	1812.2	81.7	6120.6	27.1	5691.5	54.4
10	8276.7	27.4	1730.5	82.2	6093.4	27.4	5637.1	54.8
20	8249.3	27.6	1648.3	82.8	6066.0	27.6	5582.3	55.2
30	8221.7	27.7	1565.5	83.3	6038.4	27.7	5527.1	55.6
40	8194.0	28.0	1482.2	83.9	6010.7	28.0	5471.5	55.9
50	8166.0	28.1	1398.3	84.4	5982.7	28.1	5415.6	56.3
21° 0'	8137.9	28.4	1313.9	85.0	5954.6	28.4	5359.3	56.6
10	8109.5	28.5	1228.9	85.5	5926.2	28.5	5302.7	57.0
20	8081.0	28.6	1143.4	86.1	5897.7	28.7	5245.7	57.4
30	8052.4	28.9	1057.3	86.6	5869.0	28.8	5188.3	57.7
40	8023.5	29.1	0970.7	87.1	5840.2	29.1	5130.6	58.1
50	7994.4	29.2	0883.6	87.7	5811.1	29.2	5072.5	58.5
22° 0'	7965.2	29.4	0795.9	88.2	5781.9	29.4	5014.0	58.8
10	7935.8	29.6	0707.7	88.7	5752.5	29.6	4955.2	59.1
20	7906.2	29.7	0619.0	89.3	5722.9	29.7	4896.1	59.5
30	7876.5	29.9	0529.7	89.8	5693.2	30.0	4836.6	59.9
40	7846.6	30.1	0439.9	90.3	5663.2	30.1	4776.7	60.2
50	7816.5	30.3	0349.6	90.8	5633.1	30.2	4716.5	60.5
23° 0'	7786.2	30.5	0258.8	91.3	5602.9	30.5	4656.0	60.9
10	7755.7	30.6	0167.5	91.8	5572.4	30.6	4595.1	61.3
20	7725.1	30.8	0075.7	92.4	5541.8	30.8	4533.8	61.5
30	7694.3	30.9	*9983.3	92.8	5511.0	30.9	4472.3	61.9
40	7663.4	31.1	9890.5	93.4	5480.1	31.1	4410.4	62.3
50	7632.3	31.3	9797.1	93.8	5449.0	31.3	4348.1	62.5
24° 0'	7601.0		9703.3		5417.7		4285.6	

vgl. § 39. S. 230.

φ	$\log M$	Δ	$\log N$	Δ	$\log r$	Δ	$\log \frac{1}{r^2}$	Δ
	6.802	+	6.804	+	6.803	+	- 20	-
24° 0'	4548.1	94.3	8833.6	31.5	6690.8	62.9	6.392 662	13
10	4642.4	94.8	8865.1	31.6	6753.7	63.3	649	12
20	4737.2	95.4	8896.7	31.8	6817.0	63.5	637	13
30	4832.6	95.8	8928.5	31.9	6880.5	63.9	624	13
40	4928.4	96.3	8960.4	32.1	6944.4	64.2	611	13
50	5024.7	96.7	8992.5	32.3	7008.6	64.5	598	13
25° 0'	5121.4	97.2	9024.8	32.4	7073.1	64.8	6.392 585	13
10	5218.6	97.8	9057.2	32.5	7137.9	65.2	572	13
20	5316.4	98.1	9089.7	32.8	7203.1	65.4	559	13
30	5414.5	98.7	9122.5	32.9	7268.5	65.8	546	13
40	5513.2	99.1	9155.4	33.0	7334.3	66.0	533	13
50	5612.3	99.6	9188.4	33.2	7400.3	66.4	520	13
26° 0'	5711.9	100.0	9221.6	33.3	7466.7	66.7	6.392 507	14
10	5811.9	100.4	9254.9	33.5	7533.4	67.0	493	13
20	5912.3	101.0	9288.4	33.6	7600.4	67.3	480	14
30	6013.3	101.3	9322.0	33.8	7667.7	67.5	466	13
40	6114.6	101.8	9355.8	34.0	7735.2	67.9	453	14
50	6216.4	102.3	9389.8	34.1	7803.1	68.2	439	13
27° 0'	6318.7	102.7	9423.9	34.2	7871.3	68.4	6.392 426	14
10	6421.4	103.1	9458.1	34.3	7939.7	68.8	412	14
20	6524.5	103.5	9492.4	34.6	8008.5	69.0	398	13
30	6628.0	104.0	9527.0	34.6	8077.5	69.3	385	14
40	6732.0	104.4	9561.6	34.8	8146.8	69.6	371	14
50	6836.4	104.8	9596.4	34.9	8216.4	69.8	357	14
28° 0'	6941.2	105.2	9631.3	35.1	8286.2	70.2	6.392 343	14
10	7046.4	105.6	9666.4	35.2	8356.4	70.4	329	14
20	7152.0	106.0	9701.6	35.4	8426.8	70.7	315	15
30	7258.0	106.5	9737.0	35.4	8497.5	71.0	300	14
40	7364.5	106.8	9772.4	35.7	8568.5	71.2	286	14
50	7471.3	107.2	9808.1	35.7	8639.7	71.5	272	14
29° 0'	7578.5	107.7	9843.8	35.9	8711.2	71.7	6.392 258	15
10	7686.2	108.0	9879.7	36.0	8782.9	72.0	243	14
20	7794.2	108.4	9915.7	36.1	8854.9	72.3	229	14
30	7902.6	108.7	9951.8	36.3	8927.2	72.5	215	15
40	8011.3	109.2	9988.1	36.4	8999.7	72.8	200	14
50	8120.5	109.5	*0024.5	36.5	9072.5	73.0	186	15
30° 0'	8230.0	109.9	0061.0	36.6	9145.5	73.3	6.392 171	15
10	8339.9	110.3	0097.6	36.8	9218.8	73.5	156	14
20	8450.2	110.6	0134.4	36.8	9292.3	73.7	142	15
30	8560.8	111.0	0171.2	37.0	9366.0	74.0	127	15
40	8671.8	111.4	0208.2	37.1	9440.0	74.2	112	15
50	8783.2	111.7	0245.3	37.3	9514.2	74.5	097	15
31° 0'	8894.9	112.0	0282.6	37.3	9588.7	74.7	6.392 082	15
10	9006.9	112.4	0319.9	37.5	9663.4	74.9	067	15
20	9119.3	112.7	0357.4	37.6	9738.3	75.2	052	15
30	9232.0	113.1	0395.0	37.6	9813.5	75.4	037	15
40	9345.1	113.4	0432.6	37.8	9888.9	65.6	022	15
50	9458.5	113.7	0470.4	38.0	9964.5	65.8	007	15
32° 0'	9572.2		0508.4		* 0040.3		6.391 992	

vgl. § 39. S. 230.

φ	$\log W$	Δ	$\log [1]$	Δ	$\log [2]$	Δ	$\log V^2$	Δ
	9.999 — 10	—	8.511 — 10	—	8.509 — 10	—	0.002	—
24° 0'	7601.0	31.5	9703.3	94.4	5417.7	31.5	4285.6	62.9
10	7569.5	31.6	9608.9	94.8	5386.2	31.6	4222.7	63.2
20	7537.9	31.7	9514.1	95.3	5354.6	31.7	4159.5	63.6
30	7506.2	32.0	9418.8	95.8	5322.9	32.0	4095.9	63.9
40	7474.2	32.1	9323.0	96.3	5290.9	32.1	4032.0	64.1
50	7442.1	32.2	9226.7	96.8	5258.8	32.2	3967.9	64.5
25° 0'	7409.9	32.4	9129.9	97.2	5226.6	32.4	3903.4	64.9
10	7377.5	32.6	9032.7	97.7	5194.2	32.6	3838.5	65.1
20	7344.9	32.7	8935.0	98.2	5161.6	32.7	3773.4	65.5
30	7312.2	32.9	8836.8	98.7	5128.9	32.9	3707.9	65.7
40	7279.3	33.0	8738.1	99.1	5096.0	33.1	3642.2	66.1
50	7246.3	33.2	8639.0	99.5	5062.9	33.1	3576.1	66.4
26° 0'	7213.1	33.4	8539.5	100.0	5029.8	33.4	3509.7	66.7
10	7179.7	33.5	8439.5	100.5	4996.4	33.5	3443.0	66.9
20	7146.2	33.6	8339.0	100.9	4962.9	33.6	3376.1	67.3
30	7112.6	33.8	8238.1	101.4	4929.3	33.8	3308.8	67.6
40	7078.8	33.9	8136.7	101.8	4895.5	33.9	3241.2	67.9
50	7044.9	34.1	8034.9	102.3	4861.6	34.1	3173.3	68.1
27° 0'	7010.8	34.2	7932.6	102.6	4827.5	34.2	3105.2	68.5
10	6976.6	34.4	7830.0	103.1	4793.3	34.4	3036.7	68.7
20	6942.2	34.5	7726.9	103.6	4758.9	34.5	2968.0	69.0
30	6907.7	34.7	7623.3	103.9	4724.4	34.7	2899.0	69.4
40	6873.0	34.8	7519.4	104.4	4689.7	34.8	2829.6	69.5
50	6838.2	34.9	7415.0	104.8	4654.9	34.9	2760.1	69.9
28° 0'	6803.3	35.1	7310.2	105.2	4620.0	35.1	2690.2	70.2
10	6768.2	35.2	7205.0	105.7	4584.9	35.2	2620.0	70.4
20	6733.0	35.3	7099.3	106.0	4549.7	35.3	2549.6	70.7
30	6697.7	35.5	6993.3	106.4	4514.4	35.5	2478.9	70.9
40	6662.2	35.6	6886.9	106.9	4478.9	35.6	2408.0	71.2
50	6626.6	35.8	6780.0	107.2	4443.3	35.8	2336.8	71.5
29° 0'	6590.8	35.8	6672.8	107.6	4407.5	35.8	2265.3	71.8
10	6555.0	36.0	6565.2	108.0	4371.7	36.0	2193.5	72.0
20	6519.0	36.2	6457.2	108.4	4335.7	36.2	2121.5	72.3
30	6482.8	36.2	6348.8	108.8	4299.5	36.2	2049.2	72.5
40	6446.6	36.4	6240.0	109.2	4263.3	36.4	1976.7	72.7
50	6410.2	36.5	6130.8	109.5	4226.9	36.5	1904.0	73.1
30° 0'	6373.7	36.7	6021.3	109.9	4190.4	36.7	1830.9	73.2
10	6337.0	36.7	5911.4	110.3	4153.7	36.7	1757.7	73.5
20	6300.3	36.9	5801.1	110.6	4117.0	36.9	1684.2	73.8
30	6263.4	37.0	5690.5	111.0	4080.1	37.0	1610.4	74.0
40	6226.4	37.1	5579.5	111.3	4043.1	37.1	1536.4	74.2
50	6189.3	37.2	5468.2	111.7	4006.0	37.2	1462.2	74.5
31° 0'	6152.1	37.4	5356.5	112.1	3968.8	37.4	1387.7	74.7
10	6114.7	37.4	5244.4	112.4	3931.4	37.5	1313.0	74.9
20	6077.3	37.6	5132.0	112.7	3893.9	37.5	1238.1	75.2
30	6039.7	37.7	5019.3	113.0	3856.4	37.7	1162.9	75.3
40	6002.0	37.8	4906.3	113.4	3818.7	37.8	1087.6	75.6
50	5964.2	37.9	4792.9	113.8	3780.9	37.9	1012.0	75.8
32° 0'	5926.3		4679.1		3743.0		0936.2	

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φ	$\log M$	Δ	$\log N$	Δ	$\log r$	Δ	$\log \frac{1}{r^2}$	Δ
	6.802	+	6.805	+	6.804	+	— 20	—
32° 0'	9572.2	114.1	0508.4	38.0	0040.3	76.0	6.391 992	15
10	9686.3	114.3	0546.4	38.1	0116.3	76.3	977	16
20	9800.6	114.7	0584.5	38.2	0192.6	76.4	961	15
30	9915.3	115.0	0622.7	38.4	0269.0	76.7	946	15
40	*0030.3	115.3	0661.1	38.4	0345.7	76.9	931	15
50	0145.6	115.7	0699.5	38.5	0422.6	77.1	915	16
33° 0'	0261.3	115.9	0738.0	38.7	0499.7	77.2	6.391 900	15
10	0377.2	116.2	0776.7	38.7	0576.9	77.5	885	16
20	0493.4	116.5	0815.4	38.9	0654.4	77.7	869	15
30	0609.9	116.8	0854.3	38.9	0732.1	77.9	854	16
40	0726.7	117.1	0893.2	39.0	0810.0	78.0	838	16
50	0843.8	117.4	0932.2	39.2	0888.0	78.3	822	15
34° 0'	0961.2	117.6	0971.4	39.2	0966.3	78.4	6.391 807	16
10	1078.8	118.0	1010.6	39.3	1044.7	78.6	791	16
20	1196.8	118.2	1049.9	39.4	1123.3	78.8	775	15
30	1315.0	118.4	1089.3	39.5	1202.1	79.0	760	16
40	1433.4	118.8	1128.8	39.5	1281.1	79.1	744	16
50	1552.2	118.9	1168.3	39.7	1360.2	79.4	728	16
35° 0'	1671.1	119.3	1208.0	39.7	1439.6	79.5	6.391 712	16
10	1790.4	119.5	1247.7	39.9	1519.1	79.6	696	16
20	1909.9	119.7	1287.6	39.9	1598.7	79.8	680	16
30	2029.6	120.0	1327.5	40.0	1678.5	80.0	664	16
40	2149.6	120.2	1367.5	40.1	1758.5	80.2	648	16
50	2269.8	120.4	1407.6	40.1	1838.7	80.3	632	16
36° 0'	2390.2	120.7	1447.7	40.2	1919.0	80.4	6.391 616	16
10	2510.9	120.9	1487.9	40.3	1999.4	80.6	600	16
20	2631.8	121.2	1528.2	40.4	2080.0	80.8	584	16
30	2753.0	121.3	1568.6	40.5	2160.8	80.9	568	16
40	2874.3	121.6	1609.1	40.5	2241.7	81.0	552	17
50	2995.9	121.7	1649.6	40.6	2322.7	81.2	535	16
37° 0'	3117.6	122.0	1690.2	40.6	2403.9	81.3	6.391 519	16
10	3239.6	122.2	1730.8	40.7	2485.2	81.5	503	16
20	3361.8	122.4	1771.5	40.8	2566.7	81.5	487	17
30	3484.2	122.5	1812.3	40.9	2648.2	81.8	470	16
40	3606.7	122.8	1853.2	40.9	2730.0	81.8	454	16
50	3729.5	122.9	1894.1	41.0	2811.8	82.0	438	17
38° 0'	3852.4	123.1	1935.1	41.0	2893.8	82.0	6.391 421	16
10	3975.5	123.3	1976.1	41.1	2975.8	82.2	405	17
20	4098.8	123.5	2017.2	41.2	3058.0	82.3	388	16
30	4222.3	123.6	2058.4	41.2	3140.3	82.5	372	17
40	4345.9	123.8	2099.6	41.3	3222.8	82.5	355	16
50	4469.7	124.0	2140.9	41.3	3305.3	82.6	339	17
39° 0'	4593.7	124.1	2182.2	41.4	3387.9	82.8	6.391 322	16
10	4717.8	124.3	2223.6	41.4	3470.7	82.8	306	17
20	4842.1	124.4	2265.0	41.5	3553.5	83.0	289	16
30	4966.5	124.6	2306.5	41.5	3636.5	83.0	273	17
40	5091.1	124.7	2348.0	41.5	3719.5	83.2	256	17
50	5215.8	124.8	2389.5	41.7	3802.7	83.2	239	16
40° 0'	5340.6		2431.2		8885.9		6.391 223	

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φ	$\log W$	Δ	$\log [1]$	Δ	$\log [2]$	Δ	$\log V^2$	Δ
	9.999 —10	—	8.511 —10	—	8.509 —10	—	0.002	—
32° 0'	5926.3	38.0	4679.1	114.0	3743.0	38.0	0936.2	76.1
10	5888.3	38.2	4565.1	114.4	3705.0	38.2	0860.1	76.2
20	5850.1	38.2	4450.7	114.7	3666.8	38.2	0783.2	76.5
30	5811.9	38.3	4336.0	115.0	3628.6	38.3	0707.4	76.7
40	5773.6	38.5	4221.0	115.3	3590.3	38.5	0630.7	76.8
50	5735.1	38.5	4105.7	115.6	3551.8	38.5	0553.9	77.1
33° 0'	5696.6	38.6	3990.1	116.0	3513.3	38.7	0476.8	77.3
10	5658.0	38.8	3874.1	116.2	3474.6	38.7	0399.5	77.5
20	5619.2	38.8	3757.9	116.5	3435.9	38.8	0322.0	77.7
30	5580.4	39.0	3641.4	116.8	3397.1	38.9	0244.3	77.8
40	5541.4	39.0	3524.6	117.1	3358.1	39.1	0166.5	78.1
50	5502.4	39.1	3407.5	117.4	3319.1	39.1	0088.4	78.2
34° 0'	5463.3	39.2	3290.1	117.6	3280.0	39.2	0010.2	78.5
10	5424.1	39.3	3172.5	117.9	3240.8	39.3	*9931.7	78.6
20	5384.8	39.4	3054.6	118.2	3201.5	39.4	9853.1	78.8
30	5345.4	39.5	2936.4	118.5	3162.1	39.5	9774.3	79.0
40	5305.9	39.6	2817.9	118.7	3122.6	39.6	9695.3	79.1
50	5266.3	39.7	2699.2	119.0	3083.0	39.7	9616.2	79.3
35° 0'	5226.6	39.7	2580.2	119.2	3043.3	39.6	9536.9	79.5
10	5186.9	39.8	2461.0	119.5	3003.7	39.9	9457.4	79.7
20	5147.1	39.9	2341.5	119.8	2963.8	40.0	9377.7	79.8
30	5107.2	40.0	2221.7	119.9	2923.8	40.0	9297.9	80.0
40	5067.2	40.1	2101.8	120.3	2883.8	40.0	9217.9	80.1
50	5027.1	40.2	1981.5	120.4	2843.8	40.2	9137.8	80.3
36° 0'	4986.9	40.2	1861.1	120.7	2803.6	40.2	9057.5	80.5
10	4946.7	40.3	1740.4	120.9	2763.4	40.3	8977.0	80.6
20	4906.4	40.4	1619.5	121.1	2723.1	40.4	8896.4	80.7
30	4866.0	40.4	1498.4	121.4	2682.7	40.4	8815.7	80.9
40	4825.6	40.5	1377.0	121.5	2642.3	40.5	8734.8	81.1
50	4785.1	40.6	1255.5	121.8	2601.8	40.6	8653.7	81.2
37° 0'	4744.5	40.7	1133.7	122.0	2561.2	40.7	8572.5	81.3
10	4703.8	40.7	1011.7	122.1	2520.5	40.7	8491.2	81.4
20	4663.1	40.8	0889.6	122.4	2479.8	40.8	8409.8	81.6
30	4622.3	40.9	0767.2	122.6	2439.0	40.9	8328.2	81.7
40	4581.4	40.9	0644.6	122.7	2398.1	40.9	8246.5	81.9
50	4540.5	41.0	0521.9	123.0	2357.2	41.0	8164.6	81.9
38° 0'	4499.5	41.0	0398.9	123.1	2316.2	41.0	8082.7	82.1
10	4458.5	41.1	0275.8	123.3	2275.2	41.1	8000.6	82.2
20	4417.4	41.2	0152.5	123.5	2234.1	41.2	7918.4	82.3
30	4376.2	41.2	0029.0	123.6	2192.9	41.2	7836.1	82.4
40	4335.0	41.2	*9905.4	123.8	2151.7	41.2	7753.7	82.6
50	4293.8	41.4	9781.6	124.0	2110.5	41.4	7671.1	82.6
39° 0'	4252.4	41.3	9657.6	124.1	2069.1	41.3	7588.5	82.8
10	4211.1	41.5	9533.5	124.3	2027.8	41.5	7505.7	82.8
20	4169.6	41.4	9409.2	124.4	1986.3	41.4	7422.9	82.9
30	4128.2	41.5	9284.8	124.5	1944.9	41.5	7340.0	83.1
40	4086.7	41.6	9160.0	124.7	1903.4	41.6	7256.9	83.1
50	4045.1	41.6	9035.6	124.9	1861.8	41.6	7173.8	83.2
40° 0'	4003.5		8910.7		1820.2		7090.6	

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φ	$\log M$	Δ	$\log N$	Δ	$\log r$	Δ	$\log \frac{1}{r^2}$	Δ
	6.803	+	6.805	+	6.804	+	— 20	—
40° 0'	5340.6	125.0	2431.1	41.7	3885.9	83.3	6.391 223	17
10	5465.6	125.1	2472.8	41.7	3969.2	83.4	206	17
20	5590.7	125.2	2514.5	41.7	4052.6	83.5	189	16
30	5715.9	125.3	2556.2	41.8	4136.1	83.5	173	17
40	5841.2	125.4	2598.0	41.8	4219.6	83.6	156	17
50	5966.6	125.6	2639.8	41.9	4303.2	83.7	139	16
41° 0'	6092.2	125.7	2681.7	41.9	4386.9	83.8	6.391 123	17
10	6217.9	125.7	2723.6	41.9	4470.7	83.9	106	17
20	6343.6	125.9	2765.5	41.9	4554.6	83.9	089	17
30	6469.5	125.9	2807.4	42.0	4638.5	83.9	072	16
40	6595.4	126.1	2849.4	42.0	4722.4	84.1	056	17
50	6721.5	126.1	2891.4	42.1	4806.5	84.0	039	17
42° 0'	6847.6	126.2	2933.5	42.1	4890.5	84.2	6.391 022	17
10	6973.8	126.3	2975.6	42.0	4974.7	84.1	391 005	17
20	7100.1	126.3	3017.6	42.1	5058.8	84.3	*390 988	17
30	7226.4	126.4	3059.7	42.2	5143.1	84.3	971	16
40	7352.8	126.5	3101.9	42.2	5227.4	84.3	955	17
50	7479.3	126.5	3144.1	42.1	5311.7	84.3	938	17
43° 0'	7605.8	126.6	3186.2	42.2	5396.0	84.4	6.390 921	17
10	7732.4	126.7	3228.4	42.2	5480.4	84.4	904	17
20	7859.1	126.6	3270.6	42.3	5564.8	84.5	887	17
30	7985.7	126.8	3312.9	42.2	5649.3	84.5	870	17
40	8112.5	126.7	3355.1	42.3	5733.8	84.5	853	17
50	8239.2	126.8	3397.4	42.2	5818.3	84.5	836	17
44° 0'	8366.0	126.8	3439.6	42.3	5902.8	84.6	6.390 819	16
10	8492.8	126.9	3481.9	42.3	5987.4	84.5	803	17
20	8619.7	126.8	3524.2	42.3	6071.9	84.6	786	17
30	8746.5	126.9	3566.5	42.3	6156.5	84.6	769	17
40	8873.4	126.9	3608.8	42.3	6241.1	84.6	752	17
50	9000.3	126.9	3651.1	42.3	6325.7	84.6	735	17
45° 0'	9127.2	126.9	3693.4	42.3	6410.3	84.6	6.390 718	17
10	9254.1	126.9	3735.7	42.3	6494.9	84.6	701	17
20	9381.0	126.9	3778.0	42.3	6579.5	84.6	684	17
30	9507.9	126.9	3820.3	42.3	6664.1	84.6	667	17
40	9634.8	126.9	3862.6	42.2	6748.7	84.6	650	17
50	9761.7	126.8	3904.8	42.3	6833.3	84.5	633	17
46° 0'	9888.5	126.8	3947.1	42.3	6917.8	84.6	6.390 616	16
10	*0015.3	126.8	3989.4	42.3	7002.4	84.5	600	17
20	0142.1	126.8	4031.7	42.2	7086.9	84.5	583	17
30	0268.9	126.7	4073.9	42.3	7171.4	84.5	566	17
40	0395.6	126.7	4116.2	42.2	7255.9	84.5	549	17
50	0522.3	126.7	4158.4	42.2	7340.4	84.4	532	17
47° 0'	0649.0	126.6	4200.6	42.2	7424.8	84.4	6.390 515	17
10	0775.6	126.5	4242.8	42.2	7509.2	84.3	498	17
20	0902.1	126.5	4285.0	42.2	7593.5	84.4	481	16
30	0928.6	126.4	4327.2	42.1	7677.9	84.3	474	17
40	1155.0	126.4	4369.3	42.1	7762.2	84.2	448	17
50	1281.4	126.3	4411.4	42.1	7846.4	84.2	431	17
48° 0'	1407.7		4453.5		7930.6		6.390 414	

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φ	$\log W$	Δ	$\log [1]$	Δ	$\log [2]$	Δ	$\log V^2$	Δ
	9.999 — 10	—	8.511 — 10	—	8.509 — 10	—	0.001	
40° 0'	4003.5	41.7	8910.6	34.8	1820.2	41.7	7090.6	83.4
10	3961.8	41.7	8785.8	35.1	1778.5	41.7	7007.2	83.3
20	3920.1	41.7	8660.7	35.2	1736.8	41.7	6923.9	83.5
30	3878.4	41.8	8535.5	35.4	1695.1	41.8	6840.4	83.6
40	3836.6	41.8	8410.1	35.4	1653.3	41.8	6756.8	83.6
50	3794.8	41.9	8284.7	35.6	1611.5	41.9	6673.2	83.7
41° 0'	3752.9	41.8	8159.1	35.6	1569.6	41.8	6589.5	83.8
10	3711.1	42.0	8033.5	35.8	1527.8	42.0	6505.7	83.9
20	3669.1	41.9	7907.7	35.8	1485.8	41.9	6421.9	83.9
30	3627.2	42.0	7781.9	36.0	1443.9	42.0	6338.0	84.0
40	3585.2	42.0	7655.9	36.0	1401.9	42.0	6254.0	84.0
50	3543.2	42.0	7529.9	36.1	1359.9	42.1	6170.0	84.1
42° 0'	3501.2	42.1	7403.8	36.2	1317.8	42.0	6085.9	84.1
10	3459.1	42.1	7277.6	36.3	1275.8	42.1	6001.8	84.2
20	3417.0	42.1	7151.3	36.4	1233.7	42.1	5917.6	84.2
30	3374.9	42.2	7024.9	36.4	1191.6	42.2	5833.4	84.3
40	3332.7	42.1	6898.5	36.5	1149.4	42.1	5749.1	84.3
50	3290.6	42.2	6772.0	36.5	1107.3	42.2	5664.8	84.4
43° 0'	3248.4	42.2	6645.5	36.6	1065.1	42.2	5580.4	84.4
10	3206.2	42.2	6518.9	36.6	1022.9	42.2	5496.0	84.4
20	3164.0	42.2	6392.3	36.7	0980.7	42.2	5411.6	84.5
30	3121.8	42.3	6265.6	36.7	0938.5	42.3	5327.1	84.5
40	3079.5	42.2	6138.9	36.8	0896.2	42.2	5242.6	84.5
50	3037.3	42.3	6012.1	36.8	0854.0	42.3	5158.1	84.5
44° 0'	2995.0	42.3	5885.3	36.8	0811.7	42.3	5073.6	84.5
10	2952.7	42.2	5758.5	36.9	0769.4	42.3	4989.1	84.6
20	2910.5	42.3	5631.6	36.8	0727.1	42.2	4904.5	84.6
30	2868.2	42.3	5504.8	36.9	0684.9	42.3	4819.9	84.6
40	2825.9	42.3	5377.9	36.9	0642.6	42.3	4735.3	84.6
50	2783.6	42.3	5251.0	36.9	0600.3	42.3	4650.7	84.6
45° 0'	2741.3	42.3	5124.1	36.9	0558.0	42.3	4566.1	84.6
10	2699.0	42.3	4997.2	36.9	0515.7	42.3	4481.5	84.6
20	2656.7	42.3	4870.3	36.9	0473.4	42.3	4396.9	84.6
30	2614.4	42.3	4743.4	36.9	0431.1	42.3	4312.3	84.5
40	2572.1	42.3	4616.5	36.8	0388.8	42.3	4227.8	84.6
50	2529.8	42.3	4489.7	36.9	0346.5	42.3	4143.2	84.6
46° 0'	2487.5	42.3	4362.8	36.8	0304.2	42.3	4058.6	84.5
10	2445.2	42.2	4236.0	36.8	0261.9	42.2	3974.1	84.6
20	2403.0	42.3	4109.2	36.8	0219.7	42.3	3889.5	84.5
30	2360.7	42.2	3982.4	36.7	0177.4	42.2	3805.0	84.5
40	2318.5	42.3	3855.7	36.7	0135.2	42.3	3720.5	84.4
50	2276.2	42.2	3729.0	36.6	0092.9	42.2	3636.1	84.5
47° 0'	2234.0	42.2	3602.4	36.6	0050.7	42.2	3551.6	84.4
10	2191.8	42.2	3475.8	36.6	0008.5	42.2	3467.2	84.3
20	2149.6	42.1	3349.2	36.5	*9966.3	42.1	3382.9	84.3
30	2107.5	42.2	3222.7	36.4	9924.2	42.2	3298.6	84.3
40	2065.3	42.1	3096.3	36.3	9882.0	42.1	3214.3	84.3
50	2023.2	42.1	2970.0	36.3	9839.9	42.1	3130.0	84.1
48° 0'	1981.1		2843.7		9797.8		3045.9	

