

**V.—DIFFERENCE BETWEEN RHUMB LINE
AND GREAT CIRCLE DISTANCES**

N. 0°-4° **S. 0°-4°**

Latitude of Destination	Change of Longitude																		Latitude of Destination
	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	
N. 60°	0	1	3	6	9	14	19	26	34	44	56	69	85	103	124	148	176	208	S. 60°
55	0	1	2	5	7	11	15	21	28	36	46	57	71	86	105	126	150	178	55
50	0	1	2	3	6	8	12	16	22	29	37	46	58	71	87	105	126	150	50
45	0	1	1	3	4	6	9	13	17	22	29	37	46	57	70	85	103	124	45
40	0	0	1	2	3	5	7	10	13	17	22	29	36	45	56	68	82	99	40
N. 35	0	0	1	1	2	3	5	7	10	13	17	22	28	34	43	53	64	78	S. 35
30	0	0	0	1	1	2	3	5	7	9	12	16	20	26	32	39	48	58	30
25	0	0	0	1	1	2	2	3	5	6	8	11	14	18	22	28	34	42	25
20	0	0	0	0	1	1	1	2	3	4	5	7	9	12	15	18	23	28	20
15	0	0	0	0	0	0	1	1	2	2	3	4	5	7	9	11	13	17	15
N. 10	0	0	0	0	0	0	0	1	1	1	2	2	3	3	4	5	7	8	S. 10
N. 5	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	2	2	3	S. 5
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S. 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	N. 5
10	0	0	0	0	0	0	0	0	0	1	1	1	1	2	2	3	3	4	10
S. 15	0	0	0	0	0	0	1	1	1	2	2	3	4	4	6	7	9	10	N. 15
20	0	0	0	0	0	1	1	2	2	3	4	5	7	9	11	13	16	20	20
25	0	0	0	0	1	1	2	3	4	5	7	9	11	14	18	22	27	32	25
30	0	0	0	1	1	2	3	4	6	8	10	13	17	21	26	32	39	48	30
35	0	0	1	1	2	3	4	6	8	11	15	19	24	30	37	45	55	66	35
S. 40	0	0	1	2	3	4	6	9	12	16	20	26	32	40	49	60	73	88	N. 40
45	0	1	1	2	4	6	9	12	16	21	27	34	42	52	64	77	93	112	45
50	0	1	2	3	5	8	11	16	21	27	34	43	54	66	80	97	116	139	50
55	0	1	2	4	7	11	15	20	27	34	43	54	67	82	99	119	142	168	55
S. 60	0	1	3	6	9	13	19	25	33	43	54	67	82	99	119	142	169	199	N. 60°

This table gives the difference, in nautical miles, between the distance from one place to another by the Rhumb Line track and the distance by the Great Circle track. It is based on a *Latitude of Departure* of 2°, but may be used for any place of departure between latitudes 0° and 4°. Of the two argument columns headed *Latitude of Destination*, the one on the left is to be used when the place of departure lies between 0° and N. 4°, and the one on the right when the place of departure lies between 0° and S. 4°.

The table is intended to give only the approximate difference of distance between the two tracks. For intermediate values of the arguments *Latitude of Destination* and *Change of Longitude*, the figures in the table should be interpolated by inspection. If the *Latitude of Departure* differs by the maximum of 2½° from that on which the table is based, the error in the result will not exceed 2 miles up to a *Change of Longitude* of 50°, but may reach 4 miles for a change of 70°, and 8 miles for a change of 90°.

Example.—Required the difference in distance between the Rhumb Line track and the Great Circle track from Singapore (Lat. 1° 20' N., Long. 103° 55' E.) to Cairo (Lat. 30° 00' N., Long. 31° 20' E.).

Entering the argument column on the left with the *Latitude of Destination* of 30° 00' N., and interpolating by inspection for the *Change of Longitude* of 72° 35', it will be seen that the difference in distance is about 29 nautical miles.

**V.—DIFFERENCE BETWEEN RHUMB LINE
AND GREAT CIRCLE DISTANCES**

N. 5°-9° **S. 5°-9°**

Latitude of Destination	Change of Longitude																		Latitude of Destination
	5° 10° 15°	20° 25° 30°	35° 40° 45°	50° 55° 60°	65° 70° 75°	80° 85° 90°													
N. 60°	0 1 3	6 9 14	20 27 35	46 58 72	88 108 130	155 184 217	S. 60°												
55	0 1 3	5 8 11	16 22 29	38 48 60	75 91 111	134 160 190	55												
50	0 1 2	4 6 9	13 17 23	31 39 50	62 77 94	114 137 163	50												
45	0 1 1	3 4 7	10 14 19	25 32 41	51 63 78	95 115 138	45												
40	0 0 1	2 3 5	8 11 14	19 25 32	41 51 64	78 95 114	40												
N. 35	0 0 1	1 2 4	6 8 11	15 20 25	32 41 51	62 76 92	S. 35												
30	0 0 0	1 2 3	4 6 8	11 15 19	25 31 39	49 60 72	30												
25	0 0 0	1 1 2	3 4 6	8 11 14	19 23 29	37 45 55	25												
20	0 0 0	0 1 1	2 3 4	6 8 10	13 17 21	26 32 39	20												
15	0 0 0	0 0 1	1 2 3	4 5 7	9 11 14	17 21 26	15												
N. 10	0 0 0	0 0 0	1 1 2	2 3 4	5 7 8	10 13 16	S. 10												
N. 5	0 0 0	0 0 0	0 0 1	1 1 2	3 3 4	5 6 8	S. 5												
0	0 0 0	0 0 0	0 0 0	0 1 1	1 1 2	2 2 3	0												
S. 5	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 1 1	N. 5												
10	0 0 0	0 0 0	0 0 0	0 0 0	0 1 1	1 1 1	10												
S. 15	0 0 0	0 0 0	0 0 1	1 1 1	2 2 3	4 4 5	N. 15												
20	0 0 0	0 0 0	1 1 1	2 3 3	4 5 7	8 10 12	20												
25	0 0 0	0 1 1	1 2 3	4 5 6	8 10 12	15 19 22	25												
30	0 0 0	1 1 2	2 3 5	6 8 10	13 16 20	24 30 36	30												
35	0 0 1	1 2 3	4 5 7	9 12 15	19 24 30	36 44 53	35												
S. 40	0 0 1	2 3 4	5 8 10	13 17 22	27 34 42	51 61 74	N. 40												
45	0 1 1	2 4 5	8 11 14	18 24 30	37 46 56	68 81 97	45												
50	0 1 2	3 5 7	11 14 19	25 31 39	49 60 72	87 104 124	50												
55	0 1 2	4 7 10	14 19 25	32 40 50	62 76 91	109 130 154	55												
S. 60	0 1 3	5 9 13	18 24 32	41 51 63	77 94 112	134 159 187	N. 60												

This table gives the difference, in nautical miles, between the distance from one place to another by the Rhumb Line track and the distance by the Great Circle track. It is based on a *Latitude of Departure* of 7°, but may be used for any place of departure between latitudes 5° and 9°. Of the two argument columns headed *Latitude of Destination*, the one on the left is to be used when the place of departure lies between N. 5° and N. 9°, and the one on the right when the place of departure lies between S. 5° and S. 9°.