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φ	$\log M$	Δ	$\log N$	Δ	$\log r$	Δ	$\log \frac{1}{r^2}$	Δ
	6.804	+	6.805	+	6.804	+	- 20	-
48° 0'	1407.7	126.2	4453.5	42.1	7930.6	84.1	6.390 414	17
10	1533.9	126.1	4495.6	42.0	8014.7	84.1	397	17
20	1660.0	126.1	4537.6	42.0	8098.8	84.0	380	17
30	1786.1	125.9	4579.6	42.0	8182.8	84.0	363	16
40	1912.0	125.9	4621.6	42.0	8266.8	83.9	347	17
50	2037.9	125.8	4663.6	41.9	8350.7	83.9	330	17
49° 0'	2163.7	125.6	4705.5	41.9	8434.6	83.8	6.390 313	17
10	2289.3	125.6	4747.4	41.9	8518.4	83.7	296	16
20	2414.9	125.5	4789.3	41.8	8602.1	83.6	280	17
30	2540.4	125.3	4831.1	41.8	8685.7	83.6	263	17
40	2665.7	125.2	4872.9	41.7	8769.3	83.5	246	17
50	2790.9	125.1	4914.6	41.7	8852.8	83.4	229	16
50° 0'	2916.0	125.0	4956.3	41.7	8936.2	83.3	6.390 213	17
10	3041.0	124.9	4998.0	41.6	9019.5	83.2	196	17
20	3165.9	124.7	5039.6	41.6	9102.7	83.2	179	16
30	3290.6	124.6	5081.2	41.5	9185.9	83.0	163	17
40	3415.2	124.4	5122.7	41.5	9268.9	83.0	146	16
50	3539.6	124.3	5164.2	41.4	9351.9	82.8	130	17
51° 0'	3663.9	124.1	5205.6	41.4	9434.7	82.8	6.390 113	17
10	3788.0	124.0	5247.0	41.3	9517.5	82.7	096	16
20	3912.0	123.8	5288.3	41.3	9600.2	82.5	080	17
30	4035.8	123.7	5329.6	41.2	9682.7	82.4	063	16
40	4159.5	123.5	5370.8	41.2	9765.1	82.4	047	16
50	4283.0	123.3	5412.0	41.1	9847.5	82.2	031	17
52° 0'	4406.3	123.1	5453.1	41.0	9929.7	82.1	6.390 014	16
10	4529.4	123.0	5494.1	41.0	*0011.8	82.0	389 998	17
20	4652.4	122.8	5535.1	40.9	0093.8	81.8	981	16
30	4775.2	122.6	5576.0	40.9	0175.6	81.7	965	16
40	4897.8	122.4	5616.9	40.8	0257.3	81.6	949	17
50	5020.2	122.2	5657.7	40.7	0338.9	81.5	932	16
53° 0'	5142.4	122.0	5698.4	40.7	0420.4	81.3	6.389 916	16
10	5264.4	121.8	5739.1	40.6	0501.7	81.2	900	17
20	5386.2	121.5	5779.7	40.5	0582.9	81.1	883	16
30	5507.7	121.4	5820.2	40.5	0664.0	80.9	867	16
40	5629.1	121.2	5860.7	40.3	0774.9	80.7	851	16
50	5750.3	120.9	5901.0	40.4	0825.6	80.7	835	16
54° 0'	5871.2	120.7	5941.3	40.3	0906.3	80.4	6.389 819	16
10	5991.9	120.4	5981.6	40.1	0986.7	80.3	803	16
20	6112.3	120.3	6021.7	40.1	1067.0	80.2	787	16
30	6232.6	120.0	6061.8	40.0	1147.2	80.0	771	16
40	6352.6	119.7	6101.8	39.9	1227.2	79.8	755	16
50	6472.3	119.6	6141.7	39.9	1307.0	79.7	739	16
55° 0'	6591.8	119.3	6181.6	39.7	1386.7	79.5	6.389 723	15
10	6711.1	119.0	6221.3	39.7	1466.2	79.4	707	16
20	6830.1	118.8	6261.0	39.6	1545.6	79.1	691	16
30	6948.9	118.4	6300.6	39.5	1624.7	79.0	675	16
40	7067.3	118.3	6340.1	39.4	1703.7	78.8	659	16
50	7185.6	117.9	6379.5	39.3	1782.5	78.6	643	15
56° 0'	7303.5		6418.8		1861.1		6.389 628	

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φ	$\log W$	Δ	$\log [1]$	Δ	$\log [2]$	Δ	$\log V^2$	Δ
	9.999 — 10	—	8.510 — 10	—	8.508 — 10	—	0.001	—
48° 0'	1981.1	42.0	2843.7	126.2	9797.8	42.0	3045.9	84.2
10	1939.1	42.1	2717.5	126.2	9755.8	42.1	2961.7	84.1
20	1897.0	42.0	2591.3	126.0	9713.7	42.0	2877.6	84.0
30	1855.0	42.0	2465.3	126.0	9671.7	42.0	2793.6	84.0
40	1813.0	41.9	2339.3	125.9	9629.7	42.0	2709.6	83.9
50	1771.1	42.0	2213.4	125.7	9587.7	41.9	2625.7	83.8
49° 0'	1729.1	41.9	2087.7	125.7	9545.8	41.9	2541.9	83.8
10	1687.2	41.8	1962.0	125.6	9503.9	41.8	2458.1	83.7
20	1645.4	41.8	1836.4	125.4	9462.1	41.8	2374.4	83.7
30	1603.6	41.8	1711.0	125.4	9420.3	41.8	2290.7	83.5
40	1561.8	41.8	1585.6	125.2	9378.5	41.8	2207.2	83.5
50	1520.0	41.7	1460.4	125.1	9336.7	41.7	2123.7	83.4
50° 0'	1478.3	41.6	1335.3	125.0	9295.0	41.6	2040.3	83.4
10	1436.7	41.6	1210.3	124.8	9253.4	41.6	1956.9	83.2
20	1395.1	41.6	1085.5	124.8	9211.8	41.6	1873.7	83.1
30	1353.5	41.5	0960.7	124.5	9170.2	41.5	1790.6	83.1
40	1312.0	41.5	0836.2	124.5	9128.7	41.5	1707.5	82.9
50	1270.5	41.5	0711.7	124.3	9087.2	41.5	1624.6	82.9
51° 0'	1229.0	41.3	0587.4	124.1	9045.7	41.3	1541.7	82.8
10	1187.7	41.4	0463.3	124.0	9004.4	41.4	1458.9	82.6
20	1146.3	41.2	0339.3	123.8	8963.0	41.2	1376.3	82.6
30	1105.1	41.3	0215.5	123.7	8921.8	41.3	1293.7	82.4
40	1063.8	41.1	0091.8	123.5	8880.5	41.1	1211.3	82.3
50	1022.7	41.1	*9968.3	123.3	8839.4	41.1	1129.0	82.2
52° 0'	0981.6	41.1	9845.0	123.1	8798.3	41.1	1046.8	82.1
10	0940.5	41.0	9721.9	123.0	8757.2	41.0	0964.7	82.0
20	0899.5	40.9	9598.9	122.8	8716.2	40.9	0882.7	81.9
30	0858.6	40.8	9476.1	122.5	8675.3	40.8	0800.8	81.7
40	0817.8	40.8	9353.6	122.4	8634.5	40.8	0719.1	81.6
50	0777.0	40.8	9231.2	122.2	8593.7	40.8	0637.5	81.5
53° 0'	0736.2	40.6	9109.0	122.0	8552.9	40.6	0556.0	81.3
10	0695.6	40.6	8987.0	121.8	8512.3	40.6	0474.7	81.2
20	0655.0	40.6	8865.2	121.6	8471.7	40.6	0393.5	81.0
30	0614.4	40.4	8743.6	121.4	8431.3	40.4	0312.5	80.9
40	0574.0	40.4	8622.2	121.1	8390.7	40.4	0231.6	80.8
50	0533.6	40.3	8501.1	120.9	8350.3	40.3	0150.8	80.6
54° 0'	0493.3	40.2	8380.2	120.7	8310.0	40.3	0070.2	80.5
10	0453.1	40.2	8259.5	120.5	8269.7	40.1	*9989.7	80.3
20	0412.9	40.1	8139.0	120.3	8229.6	40.1	9909.4	80.2
30	0372.8	40.0	8018.7	120.0	8189.5	40.0	9829.2	80.0
40	0332.8	39.9	7898.7	119.7	8149.5	39.9	9749.2	79.8
50	0292.9	39.8	7779.0	119.5	8109.6	39.8	9669.4	79.7
55° 0'	0253.1	39.8	7659.5	119.3	8069.8	39.8	9589.7	79.5
10	0213.3	39.7	7540.2	119.0	8030.0	39.7	9510.2	79.3
20	0173.6	39.5	7421.2	118.7	7990.3	39.5	9430.9	79.2
30	0134.1	39.5	7302.5	118.5	7950.8	39.5	9351.7	79.0
40	0094.6	39.4	7184.0	118.2	7911.3	39.4	9272.7	78.8
50	0055.2	39.4	7065.8	118.0	7871.9	39.4	9193.9	78.6
56° 0'	0015.8		6947.8		7832.5		9115.3	

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φ	$\log M$	Δ	$\log N$	Δ	$\log r$	Δ	$\log \frac{1}{r^2}$	Δ
	6.804	+	6.805	+	6.805	+	- 20	-
56° 0'	7303.5	117.7	6418.8	39.2	1861.1	78.5	6.389 628	16
10	7421.2	117.4	6458.0	39.1	1939.6	78.3	612	15
20	7538.6	117.1	6497.1	39.1	2017.9	78.0	597	16
30	7655.7	116.8	6536.2	38.9	2095.9	77.9	581	16
40	7772.5	116.5	6575.1	38.9	2173.8	77.7	565	15
50	7889.0	116.3	6614.0	38.7	2251.5	77.5	550	16
57° 0'	8005.3	115.9	6652.7	38.7	2329.0	77.3	6.389 534	15
10	8121.2	115.6	6691.4	38.5	2406.3	77.1	519	16
20	8236.8	115.4	6729.9	38.4	2483.4	76.8	503	15
30	8352.2	115.0	6768.3	38.4	2560.2	76.7	488	15
40	8467.2	114.7	6806.7	38.2	2636.9	76.5	473	16
50	8581.9	114.4	6844.9	38.1	2713.4	76.3	457	15
58° 0'	8696.3	114.0	6883.0	38.1	2789.7	76.0	6.389 442	15
10	8810.3	113.8	6921.1	37.9	2865.7	75.8	427	15
20	8924.1	113.4	6959.0	37.8	2941.5	75.6	412	15
30	9037.5	113.0	6996.8	37.7	3017.1	75.4	397	16
40	9150.5	112.8	7034.5	37.6	3092.5	75.2	381	15
50	9263.3	112.4	7072.1	37.4	3167.7	74.9	366	15
59° 0'	9375.7	112.0	7109.5	37.4	3242.6	74.7	6.389 351	14
10	9487.7	111.7	7146.9	37.2	3317.3	74.5	337	15
20	9599.4	111.4	7184.1	37.1	3391.8	74.2	322	15
30	9710.8	111.0	7221.2	37.0	3466.0	74.0	307	15
40	9821.8	110.6	7258.2	36.9	3540.0	73.7	292	15
50	9932.4	110.3	7295.1	36.7	3613.7	73.6	277	14
60° 0'	*0042.7	109.9	7331.8	36.7	3687.3	73.2	6.389 263	15
10	0152.6	109.5	7368.5	36.5	3760.5	73.0	248	15
20	0262.1	109.1	7405.0	36.4	3833.5	72.8	233	14
30	0371.2	108.8	7441.4	36.2	3906.3	72.5	219	15
40	0480.0	108.4	7477.6	36.2	3978.8	72.3	204	14
50	0588.4	108.0	7513.8	36.0	4051.1	72.0	190	15
61° 0'	0696.4	107.6	7549.8	35.8	4123.1	71.7	6.389 175	14
10	0804.0	107.2	7585.6	35.8	4194.8	71.5	161	14
20	0911.2	106.9	7621.4	35.6	4266.3	71.2	147	15
30	1018.1	106.4	7657.0	35.5	4337.5	71.0	132	14
40	1124.5	106.0	7692.5	35.3	4408.5	70.6	118	14
50	1230.5	105.6	7727.8	35.2	4479.1	70.5	104	14
62° 0'	1336.1	105.2	7763.0	35.1	4549.6	70.1	6.389 090	14
10	1441.3	104.8	7798.1	34.9	4619.7	69.8	076	14
20	1546.1	104.3	7833.0	34.8	4689.5	69.6	062	14
30	1650.4	104.0	7867.8	34.6	4759.1	69.3	048	14
40	1754.4	103.5	7902.4	34.5	4828.4	69.0	034	13
50	1857.9	103.1	7936.9	34.4	4897.4	68.7	021	14
63° 0'	1961.0	102.6	7971.3	34.2	4966.1	68.5	6.389 007	14
10	2063.6	102.3	8005.5	34.2	5034.6	68.1	388 993	14
20	2165.9	101.7	8039.6	33.9	5102.7	67.9	979	13
30	2267.6	101.4	8073.5	33.8	5170.6	67.5	966	14
40	2369.0	100.8	8107.3	33.6	5238.1	67.3	952	13
50	2469.8	100.5	8140.9	33.5	5305.4	66.9	939	13
64° 0'	2570.3		8174.4		5372.3		6.388 926	

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φ	$\log W$	Δ	$\log [1]$	Δ	$\log [2]$	Δ	$\log V^2$	Δ
	9.999 — 10	—	8.509 — 10	—	8.508 — 10	—	0.000	—
56° 0'	0015.8	39.2	6947.8	117.6	7832.5	39.2	9115.3	78.5
10	*9976.6	39.1	6830.2	117.4	7793.3	39.1	9036.8	78.2
20	9937.5	39.0	6712.8	117.1	7754.2	39.0	8958.6	78.1
30	9898.5	39.0	6595.7	116.9	7715.2	39.0	8880.5	77.9
40	9859.5	38.8	6478.8	116.5	7676.2	38.8	8802.6	77.7
50	9820.7	38.8	6362.3	116.2	7637.4	38.8	8724.9	77.4
57° 0'	9781.9	38.6	6246.1	116.0	7598.6	38.6	8647.5	77.3
10	9743.3	38.6	6130.1	115.6	7560.0	38.6	8570.2	77.1
20	9704.7	38.4	6014.5	115.3	7521.4	38.4	8493.1	76.9
30	9666.3	38.3	5899.2	115.0	7483.0	38.3	8416.2	76.7
40	9628.0	38.3	5784.2	114.7	7444.7	38.3	8339.5	76.5
50	9589.7	38.1	5669.5	114.4	7406.4	38.1	8263.0	76.2
58° 0'	9551.6	38.0	5555.1	114.1	7368.3	38.0	8186.8	76.1
10	9513.6	37.9	5441.0	113.7	7330.3	37.9	8110.7	75.8
20	9475.7	37.8	5327.3	113.4	7292.4	37.8	8034.9	75.6
30	9437.9	37.7	5213.9	113.1	7254.6	37.7	7959.3	75.4
40	9400.2	37.6	5100.8	112.8	7216.9	37.6	7883.9	75.1
50	9362.6	37.5	4988.0	112.3	7179.3	37.5	7808.8	75.0
59° 0'	9325.1	37.3	4875.7	112.1	7141.8	37.3	7733.8	74.7
10	9287.8	37.3	4763.6	111.7	7104.5	37.3	7659.1	74.4
20	9250.5	37.1	4651.9	111.4	7067.2	37.1	7584.7	74.3
30	9213.4	37.0	4540.5	110.9	7030.1	37.0	7510.4	74.0
40	9176.4	36.9	4429.6	110.7	6993.1	36.9	7436.4	73.7
50	9139.5	36.7	4318.9	110.1	6956.2	36.7	7362.7	73.5
60° 0'	9102.8	36.6	4208.7	109.9	6919.5	36.6	7289.2	73.3
10	9066.2	36.6	4098.8	109.6	6882.9	36.6	7215.9	73.0
20	9029.6	36.3	3989.2	109.1	6846.3	36.3	7142.9	72.8
30	8993.3	36.3	3880.1	108.8	6810.0	36.3	7070.1	72.5
40	8957.0	36.1	3771.3	108.4	6773.7	36.1	6997.6	72.3
50	8920.9	36.0	3662.9	108.0	6737.6	36.0	6925.3	72.0
61° 0'	8884.9	35.9	3554.9	107.6	6701.6	35.9	6853.3	71.7
10	8849.0	35.7	3447.3	107.2	6665.7	35.7	6781.6	71.5
20	8813.3	35.6	3440.1	106.8	6630.0	35.6	6710.1	71.2
30	8777.7	35.5	3233.3	106.5	6594.4	35.5	6638.9	70.9
40	8742.2	35.4	3126.8	106.0	6558.9	35.4	6568.0	70.7
50	8706.8	35.2	3020.8	105.6	6523.5	35.2	6497.3	70.4
62° 0'	8671.6	35.0	2915.2	105.2	6488.3	35.0	6426.9	70.2
10	8636.6	34.9	2810.0	104.8	6453.3	35.0	6356.7	69.8
20	8601.7	34.8	2705.2	104.3	6418.3	34.7	6286.9	69.6
30	8566.9	34.7	2600.9	104.0	6383.6	34.7	6217.3	69.3
40	8532.2	34.5	2496.9	103.5	6348.9	34.5	6148.0	69.0
50	8497.7	34.3	2393.4	103.1	6314.4	34.4	6079.0	68.7
63° 0'	8463.4	34.3	2290.3	102.6	6280.0	34.2	6010.3	68.4
10	8429.1	34.0	2187.7	102.2	6245.8	34.0	5941.9	68.2
20	8395.1	34.0	2085.5	101.8	6211.8	34.0	5873.7	67.8
30	8361.1	33.7	1983.7	101.3	6177.8	33.7	5805.9	67.6
40	8327.4	33.7	1882.4	100.9	6144.1	33.7	5738.3	67.2
50	8293.7	33.4	1781.5	100.4	6110.4	33.4	5671.1	67.0
64° 0'	8260.3		1681.1		6077.0		5604.1	

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φ	$\log M$	Δ	$\log N$	Δ	$\log r$	Δ	$\log \frac{1}{r^2}$	Δ
	6.805	+	6.805	+	6.805	+	— 20	—
64° 0'	2570.3	99.9	8174.4	33.3	5372.3	68.7	6.388 926	14
10	2670.2	99.6	8207.7	33.2	5439.0	66.3	912	13
20	2769.8	99.0	8240.9	33.0	5505.3	66.1	899	13
30	2868.8	98.6	8273.9	32.9	5571.4	65.7	886	13
40	2967.4	98.1	8306.8	32.7	5637.1	65.4	873	14
50	3065.5	97.7	8339.5	32.5	5702.5	65.1	859	13
65° 0'	3163.2	97.2	8372.0	32.4	5767.6	64.8	6.388 846	12
10	3260.4	96.7	8404.4	32.3	5832.4	64.5	834	13
20	3357.1	96.2	8436.7	32.0	5896.9	64.1	821	13
30	3453.3	95.8	8468.7	31.9	5961.0	63.9	808	13
40	3549.1	95.2	8500.6	31.8	6024.9	63.5	795	13
50	3644.3	94.8	8532.4	31.6	6088.4	63.1	782	12
66° 0'	3739.1	94.3	8564.0	31.4	6151.5	62.9	6.388 770	13
10	3833.4	93.7	8595.4	31.3	6214.4	62.5	757	12
20	3927.1	93.3	8626.7	31.1	6276.1	62.2	745	13
30	4020.4	92.8	8657.8	30.9	6339.1	61.8	732	12
40	4113.2	92.2	8688.7	30.7	6400.9	61.5	720	12
50	4005.4	91.8	8719.4	30.6	6462.4	61.2	708	13
67° 0'	4297.2	91.2	8750.0	30.4	6523.6	60.8	6.388 695	12
10	4388.4	90.8	8780.4	30.3	6584.4	60.5	683	12
20	4479.2	90.2	8810.7	30.0	6644.9	60.2	671	12
30	4569.4	89.6	8840.7	29.9	6705.1	59.7	659	12
40	4659.0	89.2	8870.6	29.8	6764.8	59.5	647	12
50	4748.2	88.6	8900.4	29.4	6824.3	59.1	635	12
68° 0'	4836.8	88.1	8929.9	29.4	6883.4	58.7	6.388 623	14
10	4924.9	87.6	8959.3	29.2	6942.1	58.4	612	12
20	5012.5	87.0	8988.5	29.0	7000.5	58.0	600	12
30	5099.5	86.5	9017.5	28.8	7058.5	57.7	588	11
40	5186.0	86.0	9046.3	28.6	7116.2	57.2	577	12
50	5272.0	85.4	9074.9	28.5	7173.4	57.0	565	11
69° 0'	5357.4	84.8	9103.4	28.3	7230.4	56.5	6.388 554	11
10	5442.2	84.3	9131.7	28.1	7286.9	56.2	543	12
20	5526.5	83.7	9159.8	27.9	7343.1	55.9	531	11
30	5610.2	83.2	9187.7	27.7	7399.0	55.4	520	11
40	5693.4	82.7	9215.4	27.6	7454.4	55.1	509	11
50	5776.1	82.0	9243.0	27.3	7509.5	54.7	498	11
70° 0'	5858.1	81.5	9270.3	27.2	7564.2	54.4	6.388 487	11
10	5939.6	80.9	9297.5	27.0	7618.6	53.9	476	11
20	6020.5	80.4	9324.5	26.7	7672.5	53.6	465	10
30	6100.9	79.8	9351.2	26.6	7726.1	53.2	455	11
40	6180.7	79.2	9377.8	26.5	7779.3	52.8	444	10
50	6259.9	78.6	9404.3	26.2	7832.1	52.4	434	
71° 0'	6338.5	78.1	9430.5	26.0	7884.5	52.0	6.388 423	
10	6416.6	77.4	9456.5	25.8	7936.5	51.7	413	
20	6494.0	76.5	9482.3	25.6	7988.2	51.2	402	
30	6570.9	76.3	9507.9	25.4	8039.4	50.9	392	
40	6647.2	75.6	9533.3	25.3	8090.3	50.4	382	
50	6722.8	75.1	9558.6	25.0	8140.7	50.1	372	
72° 0'	6797.9		9583.6		8190.8		6.388 362	

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φ	$\log W$	Δ	$\log [1]$	Δ	$\log [2]$	Δ	$\log V^2$	Δ
	9.998 — 10	—	8.509 — 10	—	8.508 — 10	—	0.000	—
64° 0'	8260.3	33.4	1681.1	100.0	6077.0	33.4	5604.1	66.6
10	8226.9	33.1	1581.1	99.5	6043.6	33.1	5537.5	66.4
20	8193.8	33.1	1481.6	99.1	6010.5	33.1	5471.1	66.0
30	8160.7	32.8	1382.5	98.6	5977.4	32.8	5405.1	65.8
40	8127.9	32.7	1283.9	98.1	5944.6	32.7	5339.3	65.4
50	8095.2	32.6	1185.8	97.7	5911.9	32.6	5273.9	65.1
65° 0'	8062.6	32.4	1088.1	97.2	5879.3	32.4	5208.8	64.8
10	8030.2	32.2	0990.9	96.7	5846.9	32.2	5144.0	64.4
20	7998.0	32.1	0894.2	96.2	5814.7	32.1	5079.6	64.2
30	7965.9	31.9	0798.0	95.7	5782.6	31.9	5015.4	64.0
40	7934.0	31.8	0702.3	95.3	5750.7	31.8	4951.4	64.3
50	7902.2	31.5	0607.0	94.8	5718.9	31.6	4888.1	63.2
66° 0'	7870.7	31.5	0512.2	94.2	5687.3	31.4	4824.9	62.8
10	7839.2	31.2	0418.0	93.8	5655.9	31.2	4762.1	62.6
20	7808.0	31.1	0324.2	93.3	5624.7	31.1	4699.5	62.1
30	7776.9	30.9	0230.9	92.7	5593.6	30.9	4637.4	61.9
40	7746.0	30.8	0138.2	92.3	5562.7	30.8	4575.5	61.5
50	7715.2	30.6	0045.9	91.8	5531.9	30.6	4514.0	61.2
67° 0'	7684.6	30.4	*9954.1	91.2	5501.3	30.4	4452.8	60.8
10	7654.2	30.2	9862.9	90.7	5470.9	30.2	4392.0	60.5
20	7624.0	30.1	9772.2	90.2	5440.7	30.1	4331.5	60.1
30	7593.9	29.9	9682.0	89.7	5410.6	29.9	4271.4	59.8
40	7564.0	29.7	9592.3	89.2	5380.7	29.7	4211.6	59.6
50	7534.3	29.6	9503.1	88.6	5351.0	29.6	4152.2	58.9
68° 0'	7504.7	29.3	9414.5	88.1	5321.4	29.3	4093.1	58.8
10	7475.4	29.2	9326.4	87.6	5292.1	29.2	4034.3	58.3
20	7446.2	29.0	9238.8	87.0	5262.9	29.0	3976.0	58.0
30	7417.2	28.9	9151.8	86.5	5233.9	28.9	3918.0	57.7
40	7388.3	28.6	9065.3	85.9	5205.0	28.6	3860.3	57.3
50	7359.7	28.5	8979.4	85.4	5176.4	28.5	3803.0	56.9
69° 0'	7331.2	28.3	8894.0	84.9	5147.9	28.3	3746.1	56.6
10	7302.9	28.1	8809.1	84.3	5119.6	28.1	3689.5	56.2
20	7274.8	27.9	8724.8	83.7	5091.5	27.9	3633.3	55.8
30	7246.9	27.7	8641.1	83.2	5063.6	27.7	3577.5	55.5
40	7219.2	27.5	8557.9	82.6	5035.9	27.5	3522.0	55.1
50	7191.7	27.4	8475.3	82.1	5008.4	27.4	3466.9	54.7
70° 0'	7164.3	27.2	8393.2	81.5	4981.0	27.2	3412.2	54.3
10	7137.1	26.9	8311.7	80.9	4953.8	26.9	3357.9	54.0
20	7110.2	26.8	8230.8	80.4	4926.9	26.8	3303.9	53.5
30	7083.4	26.6	8150.4	79.7	4900.1	26.6	3250.4	53.2
40	7056.8	26.4	8070.7	79.3	4873.5	26.4	3197.2	52.8
50	7030.4	26.2	7991.4	78.6	4847.1	26.2	3144.4	52.5
71° 0'	7004.2	26.0	7912.8	78.0	4820.9	26.0	3091.9	52.0
10	6978.2	25.9	7834.8	77.5	4794.9	25.9	3039.9	51.6
20	6952.3	25.6	7757.3	76.8	4769.0	25.6	2988.3	51.3
30	6926.7	25.4	7680.5	76.3	4743.4	25.4	2937.0	50.8
40	6901.3	25.2	7604.2	75.7	4718.0	25.2	2886.2	50.5
50	6876.1	25.1	7528.5	75.1	4692.8	25.1	2835.7	50.0
72° 0'	6851.0		7453.4		4667.7		2785.7	

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φ	$\log M$	Δ	$\log N$	Δ	$\log r$	Δ	$\log \frac{1}{r^2}$	Δ
	6.805	+	6.805	+	6.805	+	— 20	—
72° 0'	6798	74	9584	24	8191	49	6.388 362	10
10	6872	74	9608	25	8240	50	352	10
20	6946	74	9633	25	8290	49	342	10
30	7020	72	9658	24	8339	48	332	9
40	7092	72	9682	24	8387	48	323	10
50	7164	72	9706	24	8435	48	313	10
73° 0'	7236	71	9730	23	8483	47	6.388 303	9
10	7307	70	9753	24	8530	47	294	9
20	7377	70	9777	23	8577	46	285	10
30	7447	69	9800	23	8623	46	275	9
40	7516	68	9823	23	8669	46	266	9
50	7584	68	9846	22	8715	45	257	9
74° 0'	7652	67	9868	23	8760	45	6.388 248	9
10	7719	66	9891	22	8805	44	239	9
20	7785	66	9913	22	8849	44	230	9
30	7851	65	9935	21	8893	43	221	8
40	7916	65	9956	22	8936	43	213	9
50	7981	64	9978	21	8979	43	204	8
75° 0'	8045	63	9999	21	9022	42	6.388 196	9
10	8108	63	*0020	21	9064	42	187	8
20	8171	62	0041	21	9106	41	179	8
30	8233	61	0062	20	9147	41	171	9
40	8294	61	0082	21	9188	41	162	8
50	8355	60	0103	20	9229	40	154	8
76° 0'	8415	59	0123	19	9269	39	6.388 146	8
10	8474	59	0142	20	9308	40	138	8
20	8533	58	0162	19	9348	38	130	7
30	8591	58	0181	20	9386	39	123	8
40	8649	57	0201	19	9425	38	115	8
50	8706	56	0220	18	9463	37	107	7
77° 0'	8762	55	0238	19	9500	37	6.388 100	7
10	8817	55	0257	18	9537	37	093	8
20	8872	54	0275	18	9574	36	085	7
30	8926	54	0293	18	9610	35	078	7
40	8980	52	0311	17	9645	35	071	7
50	9032	53	0328	18	9680	35	064	7
78° 0'	9085	51	0346	17	9715	34	6.388 057	7
10	9136	51	0363	17	9749	35	050	7
20	9187	50	0380	17	9783	34	043	6
30	9237	49	0397	16	9817	33	037	7
40	9286	49	0413	16	9850	32	030	6
50	9335	48	0429	16	9882	32	024	7
79° 0'	9383	47	0445	16	9914	32	6.388 017	6
10	9430	47	0461	16	9946	31	388 011	6
20	9477	46	0477	15	9977	30	388 005	6
30	9523	45	0492	15	*0007	31	387 999	7
40	9568	45	0507	15	0038	29	992	5
50	9613	44	0522	15	0067	30	987	6
80° 0'	9657		0537		0097		6.387 981	