The table is intended to give only the approximate difference of distance between the two tracks. For intermediate values of the arguments *Latitude of Destination* and *Change of Longitude*, the figures in the table should be interpolated by inspection. If the *Latitude of Departure* differs by the maximum of 2½° from that on which the table is based, the error in the result will not exceed 2 miles up to a *Change of Longitude* of 50°, but may reach 4 miles for a change of 70°, and 8 miles for a change of 90°.

Example.—Required the difference in distance between the Rhumb Line track and the Great Circle track from Colombo (Lat. 6° 55' N., Long. 79° 55' E.) to Newcastle-on-Tyne (Lat. 55° 00' N., Long. 1° 35' W.).

Entering the argument column on the left with the *Latitude of Destination* of 55° 00' N., and interpolating by inspection for the *Change of Longitude* of 81° 30', it will be seen that the difference in distance is about 142 nautical miles.

**V.—DIFFERENCE BETWEEN RHUMB LINE
AND GREAT CIRCLE DISTANCES**

N. 10°-14° **S. 10°-14°**

Latitude of Destination	Change of Longitude						Latitude of Destination
	5° 10° 15°	20° 25° 30°	35° 40° 45°	50° 55° 60°	65° 70° 75°	80° 85° 90°	
N. 60°	0 1 3	6 10 14	20 27 36	46 59 74	91 111 134	160 191 225	S. 60°
55	0 1 3	5 8 11	16 22 30	39 50 63	78 96 117	141 168 200	55
50	0 1 2	4 6 9	13 18 25	32 42 53	66 82 100	122 147 175	50
45	0 1 1	3 5 7	10 15 20	26 34 44	56 69 85	104 126 151	45
40	0 0 1	2 3 5	8 12 16	21 28 36	46 58 71	88 107 129	40
N. 35	0 0 1	1 3 4	6 9 13	17 23 29	37 47 59	72 88 107	S. 35
30	0 0 1	1 2 3	5 7 10	13 18 23	30 38 47	59 72 87	30
25	0 0 0	1 1 2	4 5 7	10 14 18	23 30 37	46 57 69	25
20	0 0 0	1 1 2	3 4 5	8 10 14	18 22 28	35 43 53	20
15	0 0 0	0 1 1	2 3 4	5 7 10	13 16 20	25 31 38	15
N. 10	0 0 0	0 0 1	1 2 3	4 5 7	9 11 14	17 21 26	S. 10
N. 5	0 0 0	0 0 0	1 1 2	2 3 4	5 7 8	11 13 16	S. 5
0	0 0 0	0 0 0	0 1 1	1 2 2	3 4 5	6 7 9	0
S. 5	0 0 0	0 0 0	0 0 0	1 1 1	1 2 2	2 3 4	N. 5
10	0 0 0	0 0 0	0 0 0	0 0 0	1 1 1	1 1 2	10
S. 15	0 0 0	0 0 0	0 0 0	0 1 1	1 1 2	2 2 3	N. 15
20	0 0 0	0 0 0	0 1 1	1 2 2	3 3 4	5 6 7	20
25	0 0 0	0 0 1	1 1 2	3 3 4	5 7 8	10 12 15	25
30	0 0 0	0 1 1	2 3 3	5 6 8	10 12 15	18 22 26	30
35	0 0 0	1 1 2	3 4 6	7 10 12	15 19 23	28 34 41	35
S. 40	0 0 1	1 2 3	5 6 9	11 14 18	23 28 34	42 50 60	N. 40
45	0 0 1	2 3 5	7 9 12	16 20 26	32 39 48	58 69 83	45
50	0 1 2	3 5 7	10 13 17	22 28 35	43 53 64	77 92 110	50
55	0 1 2	4 6 9	13 17 23	29 37 46	57 69 83	99 118 140	55
S. 60	0 1 3	5 8 12	17 23 30	38 48 59	72 87 105	125 147 173	N. 60

This table gives the difference, in nautical miles, between the distance from one place to another by the Rhumb Line track and the distance by the Great Circle track. It is based on a *Latitude of Departure* of 12°, but may be used for any place of departure between latitudes 10° and 14°. Of the two argument columns headed *Latitude of Destination*, the one on the left is to be used when the place of departure lies between N. 10° and N. 14°, and the one on the right when the place of departure lies between S. 10° and S. 14°.

The table is intended to give only the approximate difference of distance between the two tracks. For intermediate values of the arguments *Latitude of Destination* and *Change of Longitude*, the figures in the table should be interpolated by inspection. If the *Latitude of Departure* differs by the maximum of 2½° from that on which the table is based, the error in the result will not exceed 2 miles up to a *Change of Longitude* of 50°, but may reach 4 miles for a change of 70°, and 8 miles for a change of 90°.

Example.—Required the difference in distance between the Rhumb Line track and the Great Circle track from Port Darwin (Lat. 12° 30' S., Long. 130° 50' E.) to Baku (Lat. 40° 20' N., Long. 49° 50' E.).

Entering the argument column on the right with the *Latitude of Destination* of 40° 20' N., and interpolating by inspection for the *Change of Longitude* of 81° 00', it will be seen that the difference in distance is about 44 nautical miles.

**V.—DIFFERENCE BETWEEN RHUMB LINE
AND GREAT CIRCLE DISTANCES**

N. 15°-19°

S. 15°-19°

Latitude of Destination	Change of Longitude																		Latitude of Destination
	5° 10° 15°	20° 25° 30°	35° 40° 45°	50° 55° 60°	65° 70° 75°	80° 85° 90°													
N. 60°	0 1 3	6 9 14	20 27 36	47 60 75	93 113 137	164 196 231	S. 60°												
55	0 1 3	5 8 11	16 23 30	40 51 65	81 100 121	147 176 209	55												
50	0 1 2	4 6 9	13 19 25	34 44 56	70 87 106	129 156 186	50												
45	0 1 1	3 5 7	11 15 21	28 37 47	60 75 92	113 137 164	45												
40	0 0 1	2 4 6	9 12 17	23 31 40	51 64 79	97 118 143	40												
N. 35	0 0 1	2 3 4	7 10 14	19 25 33	43 54 67	83 101 123	S. 35												
30	0 0 1	1 2 3	5 8 11	15 21 27	35 45 56	69 85 103	30												
25	0 0 0	1 2 3	4 6 9	12 17 22	29 36 46	57 69 85	25												
20	0 0 0	1 1 2	3 5 7	10 13 17	22 29 36	45 55 68	20												
15	0 0 0	0 1 2	3 4 5	8 10 13	17 22 28	35 43 52	15												
N. 10	0 0 0	0 1 1	2 3 4	6 7 10	13 16 21	26 32 39	S. 10												
N. 5	0 0 0	0 0 1	1 2 3	4 5 7	9 11 14	18 22 27	S. 5												
0	0 0 0	0 0 1	1 1 2	3 3 4	6 7 9	11 14 17	0												
S. 5	0 0 0	0 0 0	1 1 1	2 2 3	3 4 5	7 8 10	N. 5												
10	0 0 0	0 0 0	0 0 1	1 1 1	2 2 3	4 4 5	10												
S. 15	0 0 0	0 0 0	0 0 0	1 1 1	1 2 2	2 3 3	N. 15												
20	0 0 0	0 0 0	0 0 1	1 1 2	2 2 3	4 4 5	20												
25	0 0 0	0 0 1	1 1 1	2 2 3	4 5 6	7 8 10	25												
30	0 0 0	0 1 1	1 2 3	3 4 6	7 9 11	13 15 19	30												
35	0 0 0	1 1 2	2 3 4	6 8 9	12 15 18	22 26 31	35												
S. 40	0 0 1	1 2 3	4 5 7	9 12 15	18 23 28	33 40 48	N. 40												
45	0 0 1	2 3 4	6 8 11	14 17 22	27 33 40	49 58 69	45												
50	0 1 1	3 4 6	9 12 15	20 25 31	38 46 56	67 80 95	50												
55	0 1 2	4 6 8	12 16 21	27 34 42	51 62 74	89 106 125	55												
S. 60	0 1 3	5 8 11	16 21 28	35 44 55	67 80 96	114 135 159	N. 60												

This table gives the difference, in nautical miles, between the distance from one place to another by the Rhumb Line track and the distance by the Great Circle track. It is based on a *Latitude of Departure* of 17°, but may be used for any place of departure between latitudes 15° and 19°. Of the two argument columns headed *Latitude of Destination*, the one on the left is to be used when the place of departure lies between N. 15° and N. 19°, and the one on the right when the place of departure lies between S. 15° and S. 19°.

The table is intended to give only the approximate difference of distance between the two tracks. For intermediate values of the arguments *Latitude of Destination* and *Change of Longitude*, the figures in the table should be interpolated by inspection. If the *Latitude of Departure* differs by the maximum of 2½° from that on which the table is based, the error in the result will not exceed 2 miles up to a *Change of Longitude* of 50°, but may reach 4 miles for a change of 70°, and 8 miles for a change of 90°.

Example.—Required the difference in distance between the Rhumb Line track and the Great Circle track from Rangoon (Lat. 16° 50' N., Long. 96° 00' E.) to Cairo (Lat. 30° 00' N., Long. 31° 20' E.).

Entering the argument column on the left with the *Latitude of Destination* of 30° 00' N., and interpolating by inspection for the *Change of Longitude* of 64° 40', it will be seen that the difference in distance is about 34 nautical miles.

**V.—DIFFERENCE BETWEEN RHUMB LINE
AND GREAT CIRCLE DISTANCES**

N. 20°-24° **S. 20°-24°**

Latitude of Destination	Change of Longitude																		Latitude of Destination
	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	
N. 60°	0	1	3	6	9	14	20	27	36	47	60	75	94	115	139	167	199	236	S. 60°
55	0	1	2	5	7	11	16	23	31	40	52	66	83	102	125	151	182	216	55
50	0	1	2	4	6	9	13	19	26	35	45	58	73	91	112	136	164	196	50
45	0	1	1	3	5	7	11	16	22	30	39	50	64	80	99	121	147	177	45
40	0	0	1	2	4	6	9	13	18	25	33	43	55	70	87	107	130	157	40
N. 35	0	0	1	1	3	5	7	11	15	21	28	37	48	60	75	93	114	138	S. 35
30	0	0	1	1	2	4	6	9	13	18	24	31	41	52	65	80	98	119	30
25	0	0	0	1	2	3	5	8	11	15	20	27	34	44	55	68	83	101	25
20	0	0	0	1	1	2	4	6	9	12	16	22	28	36	45	56	69	84	20
15	0	0	0	1	1	2	3	5	7	10	13	18	23	29	36	45	56	68	15
N. 10	0	0	0	1	1	2	3	4	6	8	10	14	18	23	28	35	44	53	S. 10
N. 5	0	0	0	0	1	1	2	3	4	6	8	10	13	17	21	27	33	40	S. 5
0	0	0	0	0	1	1	2	2	3	4	6	8	10	12	15	19	23	29	0
S. 5	0	0	0	0	0	1	1	2	2	3	4	5	7	8	10	13	16	19	N. 5
10	0	0	0	0	0	0	1	1	1	2	3	3	4	5	7	8	10	12	10
S. 15	0	0	0	0	0	0	1	1	1	1	2	2	3	3	4	5	6	7	N. 15
20	0	0	0	0	0	0	0	1	1	1	2	2	2	3	4	4	5	6	20
25	0	0	0	0	0	0	1	1	1	2	2	3	3	4	5	6	7	8	25
30	0	0	0	0	1	1	1	2	2	3	3	4	5	7	8	10	11	14	30
35	0	0	0	1	1	1	2	3	4	5	6	7	9	11	14	16	20	23	35
S. 40	0	0	1	1	2	2	3	4	6	8	10	12	15	18	22	26	32	38	N. 40
45	0	0	1	2	2	4	5	7	9	12	15	18	23	28	33	40	48	57	45
50	0	1	1	2	4	5	7	10	13	17	21	27	33	40	48	57	68	81	50
55	0	1	2	3	5	8	11	14	19	24	30	37	45	55	66	78	93	110	55
S. 60	0	1	2	4	7	10	15	20	25	32	40	50	61	73	87	104	122	144	N. 60

This table gives the difference, in nautical miles, between the distance from one place to another by the Rhumb Line track and the distance by the Great Circle track. It is based on a *Latitude of Departure* of 22°, but may be used for any place of departure between latitudes 20° and 24°. Of the two argument columns headed *Latitude of Destination*, the one on the left is to be used when the place of departure lies between N. 20° and N. 24°, and the one on the right when the place of departure lies between S. 20° and S. 24°.

The table is intended to give only the approximate difference of distance between the two tracks. For intermediate values of the arguments *Latitude of Destination* and *Change of Longitude*, the figures in the table should be interpolated by inspection. If the *Latitude of Departure* differs by the maximum of 2½° from that on which the table is based, the error in the result will not exceed 2 miles up to a *Change of Longitude* of 50°, but may reach 4 miles for a change of 70°, and 9 miles for a change of 90°.

Example.—Required the difference in distance between the Rhumb Line track and the Great Circle track from Hong Kong (Lat. 22° 20' N., Long. 114° 10' E.) to Honolulu (Lat. 21° 30' N., Long. 158° 00' W.).

Entering the argument column on the left with the *Latitude of Destination* of 21° 30' N., and interpolating by inspection for the *Change of Longitude* of 87° 50', it will be seen that the difference in distance is about 82 nautical miles.