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φ	$\log W$	Δ	$\log [1]$	Δ	$\log [2]$	Δ	$\log v^2$	Δ
	9.998 — 10	—	8.508 — 10	—	8.508 — 10	—	0.000	—
72° 0'	6851	25	7453	74	4668	25	2786	50
10	6826	24	7379	74	4643	25	2736	49
20	6802	25	7305	73	4618	24	2687	49
30	6777	24	7232	73	4594	24	2638	49
40	6753	24	7159	72	4570	25	2589	48
50	6729	24	7087	72	4545	23	2541	47
73° 0'	6705	24	7015	71	4522	24	2494	48
10	6681	23	6944	70	4498	23	2446	46
20	6658	23	6874	69	4475	24	2400	47
30	6635	23	6805	69	4451	23	2353	46
40	6612	23	6736	69	4428	22	2307	45
50	6589	23	6667	67	4406	23	2262	45
74° 0'	6566	22	6600	67	4383	22	2217	45
10	6544	22	6533	67	4361	22	2172	45
20	6522	22	6466	66	4339	22	2127	43
30	6500	22	6400	65	4317	22	2084	44
40	6478	21	6335	65	4295	22	2040	43
50	6457	22	6270	64	4273	21	1997	43
75° 0'	6435	21	6206	63	4252	21	1954	42
10	6414	21	6143	63	4231	21	1912	42
20	6393	20	6080	62	4210	21	1870	41
30	6373	21	6018	61	4189	20	1829	41
40	6352	20	5957	61	4169	20	1788	40
50	6332	20	5896	60	4149	20	1748	40
76° 0'	6312	20	5836	59	4129	20	1708	40
10	6292	19	5777	59	4109	20	1668	39
20	6273	20	5718	58	4089	19	1629	39
30	6253	19	5660	58	4070	19	1590	38
40	6234	19	5602	56	4051	19	1552	38
50	6215	19	5546	57	4032	19	1514	38
77° 0'	6196	18	5489	55	4013	18	1476	37
10	6178	18	5434	55	3995	19	1439	36
20	6160	18	5379	54	3976	18	1403	36
30	6142	18	5325	53	3958	18	1367	36
40	6124	18	5272	53	3940	17	1331	35
50	6106	17	5219	52	3923	17	1296	35
78° 0'	6089	17	5167	52	3906	18	1261	34
10	6072	17	5115	50	3888	17	1227	34
20	6055	17	5065	50	3871	16	1193	33
30	6038	16	5015	50	3855	17	1160	33
40	6022	17	4965	49	3838	16	1127	33
50	6005	16	4916	48	3822	16	1094	32
79° 0'	5989	15	4868	47	3806	16	1062	31
10	5974	16	4821	47	3790	15	1031	31
20	5958	15	4774	46	3775	16	1000	31
30	5943	15	4728	45	3759	16	0969	30
40	5928	15	4683	45	3744	15	0939	30
50	5913	15	4638	43	3729	14	0909	29
80° 0'	5898		4595		3715		0880	

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φ	$\log M$	Δ	$\log N$	Δ	$\log r$	Δ	$\log \frac{1}{r^2}$	Δ
	6.805	+	6.806	+	6.806	+	— 20	—
80° 0'	9657	43	0537	14	0097	23	6.387 981	6
10	9700	42	0551	14	0125	29	975	6
20	9742	42	0565	14	0154	27	969	5
30	9784	41	0579	14	0181	28	964	6
40	9825	41	0593	13	0209	27	958	5
50	9866	39	0606	13	0235	26	953	5
81° 0'	9905	39	0619	13	0262	26	6.387 948	6
10	9944	39	0632	13	0288	26	942	5
20	9983	37	0645	13	0314	25	937	5
30	*0020	37	0658	12	0339	24	932	5
40	0057	36	0670	12	0363	25	927	5
50	0093	36	0682	12	0388	23	922	4
82° 0'	0129	34	0694	11	0411	23	6.387 918	5
10	0163	34	0705	12	0434	23	918	4
20	0197	34	0717	11	0457	22	909	5
30	0231	32	0728	11	0479	22	904	3
40	0263	32	0739	10	0501	21	901	5
50	0295	31	0749	11	0522	21	896	5
83° 0'	0326	31	0760	10	0543	20	6.387 891	4
10	0357	30	0770	10	0563	20	887	4
20	0387	28	0780	9	0583	19	883	3
30	0415	29	0789	10	0602	19	880	4
40	0444	27	0799	9	0621	19	876	4
50	0471	27	0808	9	0640	18	872	4
84° 0'	0498	26	0817	9	0658	17	6.387 868	3
10	0524	26	0826	8	0675	17	865	3
20	0550	24	0834	8	0692	16	862	4
30	0574	24	0842	8	0708	16	858	3
40	0598	24	0850	8	0724	16	855	3
50	0622	22	0858	8	0740	15	852	3
85° 0'	0644	22	0866	7	0755	14	6.387 849	3
10	0666	21	0873	7	0769	14	846	3
20	0687	20	0880	7	0783	14	843	2
30	0707	20	0887	6	0797	13	841	3
40	0727	18	0893	6	0810	12	838	2
50	0745	18	0899	6	0822	12	836	3
86° 0'	0763	18	0905	6	0834	12	6.387 833	2
10	0781	16	0911	6	0846	11	831	2
20	0797	16	0917	5	0857	11	829	3
30	0813	16	0922	5	0868	10	826	2
40	0829	14	0927	5	0878	9	824	1
50	0843	13	0932	4	0887	10	823	2
87° 0'	0856	37	0936	13	0897	24	6.387 821	5
30	0893	30	0949	10	0921	20	816	4
88° 0'	0923	23	0959	7	0941	15	6.387 812	3
30	0946	17	0966	6	0956	12	809	3
89° 0'	0963	10	0972	3	0968	6	6.387 806	1
30	0973	3	0975	1	0974	2	805	0
90° 0'	0976		0976		0976		6.387 805	

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φ	$\log W$	Δ	$\log [1]$	Δ	$\log [2]$	Δ	$\log v^2$	Δ
	9.998 — 10	—	8.508 — 10	—	8.508 — 10	—	0.000 — 10	—
80° 0'	5898	—	4595	—	3715	—	0880	—
10	5884	14	4551	44	3700	15	0851	29
20	5870	14	4509	42	3686	14	0823	28
30	5856	14	4467	42	3672	14	0795	28
40	5842	14	4426	41	3659	13	0767	28
50	5828	14	4386	40	3645	14	0741	26
		13		40		14		27
81° 0'	5815	—	4346	—	3631	—	0714	—
10	5802	13	4307	39	3619	12	0688	26
20	5790	12	4269	38	3606	13	0663	25
30	5777	13	4231	38	3594	12	0637	26
40	5765	12	4194	37	3581	13	0613	24
50	5753	12	4158	36	3569	12	0589	24
		12		35		12		24
82° 0'	5741	—	4123	—	3557	—	0565	—
10	5729	12	4088	35	3546	11	0542	23
20	5718	11	4054	34	3535	11	0519	23
30	5707	11	4021	33	3523	12	0497	22
40	5696	11	3988	33	3513	10	0475	22
50	5685	11	3956	32	3502	11	0454	21
		10		31		10		21
83° 0'	5675	—	3925	—	3492	—	0433	—
10	5665	10	3894	31	3481	11	0413	20
20	5655	10	3865	29	3471	10	0393	20
30	5645	10	3836	29	3462	9	0374	19
40	5636	9	3807	29	3452	10	0355	19
50	5627	9	3780	27	3443	9	0337	18
		9		27		9		18
84° 0'	5618	—	3753	—	3434	—	0319	—
10	5609	9	3727	26	3426	8	0301	18
20	5600	9	3702	25	3417	9	0285	16
30	5592	8	3677	25	3409	8	0268	17
40	5584	8	3653	24	3401	8	0252	16
50	5576	8	3630	23	3393	8	0237	15
		7		23		7		15
85° 0'	5569	—	3607	—	3386	—	0222	—
10	5562	7	3586	21	3378	8	0207	15
20	5555	7	3565	21	3371	7	0193	14
30	5548	7	3544	21	3365	6	0180	13
40	5542	6	3525	19	3358	7	0167	13
50	5535	7	3506	19	3352	6	0154	13
		6		18		6		12
86° 0'	5529	—	3488	—	3346	—	0142	—
10	5523	6	3470	18	3340	6	0130	12
20	5518	5	3454	16	3335	5	0119	11
30	5513	5	3438	16	3329	6	0109	10
40	5508	5	3423	15	3324	5	0099	10
50	5503	5	3319	14	3319	5	0089	10
		5		14		4		9
87° 0'	5498	—	3395	—	3315	—	0080	—
30	5486	12	3358	37	3303	12	0056	24
88° 0'	5476	10	3328	30	3293	10	0036	20
30	5468	8	3305	23	3285	8	0020	16
89° 0'	5463	5	3288	17	3279	6	0009	11
30	5459	4	3278	10	3276	3	0002	7
		1		3		1		2
90° 0'	5458	—	3275	—	3275	—	0000	—

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$\varphi = 45^\circ$ $\varphi = 46^\circ$

$\varphi = 45^\circ$				$\varphi = 46^\circ$			
$\log \frac{\varrho}{M} = \log [1]$		$\log \frac{\varrho}{N} = \log [2]$		$\log \frac{\varrho}{M} = \log [1]$		$\log \frac{\varrho}{N} = \log [2]$	
0	8,510 5124 1	—	8,509 0558 0	0	8,510 4362 8	—	8,509 0304 2
1	510 5111 4	12 7	509 0553 7	1	510 4350 1	12 7	509 0300 0
2	510 5098 7	12 7	509 0549 5	2	510 4337 5	12 6	509 0295 7
3	510 5086 0	12 7	509 0545 3	3	510 4324 8	12 7	509 0291 5
4	510 5073 4	12 6	509 0541 0	4	510 4312 1	12 7	509 0287 3
5	8,510 5060 7	12 7	8,509 0536 8	5	8,510 4299 4	12 7	8,509 0283 1
6	510 5048 0	12 7	509 0532 6	6	510 4286 7	12 7	509 0278 8
7	510 5035 3	12 7	509 0528 4	7	510 4274 0	12 7	509 0274 6
8	510 5022 6	12 7	509 0524 1	8	510 4261 4	12 6	509 0270 4
9	510 5009 9	12 7	509 0519 9	9	510 4248 7	12 7	509 0266 2
10	8,510 4997 2	12 7	8,509 0515 7	10	8,510 4236 0	12 7	8,509 0261 9
11	510 4984 5	12 7	509 0511 4	11	510 4223 3	12 7	509 0257 7
12	510 4971 8	12 7	509 0507 2	12	510 4210 6	12 7	509 0253 5
13	510 4959 1	12 7	509 0503 0	13	510 4198 0	12 6	509 0249 2
14	510 4946 5	12 6	509 0498 7	14	510 4185 3	12 7	509 0245 0
15	8,510 4933 8	12 7	8,509 0494 5	15	8,510 4172 6	12 7	8,509 0240 8
16	510 4921 1	12 7	509 0490 3	16	510 4159 9	12 7	509 0236 6
17	510 4908 4	12 7	509 0486 1	17	510 4147 2	12 7	509 0232 3
18	510 4895 7	12 7	509 0481 8	18	510 4134 6	12 6	509 0228 1
19	510 4883 0	12 7	509 0477 6	19	510 4121 9	12 7	509 0223 9
20	8,510 4870 3	12 7	8,509 0473 4	20	8,510 4109 2	12 7	8,509 0219 7
21	510 4857 6	12 7	509 0469 1	21	510 4096 5	12 7	509 0215 4
22	510 4844 9	12 7	509 0464 9	22	510 4083 8	12 7	509 0211 2
23	510 4832 2	12 7	509 0460 7	23	510 4071 2	12 6	509 0207 0
24	510 4819 6	12 6	509 0456 4	24	510 4058 5	12 7	509 0202 8
25	8,510 4806 9	12 7	8,509 0452 2	25	8,510 4045 8	12 7	8,509 0198 5
26	510 4794 2	12 7	509 0448 0	26	510 4033 1	12 7	509 0194 3
27	510 4781 5	12 7	509 0443 8	27	510 4020 5	12 6	509 0190 1
28	510 4768 8	12 7	509 0439 5	28	510 4007 8	12 7	509 0185 9
29	510 4756 1	12 7	509 0435 3	29	510 3995 1	12 7	509 0181 6
30	8,510 4743 4	12 7	8,509 0431 1	30	8,510 3982 4	12 7	8,509 0177 4
31	510 4730 7	12 7	509 0426 8	31	510 3969 8	12 6	509 0173 2
32	510 4718 0	12 7	509 0422 6	32	510 3957 1	12 7	509 0169 0
33	510 4705 4	12 6	509 0418 4	33	510 3944 4	12 7	509 0164 7
34	510 4692 7	12 7	509 0414 2	34	510 3931 7	12 7	509 0160 5
35	8,510 4680 0	12 7	8,509 0409 9	35	8,510 3919 1	12 6	8,509 0156 3
36	510 4667 3	12 7	509 0405 7	36	510 3906 4	12 7	509 0152 1
37	510 4654 6	12 7	509 0401 5	37	510 3893 7	12 7	509 0147 8
38	510 4641 9	12 7	509 0397 2	38	510 3881 0	12 7	509 0143 6
39	510 4629 2	12 7	509 0393 0	39	510 3868 4	12 6	509 0139 4
40	8,510 4616 5	12 7	8,509 0388 8	40	8,510 3855 7	12 7	8,509 0135 2
41	510 4603 8	12 7	509 0384 5	41	510 3843 0	12 7	509 0130 9
42	510 4591 2	12 6	509 0380 3	42	510 3830 4	12 6	509 0126 7
43	510 4578 5	12 7	509 0376 1	43	510 3817 7	12 7	509 0122 5
44	510 4565 8	12 7	509 0371 9	44	510 3805 0	12 7	509 0118 3
45	8,510 4553 1	12 7	8,509 0367 6	45	8,510 3792 4	12 6	8,509 0114 0
46	510 4540 4	12 7	509 0363 4	46	510 3779 7	12 7	509 0109 8
47	510 4527 7	12 7	509 0359 2	47	510 3767 0	12 7	509 0105 6
48	510 4515 0	12 7	509 0354 9	48	510 3754 3	12 7	509 0101 4
49	510 4502 4	12 6	509 0350 7	49	510 3741 7	12 6	509 0097 2
50	8,510 4489 7	12 7	8,509 0346 5	50	8,510 3729 0	12 7	8,509 0092 9
51	510 4477 0	12 7	509 0342 3	51	510 3716 3	12 7	509 0088 7
52	510 4464 3	12 7	509 0338 0	52	510 3703 7	12 6	509 0084 5
53	510 4451 6	12 7	509 0333 8	53	510 3691 0	12 7	509 0080 3
54	510 4438 9	12 7	509 0329 6	54	510 3678 4	12 6	509 0076 0
55	8,510 4426 2	12 7	8,509 0325 4	55	8,510 3665 7	12 7	8,509 0071 8
56	510 4413 6	12 6	509 0321 2	56	510 3653 0	12 7	509 0067 6
57	510 4400 9	12 7	509 0316 9	57	510 3640 4	12 6	509 0063 4
58	510 4388 2	12 7	509 0312 7	58	510 3627 7	12 7	509 0059 2
59	510 4375 5	12 7	509 0308 4	59	510 3615 0	12 7	509 0054 9
60	8,510 4362 8	12 7	8,509 0304 2	60	8,510 3602 4	12 6	8,509 0050 7

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$\varphi = 47^\circ$ $\varphi = 48^\circ$

φ	$\log \frac{\rho}{M} = \log [1]$	$\log \frac{\rho}{N} = \log [2]$	φ	$\log \frac{\rho}{M} = \log [1]$	$\log \frac{\rho}{N} = \log [2]$
0	8.510 3502.4	—	0	8.510 2843.7	—
1	8.510 3589.7	12.7	1	8.510 2831.0	12.7
2	8.510 3577.0	12.7	2	8.510 2818.4	12.6
3	8.510 3504.4	12.6	3	8.510 2805.8	12.6
4	8.510 3551.7	12.7	4	8.510 2793.2	12.6
5	8.510 3539.1	12.6	5	8.510 2780.6	12.6
6	8.510 3526.4	12.7	6	8.510 2767.9	12.7
7	8.510 3513.7	12.7	7	8.510 2755.3	12.6
8	8.510 3501.1	12.6	8	8.510 2742.7	12.6
9	8.510 3488.4	12.7	9	8.510 2730.1	12.6
10	8.510 3475.8	12.6	10	8.510 2717.5	12.6
11	8.510 3463.1	12.7	11	8.510 2704.8	12.7
12	8.510 3450.5	12.6	12	8.510 2692.2	12.6
13	8.510 3437.8	12.7	13	8.510 2679.6	12.6
14	8.510 3425.1	12.7	14	8.510 2667.0	12.6
15	8.510 3412.5	12.6	15	8.510 2654.4	12.6
16	8.510 3399.8	12.7	16	8.510 2641.8	12.6
17	8.510 3387.2	12.6	17	8.510 2629.2	12.7
18	8.510 3374.5	12.7	18	8.510 2616.5	12.6
19	8.510 3361.9	12.6	19	8.510 2603.9	12.6
20	8.510 3349.2	12.7	20	8.510 2591.3	12.6
21	8.510 3336.6	12.6	21	8.510 2578.7	12.6
22	8.510 3323.9	12.7	22	8.510 2566.1	12.6
23	8.510 3311.3	12.6	23	8.510 2553.5	12.6
24	8.510 3298.6	12.7	24	8.510 2540.9	12.6
25	8.510 3286.0	12.6	25	8.510 2528.3	12.6
26	8.510 3273.3	12.7	26	8.510 2515.7	12.6
27	8.510 3260.7	12.6	27	8.510 2503.1	12.6
28	8.510 3248.0	12.7	28	8.510 2490.5	12.6
29	8.510 3235.4	12.6	29	8.510 2477.9	12.6
30	8.510 3222.7	12.7	30	8.510 2465.3	12.6
31	8.510 3210.1	12.6	31	8.510 2452.7	12.6
32	8.510 3197.5	12.7	32	8.510 2440.1	12.6
33	8.510 3184.8	12.6	33	8.510 2427.5	12.6
34	8.510 3172.2	12.6	34	8.510 2414.9	12.6
35	8.510 3159.5	12.7	35	8.510 2402.3	12.6
36	8.510 3146.9	12.6	36	8.510 2389.7	12.6
37	8.510 3134.2	12.7	37	8.510 2377.1	12.6
38	8.510 3121.6	12.6	38	8.510 2364.5	12.6
39	8.510 3109.0	12.6	39	8.510 2351.9	12.6
40	8.510 3096.3	12.7	40	8.510 2339.3	12.6
41	8.510 3083.7	12.6	41	8.510 2326.7	12.6
42	8.510 3071.0	12.7	42	8.510 2314.1	12.6
43	8.510 3058.4	12.6	43	8.510 2301.5	12.5
44	8.510 3045.8	12.6	44	8.510 2289.0	12.6
45	8.510 3033.1	12.7	45	8.510 2276.4	12.6
46	8.510 3020.5	12.6	46	8.510 2263.8	12.6
47	8.510 3007.9	12.6	47	8.510 2251.2	12.6
48	8.510 2995.2	12.7	48	8.510 2238.6	12.6
49	8.510 2982.6	12.6	49	8.510 2226.0	12.6
50	8.510 2970.0	12.6	50	8.510 2213.4	12.5
51	8.510 2957.3	12.7	51	8.510 2200.9	12.6
52	8.510 2944.7	12.6	52	8.510 2188.3	12.6
53	8.510 2932.1	12.6	53	8.510 2175.7	12.6
54	8.510 2919.4	12.7	54	8.510 2163.1	12.6
55	8.510 2906.8	12.6	55	8.510 2150.5	12.5
56	8.510 2894.2	12.6	56	8.510 2138.0	12.6
57	8.510 2881.6	12.6	57	8.510 2125.4	12.6
58	8.510 2869.0	12.7	58	8.510 2112.8	12.6
59	8.510 2856.3	12.6	59	8.510 2100.2	12.5
60	8.510 2843.7	12.6	60	8.510 2087.7	—

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$\varphi = 49^\circ$

$\varphi = 50^\circ$

'	$\log \frac{\rho}{M} = \log [1]$	$\log \frac{\rho}{N} = \log [2]$	'	$\log \frac{\rho}{M} = \log [1]$	$\log \frac{\rho}{N} = \log [2]$
0	8.510 2087.7	—	0	8.510 1335.3	—
1	8.510 2075.1	12.6	1	8.510 1322.8	12.5
2	8.510 2062.5	12.6	2	8.510 1310.3	12.5
3	8.510 2050.0	12.5	3	8.510 1297.8	12.5
4	8.510 2037.4	12.6	4	8.510 1285.3	12.5
5	8.510 2024.8	12.6	5	8.510 1272.8	12.5
6	8.510 2012.3	12.5	6	8.510 1260.3	12.5
7	8.510 1999.7	12.6	7	8.510 1247.8	12.5
8	8.510 1987.1	12.6	8	8.510 1235.3	12.5
9	8.510 1974.6	12.5	9	8.510 1222.8	12.5
		12.6			12.5
10	8.510 1962.0	12.6	10	8.510 1210.3	12.5
11	8.510 1949.4	12.6	11	8.510 1197.8	12.5
12	8.510 1936.9	12.5	12	8.510 1185.3	12.5
13	8.510 1924.3	12.6	13	8.510 1172.8	12.4
14	8.510 1911.8	12.5	14	8.510 1160.4	12.4
15	8.510 1899.2	12.6	15	8.510 1147.9	12.5
16	8.510 1886.6	12.6	16	8.510 1135.4	12.5
17	8.510 1874.1	12.5	17	8.510 1122.9	12.5
18	8.510 1861.5	12.6	18	8.510 1110.4	12.5
19	8.510 1849.0	12.5	19	8.510 1097.9	12.4
		12.6			12.4
20	8.510 1836.4	12.5	20	8.510 1085.5	12.5
21	8.510 1823.9	12.6	21	8.510 1073.0	12.5
22	8.510 1811.3	12.5	22	8.510 1060.5	12.5
23	8.510 1798.8	12.6	23	8.510 1048.0	12.4
24	8.510 1786.2	12.5	24	8.510 1035.6	12.5
25	8.510 1773.7	12.6	25	8.510 1023.1	12.5
26	8.510 1761.1	12.5	26	8.510 1010.6	12.5
27	8.510 1748.6	12.5	27	8.510 998.1	12.4
28	8.510 1736.1	12.5	28	8.510 985.7	12.5
29	8.510 1723.5	12.6	29	8.510 973.2	12.5
		12.5			12.5
30	8.510 1711.0	12.6	30	8.510 960.7	12.4
31	8.510 1698.4	12.5	31	8.510 948.3	12.5
32	8.510 1685.9	12.5	32	8.510 935.8	12.4
33	8.510 1673.4	12.6	33	8.510 923.4	12.5
34	8.510 1660.8	12.5	34	8.510 910.9	12.5
35	8.510 1648.3	12.5	35	8.510 898.4	12.4
36	8.510 1635.8	12.6	36	8.510 886.0	12.5
37	8.510 1623.2	12.5	37	8.510 873.5	12.4
38	8.510 1610.7	12.5	38	8.510 861.1	12.5
39	8.510 1598.2	12.6	39	8.510 848.6	12.4
		12.5			12.4
40	8.510 1585.6	12.5	40	8.510 836.2	12.5
41	8.510 1573.1	12.5	41	8.510 823.7	12.4
42	8.510 1560.6	12.6	42	8.510 811.3	12.5
43	8.510 1548.0	12.5	43	8.510 798.8	12.4
44	8.510 1535.5	12.5	44	8.510 786.4	12.5
45	8.510 1523.0	12.5	45	8.510 773.9	12.4
46	8.510 1510.5	12.5	46	8.510 761.5	12.5
47	8.510 1498.0	12.6	47	8.510 749.0	12.4
48	8.510 1485.4	12.5	48	8.510 736.6	12.4
49	8.510 1472.9	12.5	49	8.510 724.2	12.5
		12.5			12.5
50	8.510 1460.4	12.5	50	8.510 711.7	12.4
51	8.510 1447.9	12.5	51	8.510 699.3	12.4
52	8.510 1435.4	12.5	52	8.510 686.9	12.5
53	8.510 1422.9	12.6	53	8.510 674.4	12.4
54	8.510 1410.3	12.5	54	8.510 662.0	12.4
55	8.510 1397.8	12.5	55	8.510 649.6	12.5
56	8.510 1385.3	12.5	56	8.510 637.1	12.4
57	8.510 1372.8	12.5	57	8.510 624.7	12.4
58	8.510 1360.3	12.5	58	8.510 612.3	12.4
59	8.510 1347.8	12.5	59	8.510 599.9	12.5
		12.5			12.5
60	8.510 1335.3	—	60	8.510 587.4	—

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$\varphi = 51^\circ$ $\varphi = 52^\circ$

$\log \frac{\varrho}{M} = \log [1]$				$\log \frac{\varrho}{N} = \log [2]$			
$\log \frac{\varrho}{M} = \log [1]$				$\log \frac{\varrho}{N} = \log [2]$			
0	8.510 05874	—	—	0	8.509 08450	—	—
1	8.510 05750	12.4	4.1	1	8.509 08327	12.3	4.1
2	8.510 05626	12.4	4.1	2	8.509 08204	12.3	4.1
3	8.510 05502	12.4	4.2	3	8.509 08081	12.3	4.1
4	8.510 05378	12.4	4.1	4	8.509 07957	12.4	4.2
5	8.510 05253	12.5	4.2	5	8.509 07834	12.3	4.1
6	8.510 05129	12.4	4.1	6	8.509 07711	12.3	4.1
7	8.510 05005	12.4	4.1	7	8.509 07588	12.3	4.1
8	8.510 04881	12.4	4.2	8	8.509 07465	12.3	4.1
9	8.510 04757	12.4	4.1	9	8.509 07342	12.3	4.1
10	8.510 04633	12.4	4.1	10	8.509 07219	12.3	4.1
11	8.510 04509	12.4	4.2	11	8.509 07096	12.3	4.1
12	8.510 04385	12.4	4.1	12	8.509 06973	12.3	4.1
13	8.510 04261	12.4	4.1	13	8.509 06850	12.3	4.1
14	8.510 04137	12.4	4.2	14	8.509 06727	12.3	4.1
15	8.510 04013	12.4	4.1	15	8.509 06604	12.3	4.1
16	8.510 03889	12.4	4.1	16	8.509 06481	12.3	4.1
17	8.510 03765	12.4	4.2	17	8.509 06358	12.3	4.1
18	8.510 03641	12.4	4.1	18	8.509 06235	12.3	4.1
19	8.510 03517	12.4	4.1	19	8.509 06112	12.3	4.1
20	8.510 03393	12.4	4.2	20	8.509 05989	12.3	4.1
21	8.510 03269	12.4	4.1	21	8.509 05866	12.3	4.1
22	8.510 03145	12.4	4.1	22	8.509 05743	12.3	4.1
23	8.510 03022	12.3	4.2	23	8.509 05620	12.3	4.1
24	8.510 02898	12.4	4.1	24	8.509 05497	12.3	4.1
25	8.510 02774	12.4	4.1	25	8.509 05374	12.3	4.1
26	8.510 02650	12.4	4.2	26	8.509 05251	12.3	4.1
27	8.510 02526	12.4	4.1	27	8.509 05128	12.3	4.1
28	8.510 02402	12.4	4.1	28	8.509 05005	12.3	4.1
29	8.510 02279	12.3	4.1	29	8.509 04882	12.3	4.1
30	8.510 02155	12.4	4.1	30	8.509 04759	12.3	4.1
31	8.510 02031	12.4	4.2	31	8.509 04636	12.2	4.1
32	8.510 01907	12.4	4.1	32	8.509 04513	12.3	4.1
33	8.510 01784	12.3	4.1	33	8.509 04390	12.3	4.1
34	8.510 01660	12.4	4.1	34	8.509 04267	12.2	4.1
35	8.510 01536	12.4	4.2	35	8.509 04144	12.3	4.1
36	8.510 01413	12.3	4.1	36	8.509 04021	12.2	4.1
37	8.510 01289	12.4	4.1	37	8.509 03898	12.3	4.1
38	8.510 01166	12.3	4.1	38	8.509 03775	12.2	4.1
39	8.510 01042	12.4	4.1	39	8.509 03652	12.3	4.1
40	8.510 00918	12.4	4.2	40	8.509 03529	12.2	4.1
41	8.510 00795	12.3	4.1	41	8.509 03406	12.3	4.1
42	8.510 00671	12.4	4.1	42	8.509 03283	12.2	4.1
43	8.510 00548	12.3	4.1	43	8.509 03160	12.3	4.1
44	8.510 00424	12.4	4.1	44	8.509 03037	12.2	4.1
45	8.510 00301	12.3	4.1	45	8.509 02914	12.3	4.1
46	8.510 00177	12.4	4.2	46	8.509 02791	12.2	4.1
47	8.510 00054	12.3	4.1	47	8.509 02668	12.2	4.1
48	8.509 99930	12.4	4.1	48	8.509 02545	12.3	4.1
49	8.509 99807	12.3	4.1	49	8.509 02422	12.2	4.1
50	8.509 99683	12.4	4.1	50	8.509 02299	12.2	4.1
51	8.509 99560	12.3	4.1	51	8.509 02176	12.3	4.1
52	8.509 99437	12.4	4.1	52	8.509 02053	12.2	4.1
53	8.509 99313	12.3	4.2	53	8.509 01930	12.2	4.1
54	8.509 99190	12.3	4.1	54	8.509 01807	12.3	4.1
55	8.509 99067	12.4	4.1	55	8.509 01684	12.2	4.1
56	8.509 98943	12.4	4.1	56	8.509 01561	12.2	4.1
57	8.509 98820	12.3	4.1	57	8.509 01438	12.2	4.1
58	8.509 98697	12.4	4.1	58	8.509 01315	12.2	4.1
59	8.509 98573	12.4	4.1	59	8.509 01192	12.2	4.1
60	8.509 98450	12.3	4.1	60	8.509 01069	12.2	4.1

vgl. § 39. S. 230.