**V.—DIFFERENCE BETWEEN RHUMB LINE
AND GREAT CIRCLE DISTANCES**

Latitude of Destination	Change of Longitude																		Latitude of Destination
	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	
N. 60°	0	1	3	5	9	13	19	26	35	46	60	75	94	115	140	169	201	238	S. 60°
55	0	1	2	4	7	11	16	23	31	41	53	67	84	104	128	155	186	222	55
50	0	1	2	3	6	9	13	19	26	35	46	60	75	94	116	142	171	205	50
45	0	1	1	3	5	7	11	16	23	31	41	53	67	85	105	128	156	188	45
40	0	0	1	2	4	6	9	14	20	27	36	47	60	75	94	116	141	170	40
N. 35	0	0	1	2	3	5	8	12	17	23	31	41	53	67	84	103	126	153	S. 35
30	0	0	1	1	2	4	7	10	15	20	27	36	46	59	74	91	111	135	30
25	0	0	0	1	2	4	6	9	12	17	23	31	40	51	64	79	97	118	25
20	0	0	0	1	2	3	5	8	11	15	20	27	34	44	55	68	83	102	20
15	0	0	0	1	2	3	4	6	9	13	17	22	29	37	46	57	70	86	15
N. 10	0	0	0	1	1	2	4	5	8	11	14	19	24	30	38	47	58	70	S. 10
N. 5	0	0	0	1	1	2	3	4	6	9	11	15	19	24	30	37	46	56	S. 5
0	0	0	0	1	1	2	2	4	5	7	9	12	15	19	23	29	35	43	0
S. 5	0	0	0	0	1	1	2	3	4	5	7	9	11	14	17	21	26	32	N. 5
10	0	0	0	0	1	1	1	2	3	4	5	6	8	10	12	15	18	22	10
S. 15	0	0	0	0	0	1	1	1	2	3	3	4	6	7	8	10	12	15	N. 15
20	0	0	0	0	0	1	1	1	2	2	3	3	4	5	6	7	9	11	20
25	0	0	0	0	0	1	1	1	2	2	2	3	4	5	6	7	8	9	25
30	0	0	0	0	1	1	1	1	2	3	3	4	5	6	7	9	10	12	30
35	0	0	0	1	1	1	2	2	3	4	5	6	8	9	11	13	16	18	35
S. 40	0	0	0	1	1	2	3	4	5	6	8	10	12	15	18	21	25	30	N. 40
45	0	0	1	1	2	3	4	6	8	10	12	15	19	23	27	33	39	46	45
50	0	0	1	2	3	5	7	9	11	15	18	23	28	34	40	48	57	68	50
55	0	1	2	3	5	7	9	13	17	21	26	32	40	48	57	68	81	95	55
S. 60	0	1	2	4	7	10	13	18	23	29	36	45	54	65	78	93	109	128	N. 60

This table gives the difference, in nautical miles, between the distance from one place to another by the Rhumb Line track and the distance by the Great Circle track. It is based on a *Latitude of Departure* of 27°, but may be used for any place of departure between latitudes 25° and 29°. Of the two argument columns headed *Latitude of Destination*, the one on the left is to be used when the place of departure lies between N. 25° and N. 29°, and the one on the right when the place of departure lies between S. 25° and S. 29°.

The table is intended to give only the approximate difference of distance between the two tracks. For intermediate values of the arguments *Latitude of Destination* and *Change of Longitude*, the figures in the table should be interpolated by inspection. If the *Latitude of Departure* differs by the maximum of 2½° from that on which the table is based, the error in the result will not exceed 2 miles up to a *Change of Longitude* of 50°, but may reach 4 miles for a change of 70°, and 9 miles for a change of 90°.

Example.—Required the difference in distance between the Rhumb Line track and the Great Circle track from Brisbane (Lat. 27° 30' S., Long. 153° 00' E.) to Pitcairn I. (Lat. 25° 00' S., Long. 130° 00' W.).

Entering the argument column on the right with the *Latitude of Destination* of 25° 00' S., and interpolating by inspection for the *Change of Longitude* of 77° 00', it will be seen that the difference in distance is about 70 nautical miles.

V.—DIFFERENCE BETWEEN RHUMB LINE
AND GREAT CIRCLE DISTANCES

N. 30°-34°

S. 30°-34°

N. 30°-34°																			AND GREAT CIRCLE DISTANCES																		
Latitude of Destination		Change of Longitude																		Latitude of Destination																	
		5° 10° 15°			20° 25° 30°			35° 40° 45°			50° 55° 60°			65° 70° 75°			80° 85° 90°																				
N. 60°		0	1	3	5	8	13	18	26	35	46	59	74	93	115	140	169	202	239	S. 60°																	
55		0	1	2	4	7	11	16	22	30	40	53	67	85	106	130	158	190	226	55																	
50		0	1	2	3	5	9	13	19	26	36	47	61	78	97	120	146	177	212	50																	
45		0	0	1	2	4	7	11	16	23	32	42	55	71	89	110	135	164	198	45																	
40		0	0	1	2	4	6	10	14	21	28	38	50	64	81	101	124	151	183	40																	
N. 35		0	0	1	2	3	5	8	13	18	25	34	45	58	73	92	113	138	167	S. 35																	
30		0	0	1	1	3	5	8	11	16	23	31	40	52	66	83	102	125	152	30																	
25		0	0	1	1	3	4	7	10	15	20	28	36	47	59	74	92	112	136	25																	
20		0	0	1	1	2	4	6	9	13	18	24	32	41	52	65	81	99	120	20																	
15		0	0	1	1	2	4	6	8	12	16	21	28	36	45	57	70	86	104	15																	
N. 10		0	0	1	1	2	3	5	7	10	14	18	24	31	39	49	60	73	89	S. 10																	
N. 5		0	0	1	1	2	3	4	6	9	12	16	20	26	33	41	50	61	74	S. 5																	
0		0	0	0	1	2	3	4	5	7	10	13	17	21	27	33	41	50	60	0																	
S. 5		0	0	0	1	1	2	3	4	6	8	10	13	17	21	26	32	39	47	N. 5																	
10		0	0	0	1	1	2	2	3	5	6	8	10	13	16	20	24	30	36	10																	
S. 15		0	0	0	1	1	1	2	3	4	5	6	8	10	12	15	18	22	26	N. 15																	
20		0	0	0	0	1	1	2	2	3	4	5	6	7	9	11	13	16	19	20																	
25		0	0	0	0	1	1	1	2	2	3	4	5	6	7	9	11	13	15	25																	
30		0	0	0	0	1	1	1	1	2	2	3	4	5	6	7	8	10	12	14	30																
35		0	0	0	1	1	1	1	2	2	3	4	5	6	7	9	10	12	15	17	35																
S. 40		0	0	0	1	1	2	2	3	4	6	7	9	10	13	15	18	21	25	N. 40																	
45		0	0	1	1	2	3	4	5	7	8	10	13	16	19	23	27	32	38	45																	
50		0	0	1	2	3	4	6	8	10	13	16	19	24	29	34	41	48	56	50																	
55		0	1	1	3	4	6	8	11	14	18	23	28	34	41	49	59	69	81	55																	
S. 60		0	1	2	4	6	9	12	16	21	26	32	40	48	58	69	82	96	112	N. 60																	

This table gives the difference, in nautical miles, between the distance from one place to another by the Rhumb Line track and the distance by the Great Circle track. It is based on a *Latitude of Departure* of 32°, but may be used for any place of departure between latitudes 30° and 34°. Of the two argument columns headed *Latitude of Destination*, the one on the left is to be used when the place of departure lies between N. 30° and N. 34°, and the one on the right when the place of departure lies between S. 30° and S. 34°.

The table is intended to give only the approximate difference of distance between the two tracks. For intermediate values of the arguments *Latitude of Destination* and *Change of Longitude*, the figures in the table should be interpolated by inspection. If the *Latitude of Departure* differs by the maximum of 2½° from that on which the table is based, the error in the result will not exceed 2 miles up to a *Change of Longitude* of 50°, but may reach 5 miles for a change of 70°, and 10 miles for a change of 90°.

Example.—Required the difference in distance between the Rhumb Line track and the Great Circle track from Perth, W. Australia (Lat. 31° 52' S., Long. 116° 03' E.) to Durban (Lat. 29° 53' S., Long. 30° 53' E.).

Entering the argument column on the right with the *Latitude of Destination* of 29° 53' S., and interpolating by inspection for the *Change of Longitude* of 85° 10', it will be seen that the difference in distance is about 126 nautical miles.