$\varphi = 53^\circ$

$\varphi = 54^\circ$

'	$\log \frac{Q}{M} = \log [1]$		$\log \frac{Q}{N} = \log [2]$		'	$\log \frac{Q}{M} = \log [1]$		$\log \frac{Q}{N} \log = [1]$	
0	8.509 9109'0	—	8.508 8552'0	—	0	8.509 8380'2	—	8.508 8310'0	—
1	8.509 9096'8	12'2	8.508 8548'8	4'1	1	8.509 8368'1	12'1	8.508 8306'0	4'0
2	8.509 9084'5	12'3	8.508 8544'8	4'0	2	8.509 8356'0	12'1	8.508 8301'9	4'1
3	8.509 9072'3	12'2	8.508 8540'7	4'1	3	8.509 8343'9	12'1	8.508 8297'9	4'0
4	8.509 9060'1	12'2	8.508 8536'6	4'1	4	8.509 8331'8	12'0	8.508 8293'9	4'0
5	8.509 9047'9	12'2	8.508 8532'6	4'1	5	8.509 8319'8	12'1	8.508 8289'9	4'0
6	8.509 9035'7	12'2	8.508 8528'5	4'1	6	8.509 8307'7	12'1	8.508 8285'8	4'1
7	8.509 9023'5	12'2	8.508 8524'4	4'0	7	8.509 8295'6	12'0	8.508 8281'8	4'0
8	8.509 9011'4	12'1	8.508 8520'4	4'1	8	8.509 8283'6	12'1	8.508 8277'8	4'0
9	8.509 8999'2	12'2	8.508 8516'3	4'1	9	8.509 8271'5	12'0	8.508 8273'8	4'0
10	8.509 8987'0	12'2	8.508 8512'3	4'1	10	8.509 8259'5	12'1	8.508 8269'7	4'1
11	8.509 8974'8	12'2	8.508 8508'2	4'1	11	8.509 8247'4	12'1	8.508 8265'7	4'0
12	8.509 8962'6	12'2	8.508 8504'1	4'1	12	8.509 8235'3	12'0	8.508 8261'7	4'0
13	8.509 8950'4	12'2	8.508 8500'1	4'0	13	8.509 8223'3	12'1	8.508 8257'7	4'0
14	8.509 8938'2	12'2	8.508 8496'0	4'1	14	8.509 8211'2	12'0	8.508 8253'7	4'0
15	8.509 8926'0	12'1	8.508 8491'9	4'0	15	8.509 8199'2	12'1	8.508 8249'7	4'1
16	8.509 8913'9	12'2	8.508 8487'9	4'1	16	8.509 8187'1	12'0	8.508 8245'6	4'0
17	8.509 8901'7	12'2	8.508 8483'8	4'0	17	8.509 8175'1	12'0	8.508 8241'6	4'0
18	8.509 8889'5	12'2	8.508 8479'8	4'1	18	8.509 8163'1	12'1	8.508 8237'6	4'0
19	8.509 8877'3	12'1	8.508 8475'7	4'0	19	8.509 8151'0	12'0	8.508 8233'6	4'0
20	8.509 8865'2	12'2	8.508 8471'7	4'1	20	8.509 8139'0	12'1	8.508 8229'6	4'0
21	8.509 8853'0	12'2	8.508 8467'6	4'1	21	8.509 8126'9	12'0	8.508 8225'6	4'0
22	8.509 8840'8	12'1	8.508 8463'5	4'0	22	8.509 8114'9	12'0	8.508 8221'6	4'0
23	8.509 8828'7	12'2	8.508 8459'5	4'1	23	8.509 8102'9	12'0	8.508 8217'6	4'0
24	8.509 8816'5	12'1	8.508 8455'4	4'0	24	8.509 8090'9	12'1	8.508 8213'6	4'1
25	8.509 8804'4	12'2	8.508 8451'4	4'1	25	8.509 8078'8	12'0	8.508 8209'5	4'0
26	8.509 8792'2	12'2	8.508 8447'3	4'0	26	8.509 8066'8	12'0	8.508 8205'5	4'0
27	8.509 8780'0	12'1	8.508 8443'3	4'1	27	8.509 8054'8	12'0	8.508 8201'5	4'0
28	8.509 8767'9	12'2	8.508 8439'2	4'0	28	8.509 8042'8	12'0	8.508 8197'5	4'0
29	8.509 8755'7	12'1	8.508 8435'2	4'1	29	8.509 8030'8	12'1	8.508 8193'5	4'0
30	8.509 8743'6	12'1	8.508 8431'1	4'0	30	8.509 8018'7	12'0	8.508 8189'5	4'0
31	8.509 8731'5	12'2	8.508 8427'1	4'1	31	8.509 8006'7	12'0	8.508 8185'5	4'0
32	8.509 8719'3	12'1	8.508 8423'0	4'0	32	8.509 7994'7	12'0	8.508 8181'5	4'0
33	8.509 8707'2	12'2	8.508 8419'0	4'1	33	8.509 7982'7	12'0	8.508 8177'5	4'0
34	8.509 8695'0	12'1	8.508 8414'9	4'0	34	8.509 7970'7	12'0	8.508 8173'5	4'0
35	8.509 8682'9	12'1	8.508 8410'9	4'1	35	8.509 7958'7	12'0	8.508 8169'5	4'0
36	8.509 8670'8	12'2	8.508 8406'8	4'0	36	8.509 7946'7	12'0	8.508 8165'5	4'0
37	8.509 8658'6	12'1	8.508 8402'8	4'0	37	8.509 7934'7	12'0	8.508 8161'5	4'0
38	8.509 8646'5	12'1	8.508 8398'8	4'1	38	8.509 7922'7	12'0	8.508 8157'5	4'0
39	8.509 8634'4	12'2	8.508 8394'7	4'0	39	8.509 7910'7	12'0	8.508 8153'5	4'0
40	8.509 8622'2	12'1	8.508 8390'7	4'1	40	8.509 7898'7	11'9	8.508 8149'5	4'0
41	8.509 8610'1	12'1	8.508 8386'6	4'0	41	8.509 7886'6	12'0	8.508 8145'5	4'0
42	8.509 8598'0	12'1	8.508 8382'6	4'0	42	8.509 7874'8	12'0	8.508 8141'5	4'0
43	8.509 8585'9	12'2	8.508 8378'6	4'1	43	8.509 7862'8	12'0	8.508 8137'5	4'0
44	8.509 8573'7	12'1	8.508 8374'5	4'0	44	8.509 7850'8	12'0	8.508 8133'5	4'0
45	8.509 8561'6	12'1	8.508 8370'5	4'1	45	8.509 7838'8	11'9	8.508 8129'5	3'9
46	8.509 8549'5	12'1	8.508 8366'4	4'0	46	8.509 7826'9	12'0	8.508 8125'6	4'0
47	8.509 8537'4	12'1	8.508 8362'4	4'0	47	8.509 7814'9	12'0	8.508 8121'6	4'0
48	8.509 8525'3	12'1	8.508 8358'4	4'1	48	8.509 7802'9	11'9	8.508 8117'6	4'0
49	8.509 8513'2	12'1	8.508 8354'3	4'0	49	8.509 7791'0	12'0	8.508 8113'6	4'0
50	8.509 8501'1	12'1	8.508 8350'3	4'0	50	8.509 7779'0	12'0	8.508 8109'6	4'0
51	8.509 8489'0	12'1	8.508 8346'3	4'1	51	8.509 7767'0	11'9	8.508 8105'6	4'0
52	8.509 8476'9	12'1	8.508 8342'2	4'0	52	8.509 7755'1	12'0	8.508 8101'6	4'0
53	8.509 8464'8	12'1	8.508 8338'2	4'0	53	8.509 7743'1	11'9	8.508 8097'6	3'9
54	8.509 8452'7	12'1	8.508 8334'2	4'1	54	8.509 7731'2	12'0	8.508 8093'7	4'0
55	8.509 8440'6	12'1	8.508 8330'1	4'0	55	8.509 7719'2	11'9	8.508 8089'7	4'0
56	8.509 8428'5	12'1	8.508 8326'1	4'0	56	8.509 7707'3	12'0	8.508 8085'7	4'0
57	8.509 8416'4	12'1	8.508 8322'1	4'1	57	8.509 7695'3	11'9	8.508 8081'7	4'0
58	8.509 8404'3	12'1	8.508 8318'0	4'0	58	8.509 7683'4	12'0	8.508 8077'7	4'0
59	8.509 8392'2	12'0	8.508 8314'0	4'0	59	8.509 7671'4	11'9	8.508 8073'7	3'9
60	8.509 8380'2	—	8.508 8310'0	—	60	8.509 7659'5	—	8.508 8069'8	—

vgl. § 39. S. 230.

$\varphi = 55^\circ$ $\varphi = 56^\circ$

$\log \frac{\rho}{M} = \log [1]$				$\log \frac{\rho}{N} = \log [2]$			
0	8.500 7059'5	—	—	8.508 8069'8	—	—	—
1	8.500 7047'5	12'0	4'0	8.508 8065'8	4'0	—	—
2	8.500 7035'0	11'9	4'0	8.508 8061'8	4'0	—	—
3	8.500 7023'7	11'9	4'0	8.508 8057'8	4'0	—	—
4	8.500 7011'7	12'0	4'0	8.508 8053'8	4'0	—	—
5	8.500 7599'8	11'9	3'9	8.508 8049'9	3'9	—	—
6	8.500 7587'9	11'9	4'0	8.508 8045'9	4'0	—	—
7	8.500 7576'0	11'9	4'0	8.508 8041'9	4'0	—	—
8	8.500 7564'1	12'0	3'9	8.508 8037'9	3'9	—	—
9	8.500 7552'1	—	4'0	8.508 8034'0	4'0	—	—
10	8.500 7540'2	11'9	4'0	8.508 8030'0	4'0	—	—
11	8.500 7528'3	11'9	3'9	8.508 8026'0	3'9	—	—
12	8.500 7516'4	11'9	4'0	8.508 8022'1	4'0	—	—
13	8.500 7504'5	11'9	4'0	8.508 8018'1	4'0	—	—
14	8.500 7492'6	11'9	3'9	8.508 8014'1	3'9	—	—
15	8.500 7480'7	11'9	4'0	8.508 8010'2	4'0	—	—
16	8.500 7468'8	11'9	4'0	8.508 8006'2	4'0	—	—
17	8.500 7456'9	11'9	3'9	8.508 8002'2	3'9	—	—
18	8.500 7445'0	11'9	4'0	8.508 7998'3	4'0	—	—
19	8.500 7433'1	11'9	4'0	8.508 7994'3	4'0	—	—
20	8.500 7421'2	11'9	3'9	8.508 7990'3	3'9	—	—
21	8.500 7409'3	11'8	4'0	8.508 7986'4	4'0	—	—
22	8.500 7397'5	11'9	3'9	8.508 7982'4	3'9	—	—
23	8.500 7385'6	11'9	4'0	8.508 7978'5	4'0	—	—
24	8.500 7373'7	11'9	4'0	8.508 7974'5	4'0	—	—
25	8.500 7361'8	11'9	3'9	8.508 7970'5	3'9	—	—
26	8.500 7349'9	11'8	4'0	8.508 7966'6	4'0	—	—
27	8.500 7338'1	11'9	3'9	8.508 7962'6	3'9	—	—
28	8.500 7326'2	11'9	4'0	8.508 7958'7	4'0	—	—
29	8.500 7314'3	11'8	3'9	8.508 7954'7	3'9	—	—
30	8.500 7302'5	11'9	4'0	8.508 7950'8	4'0	—	—
31	8.500 7290'6	11'8	3'9	8.508 7946'8	3'9	—	—
32	8.500 7278'8	11'9	4'0	8.508 7942'9	4'0	—	—
33	8.500 7266'9	11'8	4'0	8.508 7938'9	4'0	—	—
34	8.500 7255'1	11'9	3'9	8.508 7934'9	3'9	—	—
35	8.500 7243'2	11'8	4'0	8.508 7931'0	4'0	—	—
36	8.500 7231'4	11'9	3'9	8.508 7927'0	3'9	—	—
37	8.500 7219'5	11'8	3'9	8.508 7923'1	3'9	—	—
38	8.500 7207'7	11'9	4'0	8.508 7919'2	4'0	—	—
39	8.500 7195'8	11'8	3'9	8.508 7915'2	3'9	—	—
40	8.500 7184'0	11'8	4'0	8.508 7911'3	4'0	—	—
41	8.500 7172'2	11'9	3'9	8.508 7907'3	3'9	—	—
42	8.500 7160'3	11'8	4'0	8.508 7903'4	4'0	—	—
43	8.500 7148'5	11'8	3'9	8.508 7899'4	3'9	—	—
44	8.500 7136'7	11'8	4'0	8.508 7895'5	4'0	—	—
45	8.500 7124'9	11'9	3'9	8.508 7891'5	3'9	—	—
46	8.500 7113'0	11'8	3'9	8.508 7887'6	3'9	—	—
47	8.500 7101'2	11'8	4'0	8.508 7883'7	4'0	—	—
48	8.500 7089'4	11'8	3'9	8.508 7879'7	3'9	—	—
49	8.500 7077'6	11'8	3'9	8.508 7875'8	3'9	—	—
50	8.500 7065'8	11'8	4'0	8.508 7871'9	4'0	—	—
51	8.500 7054'0	11'8	3'9	8.508 7867'9	3'9	—	—
52	8.500 7042'2	11'8	3'9	8.508 7864'0	3'9	—	—
53	8.500 7030'4	11'8	4'0	8.508 7860'1	4'0	—	—
54	8.500 7018'6	11'8	3'9	8.508 7856'1	3'9	—	—
55	8.500 7006'8	11'8	3'9	8.508 7852'2	3'9	—	—
56	8.500 6995'0	11'8	4'0	8.508 7848'3	4'0	—	—
57	8.500 6983'2	11'8	3'9	8.508 7844'3	3'9	—	—
58	8.500 6971'4	11'8	3'9	8.508 7840'4	3'9	—	—
59	8.500 6959'6	11'8	4'0	8.508 7836'5	4'0	—	—
60	8.500 6947'8	—	—	8.508 7832'5	—	—	—

vgl. § 39. S. 230.

φ	1° Länge in Kilometern	Δ	φ	1° Breite in Kilometern	Δ	1 Gradabteilung	
						in Q.Kilometern	in geogr. Q.Meilen
0°	111,3066	—	0°—1°	110,5638	+7	12 305,86	223,4873
1	111,2897	169	1—2	110,5645	13	12 302,21	223,4210
2	111,2392	505	2—3	110,5658	20	12 294,91	223,2885
3	111,1550	842	3—4	110,5678	27	12 283,97	223,0898
4	111,0372	1178	4—5	110,5705	34	12 269,38	222,8249
5°	110,8858	1514	5°—6°	110,5739	40	12 251,16	222,4939
6	110,7009	1849	6—7	110,5779	47	12 229,30	222,0968
7	110,4824	2185	7—8	110,5826	53	12 203,81	221,6339
8	110,2305	2519	8—9	110,5879	60	12 174,69	221,1051
9	109,9452	2853	9—10	110,5939	66	12 141,95	220,5106
10°	109,6266	3186	10°—11°	110,6005	72	12 105,61	219,8505
11	109,2748	3518	11—12	110,6077	79	12 065,66	219,1250
12	108,8900	3848	12—13	110,6156	85	12 022,12	218,3343
13	108,4721	4179	13—14	110,6241	90	11 975,00	217,4785
14	108,0214	4507	14—15	110,6331	97	11 924,30	216,5578
15°	107,5379	4835	15°—16°	110,6428	103	11 870,05	215,5725
16	107,0219	5160	16—17	110,6531	108	11 812,25	214,5228
17	106,4734	5485	17—18	110,6639	113	11 750,92	213,4089
18	105,8926	5808	18—19	110,6752	119	11 686,07	212,2312
19	105,2797	6129	19—20	110,6871	125	11 617,71	210,9899
20°	104,6348	6449	20°—21°	110,6996	130	11 545,87	209,6852
21	103,9582	6766	21—22	110,7126	134	11 470,56	208,3175
22	103,2500	7082	22—23	110,7260	139	11 391,81	206,8871
23	102,5105	7395	23—24	110,7399	144	11 309,62	205,3945
24	101,7398	7707	24—25	110,7543	148	11 224,02	203,8399
25°	100,9382	8016	25°—26°	110,7691	153	11 135,03	202,2237
26	100,1059	8323	26—27	110,7844	157	11 042,66	200,5464
27	99,2432	8627	27—28	110,8001	161	10 946,96	198,8083
28	98,3502	8930	28—29	110,8162	164	10 847,94	197,0099
29	97,4274	9228	29—30	110,8326	168	10 745,61	195,1516
30°	96,4748	9526	30°—31°	110,8494	172	10 640,03	193,2240
31	95,4929	9819	31—32	110,8666	174	10 531,20	191,2575
32	94,4819	1,0110	32—33	110,8840	178	10 419,15	189,2226
33	93,4421	1,0398	33—34	110,9018	180	10 303,91	187,1298
34	92,3738	1,0683	34—35	110,9198	182	10 185,52	184,9797
35°	91,2773	1,0965	35°—36°	110,9380	185	10 064,01	182,7728
36	90,1529	1,1244	36—37	110,9565	187	9 939,40	180,5098
37	89,0010	1,1519	37—38	110,9752	188	9 811,73	178,1912
38	87,8219	1,1791	38—39	110,9940	191	9 681,03	175,8176
39	86,6160	1,2059	39—40	111,0131	191	9 547,34	173,3897
40°	85,3836	1,2324	40°—41°	111,0322	193	9 410,70	170,9081
41	84,1251	1,2585	41—42	111,0515	193	9 271,14	168,3735
42	82,8408	1,2843	42—43	111,0708	194	9 128,69	165,7866
43	81,5311	1,3097	43—44	111,0902	195	8 983,41	163,1481
44	80,1965	1,3346	44—45	111,1097	195	8 835,32	160,4587
45°	78,8373	1,3592	0°—45°	4984,4393		499 699,59	9075,0670

1 Kilometer = 0,134 76292 geogr. Meilen (log = 9.129 5704.3)

1 Q.Kilometer = 0,018 161046 geogr. Q.Meilen (log = 8.259 1408.6)

vgl. § 35.—37.

φ	1° Länge in Kilometern	Δ	φ	1° Breite in Kilometern	Δ	1 Gradabteilung	
						in Q.Kilometern	in geogr. Q.Meilen
45°	78,8373	—	45°—46°	111,1292	+	8 684,47	157,7192
46	77,4539	1,3834	46 —47	111,1487	195	8 530,91	154,9303
47	76,0468	1,4071	47 —48	111,1681	194	8 374,68	152,0928
48	74,6163	1,4305	48 —49	111,1875	194	8 215,81	149,2076
49	73,1629	1,4534	49 —50	111,2068	193	8 054,35	146,2754
		1,4759			192		
50°	71,6870	1,4979	50°—51°	111,2260	191	7 890,36	143,2972
51	70,1891	1,5195	51 —52	111,2451	189	7 723,87	140,2736
52	68,6696	1,5406	52 —53	111,2640	188	7 554,95	137,2057
53	67,1290	1,5613	53 —54	111,2828	186	7 383,62	134,0943
54	65,5677	1,5814	54 —55	111,3014	183	7 209,96	130,9403
					182		
55°	63,9863	1,6012	55°—56°	111,3197	182	7 033,99	127,7446
56	62,3851	1,6204	56 —57	111,3379	178	6 855,79	124,5083
57	60,7647	1,6391	57 —58	111,3557	176	6 675,40	121,2323
58	59,1256	1,6574	58 —59	111,3733	173	6 492,88	117,9175
59	57,4682	1,6751	59 —60	111,3906	169	6 308,28	114,5650
					166		
60°	55,7931	1,6923	60°—61°	111,4075	166	6 121,66	111,1757
61	54,1008	1,7090	61 —62	111,4241	162	5 933,07	107,7507
62	52,3918	1,7253	62 —63	111,4403	159	5 742,57	104,2911
63	50,6665	1,7408	63 —64	111,4562	154	5 550,22	100,7979
64	48,9257	1,7560	64 —65	111,4716	150	5 356,09	97,2721
					145		
65°	47,1697	1,7706	65°—66°	111,4866	145	5 160,22	93,7150
66	45,3991	1,7846	66 —67	111,5011	141	4 962,68	90,1275
67	43,6145	1,7982	67 —68	111,5152	137	4 763,54	86,5108
68	41,8163	1,8111	68 —69	111,5289	131	4 562,85	82,8661
69	40,0052	1,8234	69 —70	111,5420	126	4 360,68	79,1945
					120		
70°	38,1818	1,8353	70°—71°	111,5546	120	4 157,09	75,4971
71	36,3465	1,8466	71 —72	111,5666	116	3 952,15	71,7751
72	34,4999	1,8572	72 —73	111,5782	109	3 745,92	68,0298
73	32,6427	1,8674	73 —74	111,5891	104	3 538,47	64,2623
74	30,7753	1,8769	74 —75	111,5995	99	3 329,86	60,4738
					92		
75°	28,8984	1,8859	75°—76°	111,6094	92	3 120,17	56,6656
76	27,0125	1,8943	76 —77	111,6186	85	2 909,45	52,8388
77	25,1182	1,9020	77 —78	111,6271	80	2 697,79	48,9947
78	23,2162	1,9093	78 —79	111,6351	74	2 485,23	45,1345
79	21,3069	1,9159	79 —80	111,6425	67	2 271,87	41,2595
					61		
80°	19,3910	1,9219	80°—81°	111,6492	61	2 057,76	37,3710
81	17,4691	1,9273	81 —82	111,6553	55	1 842,97	33,4703
82	15,5418	1,9321	82 —83	111,6608	47	1 627,58	29,5585
83	13,6097	1,9364	83 —84	111,6655	40	1 411,65	25,6371
84	11,6733	1,9400	84 —85	111,6695	34	1 195,26	21,7072
					28		
85°	9,7333	1,9430	85°—86°	111,6729	28	978,48	17,7702
86	7,7903	1,9455	86 —87	111,6757	20	761,37	13,8273
87	5,8448	1,9472	87 —88	111,6777	14	544,02	9,8799
88	3,8976	1,9485	88 —89	111,6791	7	326,48	5,9292
89	1,9491	1,9491	89 —90	111,6798		108,84	1,9767
90°	0,0000						
			45°—90°	5016,4165		208 565,31	3787,7641
			0°—45°	4984,4393		499 699,59	9075,0670
			0°—90°	10000,8558		708 264,90	12862,8311

1 geogr. Meile = 7,420 43854 Kilom.

1 geogr. Q.Meile = 55,062 9081 Q.Kilom.

vgl. § 35.—37.

(log = 0.870 4295.7)

(log = 1.740 8591.4)

φ	B	Differenzen		φ	B	Differenzen	
40° 0'	4 429 084,788 ^m	+	+	48° 0'	5 317 885,232 ^m	+	+
10	447 588,822	18 504,034 ^m	0,533 ^m	10	336 415,137	18 529,905 ^m	0,539 ^m
20	466 093,389	18 504,567	0,533	20	354 945,581	18 530,444	0,537
30	484 598,489	18 505,100	0,534	30	373 476,562	18 530,981	0,538
40	503 104,123	18 505,634	0,535	40	392 008,081	18 531,519	0,537
50	521 610,292	18 506,169	0,535	50	410 540,137	18 532,056	0,538
		18 506,704	0,535			18 532,594	0,536
41° 0'	4 540 116,996 ^m	18 507,239 ^m	0,535 ^m	49° 0'	5 429 072,731 ^m	18 533,130 ^m	0,535
10	558 624,235	18 507,774	0,535	10	447 605,861	18 533,665	0,537
20	577 132,009	18 508,309	0,537	20	466 139,526	18 534,202	0,535
30	595 640,318	18 508,846	0,537	30	484 673,728	18 534,737	0,534
40	614 149,164	18 509,383	0,538	40	503 208,465	18 535,271	0,535
50	632 658,547	18 509,921	0,538	50	521 743,736	18 535,806	0,533
42° 0'	4 651 168,468 ^m	18 510,459 ^m	0,533 ^m	50° 0'	5 540 279,542 ^m	18 536,339 ^m	0,534 ^m
10	669 678,927	18 510,997	0,539	10	558 815,881	18 536,873	0,532
20	688 189,924	18 511,536	0,539	20	577 352,754	18 537,405	0,532
30	706 701,460	18 512,075	0,539	30	595 890,159	18 537,937	0,532
40	725 213,535	18 512,614	0,539	40	614 428,096	18 538,469	0,530
50	743 726,149	18 513,153	0,539	50	632 966,565	18 538,999	0,531
43° 0'	4 762 239,302 ^m	18 513,692 ^m	0,539 ^m	51° 0'	5 651 505,564 ^m	18 539,530 ^m	0,529 ^m
10	780 752,994	18 514,231	0,539	10	670 045,094	18 540,059	0,530
20	799 267,225	18 514,770	0,541	20	688 585,153	18 540,589	0,527
30	817 781,995	18 515,311	0,542	30	707 125,742	18 541,116	0,528
40	836 297,306	18 515,853	0,540	40	725 666,858	18 541,644	0,528
50	854 813,159	18 516,393	0,541	50	744 208,502	18 542,172	0,525
44° 0'	4 873 329,552 ^m	18 516,934 ^m	0,540 ^m	52° 0'	5 762 750,674 ^m	18 542,697 ^m	0,525 ^m
10	891 846,486	18 517,474	0,541	10	781 293,371	18 543,222	0,526
20	910 363,960	18 518,015	0,540	20	799 836,593	18 543,748	0,523
30	928 881,975	18 518,555	0,542	30	818 380,341	18 544,271	0,523
40	947 400,530	18 519,097	0,541	40	836 924,612	18 544,794	0,522
50	965 919,627	18 519,638	0,542	50	855 469,406	18 545,316	0,522
45° 0'	4 984 439,265 ^m	18 520,180 ^m	0,540 ^m	53° 0'	5 874 014,722 ^m	18 545,838	0,520 ^m
10	5 002 959,445	18 520,720	0,541	10	892 560,560	18 546,358	0,520
20	5 021 480,165	18 521,261	0,542	20	911 106,918	18 546,878	0,519
30	5 040 001,426	18 521,803	0,541	30	929 653,796	18 547,397	0,517
40	5 058 523,229	18 522,344	0,541	40	948 201,193	18 547,914	0,518
50	5 077 045,573	18 522,885	0,540	50	966 749,107	18 548,432	0,515
46° 0'	5 095 568,458 ^m	18 523,425 ^m	0,542 ^m	54° 0'	5 985 297,539 ^m	18 548,947 ^m	0,516 ^m
10	114 091,883	18 523,967	0,541	10	6 003 846,486	18 549,463	0,513
20	132 615,850	18 524,508	0,540	20	6 022 395,949	18 549,976	0,514
30	151 140,358	18 525,048	0,540	30	6 040 945,925	18 550,490	0,512
40	169 665,406	18 525,588	0,541	40	6 059 496,415	18 551,002	0,510
50	188 190,994	18 526,129	0,540	50	6 078 047,417	18 551,512	0,511
47° 0'	5 206 717,123 ^m	18 526,669 ^m	0,540 ^m	55° 0'	6 096 598,929 ^m	18 552,023 ^m	0,509 ^m
10	225 243,792	18 527,209	0,540	10	115 150,952	18 552,532	0,507
20	243 771,001	18 527,749	0,539	20	133 703,484	18 553,039	0,506
30	262 298,750	18 528,288	0,540	30	152 256,523	18 553,446	0,507
40	280 827,038	18 528,828	0,538	40	170 810,069	18 554,052	0,504
50	299 355,866	18 529,366		50	189 364,121	18 554,556	
48° 0'	5 317 885,232 ^m			56° 0'	6 207 918,677		

vgl. S. 216.