**V.—DIFFERENCE BETWEEN RHUMB LINE
AND GREAT CIRCLE DISTANCES**

N. 35°-39°

S. 35°-39°

Latitude of Destination	Change of Longitude						Latitude of Destination
	5° 10° 15°	20° 25° 30°	35° 40° 45°	50° 55° 60°	65° 70° 75°	80° 85° 90°	
N. 60	0 1 2	5 8 12	17 24 33	44 57 72	92 113 139	168 201 238	S. 60
55	0 1 2	4 6 10	15 21 30	40 52 67	85 106 131	159 191 229	55
50	0 1 1	3 5 8	13 19 26	36 48 62	79 99 123	150 182 218	50
45	0 0 1	2 4 7	11 17 24	33 44 57	74 93 115	141 172 206	45
40	0 0 1	2 4 6	10 15 22	30 41 53	68 86 108	132 161 194	40
N. 35	0 0 1	2 3 6	9 14 20	28 38 49	63 80 100	123 150 182	S. 35
30	0 0 1	2 3 6	9 13 19	26 35 46	59 74 92	114 139 168	30
25	0 0 1	2 3 5	8 12 17	24 32 42	54 68 85	104 127 154	25
20	0 0 1	2 3 5	8 11 16	22 29 38	49 62 77	94 115 140	20
15	0 0 1	2 3 5	7 10 15	20 26 34	44 55 69	84 103 125	15
N. 10	0 0 1	2 3 4	7 10 13	18 24 30	39 49 60	74 91 110	S. 10
N. 5	0 0 1	2 3 4	6 9 12	16 21 27	34 42 52	64 78 95	S. 5
0	0 0 1	1 2 4	5 8 10	14 18 23	29 36 45	55 66 80	0
S. 5	0 0 1	1 2 3	5 6 9	12 15 19	24 30 37	45 55 66	N. 5
10	0 0 1	1 2 3	4 5 7	10 12 16	20 24 30	37 44 53	10
S. 15	0 0 0	1 2 2	3 4 6	8 10 13	16 19 24	29 35 42	N. 15
20	0 0 0	1 1 2	3 4 5	6 8 10	12 15 18	22 27 32	20
25	0 0 0	1 1 2	2 3 4	5 6 8	10 12 14	17 21 25	25
30	0 0 0	1 1 1	2 3 3	4 6 7	8 10 12	15 17 20	30
35	0 0 0	1 1 1	2 3 4	5 6 7	8 10 12	14 17 20	35
S. 40	0 0 0	1 1 2	2 3 4	5 7 8	10 12 15	17 20 23	N. 40
45	0 0 1	1 2 2	3 5 6	8 9 12	14 17 20	24 28 32	45
50	0 0 1	2 2 4	5 7 9	11 14 17	20 25 29	34 40 47	50
55	0 1 1	2 4 5	7 10 13	16 20 25	30 36 43	50 59 69	55
S. 60	0 1 2	3 5 8	11 14 18	23 29 35	43 51 60	71 84 98	N. 60

This table gives the difference, in nautical miles, between the distance from one place to another by the Rhumb Line track and the distance by the Great Circle track. It is based on a *Latitude of Departure* of 37°, but may be used for any place of departure between latitudes 35° and 39°. Of the two argument columns headed *Latitude of Destination*, the one on the left is to be used when the place of departure lies between N. 35° and N. 39°, and the one on the right when the place of departure lies between S. 35° and S. 39°.

The table is intended to give only the approximate difference of distance between the two tracks. For intermediate values of the arguments *Latitude of Destination* and *Change of Longitude*, the figures in the table should be interpolated by inspection. If the *Latitude of Departure* differs by the maximum of 2½° from that on which the table is based, the error in the result will not exceed 2 miles up to a *Change of Longitude* of 50°, but may reach 5 miles for a change of 70°, and 11 miles for a change of 90°.

Example.—Required the difference in distance between the Rhumb Line track and the Great Circle track from Lisbon (Lat. 38° 42' N., Long. 9° 08' W.) to Boston (Lat. 42° 21' N., Long. 71° 03' W.).

Entering the argument column on the left with the *Latitude of Destination* of 42° 21' N., and interpolating by inspection for the *Change of Longitude* of 61° 55', it will be seen that the difference in distance is about 60 nautical miles.

**V.—DIFFERENCE BETWEEN RHUMB LINE
AND GREAT CIRCLE DISTANCES**

N. 40°-44°

S. 40°-44°

Latitude of Destination	Change of Longitude																		Latitude of Destination
	5° 10° 15°	20° 25° 30°	35° 40° 45°	50° 55° 60°	65° 70° 75°	80° 85° 90°													
N. 60°	0 1 2	4 7 11	16 23 32	42 55 71	90 111 136	165 198 236	S. 60												
55	0 1 2	3 6 9	14 20 29	39 52 67	85 106 131	159 192 230	55												
50	0 0 1	3 5 8	13 19 26	36 48 63	80 101 125	153 186 222	50												
45	0 0 1	2 4 7	11 17 25	34 46 60	76 96 120	147 178 214	45												
40	0 0 1	2 4 7	11 16 23	32 43 57	73 92 114	140 170 205	40												
N. 35	0 0 1	2 4 7	10 16 22	31 41 54	69 87 108	133 162 195	S. 35												
30	0 0 1	2 4 7	10 15 21	29 39 51	65 82 102	126 153 184	30												
25	0 0 1	2 4 6	10 14 20	28 37 48	61 77 96	117 143 172	25												
20	0 0 1	2 4 6	10 14 19	26 34 45	57 72 89	109 132 160	20												
15	0 1 1	2 4 6	9 13 18	24 32 41	52 66 81	100 121 146	15												
N. 10	0 1 1	2 4 6	9 12 17	23 29 38	48 60 74	90 110 132	S. 10												
N. 5	0 1 1	2 4 6	8 11 15	20 27 34	43 54 66	81 98 118	S. 5												
0	0 0 1	2 3 5	7 10 14	18 24 30	38 47 58	71 86 103	0												
S. 5	0 0 1	2 3 5	7 9 12	16 21 26	33 41 50	61 74 88	N. 5												
10	0 0 1	2 3 4	6 8 11	14 18 22	28 35 42	51 62 74	10												
S. 15	0 0 1	1 2 4	5 7 9	12 15 19	23 29 35	42 51 61	N. 15												
20	0 0 1	1 2 3	4 6 8	10 12 16	19 24 29	34 41 49	20												
25	0 0 1	1 2 3	4 5 6	8 10 13	16 19 23	28 33 39	25												
30	0 0 0	1 1 2	3 4 5	7 9 11	13 16 19	23 27 31	30												
35	0 0 0	1 1 2	3 4 5	6 8 10	12 14 17	20 23 27	35												
S. 40	0 0 1	1 1 2	3 4 5	6 8 10	12 14 17	20 23 27	N. 40												
45	0 0 1	1 2 3	4 5 6	8 9 12	14 17 20	23 27 31	45												
50	0 0 1	1 2 3	5 6 8	10 13 15	19 22 26	31 36 42	50												
55	0 1 1	2 3 5	7 9 11	14 18 22	26 31 37	44 51 59	55												
S. 60	0 1 2	3 5 7	9 13 16	20 25 31	37 45 53	62 72 84	N. 60												

This table gives the difference, in nautical miles, between the distance from one place to another by the Rhumb Line track and the distance by the Great Circle track. It is based on a *Latitude of Departure* of 42°, but may be used for any place of departure between latitudes 40° and 44°. Of the two argument columns headed *Latitude of Destination*, the one on the left is to be used when the place of departure lies between N. 40° and N. 44°, and the one on the right when the place of departure lies between S. 40° and S. 44°.