Meridian- bogen	Mittelbreite φ							Meridian- bogen
	0°	30°	45°	50°	55°	60°	75°	
m	$\Delta\varphi$	$\Delta\varphi$	$\Delta\varphi$	$\Delta\varphi$	$\Delta\varphi$	$\Delta\varphi$	$\Delta\varphi$	m
100 ^m	3,26"	3,25"	3,24"	3,24"	3,23"	3,23"	3,23"	100 ^m
200	6,51	6,50	6,48	6,47	6,47	6,46	6,45	200
300	9,77	9,74	9,72	9,71	9,70	9,69	9,68	300
400	13,02	12,99	12,96	12,95	12,94	12,93	12,90	400
500	16,28	16,24	16,20	16,18	16,17	16,16	16,13	500
600 ^m	19,54	19,49"	19,44"	19,42"	19,40"	19,39"	19,35"	600 ^m
700	22,79	22,74	22,68	22,66	22,64	22,62	22,58	700
800	26,05	25,98	25,92	25,90	25,85	25,85	25,81	800
900	29,30	29,23	29,16	29,13	29,11	29,08	29,03	900
1000 ^m	0' 32,6"	0' 32,5"	0' 32,4"	0' 32,4"	0' 32,3"	0' 32,3"	0' 32,3"	1000 ^m
2000	1 5,1	1 5,0	1 4,8	1 4,7	1 4,7	1 4,6	1 4,5	2000
3000	1 37,7	1 37,4	1 37,2	1 37,1	1 37,0	1 36,9	1 36,8	3000
4000	2 10,2	2 9,9	2 9,6	2 9,5	2 9,4	2 9,3	2 9,0	4000
5000	2 42,8	2 42,4	2 42,0	2 41,8	2 41,7	2 41,6	2 41,3	5000
6000 ^m	3' 15,4"	3' 14,9"	3' 14,4"	3' 14,2"	3' 14,0"	3' 13,9"	3' 13,5"	6000 ^m
7000	3 47,9	3 47,4	3 46,8	3 46,6	3 46,4	3 46,2	3 45,8	7000
8000	4 20,5	4 19,8	4 19,2	4 19,0	4 18,7	4 18,5	4 18,1	8000
9000	4 53,0	4 52,3	4 51,6	4 51,3	4 51,1	4 50,8	4 50,3	9000
10 000 ^m	5' 25,6"	5' 24,8"	5' 24,0"	5' 23,7"	5' 23,4"	5' 23,2"	5' 22,6"	10 000 ^m
20 000	10 51,2	10 49,6	10 48,0	10 47,4	10 46,8	10 46,3	10 45,1	20 000
30 000	16 16,8	16 14,4	16 11,9	16 11,1	16 10,2	16 9,4	16 7,7	30 000
40 000	21 42,4	21 39,2	21 35,9	21 34,8	21 33,7	21 32,6	21 30,3	40 000
50 000	27 8,0	27 3,9	26 59,6	26 58,5	26 57,1	26 55,8	26 52,8	50 000
60 000 ^m	32' 33,6"	32' 28,7"	32' 23,9"	32' 22,2"	32' 20,5	32' 19,0"	32' 15,4"	60 000 ^m
70 000	37 59,3	37 53,5	37 47,8	37 45,9	37 43,9	37 42,1	37 38,0	70 000
80 000	43 24,9	43 18,3	43 11,8	43 9,5	43 7,3	43 5,3	43 0,5	80 000
90 000	48 50,5	48 43,1	48 35,8	48 33,2	48 30,7	48 28,5	48 23,1	90 000
100 000	54 16,1	54 7,9	53 59,8	53 57,0	53 54,2	53 51,6	53 45,7	100 000
$\Delta\varphi$	m	m	m	m	m	m	m	$\Delta\varphi$
1"	30,7121 ^m	30,7892 ^m	30,8665 ^m	30,8935 ^m	30,9196 ^m	30,9442 ^m	31,0013 ^m	1"
10"	307,1 ^m	307,9 ^m	308,7 ^m	308,9	309,2 ^m	309,4	310,0 ^m	10"
20"	614,2	615,8	617,3	617,9	618,4	618,9	620,0	20"
30"	921,4	923,7	926,0	926,8	927,6	928,3	930,0	30"
40"	1228,5	1231,6	1234,7	1235,7	1236,8	1237,8	1240,0	40"
50"	1535,6	1539,5	1543,3	1544,7	1546,0	1547,2	1550,1	50"
60" = 1'	1843 ^m	1847 ^m	1852 ^m	1854 ^m	1855 ^m	1857 ^m	1860 ^m	60" = 1'
2'	3685	3694	3704	3707	3710	3713	3720	2'
3'	5528	5542	5556	5561	5566	5570	5580	3'
4'	7371	7389	7408	7414	7421	7427	7440	4'
5'	9214	9237	9260	9268	9276	9283	9300	5'
6'	11 056 ^m	11 084 ^m	11 112 ^m	11 122 ^m	11 131 ^m	11 140 ^m	11 160 ^m	6'
7'	12 899	12 931	12 964	12 975	12 986	12 997	13 021	7'
8'	14 742	14 779	14 816	14 829	14 841	14 853	14 881	8'
9'	16 585	16 626	16 668	16 682	16 697	16 710	16 741	9'
10'	18 427	18 474	18 520	18 536	18 552	18 567	18 601	10'

vgl. § 35. und § 55.

Breite φ	Bogen		Zeit		Breite φ	Bogen		Zeit	
	1'	1''	1 ^m	1 ^s		1'	1''	1 ^m	1 ^s
0°	1855 ^m	30,9 ^m	27 827 ^m	464 ^m	45°	1314 ^m	21,9 ^m	19 709 ^m	328 ^m
1	1855	30,9	27 822	464	46	1291	21,5	19 363	323
2	1854	30,9	27 810	464	47	1267	21,1	19 012	317
3	1853	30,9	27 789	463	48	1244	20,7	18 654	311
4	1851	30,8	27 759	463	49	1219	20,3	18 291	305
5°	1848 ^m	30,8 ^m	27 721 ^m	462 ^m	50°	1195 ^m	19,9 ^m	17 922 ^m	299 ^m
6	1845	30,8	27 675	461	51	1170	19,5	17 547	292
7	1841	30,7	27 621	460	52	1144	19,1	17 167	286
8	1837	30,6	27 558	459	53	1119	18,6	16 782	280
9	1832	30,5	27 486	458	54	1093	18,2	16 393	273
10°	1827 ^m	30,5 ^m	27 407 ^m	457 ^m	55°	1066 ^m	17,8 ^m	15 997 ^m	267 ^m
11	1821	30,4	27 319	455	56	1040	17,3	15 596	260
12	1815	30,2	27 222	454	57	1013	16,9	15 191	253
13	1808	30,1	27 118	452	58	985	16,4	14 781	246
14	1800	30,0	27 005	450	59	958	16,0	14 367	239
15°	1792 ^m	29,9 ^m	26 884 ^m	448 ^m	60	930 ^m	15,5	13 948 ^m	232 ^m
16	1784	29,7	26 755	446	61	902	15,0	13 525	225
17	1775	29,6	26 618	444	62	873	14,6	13 098	218
18	1765	29,4	26 473	441	63	844	14,1	12 667	211
19	1755	29,2	26 320	439	64	815	13,6	12 231	204
20°	1744 ^m	29,1 ^m	26 159 ^m	436 ^m	65°	786 ^m	13,1 ^m	11 792 ^m	197 ^m
21	1733	28,9	25 990	433	66	757	12,6	11 350	189
22	1721	28,7	25 812	430	67	727	12,1	10 904	182
23	1709	28,5	25 628	427	68	697	11,6	10 454	174
24	1696	28,3	25 435	424	69	667	11,1	10 001	167
25°	1682 ^m	28,0 ^m	25 235 ^m	421 ^m	70°	636 ^m	10,6 ^m	9545 ^m	159 ^m
26	1668	27,8	25 026	417	71	606	10,1	9086	151
27	1654	27,6	24 811	414	72	575	9,6	8625	144
28	1639	27,3	24 588	410	73	544	9,1	8161	136
29	1624	27,1	24 357	406	74	513	8,5	7694	128
30°	1608 ^m	26,8 ^m	24 119 ^m	402 ^m	75°	482 ^m	8,0 ^m	7225 ^m	120 ^m
31	1592	26,5	23 873	398	76	450	7,5	6753	113
32	1575	26,2	23 620	394	77	419	7,0	6280	105
33	1557	26,0	23 361	389	78	387	6,4	5804	97
34	1540	25,7	23 093	385	79	355	5,9	5327	89
35°	1521 ^m	25,4 ^m	22 810 ^m	380 ^m	80°	323 ^m	5,4 ^m	4848 ^m	81 ^m
36	1503	25,0	22 538	376	81	291	4,9	4367	73
37	1483	24,7	22 250	371	82	259	4,3	3885	65
38	1464	24,4	21 955	366	83	227	3,8	3402	57
39	1444	24,1	21 654	361	84	195	3,2	2918	49
40°	1423 ^m	23,7 ^m	21 346 ^m	356 ^m	85°	162 ^m	2,7 ^m	2433 ^m	41 ^m
41	1402	23,4	21 031	351	86	130	2,2	1948	32
42	1381	23,0	20 710	345	87	97	1,6	1461	24
43	1359	22,6	20 383	340	88	65	1,1	974	16
44	1337	22,3	20 049	334	89	32	0,5	487	8
45	1314	21,9	19 709	328	90	0	0,0	0	0

vgl. § 36.

Breite φ	Parallel- Bogen 10'	Meridian- Bogen 6'	Trapez- fläche	Breite φ	Parallel- Bogen 10'	Meridian- Bogen 6'	Trapez- fläche
	Meter	Meter	Q.Kilometer		Meter	Meter	Q.Kilometer
45° 0'	13 139,55	11 112,04	145,8802	50° 0'	11 947,84	11 121,74	132,7428
6	13 116,67	11 112,24	145,6283	6	11 923,03	11 121,93	132,4691
12	13 093,76	11 112,43	145,3760	12	11 898,20	11 122,12	132,1949
18	13 070,80	11 112,63	145,1232	18	11 873,32	11 122,32	131,9203
24	13 047,80	11 112,82	144,8699	24	11 848,41	11 122,51	131,6453
45° 30'	13 024,77	11 113,02	144,6163	50° 30'	11 823,46	11 122,70	131,3699
36	13 001,69	11 113,21	144,3621	36	11 798,48	11 122,89	131,0941
42	12 978,57	11 113,41	144,1075	42	11 773,46	11 123,08	130,8178
48	12 955,42	11 113,60	143,8525	48	11 748,40	11 123,27	130,5412
54	12 932,22	11 113,80	143,5970	54	11 723,31	11 123,46	130,2641
46° 0'	12 908,98	11 113,99	143,3410	51° 0'	11 698,18	11 123,65	129,9866
6	12 885,71	11 114,19	143,0846	6	11 673,02	11 123,85	129,7087
12	12 862,39	11 114,38	142,8278	12	11 647,82	11 124,04	129,4304
18	12 839,04	11 114,57	142,5705	18	11 622,58	11 124,23	129,1517
24	12 815,65	11 114,77	142,3128	24	11 597,31	11 124,42	128,8726
46° 30'	12 792,21	11 114,96	142,0546	51° 30'	11 572,01	11 124,61	128,5931
36	12 768,74	11 115,16	141,7960	36	11 546,66	11 124,80	128,3131
42	12 745,23	11 115,35	141,5369	42	11 521,28	11 124,99	128,0328
48	12 721,68	11 115,55	141,2774	48	11 495,87	11 125,18	127,7521
54	12 698,09	11 115,74	141,0174	54	11 470,42	11 125,37	127,4709
47° 0'	12 674,46	11 115,94	140,7570	52° 0'	11 444,94	11 125,56	127,1894
6	12 650,79	11 116,13	140,4961	6	11 419,42	11 125,74	126,9074
12	12 627,09	11 116,32	140,2349	12	11 393,86	11 125,93	126,6250
18	12 603,34	11 116,52	139,9731	18	11 368,27	11 126,12	126,3423
24	12 579,56	11 116,71	139,7110	24	11 342,65	11 126,31	126,0591
47° 30'	12 555,74	11 116,91	139,4484	52° 30'	11 316,99	11 126,50	125,7756
36	12 531,88	11 117,10	139,1853	36	11 291,29	11 126,69	125,4916
42	12 507,98	11 117,30	138,9218	42	11 165,56	11 126,88	125,2072
48	12 484,04	11 117,49	138,6579	48	11 239,80	11 127,07	124,9225
54	12 460,06	11 117,68	138,3936	54	11 214,00	11 127,25	124,6373
48° 0'	12 436,05	11 117,88	138,1288	53° 0'	11 188,17	11 127,44	124,3518
6	12 411,99	11 118,07	137,8636	6	11 162,30	11 127,63	124,0658
12	12 387,90	11 118,27	137,5979	12	11 136,40	11 127,82	123,7795
18	12 363,77	11 118,46	137,3319	18	11 110,46	11 128,00	123,4928
24	12 339,61	11 118,65	137,0653	24	11 084,49	11 128,19	123,2057
48° 30'	12 315,40	11 118,85	136,7983	53° 30'	11 058,49	11 128,38	122,9183
36	12 291,16	11 119,04	136,5310	36	11 032,45	11 128,56	122,6303
42	12 266,88	11 119,23	136,2631	42	11 006,38	11 128,75	122,3420
48	12 242,56	11 119,43	135,9949	48	10 980,27	11 128,94	122,0533
54	12 218,21	11 119,62	135,7262	54	10 954,13	11 129,12	121,7642
49° 0'	12 193,81	11 119,81	135,4571	54° 0'	10 927,96	11 129,31	121,4748
6	12 169,38	11 120,01	135,1876	6	10 901,75	11 129,49	121,1849
12	12 144,92	11 120,20	134,9177	12	10 875,51	11 129,68	120,8947
18	12 120,41	11 120,39	134,6473	18	10 849,23	11 129,86	120,6041
24	12 095,87	11 120,59	134,3765	24	10 822,92	11 130,05	120,3121
49° 30'	12 071,29	11 120,78	134,1053	54° 30'	10 796,58	11 130,23	120,0218
36	12 046,67	11 120,97	133,8336	36	10 770,21	11 130,42	119,7300
42	12 022,02	11 121,16	133,5616	42	10 743,80	11 130,60	119,4378
48	11 997,33	11 121,36	133,2891	48	10 717,36	11 130,78	119,1454
54	11 972,60	11 121,55	133,0162	54	10 690,89	11 130,97	118,8524
50° 0'	11 947,84			55° 0'	10 664,38		

vgl. § 35.—37.

<i>o</i>	<i>h</i>	<i>m</i>	<i>'</i>	<i>m</i>	<i>s</i>	<i>'</i>	<i>m</i>	<i>s</i>	<i>''</i>	<i>s</i>	<i>''</i>	<i>s</i>
1	0	4	1	0	4	31	2	4	1	0,0667	31	2,0667
2	0	8	2	0	8	32	2	8	2	0,1333	32	2,1333
3	0	12	3	0	12	33	2	12	3	0,2000	33	2,2000
4	0	16	4	0	16	34	2	16	4	0,2667	34	2,2667
5	0	20	5	0	20	35	2	20	5	0,3333	35	2,3333
6	0	24	6	0	24	36	2	24	6	0,4000	36	2,4000
7	0	28	7	0	28	37	2	28	7	0,4667	37	2,4667
8	0	32	8	0	32	38	2	32	8	0,5333	38	2,5333
9	0	36	9	0	36	39	2	36	9	0,6000	39	2,6000
10	0	40	10	0	40	40	2	40	10	0,6667	40	2,6667
10	0	40	11	0	44	41	2	44	11	0,7333	41	2,7333
20	1	20	12	0	48	42	2	48	12	0,8000	42	2,8000
30	2	0	13	0	52	43	2	52	13	0,8667	43	2,8667
40	2	40	14	0	56	44	2	56	14	0,9333	44	2,9333
50	3	20	15	1	0	45	3	0	15	1,0000	45	3,0000
60	4	0	16	1	4	46	3	4	16	1,0667	46	3,0667
70	4	40	17	1	8	47	3	8	17	1,1333	47	3,1333
80	5	20	18	1	12	48	3	12	18	1,2000	48	3,2000
90	6	0	19	1	16	49	3	16	19	1,2667	49	3,2667
100	6	40	20	1	20	50	3	20	20	1,3333	50	3,3333
110	7	20	21	1	24	51	3	24	21	1,4000	51	3,4000
120	8	0	22	1	28	52	3	28	22	1,4667	52	3,4667
130	8	40	23	1	32	53	3	32	23	1,5333	53	3,5333
140	9	20	24	1	36	54	3	36	24	1,6000	54	3,6000
150	10	0	25	1	40	55	3	40	25	1,6667	55	3,6667
160	10	40	26	1	44	56	3	44	26	1,7333	56	3,7333
170	11	20	27	1	48	57	3	48	27	1,8000	57	3,8000
180	12	0	28	1	52	58	3	52	28	1,8667	58	3,8667
190	12	40	29	1	56	59	3	56	29	1,9333	59	3,9333
200	13	20	30	2	0	60	4	0	30	2,0000	60	4,0000

Verwandlung der Zeit in Bogen.

<i>h</i>	<i>o</i>	<i>m</i>	<i>s</i>	<i>''</i>	<i>m</i>	<i>s</i>	<i>''</i>	<i>m</i>	<i>s</i>	<i>''</i>	<i>m</i>	<i>s</i>	<i>''</i>	<i>s</i>	<i>''</i>
1	15	1	0	15	16	4	0	31	7	45	46	11	30	0,1	1,5
2	30	2	0	30	17	4	15	32	8	0	47	11	45	0,2	3,0
3	45	3	0	45	18	4	30	33	8	15	48	12	0	0,3	4,5
4	60	4	1	0	19	4	45	34	8	30	49	12	15	0,4	6,0
5	75	5	1	15	20	5	0	35	8	45	50	12	30	0,5	7,5
6	90	6	1	30	21	5	15	36	9	0	51	12	45	0,6	9,0
7	105	7	1	45	22	5	30	37	9	15	52	13	0	0,7	10,5
8	120	8	2	0	23	5	45	38	9	30	53	13	15	0,8	12,0
9	135	9	2	15	24	6	0	39	9	45	54	13	30	0,9	13,5
10	150	10	2	30	25	6	15	40	10	0	55	13	45	1,0	15,0
11	165	11	2	45	26	6	30	41	10	15	56	14	0		
12	180	12	3	0	27	6	45	42	10	30	57	14	15		
13	195	13	3	15	28	7	0	43	10	45	58	14	30		
14	210	14	3	30	29	7	15	44	11	0	59	14	45		
15	225	15	3	45	30	7	30	45	11	15	60	15	0		

vgl. § 36.

Additamente für $\log \sin \frac{s}{r}$

[43]

$$A = \log \frac{s}{r} - \log \sin \frac{s}{r} = \frac{\mu}{6r^2} s^2$$

I. Additament A als Funktion von $\log s$, für die Mittelbreite $\varphi = 50^\circ$

$$\log \frac{\mu}{6r^2} = 2.249846 - 10.$$

$\log s$	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09	Diff.	für $\log s < 4.0$	
												$\log s$	A
4.0	1.8	1.9	1.9	2.0	2.1	2.2	2.3	2.5	2.6	2.7	0.1		
4.1	2.8	3.0	3.1	3.1	3.4	3.5	3.7	3.9	4.1	4.2	0.3		
4.2	4.5	4.7	4.9	5.1	5.4	5.6	5.9	6.2	6.5	6.8	0.3	3.2	0.0
4.3	7.1	7.4	7.8	8.1	8.5	8.9	9.3	9.8	10.3	10.7	0.5	3.3	0.1
4.4	11.2	11.7	12.3	12.9	13.5	14.1	14.8	15.5	16.2	17.0	0.8	3.4	0.2
4.5	17.8	18.6	19.5	20.4	21.4	22.4	23.4	24.5	25.7	26.9	1.3	3.5	0.3
4.6	28.2	29.5	30.9	32.4	33.9	35.5	37.2	38.9	40.8	42.7	2.0	3.6	0.3
4.7	44.7	46.8	49.0	51.3	53.7	56.2	58.9	61.7	64.6	67.6	3.2	3.7	0.4
4.8	70.8	74.1	77.6	81.3	85.1	89.1	93.6	97.7	102.3	107.1	5.1	3.8	0.7
4.9	112.2	117.4	123.0	128.8	134.8	141.2	147.9	154.8	162.1	169.8	8.0	3.9	1.1
5.0	177.8	186.1	194.9	204.1	213.7	223.8	234.3	245.4	256.9	169.1	12.8		

II. Additament A als Funktion von $\log \frac{s}{r}$

$\frac{s}{r} \varrho$	$\log \frac{s}{r}$	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09	Diff.
3' 26"	7.0	0.7	0.8	0.8	0.8	0.9	0.9	1.0	1.0	1.0	1.1	+
4 20	7.1	1.1	1.2	1.3	1.3	1.4	1.4	1.5	1.6	1.7	1.7	0.0
5 27	7.2	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.8	0.1
6 52	7.3	2.9	3.0	3.2	3.3	3.5	3.6	3.8	4.0	4.2	4.4	0.2
8 38	7.4	4.6	4.8	5.0	5.2	5.5	5.7	6.0	6.3	6.6	6.9	0.3
10' 52"	7.5	7.2	7.6	7.5	8.3	8.7	9.1	9.5	10.0	10.5	11.0	0.5
13 41	7.6	11.5	12.0	12.6	13.2	13.8	14.4	15.1	15.8	16.6	17.4	0.8
17 14	7.7	18.2	19.0	19.9	20.9	21.9	22.9	24.0	25.1	26.3	27.5	1.3
21 41	7.8	28.8	30.2	31.6	33.1	34.6	36.3	38.0	39.8	41.7	43.6	2.1
27 18	7.9	45.7	47.8	50.1	52.4	54.9	57.5	60.2	63.0	66.0	69.1	3.3
		.000	.001	.002	.003	.004	.005	.006	.007	.008	.009	
34' 23"	8.00	72.4	72.7	73.1	73.4	73.7	74.1	74.4	74.8	75.1	75.4	0.4
35 11	8.01	75.8	76.1	76.5	76.8	77.2	77.6	77.9	78.3	78.6	79.0	0.4
36 0	8.02	79.4	79.7	80.1	80.5	80.8	81.2	81.6	82.0	82.3	82.7	0.4
36 50	8.03	83.1	83.5	83.9	84.3	84.7	85.0	85.4	85.8	86.2	86.6	0.4
37 42	8.04	87.0	87.4	87.8	88.2	88.6	89.1	89.5	89.9	90.3	90.7	0.4
38' 34"	8.05	91.1	91.5	92.0	92.4	92.8	93.2	93.7	94.1	94.5	95.0	0.4
39 28	8.06	95.4	95.9	96.3	96.7	97.2	97.6	98.1	98.5	99.0	99.4	0.5
40 23	8.07	99.9	100.4	100.8	101.3	101.8	102.2	102.7	103.2	103.7	104.1	0.5
41 20	8.08	104.6	105.1	105.6	106.1	106.6	107.1	107.6	108.1	108.5	109.0	0.5
42 17	8.09	109.5	110.0	110.6	111.1	111.6	112.1	112.6	113.1	113.7	114.2	0.5
43' 17"	8.10	114.7	115.2	115.8	116.3	116.8	117.4	117.9	118.5	119.0	119.6	0.5
44 17	8.11	120.1	120.7	121.2	121.8	122.3	122.9	123.5	124.0	124.6	125.2	0.6
45 19	8.12	125.8	126.3	126.9	127.5	128.2	128.7	129.3	129.9	130.5	131.1	0.6
46 22	8.13	131.7	132.3	132.9	133.5	134.1	134.8	135.4	136.0	136.6	137.3	0.6
47 27	8.14	137.9	138.5	139.2	139.8	140.5	141.1	141.8	142.4	143.1	143.8	0.7
48' 33"	8.15	144.4	145.1	145.7	146.4	147.1	147.8	148.5	149.1	149.8	150.5	0.7
49 41	8.16	151.2	151.9	152.6	153.3	154.0	154.8	155.4	156.2	156.9	157.6	0.7
50 51	8.17	158.3	159.1	159.8	160.5	161.3	162.0	162.8	163.5	164.3	165.0	0.8
52 2	8.18	165.8	166.6	167.3	168.1	168.9	169.7	170.4	171.2	172.0	172.8	0.8
53 14	8.19	173.6	174.4	175.2	176.0	176.8	177.7	178.5	179.3	180.1	181.0	0.8

vgl. § 42.

I. Abscissen-Korrekturen oder Ordinaten-Korrekturen von der Form

$$d = \frac{a^2 b}{2 r^2} \quad \left(\log \frac{1}{2 r^2} = 6.08918 \text{ für } \varphi = 50^\circ \right).$$

a	b									
	10 ^{km}	20 ^{km}	30 ^{km}	40 ^{km}	50 ^{km}	60 ^{km}	70 ^{km}	80 ^{km}	90 ^{km}	100 ^{km}
10 ^{km}	0,01 ^m	0,02 ^m	0,04 ^m	0,05 ^m	0,06 ^m	0,07 ^m	0,09 ^m	0,10 ^m	0,11 ^m	0,12 ^m
20	0,05	0,10	0,15	0,20	0,25	0,29	0,34	0,39	0,44	0,49
30	0,11	0,22	0,33	0,44	0,55	0,66	0,77	0,88	0,99	1,11
40	0,20	0,39	0,59	0,79	0,98	1,18	1,38	1,57	1,77	1,96
50	0,31	0,61	0,92	1,23	1,53	1,84	2,15	2,46	2,76	3,07
60 ^{km}	0,44 ^m	0,88 ^m	1,33 ^m	1,77 ^m	2,21 ^m	2,65 ^m	3,09 ^m	3,54 ^m	3,98 ^m	4,42 ^m
70	0,60	1,20	1,81	2,41	3,01	3,61	4,21	4,81	5,42	6,02
80	0,79	1,57	2,36	3,14	3,93	4,72	5,50	6,29	7,09	7,86
90	0,99	1,99	2,98	3,98	4,97	5,97	6,96	7,96	8,95	9,95
100	1,23	2,46	3,68	4,91	6,14	7,37	8,60	9,82	11,05	12,28

II. Ordinaten-Konvergenz $\alpha' - \alpha = (x' - x) \frac{y' + y}{2} \frac{\varrho}{r^2}$ oder

$$\alpha' - \alpha = m n \frac{\varrho}{r^2} \quad \left(\log \frac{\varrho}{r^2} = 1.70464 \text{ für } \varphi = 50^\circ \right).$$

m	n									
	10 ^{km}	20 ^{km}	30 ^{km}	40 ^{km}	50 ^{km}	60 ^{km}	70 ^{km}	80 ^{km}	90 ^{km}	100 ^{km}
10 ^{km}	0,5''	1,0''	1,5''	2,0''	2,5''	3,0''	3,5''	4,1''	4,6''	5,1''
20	1,0	2,0	3,0	4,1	5,1	6,1	7,1	8,1	9,1	10,1
30	1,5	3,0	4,6	6,1	7,6	9,1	10,6	12,2	13,7	15,2
40	2,0	4,1	6,1	8,1	10,1	12,2	14,2	16,2	18,2	20,3
50	2,5	5,1	7,6	10,1	12,7	15,2	17,7	20,3	22,8	25,3
60 ^{km}	3,0''	6,1''	9,1''	12,2''	15,2''	18,2''	21,3''	24,3''	27,4''	30,4''
70	3,5	7,1	10,6	14,2	17,7	21,3	24,8	28,4	31,9	35,5
80	4,1	8,1	12,2	16,2	20,3	24,3	28,4	32,4	36,5	40,5
90	4,6	9,1	13,7	18,2	22,8	27,4	31,9	36,5	41,0	45,6
100	5,1	10,1	15,2	20,3	25,3	30,4	35,5	40,5	45,6	50,7

III. Meridian-Konvergenz. Für die Ordinate y und die Breite φ ist die Meridian-Konvergenz genähert $\gamma = \frac{y}{N} \varrho \tan \varphi = [2] y \tan \varphi$ in Sekunden, wo N und $[2]$ der Tafel von Seite [2] bis [23] entsprechen. Folgendes Täfelchen giebt γ in Minuten.

y	Geographische Breite φ										
	45°	46°	47°	48°	49°	50°	51°	52°	53°	54°	55°
10 ^{km}	5,4'	5,6'	5,8'	6,0'	6,2'	6,4'	6,6'	6,9'	7,1'	7,4'	7,7'
20	10,8	11,1	11,5	12,0	12,4	12,8	13,3	13,8	14,3	14,8	15,4
30	16,1	16,7	17,3	17,9	18,6	19,2	19,9	20,7	21,4	22,2	23,0
40	21,5	22,3	23,1	23,9	24,8	25,6	26,6	27,5	28,6	29,6	30,7
50	26,9	27,9	28,9	29,9	30,9	32,1	33,2	34,4	35,7	37,0	38,4
60 ^{km}	32,8'	33,4'	34,6'	35,9'	37,1'	38,5'	39,9'	41,3'	42,8'	44,4'	46,1'
70	37,7	39,0	40,4	41,8	43,3	44,9	46,5	48,2	50,0	51,8	53,8
80	43,1	44,6	46,2	47,8	49,5	51,3	53,1	55,1	57,1	59,2	61,4
90	48,4	50,1	51,9	53,8	55,7	57,7	59,8	62,0	64,2	66,6	69,1
100	53,8	55,7	57,7	59,8	61,9	64,1	66,4	68,9	71,4	74,0	76,8

vgl. § 46. S. 263.