The table is intended to give only the approximate difference of distance between the two tracks. For intermediate values of the arguments *Latitude of Destination* and *Change of Longitude*, the figures in the table should be interpolated by inspection. If the *Latitude of Departure* differs by the maximum of 2½° from that on which the table is based, the error in the result will not exceed 3 miles up to a *Change of Longitude* of 50°, but may reach 6 miles for a change of 70°, and 12 miles for a change of 90°.

Example.—Required the difference in distance between the Rhumb Line track and the Great Circle track from Boston (Lat. 42° 21' N., Long. 71° 03' W.) to Lisbon (Lat. 38° 42' N., Long. 9° 08' W.).

Entering the argument column on the left with the *Latitude of Destination* of 38° 42' N., and interpolating by inspection for the *Change of Longitude* of 61° 55', it will be seen that the difference in distance is about 60 nautical miles.

**V.—DIFFERENCE BETWEEN RHUMB LINE
AND GREAT CIRCLE DISTANCES**

N. 45°-49°

S. 45°-49°

Latitude of Destination	Change of Longitude						Latitude of Destination
	5° 10° 15°	20° 25° 30°	35° 40° 45°	50° 55° 60°	65° 70° 75°	80° 85° 90°	
N. 60°	0 1 2	3 6 10	15 22 30	41 53 69	87 109 134	162 195 232	S. 60°
55	0 0 1	3 5 9	13 20 28	38 51 66	84 105 130	159 192 229	55
50	0 0 1	2 5 8	13 19 27	37 49 64	82 103 127	156 188 226	50
45	0 0 1	2 4 8	12 18 26	35 47 62	79 100 124	152 184 221	45
40	0 0 1	2 4 8	12 18 25	35 46 60	77 97 121	148 179 215	40
N. 35	0 0 1	3 5 8	12 18 25	34 45 59	75 94 117	143 173 208	S. 35
30	0 1 1	3 5 8	12 17 24	33 44 57	72 91 112	137 167 200	30
25	0 1 2	3 5 8	12 17 24	32 42 55	69 87 107	131 159 191	25
20	0 1 2	3 5 8	12 17 23	31 40 52	66 82 101	124 150 180	20
15	0 1 2	3 5 8	12 16 22	30 39 49	62 77 95	116 140 168	15
N. 10	0 1 2	3 5 8	11 16 21	28 36 46	58 72 88	108 130 156	S. 10
N. 5	0 1 2	3 5 7	11 15 20	26 34 43	53 66 81	99 119 142	S. 5
0	0 1 2	3 5 7	10 14 18	24 31 39	49 60 73	89 107 128	0
S. 5	0 1 1	3 4 6	9 13 17	22 28 35	43 54 65	79 95 114	N. 5
10	0 1 1	2 4 6	8 11 15	19 25 31	38 47 57	69 83 99	10
S. 15	0 1 1	2 3 5	7 10 13	17 21 27	33 41 49	59 71 85	N. 15
20	0 0 1	2 3 4	6 9 11	14 18 23	28 34 42	50 60 71	20
25	0 0 1	2 3 4	5 7 10	12 16 19	24 29 35	42 49 58	25
30	0 0 1	1 2 3	5 6 8	10 13 16	20 24 29	34 41 48	30
35	0 0 1	1 2 3	4 6 7	9 11 14	17 21 24	29 34 40	35
S. 40	0 0 1	1 2 3	4 5 7	8 10 13	16 19 22	26 30 35	N. 40
45	0 0 1	1 2 3	4 5 7	9 11 13	16 19 22	26 30 35	45
50	0 0 1	2 2 3	5 6 8	10 13 16	19 22 26	30 35 41	50
55	0 0 1	2 3 5	6 8 11	13 17 20	24 29 34	40 46 53	55
S. 60	0 1 2	3 4 6	8 11 15	18 23 28	33 40 47	55 63 73	N. 60

This table gives the difference, in nautical miles, between the distance from one place to another by the Rhumb Line track and the distance by the Great Circle track. It is based on a *Latitude of Departure* of 47°, but may be used for any place of departure between latitudes 45° and 49°. Of the two argument columns headed *Latitude of Destination*, the one on the left is to be used when the place of departure lies between N. 45° and N. 49°, and the one on the right when the place of departure lies between S. 45° and S. 49°.

The table is intended to give only the approximate difference of distance between the two tracks. For intermediate values of the arguments *Latitude of Destination* and *Change of Longitude*, the figures in the table should be interpolated by inspection. If the *Latitude of Departure* differs by the maximum of 2½° from that on which the table is based, the error in the result will not exceed 3 miles up to a *Change of Longitude* of 50°, but may reach 7 miles for a change of 70°, and 13 miles for a change of 90°.

Example.—Required the difference in distance between the Rhumb Line track and the Great Circle track from Quebec (Lat. 46° 48' N., Long. 71° 13' W.) to London (Lat. 51° 32' N., Long. 0° 05' W.).

Entering the argument column on the left with the *Latitude of Destination* of 51° 32' N., and interpolating by inspection for the *Change of Longitude* of 71° 08', it will be seen that the difference in distance is about 110 nautical miles.

**V.—DIFFERENCE BETWEEN RHUMB LINE
AND GREAT CIRCLE DISTANCES**

N. 50°-54°

S. 50°-54°

Latitude of Destination	Change of Longitude																		Latitude of Destination
	5° 10° 15°	20° 25° 30°	35° 40° 45°	50° 55° 60°	65° 70° 75°	80° 85° 90°													
N. 60°	0 1 1	3 5 9	14 20 28	39 51 66	84 105 130	158 190 226	S. 60°												
55	0 0 1	2 5 8	13 19 27	37 50 65	83 105 129	158 190 227	55												
50	0 0 1	2 5 8	13 19 27	37 50 65	83 104 129	158 190 228	50												
45	0 0 1	3 5 8	13 19 27	37 50 65	82 104 128	157 189 227	45												
40	0 1 1	3 5 9	13 19 27	37 50 64	82 103 127	155 187 224	40												
N. 35	0 1 2	3 6 9	14 20 28	37 49 64	81 101 125	153 184 221	S. 35												
30	0 1 2	4 6 10	14 20 28	37 49 63	80 100 123	149 180 216	30												
25	0 1 2	4 6 10	14 20 28	37 48 62	78 97 119	145 175 209	25												
20	0 1 2	4 7 10	15 20 28	37 47 60	76 94 115	140 168 201	20												
15	0 1 2	4 7 10	14 20 27	36 46 58	73 90 110	134 160 191	15												
N. 10	0 1 2	4 7 10	14 20 26	34 44 56	69 86 104	126 152 181	S. 10												
N. 5	0 1 2	4 6 10	14 19 25	33 42 53	65 80 98	118 142 169	S. 5												
0	0 1 2	4 6 9	13 18 24	31 39 49	61 75 91	109 131 156	0												
S. 5	0 1 2	4 6 9	12 17 22	28 36 45	56 68 83	100 119 142	N. 5												
10	0 1 2	3 5 8	11 15 20	26 33 41	50 62 75	90 107 127	10												
S. 15	0 1 2	3 5 7	10 14 18	23 29 37	45 55 66	79 95 112	N. 15												
20	0 1 2	3 4 6	9 12 16	21 26 32	40 48 58	69 82 98	20												
25	0 1 1	2 4 6	8 11 14	18 23 28	34 41 50	59 71 83	25												
30	0 1 1	2 3 5	7 9 12	15 20 24	29 35 42	50 60 70	30												
35	0 0 1	2 3 4	6 8 11	14 17 21	25 30 36	43 50 59	35												
S. 40	0 0 1	2 3 4	6 7 10	12 15 18	22 26 31	37 43 50	N. 40												
45	0 0 1	2 3 4	5 7 9	11 14 17	21 24 29	34 39 45	45												
50	0 0 1	2 3 4	5 7 9	12 14 18	21 25 29	34 40 45	50												
55	0 1 1	2 3 5	6 8 11	14 17 20	24 29 34	39 45 52	55												
S. 60	0 1 1	3 4 6	8 11 14	17 21 26	31 37 43	50 58 66	N. 60												

This table gives the difference, in nautical miles, between the distance from one place to another by the Rhumb Line track and the distance by the Great Circle track. It is based on a *Latitude of Departure* of 52°, but may be used for any place of departure between latitudes 50° and 54°. Of the two argument columns headed *Latitude of Destination*, the one on the left is to be used when the place of departure lies between N. 50° and N. 54°, and the one on the right when the place of departure lies between S. 50° and S. 54°.

The table is intended to give only the approximate difference of distance between the two tracks. For intermediate values of the arguments *Latitude of Destination* and *Change of Longitude*, the figures in the table should be interpolated by inspection, but if the *Latitude of Departure* differs by its maximum of 2½° from that on which the table is based, the result may be in error by as much as 10 per cent.

Example.—Required the difference in distance between the Rhumb line track and the Great Circle track from London (Lat. 51° 32' N., Long. 0° 05' W.) to Quebec (Lat. 46° 48' N., Long. 71° 13' W.).

Entering the argument column on the left with the *Latitude of Destination* of 46° 48' N., and interpolating by inspection for the *Change of Longitude* of 71° 08', it will be seen that the difference in distance is about 110 nautical miles.

**V.—DIFFERENCE BETWEEN RHUMB LINE
AND GREAT CIRCLE DISTANCES**

N. 55°-59°

S. 55°-59°

Latitude of Destination	Change of Longitude																		Latitude of Destination
	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	
N. 60°	0	0	1	2	5	8	13	19	27	37	49	64	81	102	126	153	185	220	S. 60°
55	0	0	1	2	5	8	13	19	27	37	50	65	83	104	128	156	188	225	55
50	0	0	1	3	5	9	13	20	28	38	51	66	84	106	130	159	192	229	50
45	0	1	2	3	6	9	14	21	29	40	52	68	86	107	132	161	194	231	45
40	0	1	2	4	6	10	15	22	30	41	54	69	87	109	133	162	195	233	40
N. 35°	0	1	2	4	7	11	16	23	31	42	55	70	88	109	134	162	195	232	S. 35°
30	0	1	2	5	8	12	17	24	32	43	55	70	88	109	133	162	194	230	30
25	0	1	3	5	8	12	17	24	33	43	55	70	88	108	132	159	191	227	25
20	0	1	3	5	8	12	18	24	33	43	55	70	87	106	130	156	187	222	20
15	0	1	3	5	8	12	18	24	33	42	54	68	85	104	126	152	181	215	15
N. 10°	0	1	3	5	8	12	18	24	32	41	53	66	82	100	122	146	174	206	S. 10°
N. 5°	0	1	3	5	8	12	17	23	31	40	51	64	79	96	116	139	166	196	S. 5°
0	0	1	3	5	8	12	17	23	30	38	48	60	74	91	110	131	156	185	0
S. 5°	0	1	3	5	8	11	16	21	28	36	46	57	70	85	102	123	146	172	N. 5°
10	0	1	3	5	7	11	15	20	26	34	42	53	65	79	95	113	134	159	10
S. 15°	0	1	2	4	7	10	14	19	24	31	39	48	59	72	86	103	122	144	N. 15°
20	0	1	2	4	6	9	13	17	22	28	35	44	53	65	78	92	109	129	20
25	0	1	2	4	6	8	11	15	20	25	32	39	48	57	69	82	97	114	25
30	0	1	2	3	5	7	10	14	18	22	28	34	42	50	60	71	84	99	30
35	0	1	2	3	4	6	9	12	16	20	24	30	36	44	52	62	72	85	35
S. 40°	0	1	1	2	4	6	8	11	14	17	22	26	32	38	45	53	62	72	N. 40°
45	0	1	1	2	4	5	7	10	12	16	19	24	28	34	40	47	54	63	45
50	0	1	1	2	3	5	7	9	12	15	18	22	27	31	37	43	50	57	50
55	0	1	1	2	4	5	7	10	12	15	19	23	27	32	38	44	50	57	55
S. 60°	0	1	1	3	4	6	8	11	14	18	21	26	31	36	43	49	57	65	N. 60°

This table gives the difference, in nautical miles, between the distance from one place to another by the Rhumb Line track and the distance by the Great Circle track. It is based on a *Latitude of Departure* of 57°, but may be used for any place of departure between latitudes 55° and 59°. Of the two argument columns headed *Latitude of Destination*, the one on the left is to be used when the place of departure lies between N. 55° and N. 59°, and the one on the right when the place of departure lies between S. 55° and S. 59°.

The table is intended to give only the approximate difference of distance between the two tracks. For intermediate values of the arguments *Latitude of Destination* and *Change of Longitude*, the figures in the table should be interpolated by inspection. If the *Latitude of Departure* differs by the maximum of 2½° from that on which the table is based, the error in the result will not exceed 4 miles up to a *Change of Longitude* of 50°, but may reach 9 miles for a change of 70°, and 16 miles for a change of 90°.

Example.—Required the difference in distance between the Rhumb Line track and the Great Circle track from Aberdeen (Lat. 57° 08' N., Long. 2° 05' W.) to Karachi (Lat. 24° 53' N., Long. 66° 57' E.).

Entering the argument column on the left with the *Latitude of Destination* of 24° 53' N., and interpolating by inspection for the *Change of Longitude* of 69° 02', it will be seen that the difference in distance is about 104 nautical miles.