I. Konforme Projektion der Preussischen Landesaufnahme.

$$\text{Ordinatenvergrößerung } Y - y = \frac{y^3}{6 A^2}, \log \frac{1}{6 A^2} = 5.611\,7939$$

für y = sphärische Ordinate, Y = ebene Ordinate der konformen Projektion.

y oder Y	0km	1km	2km	3km	4km	5km	6km	7km	8km	9km	d
0km	0,000m	0,000m	0,000m	0,000m	0,000m	0,001m	0,001m	0,001m	0,002m	0,003m	0,1cm
10	0,004	0,005	0,007	0,009	0,011	0,014	0,017	0,020	0,024	0,028	0,5
20	0,033	0,038	0,044	0,050	0,057	0,064	0,072	0,081	0,090	0,100	1,0
30	0,110	0,121	0,134	0,147	0,161	0,175	0,191	0,207	0,225	0,243	1,9
40	0,262	0,282	0,303	0,325	0,349	0,373	0,398	0,425	0,453	0,480	3
50km	0,51m	0,54m	0,58m	0,61m	0,64m	0,68m	0,72m	0,78m	0,80m	0,84m	4cm
60	0,88	0,93	0,98	1,02	1,07	1,12	1,15	1,20	1,29	1,34	6
70	1,40	1,46	1,53	1,59	1,66	1,73	1,80	1,87	1,99	2,02	7
80	2,09	2,17	2,26	2,34	2,42	2,51	2,60	2,69	2,79	2,88	10
90	2,98	3,08	3,19	3,29	3,40	3,51	3,62	3,73	3,85	3,97	12
100km	4,09m	4,21m	4,34m	4,47m	4,60m	4,74m	4,87m	5,01m	5,15m	5,30m	14cm
110	5,44	5,59	5,75	5,90	6,06	6,22	6,39	6,55	6,72	6,89	18
120	7,07	7,25	7,43	7,61	7,80	7,99	8,18	8,38	8,58	8,78	21
130	8,99	9,20	9,41	9,62	9,84	10,06	10,29	10,52	10,75	10,99	23
140	11,22	11,47	11,71	11,96	12,21	12,47	12,74	12,99	13,26	13,53	28
150	13,81										

Für grössere Werte gilt:

$$Y = y + \frac{y^3}{6 A^2} + \frac{y^5}{24 A^4} \quad \text{oder} \quad y = Y - \frac{y^3}{6 A^2} + \frac{y^5}{24 A^4}, \quad \log \frac{1}{24 A^4} = 1.39968$$

$y = 200\,000^m$	$300\,000^m$	$400\,000^m$	$500\,000^m$	$600\,000^m$
$Y = 200\,032,73^m$	$300\,110,11^m$	$400\,262,06^m$	$500\,512,12^m$	$600\,885,54^m$

II. Reduktion einer Streckenmessung auf ihren Wert im trigonometrischen Netze wegen Höhe h über dem Meere und wegen Projektionsverzerrung.

$$\delta = \left(-\frac{h}{r} + \frac{y^2}{2r^2} \right) 1\,000\,000 \text{ d. h. } \delta \text{ in Millimetern für 1 Kilometer,}$$

für die Mittelbreite $\varphi = 50^\circ$, $\log r = 6.804\,8936$.

h	y										
	0km	10km	20km	30km	40km	50km	60km	70km	80km	90km	100km
m	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
0	± 0,0	+ 1,2	+ 4,9	+ 11,1	+ 19,6	+ 30,7	+ 44,2	+ 60,2	+ 78,6	+ 99,5	+ 122,8
50	- 7,8	- 6,6	- 2,9	+ 3,2	+ 11,8	+ 22,9	+ 36,4	+ 52,2	+ 70,8	+ 91,6	+ 115,0
100	- 15,7	- 14,4	- 10,8	- 4,6	+ 4,0	+ 15,0	+ 28,5	+ 44,5	+ 62,9	+ 83,8	+ 107,1
200	- 31,3	- 30,1	- 26,4	- 20,3	- 11,7	- 6,6	+ 12,9	+ 28,8	+ 47,2	+ 68,1	+ 91,5
300	- 47,0	- 45,8	- 42,1	- 36,0	- 27,4	- 16,3	- 2,8	+ 13,2	+ 31,6	+ 52,4	+ 75,8
400	- 62,7	- 61,4	- 57,8	- 51,6	- 43,0	- 32,0	- 18,5	- 2,5	+ 15,9	+ 36,8	+ 60,1
500	- 78,4	- 77,1	- 73,4	- 67,3	- 58,7	- 47,7	- 34,2	- 18,2	+ 0,2	+ 21,1	+ 44,4
600	- 94,0	- 92,8	- 89,1	- 83,0	- 74,4	- 63,3	- 49,8	- 33,9	- 15,4	+ 5,4	+ 28,8
700	- 109,7	- 108,5	- 104,8	- 98,6	- 90,0	- 79,0	- 65,5	- 49,5	- 31,1	- 10,2	+ 13,1
800	- 125,4	- 124,1	- 120,5	- 114,3	- 105,7	- 94,7	- 81,2	- 65,2	- 46,8	- 25,9	- 2,6
900	- 141,0	- 139,8	- 136,1	- 130,0	- 121,4	- 110,3	- 96,8	- 80,9	- 62,4	- 41,6	- 18,2
1000	- 156,7	- 155,5	- 151,8	- 145,7	- 137,1	- 126,0	- 112,5	- 96,5	- 78,1	- 57,2	- 33,9
1200	- 188	- 187	- 183	- 177	- 168	- 157	- 144	- 128	- 109	- 89	- 65
1400	- 219	- 218	- 214	- 208	- 200	- 189	- 175	- 159	- 141	- 120	- 97
1500	- 235	- 234	- 230	- 224	- 215	- 204	- 191	- 175	- 156	- 136	- 112
1600	- 251	- 250	- 246	- 240	- 231	- 220	- 207	- 191	- 172	- 151	- 128
1800	- 282	- 281	- 277	- 271	- 262	- 251	- 238	- 222	- 203	- 183	- 159
2000	- 313	- 312	- 309	- 302	- 294	- 283	- 269	- 253	- 235	- 214	- 191

vgl. § 50. S. 286 und § 52. S. 295.

Vergößerungsverhältnis m der Preussischen Landesaufnahme.

$$\log m = \frac{\mu}{2 A^2} y^2 \quad \log A = 6.805\,0274 \quad \log \frac{\mu}{2 A^2} = 2.726\,700$$

y	0000 ^m	1000 ^m	2000 ^m	3000 ^m	4000 ^m	5000 ^m	6000 ^m	7000 ^m	8000 ^m	9000 ^m	d
0 ^m	0'0	0'1	0'2	0'5	0'9	1'3	1'9	2'6	3'4	4'3	1'0
10 000	5'3	6'5	7'7	9'0	10'0	12'0	13'6	15'4	17'3	19'2	2'1
20 000	21'3	23'7	25'8	28'2	30'7	33'3	36'0	38'9	41'8	44'8	3'2
30 000	48'0	51'2	54'6	58'0	61'6	65'3	69'1	73'0	77'0	81'1	4'2
40 000	85'3	89'6	94'0	98'5	103'2	107'9	112'8	117'7	122'8	128'0	5'2
50 000	133'2	138'6	144'1	149'7	155'4	161'2	167'1	173'2	179'3	185'5	6'4
60 000	191'9	198'3	204'9	211'5	218'3	225'2	232'2	239'2	246'4	253'7	7'5
70 000	261'2	268'7	276'3	284'0	291'9	299'8	307'8	316'0	324'3	332'6	8'5
80 000	341'1	349'7	358'4	367'2	376'1	385'1	394'2	403'4	412'7	422'2	9'5
90 000	431'7	441'3	451'0	461'0	470'9	481'0	491'2	501'5	511'9	522'4	10'6
100 000	533'0										
y	0 ^m	100 ^m	200 ^m	300 ^m	400 ^m	500 ^m	600 ^m	700 ^m	800 ^m	900 ^m	d
230 ^{km}	2819'4	2821'9	2824'3	2826'8	2829'2	2831'7	2834'2	2836'6	2839'1	2841'5	2'5
231	2841'0	2846'5	2848'9	2851'4	2853'8	2856'3	2858'8	2861'2	2863'7	2866'1	2'5
232	2868'6	2871'1	2873'6	2876'0	2878'5	2881'0	2883'5	2886'0	2888'4	2890'9	2'5
233	2893'4	2895'9	2898'4	2900'9	2903'4	2905'8	2908'3	2910'8	2913'3	2915'8	2'5
234	2918'3	2920'8	2923'3	2925'8	2928'3	2930'8	2933'3	2935'8	2938'3	2940'8	2'5
235	2943'3	2945'8	2948'3	2950'8	2953'3	2955'8	2958'3	2960'8	2963'3	2965'8	2'5
236	2968'4	2970'9	2973'4	2976'0	2978'5	2981'0	2983'5	2986'0	2988'6	2991'1	2'5
237	2993'6	2996'1	2998'7	3001'2	3003'7	3006'2	3008'8	3011'3	3013'8	3016'4	2'5
238	3018'9	3021'4	3024'0	3026'6	3029'1	3031'6	3034'2	3036'8	3039'3	3041'8	2'6
239	3044'4	3047'0	3049'5	3052'0	3054'6	3057'2	3059'7	3062'2	3064'8	3067'4	2'5
240	3069'9	3072'5	3075'0	3077'6	3080'1	3082'7	3085'3	3087'8	3090'4	3092'9	2'6
241	3095'5	3098'1	3100'7	3103'2	3105'8	3108'4	3111'0	3113'6	3116'1	3118'7	2'6
242	3121'3	3123'9	3126'5	3129'0	3131'6	3134'2	3136'8	3139'4	3141'9	3144'5	2'6
243	3147'1	3149'7	3152'3	3154'9	3157'5	3160'1	3162'7	3165'3	3167'9	3170'5	2'6
244	3173'1	3175'7	3178'3	3180'9	3183'5	3186'1	3188'7	3191'3	3193'9	3196'5	2'6
245	3199'1	3201'7	3204'3	3207'0	3209'6	3212'1	3214'8	3217'4	3220'1	3222'7	2'6
246	3225'3	3227'9	3230'6	3233'2	3235'8	3238'4	3241'1	3243'7	3246'3	3248'9	2'7
247	3251'6	3254'2	3256'8	3259'5	3262'1	3264'8	3267'4	3270'0	3272'7	3275'3	2'7
248	3278'0	3280'6	3283'3	3285'9	3288'6	3291'2	3293'8	3296'5	3299'1	3301'8	2'6
249	3304'4	3307'1	3309'8	3312'4	3315'1	3317'7	3320'4	3323'1	3325'7	3328'4	2'6
250	3331'0	3333'7	3336'4	3339'0	3341'7	3344'4	3347'1	3349'7	3352'4	3355'1	2'6
251	3357'7	3360'4	3363'1	3365'8	3368'5	3371'2	3373'9	3376'6	3379'3	3382'0	2'6
252	3384'6	3387'3	3390'0	3392'7	3395'4	3398'1	3400'8	3403'5	3406'2	3408'8	2'7
253	3411'5	3414'2	3416'9	3419'6	3422'3	3425'0	3427'7	3430'4	3433'1	3435'8	2'7
254	3438'5	3441'2	3444'0	3446'7	3449'4	3452'1	3454'8	3457'5	3460'2	3462'9	2'7

Die vorstehenden Werte $\log m$ sind nur mit y^2 berechnet; für grössere Ordinaten y ist genauer bis zur 4ten Ordnung:

$$\log m = \frac{\mu}{2 A^2} y^2 - \frac{\mu}{12 A^4} y^4 = [2.7266995] y^2 - [8.38849] y^4$$

Zur allgemeinen Übersicht dienen folgende 5stellige $\log m$.

y	0 ^{km}	10 ^{km}	20 ^{km}	30 ^{km}	40 ^{km}	50 ^{km}	60 ^{km}	70 ^{km}	80 ^{km}	90 ^{km}	d
0 ^{km}	0.00000	0.00000	0.00000	0.00000	0.00001	0.00001	0.00002	0.00003	0.00003	0.00004	1
100	5	6	8	9	10	12	14	15	17	19	2
200	21	24	26	28	31	33	36	39	42	45	3
300	48	51	55	58	62	65	69	73	77	81	4
400	85	90	94	99	103	108	113	118	123	128	5
500	133	139	144	150	155	161	167	173	179	186	6
600	192	198	205	212	218	225	232	239	246	254	7

westliche Grenze 540^{km}

vgl. § 50. S. 286 und § 85.

östliche Grenze 622^{km}

φ = Geographische Breite, $t^2 = \tan^2 \varphi$, $e'^2 \cos^2 \varphi = r^2$, $e'^2 \sin^2 \varphi = r^2 t^2$.

φ	t^2	Diff.	t^4	Diff.	r^2	Diff.	$r^2 t^2$	Diff.	r^4	Diff.
0°	0,0000	+	0,0000	+	0,0' 672	—	0,00000	+	0,0000451	+
1	0003	3	0000		672	0	000	0	451	0
2	0012	9	0000		671	1	001	1	450	1
3	0027	15	0000		670	1	002	1	449	1
4	0049	22	0000		669	1	003	1	447	2
		28				2		2		2
5°	0,0077		0,0001		0,00667		0,00005		0,0000445	
6	0110	33	0001	0	665	2	007	2	442	3
7	0151	41	0002	1	662	3	010	3	438	4
8	0198	47	0004	2	659	3	013	3	434	4
9	0251	53	0006	2	655	4	016	3	430	4
		60		4		3		4		5
10°	0,0311		0,0010		0,00652		0,00020		0,0000425	
11	0378	67	0014	4	647	5	025	5	419	6
12	0452	74	0020	6	643	4	029	4	413	6
13	0533	81	0028	8	638	5	034	5	407	6
14	0622	89	0039	11	633	5	039	5	400	7
		96		13		6		6		7
15°	0,0718		0,0052		0,00627		0,00045		0,0000393	
16	0822	104	0068	16	621	6	051	6	385	8
17	0935	113	0088	20	614	7	057	6	378	7
18	1056	121	0111	23	608	6	064	7	369	9
19	1186	130	0141	30	601	7	071	7	361	8
		139		34		8		8		9
20°	0,1325		0,0175		0,00593		0,00079		0,0000352	
21	1474	149	0217	42	586	7	086	7	348	9
22	1632	158	0266	49	578	8	094	8	334	9
23	1802	170	0325	59	569	9	103	9	324	10
24	1982	180	0393	68	561	8	111	8	314	10
		192		80		9		9		9
25°	0,2174		0,0473		0,00552		0,00120		0,0000305	
26	2379	205	0566	93	543	9	129	9	295	10
27	2596	217	0674	108	533	10	138	9	285	10
28	2827	231	0799	125	524	9	148	10	274	11
29	3073	246	0944	145	514	10	158	10	264	10
		260		167		10		10		10
30°	0,3333		0,1111		0,00504		0,00168		0,0000254	
31	3610	277	1303	192	494	10	178	10	244	10
32	3905	295	1525	222	483	11	189	11	234	10
33	4217	312	1779	254	473	10	199	10	223	11
34	4550	333	2070	291	462	11	210	11	213	10
		353		334		11		11		10
35°	0,4903		0,2404		0,00451		0,00221		0,0000203	
36	5279	376	2786	382	440	11	232	11	193	10
37	5678	399	3225	439	429	11	243	11	184	9
38	6104	426	3726	501	417	12	255	12	174	10
39	6558	454	4300	574	406	11	266	11	165	9
		483		657		12		12		10
40°	0,7041		0,4957		0,00394		0,00278		0,0000155	
41	7557	516	5710	753	383	11	289	11	146	9
42	8107	550	6573	863	371	12	301	12	138	8
43	8696	589	7562	989	359	12	313	12	129	9
44	9326	630	8697	1135	348	11	324	11	121	8
45	1,0000	674	1,0000	1303	0,00336	12	0,00336	12	0,0000113	8

vgl. § 55. § 64. § 75.

φ = geographische Breite, $t^2 = \tan^2 \varphi$, $e'^2 \cos^2 \varphi = \eta^2$, $e'^2 \sin^2 \varphi = \eta^2 t^2$.

φ	t^2	Diff.	t^4	Diff.	η^2	Diff.	$\eta^2 t^2$	Diff.	η^4	Diff.
45°	1,000	+	1,000	+	0,00336	—	0,00336	+	0,0000113	—
46	1,072	0,002	1,150	0,150	324	12	348	12	105	8
47	1,150	0,078	1,322	0,172	313	11	359	11	098	7
48	1,233	0,088	1,521	0,199	301	12	371	12	091	7
49	1,323	0,090	1,751	0,240	289	12	383	12	084	7
		0,097		0,266		11		11		7
50°	1,420		2,017		0,00278		0,00394		0,0000077	
51	1,525	0,105	2,326	0,309	266	12	406	12	071	6
52	1,638	0,113	2,684	0,358	255	11	417	11	065	6
53	1,761	0,123	3,101	0,417	243	12	429	12	059	6
54	1,894	0,133	3,588	0,487	232	11	440	11	054	5
		0,146		0,572		12		11		5
55°	2,040		4,160		0,00221		0,00451		0,0000049	
56	2,198	0,158	4,831	0,671	210	11	462	11	044	5
57	2,371	0,173	5,623	0,792	199	11	473	11	040	4
58	2,561	0,190	6,559	0,936	189	10	483	10	036	4
59	2,770	0,209	7,672	1,113	178	11	494	11	032	4
		0,23		1,33		10		10		4
60°	3,00		9,00		0,00168		0,00504		0,0000028	
61	3,25	0,25	10,59	1,59	158	10	514	10	025	3
62	3,54	0,29	12,51	1,92	148	10	524	10	022	3
63	3,85	0,31	14,84	2,33	138	10	533	9	019	3
64	4,20	0,35	17,67	2,83	129	9	543	10	017	2
		0,40		3,48		9		9		3
65°	4,60		21,15		0,00120		0,00552		0,0000014	
66	5,04	0,44	25,45	4,30	111	9	561	9	012	2
67	5,55	0,51	30,80	5,35	103	8	569	8	011	1
68	6,13	0,58	37,53	6,73	094	9	578	9	009	2
69	6,79	0,66	46,06	8,53	086	8	586	8	007	2
		0,76		10,9		7		7		1
70°	7,55		57,0		0,00079		0,00593		0,0000006	
71	8,43	0,88	71,1	14,1	071	8	601	8	005	1
72	9,47	1,04	89,7	18,6	064	7	608	7	004	1
73	10,70	1,23	114,5	24,8	057	7	614	6	003	1
74	12,16	1,46	147,9	33,4	051	6	621	7	003	0
		1,77		46		6		6		1
75°	13,93		194		0,00045		0,00627		0,0000002	
76	16,09	2,16	259	65	039	6	633	6	002	0
77	18,76	2,67	352	103	034	5	638	5	001	1
78	22,13	3,37	490	138	029	5	643	5	001	0
79	26,47	4,34	700	210	025	4	647	4	001	0
		5,69		334		5		5		1
80°	32,16		1034		0,00020		0,00652		0,0000000	
81	39,88	7,70	1589	555	016	4	655	3		
82	50,63	10,77	2563	974	013	3	659	4		
83	66,33	15,70	4400	1837	010	3	662	3		
84	90,52	24,19	8194	3794	007	3	665	3		
						2		2		
85°	131		17068		0,00005		0,00667			
86	205		41824		003	2	669	2		
87	364		132561		002	1	670	1		
88	820		672458		001	1	671	1		
89	3282		∞		000	1	672	1		
90°	∞				0,00000	0	0,00672	0		

vgl. § 55. § 64. § 75.

φ = geographische Breite, $t^2 = \tan^2 \varphi$.

φ	$\log(1+2t^2)$	Diff.	$\log(1+3t^2)$	Diff.	$\log(2+t^2)$	Diff.	$\log(2+3t^2)$	Diff.	$\log(5+6t^2)$	Diff.
0°	0.0000	+	0.0000	+	0.3010	+	0.3010	+	0.6990	+
1	0003	3	0004	4	3011	1	3012	2	6991	1
2	0011	8	0016	12	3013	2	3018	6	6996	5
3	0024	13	0036	20	3016	3	3028	10	7004	8
4	0042	18	0063	27	3021	5	3042	14	7015	11
		24		36		6		18		14
5°	0.0066		0.0099		0.3027		0.3060		0.7029	
6	0095	29	0142	43	3034	7	3082	22	7047	18
7	0129	34	0192	50	3043	9	3107	25	7068	21
8	0168	39	0250	58	3053	10	3137	30	7091	23
9	0213	45	0315	65	3064	11	3171	34	7119	28
		49		72		13		37		30
10°	0.0262		0.0387		0.3077		0.3208		0.7149	
11	0316	54	0466	79	3092	15	3250	42	7182	33
12	0376	60	0552	86	3107	15	3295	45	7219	37
13	0440	64	0644	92	3125	18	3344	49	7259	40
14	0509	69	0743	99	3143	18	3397	53	7302	43
		74		104		20		58		47
15°	0.0583		0.0847		0.3163		0.3455		0.7349	
16	0661	78	0957	110	3185	22	3515	60	7398	49
17	0744	83	1074	117	3209	24	3580	65	7451	53
18	0832	88	1195	121	3234	25	3649	69	7508	57
19	0924	92	1322	127	3260	26	3721	72	7567	59
		97		131		29		76		63
20°	0.1021		0.1453		0.3289		0.3797		0.7630	
21	1122	101	1590	137	3319	30	3878	81	7697	67
22	1227	105	1731	141	3351	32	3961	83	7767	70
23	1337	110	1877	146	3385	34	4049	88	7840	73
24	1450	113	2027	150	3421	36	4141	92	7916	76
		118		154		38		95		81
25°	0.1568		0.2181		0.3459		0.4236		0.7997	
26	1690	122	2339	158	3498	39	4336	100	8080	83
27	1816	126	2501	162	3540	42	4439	103	8167	87
28	1946	130	2667	166	3585	45	4546	107	8258	91
29	2081	135	2837	170	3631	46	4656	110	8353	95
		137		173		49		115		98
30°	0.2218		0.3010		0.3680		0.4771		0.8451	
31	2360	142	3187	177	3731	51	4890	119	8553	102
32	2506	146	3367	180	3785	54	5012	122	8659	106
33	2657	151	3551	184	3841	56	5139	127	8768	109
34	2810	154	3738	187	3900	59	5270	131	8882	114
		158		191		63		134		117
35°	0.2968		0.3929		0.3963		0.5404		0.8999	
36	3180	162	4122	193	4028	65	5543	139	9121	122
37	3295	165	4319	197	4096	68	5686	143	9246	125
38	3465	170	4520	201	4167	71	5833	147	9376	130
39	3639	174	4724	204	4292	75	5985	152	9511	135
		178		207		78		156		138
40°	0.3817		0.4931		0.4320		0.6141		0.9649	
41	3999	182	5141	210	4402	82	6301	160	9793	144
42	4185	186	5356	215	4488	86	6466	165	9941	148
43	4376	191	5574	218	4578	90	6636	170	1.0093	152
44	4571	195	5795	221	4672	94	6810	174	0.0251	158
45°	0.4771	200	0.6021	226	0.4771	99	0.6900	180	1.0414	163

vgl. § 55. § 64. § 75.

φ = geographische Breite, $t^2 = \tan^2 \varphi$.

φ	$\log(1+2t^2)$	Diff.	$\log(1+3t^2)$	Diff.	$\log(2+t^2)$	Diff.	$\log(2+3t^2)$	Diff.	$\log(5+6t^2)$	Diff.
45°	0.4771	+	0.6021	+	0.4771	+	0.6990	+	1.0414	+
46	4976	205	6250	229	4875	104	7174	184	0582	168
47	5185	209	6484	234	4983	108	7364	190	0755	173
48	5399	214	6721	237	5097	114	7559	195	0934	179
49	5619	220	6964	243	5216	119	7760	201	1119	185
		225		247		125		206		191
50°	0.5844		0.7211		0.5341		0.7966		1.1310	
51	6074	230	7462	251	5472	131	8179	213	1508	198
52	6311	237	7719	257	5609	137	8398	211	1711	203
53	6553	242	7982	263	5752	144	8623	225	1922	211
54	6802	249	8250	268	5904	151	8856	233	2140	218
		256		274		159		239		225
55°	0.7058		0.8524		0.6063		0.9095		1.2365	
56	7321	263	8805	281	6230	167	9342	247	2598	233
57	7591	270	9092	287	6406	176	9597	255	2839	241
58	7869	278	9387	295	6591	185	9860	263	3089	250
59	8156	287	9689	302	6785	194	1.0132	272	3348	259
		295		311		205		282		269
60°	0.8451		1.0000		0.6990		1.0414		1.3617	
61	8756	305	0320	320	7205	215	0705	291	3897	280
62	9071	315	0649	329	7433	228	1008	303	4187	290
63	9397	326	0988	339	7673	240	1321	313	4489	301
64	9735	338	1339	351	7927	254	1647	326	4803	314
		350		363		268		339		328
65°	1.0085		1.1702		0.8195		1.1986		1.5131	
66	0449	364	2077	375	8479	284	2339	353	5474	343
67	0828	379	2467	390	8779	300	2707	368	5832	358
68	1223	395	2873	406	9099	320	3092	385	6207	375
69	1635	410	3296	423	9438	339	3495	404	6601	394
		433		442		361		422		414
70°	1.2063		1.3738		0.9799		1.3917		1.7015	
71	2521	453	4200	462	1.0185	386	4362	445	7451	436
72	2998	477	4686	486	0596	411	4831	469	7912	461
73	3502	504	5198	512	1038	442	5327	496	8400	488
74	1.4035	533	1.5739	541	1.1511	473	5852	525	8919	519
		57		57		51		56		55
75°	1.460		1.631		1.202		1.641		1.947	
76	1.521	61	1.692	61	1.257	55	1.701	60	2.007	60
77	1.586	65	1.758	66	1.317	60	1.766	65	2.070	63
78	1.656	70	1.829	71	1.383	66	1.835	69	2.139	69
79	1.732	76	1.905	76	1.454	71	1.911	77	2.214	75
		83		84		80		82		83
80°	1.815		1.989		1.534		1.993		2.297	
81	1.907	92	2.081	92	1.622	88	2.085	92	2.388	91
82	2.010	103	2.184	103	1.721	99	2.187	102	2.490	102
83	2.126	116	2.301	117	1.835	114	2.303	116	2.605	115
84	2.260	134	2.435	134	1.966	131	2.437	134	2.739	134
		159		159		157		158		158
85°	2.419		2.594		2.123		2.595		2.897	
86	2.613	194	2.789	195	2.315	192	2.789	194	3.091	194
87	3.863	250	3.039	250	2.564	249	3.039	250	3.340	249
88	3.215	352	3.391	352	2.915	351	3.391	352	3.692	352
89	3.817	602	3.993	602	3.516	601	3.993	602	4.294	602
90°	∞		∞		∞		∞		∞	

vgl. § 55. § 64. § 75.

φ	$t^2 = \tan^2 \varphi$	$\log(1+2t^2)$	$\log(1+3t^2)$	$\log(2+t^2)$	$\log(2+3t^2)$	$\log(5+6t^2)$
46° 0'	1.0723	+	+	+	+	+
10	1.0849	126	0.4976	0.6250	0.4875	0.7174
20	1.0976	127	5010	6289	4892	7206
30	1.105	129	5045	6327	4910	7237
40	1.235	130	5080	6366	4928	7268
50	1366	131	5115	6405	4946	7300
		134	5150	6444	4965	7332
47° 0'	1.1500	135	0.5185	0.6484	0.4983	0.7364
10	1635	136	5221	6523	5002	7396
20	1771	139	5256	6562	5020	7428
30	1910	140	5292	6602	5039	7461
40	2050	141	5328	6642	5058	7494
50	2191	144	5364	6682	5077	7526
48° 0'	1.2335	145	0.5399	0.6721	0.5097	0.7559
10	2480	147	5436	6762	5116	7592
20	2627	149	5472	6802	5136	7623
30	2776	150	5509	6842	5156	7659
40	2926	153	5545	6882	5175	7692
50	3079	154	5582	6923	5196	7726
49° 0'	1.3233	157	0.5619	0.6964	0.5216	0.7760
10	3390	158	5656	7005	5236	7794
20	3548	161	5693	7046	5257	7828
30	3709	162	5731	7086	5277	7862
40	3871	165	5768	7128	5298	7897
50	4036	167	5806	7169	5319	7932
50° 0'	1.4203	169	0.5844	0.7211	0.5341	0.7966
10	4372	171	5882	7252	5362	8001
20	4543	173	5920	7294	5384	8036
30	4716	176	5959	7336	5405	8072
40	4892	177	5997	7378	5427	8108
50	5069	181	6036	7420	5449	8143
51° 0'	1.5250	182	0.6074	0.7462	0.5472	0.8179
10	5432	185	6114	7505	5494	8215
20	5617	188	6153	7548	5517	8251
30	5805	190	6192	7590	5539	8288
40	5995	192	6232	7633	5562	8324
50	6187	196	6271	7676	5586	8361
52° 0'	1.6383	197	0.6311	0.7719	0.5609	0.8398
10	6580	201	6351	7763	5632	8435
20	6781	203	6391	7806	5656	8472
30	6984	206	6431	7850	5680	8510
40	7190	209	6472	7894	5704	8547
50	7399	211	6513	7938	5729	8585
53° 0'	1.7610	215	0.6553	0.7982	0.5753	0.8623
10	7825	218	6595	8026	5778	8662
20	8043	220	6636	8071	5803	8700
30	8263	224	6677	8115	5828	8738
40	8487	227	6719	8160	5853	8777
50	8714	230	6761	8205	5879	8816
54° 0'	1.8944		0.6802	0.8250	0.5904	0.8856

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φ	$\log [4]$	Diff.	$\log [5]$	Diff.	$\log [6]$	Diff.	$\log [7]$	Diff.	$\log [8]$	Diff.
0°	4.62581	—	4.93266	+	2.930 _n	—	4.93266	—	5.10777	—
1	62581	0	93286	20	930 _n	0	93266	0	10777	0
2	62579	2	93345	59	929 _n	1	93266	0	10777	0
3	62575	4	93443	98	928 _n	1	93265	1	10777	0
4	62570	5	93530	137	926 _n	2	93265	0	10776	1
5	62564	6	93756	176	924 _n	2	93264	1	10776	0
		8		216		3		1		1
6°	4.62556	9	4.93972	—	2.921 _n	—	4.93263	—	5.10775	—
7	62547	9	94227	255	917 _n	4	93262	1	10774	1
8	62537	10	94520	293	913 _n	4	93261	1	10774	0
9	62525	12	94853	333	908 _n	5	93259	2	10772	2
10	62511	14	95224	371	903 _n	5	93257	2	10771	1
11	62497	14	95635	411	898 _n	5	93255	2	10770	1
		16		449		6		1		1
12°	4.62481	17	4.96084	—	2.892 _n	—	4.93254	—	5.10769	—
13	62464	17	96571	487	885 _n	7	93251	3	10768	1
14	62445	19	97098	527	877 _n	8	93249	2	10766	2
15	62426	19	97661	563	869 _n	8	93247	2	10764	2
16	62405	21	98266	605	860 _n	9	93244	3	10763	1
17	62383	22	98907	641	850 _n	10	93241	3	10761	2
		24		680		10		3		2
18°	4.62359	24	4.99537	—	2.840 _n	—	4.93238	—	5.10759	—
19	62335	24	5.00305	718	829 _n	11	93235	3	10757	2
20	62309	26	01061	756	817 _n	12	93232	3	10754	3
21	62282	27	01856	795	804 _n	13	93229	3	10752	2
22	62254	28	02688	832	790 _n	14	93225	4	10750	2
23	62225	29	03559	871	775 _n	15	93222	3	10748	2
		30		909		16		4		2
24°	4.62195	31	5.04468	—	2.759 _n	—	4.93218	—	5.10746	—
25	62164	31	05415	947	742 _n	17	93214	4	10743	3
26	62133	31	06401	986	724 _n	18	93210	4	10740	3
27	62099	34	07425	1024	704 _n	20	93206	4	10738	2
28	62066	33	08488	1063	683 _n	21	93202	4	10735	3
29	62031	35	09590	1102	660 _n	23	93198	4	10732	3
		35		1140		25		4		3
30°	4.61996	36	5.10730	—	2.635 _n	—	4.93194	—	5.10729	—
31	61960	36	11910	1180	609 _n	26	93189	5	10726	3
32	61923	37	13129	1219	580 _n	29	93185	4	10723	3
33	61885	38	14389	1260	548 _n	32	93180	5	10720	3
34	61847	38	15688	1299	613 _n	35	93175	5	10717	3
35	61808	39	17029	1341	475 _n	38	93171	4	10714	3
		39		1382		43		5		3
36°	4.61769	40	5.18411	—	2.432 _n	—	4.93166	—	5.10711	—
37	61729	40	19834	1423	384 _n	48	93161	5	10708	3
38	61689	40	21300	1466	329 _n	55	93156	5	10704	4
39	61648	41	22810	1510	266 _n	63	93151	5	10701	3
40	61607	41	24364	1554	191 _n	75	93146	5	10698	3
41	61565	42	25962	1598	100 _n	91	93141	5	10695	3
		41		1645				5		4
42°	4.61524	42	5.27607	—	1.984 _n	—	4.93136	—	5.10691	—
43	61482	42	29298	1691	1.824 _n		93131	5	10688	3
44	61440	42	31038	1740	1.568 _n		93126	5	10685	3
45	61398	42	32828	1790	0.855 _n		93121	5	10681	4
46	61356	42	34668	1840	1.356		93116	5	10678	3
47	61313	43	36561	1893	1.720		93111	5	10675	3
48°	4.61271	42	5.38508	1947	1.915		4.93106	5	5.10671	4

$\log [3] = 4.62872$ konstant.

vgl. § 77.

φ	$\log [4]$	Diff.	$\log [5]$	Diff.	$\log [6]$	Diff.	$\log [7]$	Diff.	$\log [8]$	Diff.
48°	4.61271	—	5.38508	+	1.915	+	4.93106	—	5.10671	—
49	61229	42	40512	2004	2.049	134	93101	5	10668	3
50	61187	42	42574	2062	151	102	93096	5	10664	4
51	61145	42	44696	2122	233	82	93091	5	10661	3
52	61104	41	46882	2186	301	68	93086	5	10658	3
53	61063	41	49133	2251	360	59	93081	5	10655	3
		41		2320		51		5		4
54°	4.61022	—	5.51453	+	2.411	+	4.93076	—	5.10651	—
55	60981	41	53845	2392	458	47	93071	5	10648	3
56	60941	40	56313	2468	497	39	93066	5	10645	3
57	60902	39	58860	2547	534	37	93062	4	10642	3
58	60863	39	61491	2631	567	33	93057	5	10639	3
59	60825	38	64211	2720	598	31	93053	4	10636	3
		38		2814		28		5		3
60°	4.60787	—	5.67025	+	2.626	+	4.93048	—	5.10633	—
61	60750	37	69939	2914	652	26	93043	5	10630	3
62	60714	36	72959	3020	676	24	93040	3	10627	3
63	60678	36	76093	3134	698	22	93035	5	10624	3
64	60644	34	79349	3256	718	20	93031	4	10622	2
65	60611	33	82736	3387	737	19	93027	4	10619	3
		33		3528		18		3		2
66°	4.60578	—	5.86264	+	2.755	+	4.93024	—	5.10617	—
67	60546	32	89945	3681	772	17	93020	4	10614	3
68	60515	31	93793	3848	787	15	93016	4	10612	2
69	60486	29	97822	4029	802	15	93013	3	10610	2
70	60456	30	6.02050	4228	815	13	93009	4	10607	3

Besondere Tafel von 43° bis 55°.

43° 0'	4.61482	—	5.29298	+	1.824 _n	—	4.93131	—	5.10688	—
10	61475	7	29584	286	1.791 _n	33	93130	1	10687	1
20	61468	7	29872	288	1.754 _n	37	93129	1	10687	0
30	61461	7	30162	290	1.715 _n	39	93129	0	10687	1
40	61454	7	30452	290	1.671 _n	44	93129	1	10686	0
50	61447	7	30744	292	1.622 _n	49	93128	1	10686	1
		7		294		54	93127	1	10685	1
44° 0'	4.61440	—	5.31038	+	1.568 _n	—	4.93126	—	5.10685	—
10	61433	7	31333	295	1.505 _n	63	93125	1	10684	1
20	61426	7	31629	296	1.432 _n	73	93124	1	10684	1
30	61419	7	31927	298	1.344 _n	88	93123	1	10683	0
40	61412	7	32225	298	1.236 _n	108	93123	0	10683	1
50	61405	7	32526	301	1.084 _n	152	93122	1	10682	1
		7		302		229		1		1
45° 0'	4.61398	—	5.32828	+	0.855 _n	—	4.93121	—	5.10681	—
10	61391	7	33130	302	0.339 _n	516	93120	1	10681	0
		7		304		—		1		1
20	61384	7	33434	307	0.442	+	93119	1	10680	0
30	61377	7	33741	307	0.889	447	93118	1	10680	1
40	61370	7	34048	307	1.104	215	93118	0	10679	1
50	61363	7	34357	309	1.248	144	93117	1	10678	1
		7		311		108		1		0
46° 0'	4.61356	—	5.34668	+	1.356	—	4.93116	—	5.10678	—
10	61348	8	34980	312	1.441	85	93115	1	10677	1
20	61341	7	35294	314	1.513	72	93114	1	10677	0
30	61334	7	35609	315	1.575	62	93113	1	10676	1
40	61327	7	35924	315	1.627	52	93112	1	10676	0
50	61320	7	36242	318	1.676	49	93112	0	10675	1
		7		319		44		1		0
47° 0'	4.61313	—	5.36561	+	1.720	—	4.93111	—	5.10675	—

vgl. § 77.

φ	$\log [4]$		$\log [5]$		$\log [6]$		$\log [7]$		$\log [8]$	
		—		+		—		—		—
47° 0'	4.61313	7	5.36561	321	1.720	39	4.93111	I	5.10675	I
10	61306	7	36882	322	1.759	36	93110	I	10674	I
20	61299	7	37204	324	1.795	34	93109	I	10673	O
30	61292	7	37528	325	1.829	30	93108	I	10673	I
40	61285	7	37853	327	1.859	29	93107	O	10672	O
50	61278	7	38180	328	1.888	27	93107	I	10672	I
48° 0'	4.61271	7	5.38508	330	1.915	26	4.93106	I	5.10671	I
10	61264	7	38838	332	1.941	24	93105	I	10670	O
20	61257	7	39170	333	1.965	22	93104	I	10670	I
30	61250	7	39503	335	1.987	22	93103	I	10669	O
40	61243	7	39838	336	2.009	20	93102	O	10669	I
50	61236	7	40174	338	2.029	20	93102	I	10668	O
49° 0'	4.61229	7	5.40512	340	2.049	19	4.93101	I	5.10668	I
10	61222	7	40852	341	2.068	18	93100	I	10667	O
20	61215	7	41193	343	2.086	17	93099	I	10667	I
30	61208	7	41536	344	2.103	17	93098	I	10666	O
40	61201	7	41880	346	2.120	16	93097	O	10666	I
50	61194	7	42226	348	2.136	15	93097	I	10665	I
50° 0'	4.61187	7	5.42574	349	2.151	15	4.93096	I	5.10664	O
10	61180	7	42923	352	2.166	14	93095	I	10664	I
20	61173	7	43275	352	2.180	14	93094	I	10663	O
30	61166	7	43627	355	2.194	13	93093	I	10663	I
40	61159	7	43982	356	2.207	13	93092	O	10662	O
50	61152	7	44338	358	2.220	13	93092	I	10662	I
51° 0'	4.61145	7	5.44696	360	2.233	12	4.93091	I	5.10661	O
10	61138	6	45056	361	2.245	12	93090	I	10661	I
20	61132	7	45417	363	257	11	93089	I	10660	O
30	61125	7	45780	365	268	12	93088	I	10660	I
40	61118	7	46145	367	280	11	93087	O	10659	I
50	61111	7	46512	370	291	10	93087	I	10658	O
52° 0'	4.61104	7	5.46882	371	2.301	11	4.93086	I	5.10658	I
10	61097	7	47253	372	312	10	93085	I	10657	O
20	61090	7	47625	374	322	10	93084	I	10657	I
30	61083	7	47999	376	332	9	93083	I	10656	O
40	61076	6	48375	378	341	10	93082	O	10656	I
50	61070	7	48753	380	351	9	93082	I	10655	O
53° 0'	4.61063	7	5.49133	382	2.360	9	4.93081	I	5.10655	I
10	61056	7	49515	384	369	9	93080	I	10654	O
20	61049	7	49899	386	378	9	93079	I	10654	I
30	61042	7	50285	388	387	8	93078	O	10653	I
40	61035	6	50673	390	395	8	93078	I	10652	O
50	61029	7	51063	390	403	8	93077	I	10652	I
54° 0'	4.61022	7	5.51453	394	2.411	8	4.93076	I	5.10651	O
10	61015	6	51847	396	419	8	93075	I	10651	I
20	61009	7	52243	397	427	8	93074	O	10650	O
30	61002	7	52641	400	435	7	93074	I	10650	I
40	60995	6	53041	402	442	8	93073	I	10649	O
50	60989	7	53443	402	450	8	93072	I	10649	I
55° 0'	4.60981	7	5.53845		2.458		4.93071		5.10648	

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$\varphi = 45^\circ$

$\varphi = 46^\circ$

$\varphi = 47^\circ$

φ	B	m	φ	B	m	φ	B	m
	m	m		m	m		m	m
0'	4 984 439,266	1851,904	0'	5 095 568,459	1852,318	0'	5 206 717,124	1852,643
1	986 291,260	1851,999	1	097 420,777	1852,323	1	208 569,707	1852,648
2	988 143,259	1852,004	2	099 273,100	1852,329	2	210 422,415	1852,653
3	989 995,263	1852,010	3	101 125,429	1852,335	3	212 275,068	1852,659
4	991 847,273	1852,015	4	102 977,704	1852,340	4	214 127,727	1852,664
5'	4 993 699,288	1852,021	5'	5 104 830,104	1852,345	5'	5 215 980,301	1852,670
6	995 551,309	1852,026	6	106 682,449	1852,351	6	217 833,061	1852,675
7	997 403,335	1852,031	7	108 534,800	1852,356	7	219 685,730	1852,680
8	999 255,366	1852,037	8	110 387,156	1852,361	8	221 538,416	1852,686
9	5 001 107,403	1852,042	9	112 239,517	1852,367	9	223 391,102	1852,691
10'	5 002 959,445	1852,048	10'	5 114 091,884	1852,372	10'	5 225 243,793	1852,697
11	004 811,493	1852,053	11	115 944,256	1852,378	11	227 096,490	1852,702
12	006 663,540	1852,059	12	117 796,634	1852,383	12	228 949,192	1852,707
13	008 515,605	1852,064	13	119 649,017	1852,389	13	230 801,899	1852,713
14	010 367,669	1852,069	14	121 501,406	1852,394	14	232 654,612	1852,718
15'	5 012 219,738	1852,075	15'	5 123 353,800	1852,399	15'	5 234 507,330	1852,724
16	014 071,813	1852,080	16	125 200,199	1852,405	16	236 360,054	1852,729
17	015 923,893	1852,085	17	127 058,004	1852,410	17	238 212,783	1852,734
18	017 775,978	1852,091	18	128 911,014	1852,416	18	240 065,517	1852,740
19	019 628,069	1852,097	19	130 763,430	1852,421	19	241 918,257	1852,745
20'	5 021 480,166	1852,102	20'	5 132 615,851	1852,426	20'	5 243 771,002	1852,751
21	023 332,268	1852,107	21	134 468,277	1852,432	21	245 623,753	1852,756
22	025 184,375	1852,112	22	136 320,709	1852,437	22	247 476,509	1852,761
23	027 036,487	1852,118	23	138 173,146	1852,443	23	249 329,270	1852,767
24	028 888,605	1852,124	24	140 025,589	1852,448	24	251 182,037	1852,772
25'	5 030 740,729	1852,129	25'	5 141 878 037	1852,453	25'	5 253 034,800	1852,778
26	032 592,858	1852,134	26	143 730,490	1852,459	26	254 887,587	1852,783
27	034 444,992	1852,140	27	145 582,949	1852,464	27	256 740,370	1852,788
28	036 297,132	1852,145	28	147 435,413	1852,470	28	258 593,158	1852,794
29	038 149,277	1852,150	29	149 287,883	1852,475	29	260 445,952	1852,799
30'	5 040 001,427	1852,156	30'	5 151 140,358	1852,481	30'	5 262 298,751	1852,804
31	041 853,583	1852,161	31	152 992,839	1852,486	31	264 151,555	1852,810
32	043 705,744	1852,167	32	154 845,325	1852,491	32	266 004,365	1852,815
33	045 557,911	1852,172	33	156 697,810	1852,497	33	267 857,180	1852,821
34	047 410,083	1852,178	34	158 550,313	1852,502	34	269 710,001	1852,826
35'	5 049 262,261	1852,183	35'	5 160 402,815	1852,507	35'	5 271 562,827	1852,832
36	051 114,444	1852,188	36	162 255,322	1852,513	36	273 415,659	1852,837
37	052 966,632	1852,194	37	164 107,835	1852,518	37	275 268,496	1852,842
38	054 818,826	1852,199	38	165 960,353	1852,524	38	277 121,338	1852,848
39	056 671,025	1852,205	39	167 812,877	1852,529	39	278 974,186	1852,853
40'	5 058 523,230	1852,210	40'	5 169 665,406	1852,535	40'	5 280 827,039	1852,858
41	060 375,440	1852,215	41	171 517,941	1852,540	41	282 679,897	1852,864
42	062 227,655	1852,221	42	173 370,481	1852,545	42	284 532,761	1852,870
43	064 079,876	1852,226	43	175 223,026	1852,551	43	286 385,631	1852,874
44	065 932,102	1852,232	44	177 075,577	1852,556	44	288 238,505	1852,880
45'	5 067 784,334	1852,237	45'	5 178 928,133	1852,562	45'	5 290 091,385	1852,886
46	069 630,571	1852,243	46	180 780,605	1852,567	46	291 944,271	1852,891
47	071 488,814	1852,248	47	182 633,262	1852,572	47	293 797,162	1852,896
48	073 341,062	1852,253	48	184 485,834	1852,578	48	295 650,058	1852,902
49	075 193,315	1852,259	49	186 338,412	1852,583	49	297 502,960	1852,907
50'	5 077 045,574	1852,264	50'	5 188 190,995	1852,589	50'	5 299 355,807	1852,912
51	078 897,838	1852,269	51	190 043,584	1852,594	51	301 208,779	1852,918
52	080 750,107	1852,275	52	191 896,178	1852,599	52	303 061,697	1852,923
53	082 602,382	1852,280	53	193 748,777	1852,605	53	304 914,620	1852,928
54	084 454,662	1852,286	54	195 601,382	1852,610	54	306 767,548	1852,934
55'	5 086 306,948	1852,291	55'	5 197 453,992	1852,616	55'	5 308 620,482	1852,940
56	088 159,239	1852,297	56	199 306,608	1852,621	56	310 473,422	1852,945
57	090 011,530	1852,302	57	201 159,229	1852,626	57	312 326,367	1852,950
58	091 863,838	1852,308	58	203 011,855	1852,632	58	314 179,317	1852,955
59	093 716,146	1852,313	59	204 864,487	1852,637	59	316 032,272	1852,961
60'	5 095 568,459		60'	5 206 717,124		60'	5 317 885,233	

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$\varphi = 48^\circ$ $\varphi = 49^\circ$ $\varphi = 50^\circ$

φ	B	m	φ	B	m	φ	B	m
	m	m		m	m		m	m
0'	5 317 885,233	1852,066	0'	5 420 072,732	1853,289	0'	5 540 279,543	1853,600
1	310 738,199	1852,072	1	430 926,021	1853,294	1	542 133,152	1853,615
2	321 591,171	1852,077	2	432 770,315	1853,299	2	543 980,767	1853,621
3	323 444,148	1852,082	3	434 612,614	1853,305	3	545 840,388	1853,626
4	325 297,130	1852,088	4	436 455,919	1853,310	4	547 694,014	1853,631
5	5 327 150,118	1852,093	5	5 438 330,229	1853,316	5	5 549 547,645	1853,636
6	329 003,111	1852,099	6	440 192,545	1853,321	6	551 401,281	1853,642
7	330 856,110	1853,004	7	442 045,860	1853,326	7	553 254,923	1853,648
8	332 709,114	1853,009	8	443 899,192	1853,332	8	555 108,571	1853,653
9	334 562,123	1853,015	9	445 752,524	1853,337	9	556 962,224	1853,658
10'	5 336 415,138	1853,020	10'	5 447 605,861	1853,343	10'	5 558 815,882	1853,663
11	338 268,158	1853,026	11	449 450,204	1853,348	11	560 669,545	1853,668
12	340 121,184	1853,031	12	451 312,552	1853,353	12	562 523,213	1853,674
13	341 974,215	1853,036	13	453 165,905	1853,359	13	564 376,887	1853,679
14	343 827,251	1853,041	14	455 019,264	1853,364	14	566 230,560	1853,685
15'	5 345 680,292	1853,047	15'	5 456 872,628	1853,369	15'	5 568 084,251	1853,690
16	347 533,330	1853,052	16	458 725,007	1853,375	16	569 937,941	1853,695
17	349 386,301	1853,058	17	460 579,372	1853,380	17	571 791,636	1853,701
18	351 239,440	1853,063	18	462 432,752	1853,385	18	573 645,337	1853,706
19	353 092,512	1853,069	19	464 286,137	1853,391	19	575 499,043	1853,711
20'	5 354 945,581	1853,074	20'	5 466 130,528	1853,396	20'	5 577 352,754	1853,717
21	355 798,655	1853,080	21	467 992,924	1853,401	21	579 206,471	1853,722
22	358 651,735	1853,085	22	469 846,325	1853,407	22	581 060,193	1853,727
23	360 504,820	1853,090	23	471 699,732	1853,412	23	582 913,920	1853,732
24	362 357,910	1853,095	24	473 553,144	1853,417	24	584 767,652	1853,738
25'	5 364 211,005	1853,101	25'	5 475 406,561	1853,423	25'	5 586 621,390	1853,743
26	366 064,106	1853,106	26	477 259,984	1853,428	26	588 475,133	1853,749
27	367 917,212	1853,112	27	479 113,412	1853,434	27	590 328,882	1853,754
28	369 770,324	1853,117	28	480 966,846	1853,439	28	592 182,636	1853,759
29	371 623,441	1853,122	29	482 820,285	1853,444	29	594 036,395	1853,765
30'	5 373 476,563	1853,128	30'	5 484 673,729	1853,450	30'	5 595 890,160	1853,770
31	373 329,691	1853,133	31	486 527,179	1853,455	31	597 743,930	1853,775
32	377 182,824	1853,138	32	488 380,634	1853,460	32	599 597,705	1853,780
33	379 035,962	1853,144	33	490 234,094	1853,466	33	601 451,485	1853,785
34	380 889,106	1853,149	34	492 087,560	1853,471	34	603 305,270	1853,791
35'	5 382 742,255	1853,155	35'	5 493 941,031	1853,476	35'	5 605 159,061	1853,796
36	384 595,410	1853,160	36	495 794,507	1853,482	36	607 012,857	1853,802
37	386 448,570	1853,165	37	497 647,980	1853,487	37	608 866,669	1853,807
38	388 301,735	1853,171	38	499 501,470	1853,492	38	610 720,466	1853,813
39	390 154,906	1853,176	39	501 354,968	1853,497	39	612 574,279	1853,818
40'	5 392 008,082	1853,181	40'	5 503 208,465	1853,503	40'	5 614 428,097	1853,822
41	393 861,263	1853,187	41	505 061,968	1853,509	41	616 281,919	1853,828
42	395 714,450	1853,192	42	506 915,477	1853,514	42	618 135,747	1853,834
43	397 567,642	1853,198	43	508 768,991	1853,519	43	619 989,581	1853,839
44	399 420,840	1853,203	44	510 622,510	1853,525	44	621 843,420	1853,844
45'	5 401 274,043	1853,209	45'	5 512 476,035	1853,530	45'	5 623 697,264	1853,850
46	403 127,252	1853,214	46	514 329,565	1853,535	46	625 551,114	1853,855
47	404 980,466	1853,219	47	516 183,100	1853,540	47	627 404,969	1853,860
48	406 833,685	1853,224	48	518 036,640	1853,546	48	629 258,829	1853,865
49	408 686,909	1853,229	49	519 890,186	1853,551	49	631 112,694	1853,871
50'	5 410 540,138	1853,235	50'	5 521 743,737	1853,556	50'	5 632 966,505	1853,876
51	412 393,373	1853,241	51	523 597,293	1853,562	51	634 820,441	1853,881
52	414 246,614	1853,246	52	525 450,855	1853,567	52	636 674,322	1853,887
53	416 099,860	1853,252	53	527 304,422	1853,573	53	638 528,209	1853,892
54	417 953,112	1853,257	54	529 157,995	1853,578	54	640 382,101	1853,897
55'	5 419 800,369	1853,262	55'	5 531 011,573	1853,583	55'	5 642 235,998	1853,903
56	421 059,631	1853,267	56	532 965,150	1853,588	56	644 089,901	1853,908
57	423 512,898	1853,273	57	534 715,744	1853,594	57	645 943,809	1853,913
58	425 366,171	1853,278	58	536 572,338	1853,600	58	647 797,722	1853,918
59	427 219,449	1853,283	59	538 425,938	1853,605	59	649 651,641	1853,924
60'	5 429 072,732		60'	5 540 279,543		60'	5 651 505,565	

vgl. § 91.

$\varphi = 51^\circ$

$\varphi = 52^\circ$

$\varphi = 53^\circ$

φ	B	m	φ	B	m	φ	B	m
	m	m		m	m		m	m
0'	5 051 505,505	1853,920	0'	5 762 750,075	1854,246	0'	5 874 014,723	1854,560
1	053 350,404	1853,934	1	764 604,921	1854,251	1	875 860,283	1854,566
2	055 213,428	1853,940	2	766 459,172	1854,257	2	877 723,849	1854,571
3	057 067,368	1853,945	3	768 313,429	1854,261	3	879 578,420	1854,576
4	058 921,313	1853,950	4	770 167,690	1854,267	4	881 432,996	1854,581
5'	5 660 775,263	1853,956	5'	5 772 021,957	1854,272	5'	5 883 287,577	1854,586
6	662 629,219	1853,961	6	773 876,229	1854,278	6	885 142,163	1854,592
7	664 483,180	1853,966	7	775 730,507	1854,283	7	886 996,755	1854,597
8	666 337,146	1853,972	8	777 584,790	1854,288	8	888 851,352	1854,602
9	668 191,118	1853,977	9	779 439,078	1854,293	9	890 705,954	1854,607
10'	5 670 045,095	1853,982	10'	5 781 293,371	1854,299	10'	5 892 560,561	1854,612
11	671 899,077	1853,988	11	783 147,070	1854,304	11	894 415,173	1854,618
12	673 753,065	1853,993	12	785 001,074	1854,309	12	896 269,791	1854,623
13	675 607,058	1853,998	13	786 856,285	1854,315	13	898 124,414	1854,628
14	677 461,056	1854,003	14	788 710,598	1854,319	14	899 979,042	1854,633
15'	5 670 315,050	1854,009	15'	5 790 564,917	1854,325	15'	5 901 833,675	1854,638
16	681 169,068	1854,014	16	792 419,242	1854,330	16	903 688,313	1854,644
17	683 023,082	1854,019	17	794 273,572	1854,335	17	905 542,957	1854,649
18	684 877,101	1854,024	18	796 127,907	1854,341	18	907 397,606	1854,654
19	686 731,125	1854,029	19	797 982,248	1854,346	19	909 252,260	1854,659
20'	5 688 585,154	1854,035	20'	5 799 836,594	1854,351	20'	5 911 106,919	1854,664
21	690 439,180	1854,041	21	801 690,945	1854,356	21	912 961,583	1854,670
22	692 293,230	1854,046	22	803 545,301	1854,362	22	914 816,253	1854,675
23	694 147,276	1854,051	23	805 399,663	1854,367	23	916 670,928	1854,680
24	696 001,327	1854,056	24	807 254,030	1854,372	24	918 525,608	1854,685
25'	5 697 855,383	1854,061	25'	5 809 108,402	1854,377	25'	5 920 380,293	1854,691
26	699 709,444	1854,067	26	810 962,779	1854,383	26	922 234,984	1854,695
27	701 563,511	1854,072	27	812 817,162	1854,388	27	924 089,679	1854,701
28	703 417,583	1854,077	28	814 671,550	1854,393	28	925 944,380	1854,706
29	705 271,660	1854,083	29	816 525,943	1854,404	29	927 799,086	1854,711
30'	5 707 125,743	1843,088	30'	5 818 380,341	1854,409	30'	5 929 653,797	1854,716
31	708 079,831	1843,093	31	820 234,745	1854,414	31	931 508,513	1854,722
32	710 833,924	1843,098	32	822 089,154	1854,419	32	933 363,235	1854,727
33	712 688,022	1854,104	33	823 943,568	1854,425	33	935 217,962	1854,732
34	714 542,126	1854,109	34	825 797,987	1854,429	34	937 072,694	1854,737
35'	5 716 396,235	1854,114	35'	5 827 652,412	1854,435	35'	5 938 927,431	1854,742
36	718 250,349	1854,120	36	829 506,841	1854,441	36	940 782,173	1854,747
37	720 104,469	1854,125	37	831 361,276	1854,445	37	942 636,920	1854,753
38	721 958,594	1854,130	38	833 215,717	1854,449	38	944 491,673	1854,758
39	723 812,724	1854,135	39	835 070,162	1854,451	39	946 346,431	1854,763
40'	5 725 066,859	1854,141	40'	5 836 924,613	1854,456	40'	5 948 201,194	1854,768
41	727 521,000	1854,146	41	838 779,069	1854,461	41	950 055,962	1854,773
42	729 375,146	1854,151	42	840 633,530	1854,466	42	951 910,735	1854,779
43	731 229,297	1854,157	43	842 487,996	1854,472	43	953 765,514	1854,783
44	733 083,454	1854,162	44	844 342,468	1854,476	44	955 620,297	1854,789
45'	5 734 937,616	1854,167	45'	5 846 196,944	1854,482	45'	5 957 475,086	1854,794
46	736 791,783	1854,172	46	848 051,426	1854,488	46	959 329,880	1854,800
47	738 645,955	1854,177	47	849 905,914	1854,492	47	961 184,680	1854,804
48	740 500,132	1854,183	48	851 760,406	1854,498	48	963 039,484	1854,810
49	742 354,315	1854,188	49	853 614,904	1854,502	49	964 894,294	1854,814
50'	5 744 208,503	1854,194	50'	5 855 469,406	1854,509	50'	5 966 749,108	1854,820
51	746 062,607	1854,199	51	857 323,915	1854,513	51	968 603,928	1854,825
52	747 916,890	1854,204	52	859 178,428	1854,519	52	970 458,753	1854,830
53	749 771,100	1854,209	53	861 032,947	1854,524	53	972 313,583	1854,835
54	751 625,309	1854,214	54	862 887,471	1854,529	54	974 168,418	1854,841
55'	5 753 479,523	1854,220	55'	5 864 742,000	1854,534	55'	5 976 023,259	1854,846
56	755 333,743	1854,225	56	866 596,534	1854,539	56	977 878,105	1854,851
57	757 187,908	1854,230	57	868 451,073	1854,545	57	979 732,950	1854,856
58	759 042,198	1854,236	58	870 305,618	1854,550	58	981 587,812	1854,861
59	760 896,434	1854,241	59	872 160,168	1854,555	59	983 442,673	1854,867
60'	5 762 750,075		60'	5 874 014,723		60'	5 985 297,540	

vgl. § 91.