**V.—DIFFERENCE BETWEEN RHUMB LINE
AND GREAT CIRCLE DISTANCES**

N. 60°-64° **S. 60°-64°**

Latitude of Destination	Change of Longitude																		Latitude of Destination
	5° 10° 15°	20° 25° 30°	35° 40° 45°	50° 55° 60°	65° 70° 75°	80° 85° 90°													
N. 60°	0 0 1	2 4 8	12 18 26	36 48 62	79 99 122	148 178 212	S. 60°												
55	0 0 1	3 5 9	13 20 28	38 50 65	83 103 127	154 186 221	55												
50	0 1 2	3 6 10	15 21 30	40 53 68	86 108 132	160 192 229	50												
45	0 1 2	4 7 11	16 23 32	43 56 71	90 111 137	165 198 235	45												
40	0 1 2	5 8 12	18 25 34	45 58 74	93 115 140	169 202 240	40												
N. 35	0 1 3	5 9 13	19 26 36	47 60 76	95 117 143	172 205 243	S. 35												
30	0 1 3	6 9 14	20 28 37	48 62 78	97 119 144	174 207 245	30												
25	0 1 3	6 10 15	21 29 38	49 63 79	98 120 145	174 207 244	25												
20	0 2 3	6 10 15	21 29 39	50 63 79	98 120 144	173 205 242	20												
15	0 2 4	6 10 15	22 29 39	50 63 79	97 118 143	170 202 238	15												
N. 10	0 2 4	6 10 15	22 29 38	50 62 78	96 116 140	167 197 232	S. 10												
N. 5	0 2 4	6 10 15	21 29 38	49 61 76	93 113 136	162 191 225	S. 5												
0	0 2 4	6 10 15	21 28 37	47 59 73	90 109 130	155 184 216	0												
S. 5	0 2 3	6 10 14	20 27 35	45 57 70	86 104 124	148 174 205	N. 5												
10	0 1 3	6 9 14	19 26 34	43 54 66	81 98 117	139 164 193	10												
S. 15	0 1 3	6 9 13	18 24 32	40 50 62	76 91 109	129 153 179	N. 15												
20	0 1 3	5 8 12	17 23 29	37 47 57	70 84 100	119 140 165	20												
25	0 1 3	5 8 11	16 21 27	34 43 52	64 77 91	108 127 149	25												
30	0 1 2	4 7 10	14 19 24	31 39 47	57 69 82	97 114 133	30												
35	0 1 2	4 6 9	13 17 22	28 34 42	51 61 73	86 101 117	35												
S. 40	0 1 2	4 6 8	11 15 20	25 31 37	45 54 64	75 88 102	N. 40												
45	0 1 2	3 5 7	10 14 18	22 27 33	40 47 56	66 77 89	45												
50	0 1 2	3 5 7	9 12 16	20 25 30	36 43 50	58 68 78	50												
55	0 1 2	3 4 7	9 12 15	19 23 28	34 40 47	54 62 72	55												
S. 60	0 1 2	3 5 7	9 12 16	20 24 29	34 40 47	54 63 71	N. 60												

This table gives the difference, in nautical miles, between the distance from one place to another by the Rhumb Line track and the distance by the Great Circle track. It is based on a *Latitude of Departure* of 62°, but may be used for any place of departure between latitudes 60° and 64°. Of the two argument columns headed *Latitude of Destination*, the one on the left is to be used when the place of departure lies between N. 60° and N. 64°, and the one on the right when the place of departure lies between S. 60° and S. 64°.

The table is intended to give only the approximate difference of distance between the two tracks. For intermediate values of the arguments *Latitude of Destination* and *Change of Longitude*, the figures in the table should be interpolated by inspection. If the *Latitude of Departure* differs by the maximum of 2½° from that on which the table is based, the error in the result will not exceed 5 miles up to a *Change of Longitude* of 50°, but may reach 10 miles for a change of 70°, and 18 miles for a change of 90°.

Example.—Required the difference in distance between the Rhumb Line track and the Great Circle track from Thorshavn, Faroe Islands (Lat. 62° 00' N., Long. 6° 50' W.) to New Orleans (Lat. 29° 40' N., Long. 90° 00' W.).

Entering the argument column on the left with the *Latitude of Destination* of 29° 40' N., and interpolating by inspection for the *Change of Longitude* of 83° 10', it will be seen that the difference in distance is about 200 nautical miles.

**V.—DIFFERENCE BETWEEN RHUMB LINE
AND GREAT CIRCLE DISTANCES**

N. 65°-69° **S. 65°-69°**

Latitude of Destination	Change of Longitude																		Latitude of Destination
	5° 10° 15°	20° 25° 30°	35° 40° 45°	50° 55° 60°	65° 70° 75°	80° 85° 90°													
N. 60°	0 1 1	3 5 8	13 19 26	36 47 61	77 96 118	143 172 204	S. 60°												
55	0 1 2	4 6 10	15 21 29	39 51 66	83 103 126	153 183 217	55												
50	0 1 2	4 7 11	17 24 32	43 56 71	89 110 134	162 193 228	50												
45	0 1 3	5 9 13	19 26 35	47 60 76	94 116 141	169 202 238	45												
40	0 1 3	6 10 14	21 28 38	50 64 80	99 121 147	176 209 246	40												
N. 35	0 2 4	6 10 16	22 30 40	52 67 84	103 126 152	181 215 253	S. 35												
30	0 2 4	7 11 17	24 32 42	55 69 86	106 129 156	185 219 257	30												
25	0 2 4	7 12 17	25 33 44	56 71 88	109 132 158	188 222 260	25												
20	0 2 4	8 12 18	25 34 45	58 72 90	110 133 159	189 223 261	20												
15	0 2 4	8 13 18	26 35 46	58 73 90	110 133 159	189 223 261	15												
N. 10	0 2 4	8 13 19	26 35 46	58 73 90	110 132 158	188 221 258	S. 10												
N. 5	0 2 4	8 13 19	26 35 45	58 72 89	108 131 156	184 217 253	S. 5												
0	0 2 4	8 13 18	26 34 45	57 71 87	106 128 152	180 211 247	0												
S. 5	0 2 4	8 12 18	25 34 44	55 69 85	103 124 147	174 204 239	N. 5												
10	0 2 4	8 12 18	24 32 42	53 67 82	99 119 141	167 196 229	10												
S. 15	0 2 4	7 11 17	23 31 40	51 64 78	94 113 134	159 186 217	N. 15												
20	0 2 4	7 11 16	22 29 38	48 60 73	89 107 127	149 175 204	20												
25	0 2 4	6 10 15	21 28 36	45 56 69	83 99 118	139 162 189	25												
30	0 1 3	6 10 14	19 26 33	42 52 63	76 91 108	127 149 173	30												
35	0 1 3	6 9 13	18 23 30	38 47 58	70 83 98	116 135 157	35												
S. 40	0 1 3	5 8 12	16 21 27	34 43 52	63 75 88	104 121 140	N. 40												
45	0 1 3	5 7 10	14 19 25	31 38 47	56 66 78	92 107 124	45												
50	0 1 2	4 7 9	13 17 22	28 34 42	50 59 70	81 94 109	50												
55	0 1 2	4 6 9	12 16 20	25 31 38	45 53 62	72 84 96	55												
S. 60	0 1 2	4 6 8	11 15 19	24 29 35	42 50 58	67 77 88	N. 60												

This table gives the difference, in nautical miles, between the distance from one place to another by the Rhumb Line track and the distance by the Great Circle track. It is based on a *Latitude of Departure* of 67°, but may be used for any place of departure between latitudes 65° and 69°. Of the two argument columns headed *Latitude of Destination*, the one on the left is to be used when the place of departure lies between N. 65° and N. 69°, and the one on the right when the place of departure lies between S. 65° and S. 69°.

The table is intended to give only the approximate difference of distance between the two tracks. For intermediate values of the arguments *Latitude of Destination* and *Change of Longitude*, the figures in the table should be interpolated by inspection. If the *Latitude of Departure* differs by the maximum of 2½° from that on which the table is based, the error in the result will not exceed 6 miles up to a *Change of Longitude* of 50°, but may reach 12 miles for a change of 70°, and 20 miles for a change of 90°.

Example.—Required the difference in distance between the Rhumb Line track and the Great Circle track from Obdorsk (Lat. 66° 30' N., Long. 67° 20' E.) to Lerwick (Lat. 60° 10' N., Long. 1° 10' W.).

Entering the argument column on the left with the *Latitude of Destination* of 60° 10' N., and interpolating by inspection for the *Change of Longitude* of 68° 30', it will be seen that the difference in distance is about 90 nautical miles.