$$\tan \psi = \sqrt{1 - e^2} \tan \varphi, \quad \varphi - \psi = 345,32538 \sin (\varphi + \psi)$$

[2.538 2285]

φ	$\varphi - \psi$	Diff.	φ	$\varphi - \psi$	Diff.	φ	$\varphi - \psi$	Diff.
0°	0' 0,0''	+	45° 0'	5' 45,33''	—	53° 0'	5' 32,10''	—
1	0 12,0	12,0''	10	45,32	0,01''	10	31,50	0,56''
2	0 24,0	12,0	20	45,31	0,01	20	30,98	0,56
3	0 36,0	12,0	30	45,28	0,03	30	30,40	0,58
4	0 48,0	12,0	40	45,24	0,04	40	29,81	0,59
5	1 0,0	12,0	50	45,20	0,04	50	29,21	0,60
		11,7			0,07			0,62
6°	1' 11,7''	11,7''	46° 0'	5' 45,13	0,07''	54° 0'	5' 28,59''	0,62''
7	1 23,4	11,6	10	45,06	0,08	10	27,97	0,63
8	35,0	11,5	20	44,98	0,10	20	27,34	0,65
9	46,5	11,4	30	44,88	0,11	30	26,69	0,66
10	57,9	11,3	40	44,77	0,12	40	26,03	0,67
11	2 9,2	11,0	50	44,65	0,13	50	25,36	0,67
		11,0''			0,14''			4,3''
12°	2' 20,2''	11,0''	47° 0'	5' 44,52''	0,14''	55° 0'	5' 24,69''	4,3''
13	31,2	10,7	10	44,38	0,15	56	20,4	4,7
14	41,9	10,5	20	44,23	0,17	57	15,7	5,1
15	52,4	10,3	30	44,06	0,18	58	10,6	5,5
16	3 2,7	10,1	40	43,88	0,19	59	5,1	5,8
17	12,8	9,9	50	43,69	0,20	60	4' 59,3	6,2
		9,6''			0,21''			6,5''
18°	3' 22,7''	9,6''	48° 0'	5' 43,49''	0,21''	61°	4' 53,1''	6,5''
19	32,3	9,4	10	43,28	0,22	62	46,6	7,0
20	41,7	9,1	20	43,06	0,24	63	39,6	7,2
21	50,8	8,8	30	42,82	0,25	64	32,4	7,6
22	59,6	8,5	40	42,57	0,26	65	24,8	7,9
23	4 8,1	8,2	50	42,31	0,27	66	16,9	8,2
		7,9''			0,28''			8,5''
24°	4' 16,3''	7,9''	49° 0'	5' 42,04''	0,28''	67°	4' 8,7''	8,5''
25	24,2	7,6	10	41,76	0,29	68	0,2	8,8
26	31,8	7,3	20	41,47	0,31	69	3' 51,4	9,1
27	39,1	6,9	30	41,16	0,31	70	42,3	9,4
28	46,0	6,6	40	40,85	0,33	71	32,9	9,6
29	52,6	6,2	50	40,52	0,34	72	23,3	9,9
		5,9''			0,35''			10,1''
30°	4' 58,8''	5,9''	50° 0'	5' 40,18	0,35''	73°	3' 13,4''	10,1''
31	5 4,7	5,4	10	39,83	0,37	74	3,3	10,4
32	10,1	5,2	20	39,46	0,37	75	2' 52,9	10,5
33	15,3	4,7	30	39,09	0,39	76	42,4	10,8
34	20,0	4,3	40	38,70	0,39	77	31,6	10,9
35	24,3	4,0	50	38,31	0,41	78	20,7	11,1
		3,5''			0,42''			11,3''
36°	5' 28,3''	3,5''	51° 0'	5' 37,90''	0,42''	79°	2' 9,6''	11,3''
37	31,8	3,1	10	37,48	0,44	80	1' 58,3	11,4
38	34,9	2,8	20	37,04	0,44	81	46,9	11,6
39	37,7	2,3	30	36,60	0,45	82	35,3	11,6
40	40,0	1,9	40	36,15	0,47	83	23,7	11,8
41	41,9	1,5	50	35,68	0,48	84	11,9	11,8
		1,0''			0,49''			12,0''
42°	5' 43,4''	1,0''	52° 0'	5' 35,20''	0,49''	85°	1' 0,1''	12,0''
43	44,4	0,7	10	34,71	0,50	86	0' 48,1	11,9
44	45,1	+0,2	20	34,21	0,51	87	36,2	12,1
45	45,3	-0,2	30	33,70	0,52	88	24,1	12,0
46	45,1	0,6	40	33,18	0,53	89	12,1	12,1
47	5 44,5		50	32,65		90	0' 0,0	

vgl. § 103.

Sphäroidische Länge = l (Ellipsoid)

 Sphärische Länge = λ (Kugel).

$$\lambda = \alpha l \quad l = \frac{1}{\alpha} \lambda$$

$$\alpha = 1,000\,452\,918$$

$$\frac{1}{\alpha} = 0,999\,547\,287 = 1 - 0,000\,452\,713$$

$$\lambda - l = + 0,000\,452\,918\,l$$

$$l - \lambda = - 0,000\,452\,713\,\lambda$$

$$\log \alpha = 0,000\,1966\,553$$

$$\log \frac{1}{\alpha} = 9,999\,8033\,447$$

Ellipsoid l	$\lambda - l$	Kugel λ	$l - \lambda$
1"	+ 0,000 453"	1"	- 0,000 453"
2"	0,000 906"	2"	0,000 905"
3"	0,001 359"	3"	0,001 358"
4"	0,001 812"	4"	0,001 811"
5"	0,002 265"	5"	0,002 264"
6"	+ 0,002 718"	6"	- 0,002 716"
7"	0,003 170"	7"	0,003 169"
8"	0,003 623"	8"	0,003 622"
9"	0,004 076"	9"	0,004 074"
10"	0,004 529"	10"	0,004 527"
20"	+ 0,009 058"	20"	- 0,009 054"
30"	0,013 588"	30"	0,013 581"
40"	0,018 117"	40"	0,018 109"
50"	0,022 646"	50"	0,022 636"
60"	0,027 175"	60"	0,027 163"
1'	+ 0,027 175"	1'	- 0,027 163"
2'	0,054 350"	2'	0,054 326"
3'	0,081 525"	3'	0,081 488"
4'	0,108 700"	4'	0,108 651"
5'	0,135 875"	5'	0,135 814"
6'	+ 0,163 050"	6'	- 0,162 977"
7'	0,190 226"	7'	0,190 139"
8'	0,217 401"	8'	0,217 302"
9'	0,244 576"	9'	0,244 465"
10'	0,271 751"	10'	0,271 628"
20'	+ 0,543 502"	20'	- 0,543 256"
30'	0,815 252"	30'	0,814 883"
40'	1,087 003"	40'	1,086 511"
50'	1,358 754"	50'	1,358 139"
60'	1,630 505"	60'	1,629 767"
1°	+ 1,630 505"	1°	- 1,629 767"
2°	3,261 010"	2°	3,259 534"
3°	4,891 514"	3°	4,889 300"
4°	6,522 019"	4°	6,519 067"
5°	8,152 524"	5°	8,148 834"
6°	+ 9,783 029"	6°	- 9,778 601"
7°	11,413 534"	7°	11,408 368"
8°	13,044 038"	8°	13,038 134"
9°	14,674 543"	9°	14,667 901"
10°	16,305 048"	10°	16,297 668"

vgl. § 100.

Kugel <i>u</i>	Ellipsoid <i>q</i>	Differenzen		<i>log m</i>	Diff.	<i>k</i>	Diff.
		+	—	+	—		
46° 0'	46° 1' 19,1599 "	10' 1,4235 "	—	14.46	1.06	8,79 "	0,42 "
46 10	46 11 20,5834	10 1,4060	0,0175	13.40	1.00	8,37	0,42
46 20	46 21 21,9894	10 1,3885	0,0175	12.40	0.94	7,95	0,41
46 30	46 30 24,3779	10 1,3711	0,0174	11.46	0.90	7,54	0,40
46 40	46 41 24,74900	10 1,35362	0,0175	10.559	0.850	7,141	0,387
46 50	46 51 26,10262	10 1,33616	0,01746	9.709	0.805	6,754	0,376
			0,01746				
47° 0'	47° 1' 27,43878 "	10' 1,31870 "	—	8.904	0.758	6,378 "	0,366 "
47 10	47 11 28,75748	10 1,30124	0,01746	8.146	0.715	6,012	0,355
47 20	47 21 30,05872	10 1,28378	0,01746	7.431	0.672	5,657	0,344
47 30	47 31 31,34250	10 1,26633	0,01745	6.759	0.630	5,313	0,334
47 40	47 41 32,60883	10 1,24889	0,01744	6.129	0.590	4,979	0,324
47 50	47 51 33,85772	10 1,23144	0,01745	5.539	0.551	4,655	0,312
			0,01744				
48° 0'	48° 1' 35,08916 "	10' 1,21400 "	—	4.988	0.513	4,343 "	0,302 "
48 10	48 11 36,30316	10 1,19657	0,01743	4.475	0.477	4,041	0,292
48 20	48 21 37,49973	10 1,17915	0,01742	3.998	0.442	3,749	0,280
48 30	48 31 38,67888	10 1,16173	0,01742	3.556	0.408	3,469	0,270
48 40	48 41 39,84061	10 1,14433	0,01740	3.148	0.376	3,199	0,259
48 50	48 51 40,98494	10 1,12693	0,01740	2.772	0.345	2,940	0,248
			0,01739				
49° 0'	49° 1' 42,11187 "	10' 1,10954 "	—	2.427	0.315	2,692 "	0,238 "
49 10	49 11 43,22141	10 1,09217	0,01737	2.112	0.287	2,454	0,227
49 20	49 21 44,31358	10 1,07480	0,01737	1.825	0.259	2,227	0,215
49 30	49 31 45,38838	10 1,05746	0,01734	1.566	0.234	2,012	0,205
49 40	49 41 46,44584	10 1,04012	0,01734	1.332	0.209	1,807	0,194
49 50	49 51 47,48596	10 1,02280	0,01732	1.123	0.187	1,613	0,184
			0,01731				
50° 0'	50° 1' 48,50876 "	10' 1,00549 "	—	0.936	0.164	1,429 "	0,172 "
50 10	50 11 49,51425	10 0,98820	0,01729	0.772	0.144	1,257	0,161
50 20	50 21 50,50245	10 0,97093	0,01727	0.628	0.125	1,096	0,150
50 30	50 31 51,47338	10 0,95367	0,01726	0.503	0.107	0,946	0,140
50 40	50 41 52,42705	10 0,93643	0,01724	0.396	0.091	0,806	0,128
50 50	50 51 53,36348	10 0,91922	0,01721	0.305	0.076	0,678	0,117
			0,01721				
51° 0'	51° 1' 54,28270 "	10' 0,90201 "	—	0.229	0.062	0,561 "	0,107 "
51 10	51 11 55,18471	10 0,88484	0,01717	0.167	0.049	0,454	0,095
51 20	51 21 56,06955	10 0,86767	0,01717	0.118	0.039	0,359	0,084
51 30	51 31 56,93722	10 0,85055	0,01712	0.079	0.029	0,275	0,073
51 40	51 41 57,78777	10 0,83313	0,01712	0.050	0.021	0,202	0,061
51 50	51 51 58,62120	10 0,81634	0,01709	0.029	0.014	0,141	0,051
			0,01707				
52° 0'	52° 1' 59,43754 "	10' 0,79927 "	—	0.015	0.009	0,090 "	—0,039 "
52 10	52 12 0,23681	10 0,78224	0,01703	0.006	0.004	0,051	—0,028
52 20	52 22 1,01905	10 0,76523	0,01701	+0.002	0.002	0,023	—0,017
52 30	52 32 1,73428	10 0,74823	0,01700	0.000	0.000	0,006	—0,006
52 40	52 42 2,53251	10 0,73128	0,01695	0.000	0.000	0,000	+0,006
52 50	52 52 3,26379	10 0,71435	0,01693	0.000	0.000	0,000	+0,017
53° 0'	53° 2' 3,97814 "			—0.002		0,023	

vgl. § 100.

Kugel u	Ellipsoid φ	Differenzen		$\log m$	Diff.	k	Diff.
52° 0'	52° 1' 59,43754"	+	—	+	—	0,090"	—0,039"
52 10	52 12 0,23681	10' 0,79927"	0,01703"	0-015	0-009	0,051	—0,028
52 20	52 22 1,01905	10 0,78224	0,01701	0-006	0-004	0,023	—0,017
52 30	52 32 1,78428	10 0,76523	0,01700	0-002	0 002	0,006	+0,006
52 40	52 42 2,53251	10 0,74823	0,01695	+		0,000	+0,006
52 50	52 52 3,25379	10 0,73128	0,01693	0-000	0-002	0,006	+0,017
		10 0,71435	0,01690				
53° 0'	53° 2' 3,97814"	+	—	+	—	0,023"	+0,028"
53 10	53 12 4,67559	10' 0,69745"	0,01688"	0-002	0-004	0,051	0,040
53 20	53 22 5,35616	10 0,68057	0,01684	0-006	0-009	0,091	0,051
53 30	53 32 6,01989	10 0,66373	0,01681	0-015	0-014	0,142	0,062
53 40	53 42 6,66681	10 0,64692	0,01677	0-029	0-021	0,204	0,074
53 50	53 52 7,29696	10 0,63015	0,01675	0-050	0-029	0,278	0,085
		10 0,61340	0,01672	0-079	0-040		
54° 0'	54° 2' 7,91036"	+	—	+	—	0,363"	+0,097"
54 10	54 12 8,50704	10' 0,59668"	0,01667"	0-119	0-050	0,460	0,109
54 20	54 22 9,08705	10 0,58001	0,01664	0-169	0-063	0,569	0,120
54 30	54 32 9,65042	10 0,56337	0,01661	0-232	0-077	0,689	0,131
54 40	54 42 10,19718	10 0,54676	0,01658	0-309	0-092	0,820	0,144
54 50	54 52 10,72736	10 0,53018	0,01652	0-401	0-109	0,964	0,154
		10 0,51366	0,01650	0-510	0-128		
55° 0'	55° 2' 11,24102"	+	—	+	—	1,118"	+0,167"
55 10	55 12 11,73818	10' 0,49716"	0,01645"	0-638	0-147	1,235	0,178
55 20	55 22 12,21889	10 0,48071	0,01642	0-785	0-168	1,463	0,190
55 30	55 32 12,68318	10 0,46429	0,01638	0-953	0-191	1,653	0,202
55 40	55 42 13,13109	10 0,44791	0,01633	1-144	0-214	1,855	0,213
55 50	55 52 13,56267	10 0,43158	0,01630	1-358	0-240	2,068	0,225
		10 0,41528	0,01624	1-598	0-267		
56° 0'	56° 2' 13,97795"	+	—	+	—	2,293"	+0,238"
56 10	56 12 14,37699	10' 0,39904"	0,01621"	1-865	0-296	2,531	0,249
56 20	56 22 14,75982	10 0,38283	0,01617	2-161	0-325	2,780	0,261
56 30	56 32 15,12648	10 0,36666	0,01611	2-486	0-356	3,041	0,273
56 40	56 42 15,47703	10 0,35055	0,01608	2-842	0-389	3,314	0,285
56 50	56 52 15,81150	10 0,33447	0,01602	3-231	0-423	3,599	0,297
		10 0,31845	0,01598	3-654	0-459		
57° 0'	57° 2' 16,12995"	+	—	+	—	3,896"	+0,309"
57 10	57 12 16,43242	10' 0,30247"	0,01593"	4-113	0-496	4,205	0,321
57 20	57 22 16,71896	10 0,28654	0,01588	4-609	0-535	4,526	0,333
57 30	57 32 16,98962	10 0,27066	0,01584	5-144	0-575	4,859	0,346
57 40	57 42 17,24444	10 0,25482	0,01578	5-719	0-616	5,205	0,358
57 50	57 52 17,48348	10 0,23904	0,01574	6-335	0-659	5,563	0,370
		10 0,22330	0,01567	6-994	0-704		
58° 0'	58° 2' 17,70678"	+	—	+	—	5,933"	+0,382"
58 10	58 12 17,91441	10' 0,20763"	0,01563"	7-698	0-750	6,315	0,395
58 20	58 22 18,10641	10 0,19200	0,01558	8-448	0-798	6,710	0,407
58 30	58 32 18,28283	10 0,17642	0,01552	9-246	0-846	7,117	0,419
58 40	58 42 18,44373	10 0,16090	0,01547	10-092	0-898	7,536	0,431
58 50	58 52 18,58916	10 0,14543	0,01541	10-990	0-951	7,967	0,443
59° 0'	59° 2' 18,71918	10 0,13002		11-941	1-002	8,410	
				12-943			

vgl. § 100.

φ	$\log(\sigma_1)$		$\log(\sigma_2)$		$\log(\sigma_3)$		$\log(\sigma_4)$		$\log(\sigma_5)$	
30°	5.52260 _n	—	5.99435 _n	—	3.587	—	3.712	+	3.976 _n	+
31	5.49609 _n	2651	5.98542 _n	893	3.560	27	3.803	91	3.995 _n	+19
32	5.46727 _n	2882	5.97613 _n	929	3.530	30	3.885	82	4.009 _n	14
33	5.43588 _n	3144	5.96647 _n	966	3.498	32	3.959	74	4.022 _n	13
34	5.40134 _n	3449	5.95644 _n	1003	3.462	36	4.029	70	4.035 _n	13
		3805		1042		40		65		11
35°	5.36329 _n	—	5.94602 _n	—	3.422	—	4.094	—	4.046 _n	—
36	5.32097 _n	4232	5.93520 _n	1082	3.378	44	4.155	61	4.054 _n	+ 8
37	5.27346 _n	4751	5.92398 _n	1122	3.329	49	4.214	59	4.061 _n	7
38	5.21948 _n	5398	5.91235 _n	1163	3.272	57	4.270	56	4.065 _n	4
39	5.15717 _n	6231	5.90029 _n	1206	3.206	66	4.323	53	4.068 _n	+ 3
		7357		1249		78		52		— 1
40°	5.08360 _n	—	5.88780 _n	—	3.128	—	4.375	—	4.067 _n	—
41	4.99460 _n	8900	5.87485 _n	1295	3.032	96	4.426	51	4.064 _n	— 3
42	4.88154 _n	11306	5.86143 _n	1342	2.908	124	4.474	48	4.058 _n	4
43	4.72741 _n	15413	5.84754 _n	1389	2.732	176	4.523	49	4.048 _n	10
44	4.48516 _n	24225	5.83316 _n	1438	2.431	301	4.569	46	4.033 _n	15
				1490				46		20
45°	3.88570 _n	—	5.81826 _n	—	—∞	—	4.615	—	4.013 _n	—
46	4.18121 _n	+	5.80283 _n	1543	2.431 _n	+	4.660	45	3.987 _n	—26
47	4.58102 _n	39981	5.78685 _n	1598	2.732 _n	301	4.705	45	3.952 _n	35
48	4.78513 _n	20411	5.77031 _n	1654	2.908 _n	176	4.749	44	3.907 _n	45
49	4.92311 _n	13798	5.75317 _n	1714	3.032 _n	124	4.792	43	3.845 _n	62
		10420		1775		86		43		—86
50°	5.02731 _n	—	5.73542 _n	—	3.128 _n	—	4.835	—	3.759 _n	—
51	5.11089 _n	8358	5.71703 _n	1839	3.206 _n	78	4.877	42	3.632 _n	127
52	5.18054 _n	6965	5.69797 _n	1906	3.272 _n	66	4.920	43	3.413 _n	219
53	5.24012 _n	5958	5.67821 _n	1976	3.329 _n	57	4.962	42	2.806 _n	607
54	5.29296 _n	5194	5.65772 _n	2049	3.378 _n	49	5.004	42	3.202	
55	5.33799 _n	4593	5.63647 _n	2125	3.422 _n	44	5.046	42	3.617	

Besondere Tafel für $\log(\sigma_1)$.

φ	0'	10'	20'	30'	40'	50'	Diff.
45°	3.88570 _n	3.58776 _n	1.73612 _n	3.61198	3.87962	4.05674	+
46	4.18221	4.27944	4.35882	4.42590	4.48399	4.53521	12547
47	4.58102	4.62244	4.66024	4.69500	4.72718	4.75712	4581
48	4.78513	4.81142	4.83619	4.85963	4.88185	4.90298	2801
49	4.92311	4.94234	4.96074	4.97888	4.99532	5.01162	2013
							1569
50°	5.02731	5.04244	5.05705	5.07118	5.08483	5.09806	1283
51	5.11089	5.12334	5.13542	5.14717	5.15859	5.16971	1083
52	5.18054	5.19109	5.20138	5.21141	5.22121	5.23077	935
53	5.24012	5.24925	5.25819	5.26692	5.27548	5.28386	820
54	5.29206	5.30009	5.30797	5.31569	5.32327	5.33070	729
55	5.33799						

In der Gegend von $\varphi = 45^\circ$, wo (σ_1) durch Null geht, braucht man $\log(\sigma_1)$ nur auf sehr wenige Stellen, man kann daher trotz der Ungleichheit der Differenzen mit hinreichender Genauigkeit proportional oder graphisch interpolieren.

vgl. § 106.

φ	$\log(\lambda_1)$		$\log(\lambda_2)$		$\log(\lambda_3)$		$\log(\lambda_4)$		$\log(\lambda_5)$	
30°	5.99325 _n	+	5.99435 _n	—	4.065 _n	+	4.012 _n	—	4.013 _n	+
31	6.00207 _n	882	5.98542 _n	893	4.084 _n	19	4.003 _n	9	4.035 _n	22
32	6.01087 _n	880	5.97613 _n	929	4.104 _n	20	3.987 _n	16	4.054 _n	19
33	6.01964 _n	877	5.96647 _n	966	4.123 _n	19	3.966 _n	21	4.073 _n	19
34	6.02837 _n	873	5.95644 _n	1003	4.142 _n	19	3.938 _n	28	4.090 _n	17
		867		1042		18		38		16
35°	6.03704 _n		5.94602 _n		4.160 _n		3.900 _n		4.106 _n	
36	6.04566 _n	862	5.93520 _n	1082	4.177 _n	17	3.850 _n	50	4.121 _n	15
37	6.05420 _n	854	5.92398 _n	1122	4.194 _n	17	3.782 _n	68	4.134 _n	13
38	6.06265 _n	845	5.91235 _n	1163	4.211 _n	17	3.685 _n	97	4.146 _n	12
39	6.07098 _n	833	5.90029 _n	1206	4.227 _n	16	3.545 _n	140	4.157 _n	11
		829		1249		16		—		9
40°	6.07927 _n		5.88780 _n		4.243 _n		3.262 _n		4.166 _n	
41	6.08745 _n	818	5.87485 _n	1295	4.258 _n	15	1.409 _n	+	4.174 _n	8
42	6.09550 _n	805	5.86143 _n	1342	4.273 _n	15	3.331 _n	326	4.181 _n	7
43	6.10343 _n	793	5.84754 _n	1389	4.287 _n	14	3.657 _n	204	4.185 _n	4
44	6.11124 _n	781	5.83316 _n	1438	4.301 _n	14	3.861 _n	152	4.188 _n	3
		768		1490		13				+
45°	6.11892 _n		5.81826 _n		4.314 _n		4.018 _n		4.189 _n	
46	6.12646 _n	754	5.80283 _n	1543	4.327 _n	13	4.138 _n	125	4.188 _n	1
47	6.13387 _n	741	5.78685 _n	1598	4.340 _n	13	4.245 _n	107	4.185 _n	3
48	6.14113 _n	726	5.77031 _n	1654	4.352 _n	12	4.340 _n	95	4.179 _n	6
49	6.14825 _n	712	5.75317 _n	1714	4.364 _n	12	4.427 _n	87	4.169 _n	10
		697		1775		12		79		13
50°	6.15522 _n		5.73542 _n		4.376 _n		4.506 _n		4.156 _n	
51	6.16203 _n	681	5.71703 _n	1839	4.387 _n	11	4.580 _n	74	4.139 _n	17
52	6.16869 _n	666	5.69797 _n	1906	4.398 _n	11	4.650 _n	70	4.117 _n	22
53	6.17519 _n	650	5.67821 _n	1976	4.408 _n	10	4.716 _n	67	4.087 _n	30
54	6.18153 _n	634	5.65772 _n	2049	4.418 _n	10	4.781 _n	64	4.049 _n	38
55°	6.18771 _n	618	5.63647 _n	2125	4.428 _n	10	4.842 _n	61	3.999 _n	50

Besondere Tafel für $\log(\sigma_2) = \log(\lambda_2)$.

φ	0'	10'	20'	30'	40'	50'	Diff.
45°	5.81826 _n	5.81572 _n	5.81317 _n	5.81061 _n	5.80803 _n	5.80544 _n	261
46	5.80283 _n	5.80021 _n	5.79757 _n	5.79491 _n	5.79224 _n	5.78956 _n	271
47	5.78685 _n	5.78414 _n	5.78140 _n	5.77865 _n	5.77589 _n	5.77311 _n	280
48	5.77031 _n	5.76749 _n	5.76466 _n	5.76182 _n	5.75895 _n	5.75607 _n	290
49	5.75317 _n	5.75026 _n	5.74733 _n	5.74438 _n	5.74141 _n	5.73842 _n	300
50°	5.73542 _n	5.73240 _n	5.72936 _n	5.72631 _n	5.72323 _n	5.72014 _n	311
51	5.71703 _n	5.71390 _n	5.71075 _n	5.70759 _n	5.70440 _n	5.70120 _n	323
52	5.69797 _n	5.69473 _n	5.69146 _n	5.68818 _n	5.68488 _n	5.68156 _n	335
53	5.67821 _n	5.67485 _n	5.67147 _n	5.66806 _n	5.66464 _n	5.66119 _n	347
54	5.65772 _n	5.65424 _n	5.65073 _n	5.64720 _n	5.64364 _n	5.64007 _n	360
55	5.63647 _n						

Übersicht der Haupt-Bezeichnungen, welche in den mathematischen Teilen dieses Buches angewendet sind.

Gleichung der Meridian-Ellipse: $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1.$

Grosse Halbaxe = a .

Kleine Halbaxe = b .

Polar Krümmungs-Halbmesser = $c = \frac{a^2}{b}.$

Excentricitäten: $e = \frac{\sqrt{a^2 - b^2}}{a}$, $e' = \frac{\sqrt{a^2 - b^2}}{b}$

$$e^2 = \frac{e'^2}{1 + e'^2} \quad , \quad e'^2 = \frac{e^2}{1 - e^2} \quad , \quad (1 - e^2)(1 + e'^2) = 1.$$

$$a = c \sqrt{1 - e^2} = \frac{c}{\sqrt{1 + e'^2}} \quad , \quad b = c(1 - e^2) = \frac{c}{1 + e'^2}.$$

Geographische Breite (oder Polhöhe) = φ . $\tan \varphi = t.$

$$W^2 = 1 - e^2 \sin^2 \varphi \quad V^2 = 1 + e'^2 \cos^2 \varphi.$$

$$\frac{W^2}{1 - e^2} = V^2 \quad , \quad V^2 = 1 + \eta^2 \quad , \quad \eta^2 = e'^2 \cos^2 \varphi.$$

Meridian-Krümmungs-Halbmesser: $M = \frac{c}{V^3}.$

Quer-Krümmungs-Halbmesser: $N = \frac{c}{V}.$

Mittlerer Krümmungs-Halbmesser: $r = \sqrt{MN} = \frac{c}{V^2}.$

Haupt-Krümmungs-Verhältnis: $\frac{N}{M} = V^2.$

Reduzierte Breite = ψ .

$$\tan \psi = \tan \varphi \sqrt{1 - e^2}. \quad \tan \varphi = \tan \psi \sqrt{1 + e'^2}.$$

Meridian-Ellipse.

