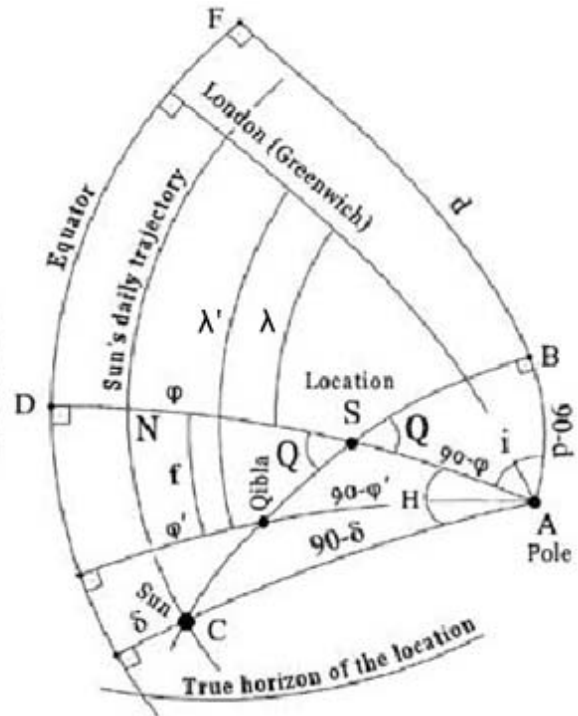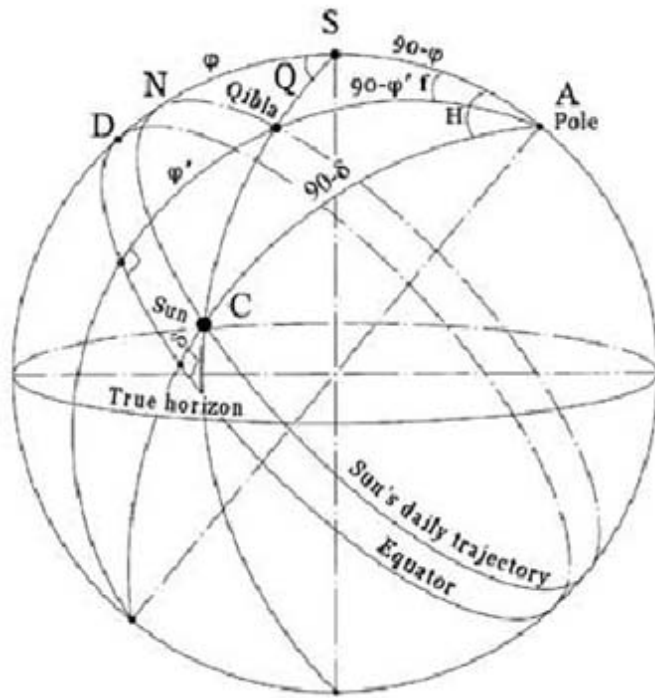# ISTIQBÂL-I QIBLA

It means to perform namâz towards the Qibla; it does not mean to perform it for the Qibla. Formerly the Qibla used to be Quds (Jerusalem). Seventeen months after the Hegira, at the third rak'at of the early afternoon or late afternoon prayer of a Tuesday in the middle of Sha'bân, Muslims were commanded to turn towards Ka'ba. According to Hanafî and Mâlikî Madhhabs, namâz will be sahîh if the opening between the crosswise directions of the optic nerves includes Ka'ba. This angle is approximately 45°. Istanbul's Qibla direction is approximately 29° east of south. This angle is called the **angle of Qibla**. The straight line drawn on a map and running between a certain city and the blessed city of Mekka is termed the **khatt-i-Qibla** (line of Qibla) of that city. This line indicates the direction of Qibla. The time when the Sun is overhead (an observer imagined to be standing on) this line is the **Qibla hour** (at that location). The angle between this line and the longitudinal circle of that city is the **angle of Qibla**. A city's Qibla direction depends on its longitude and latitude. In the northern hemisphere, the south is approximately the direction to the Sun at zawâl or, when the face of a clock adjusted to the local zawalî time is held horizontally towards the sky and its hour-hand towards the sun, bisector of the angle between the hour-hand and number twelve. The nearer the declination of the Sun and the equation of time to zero, the more precise is the result. Istanbul's Qibla direction can be determined by using one of the following two elements: 1- By using the angle of Qibla. 2- By using the Qibla hour. 1- If you first face due south by aligning yourself with the circle of longitude overhead your location and then turn eastwards by the angle of Qibla, the direction you will be facing now is the Qibla. Angle Q is calculated as follows: Longitude of the blessed city of Mekka from Greenwich is, λ'=39°50' or 39.83° and its latitude is φ'=21°26' or 21.43°. Since Istanbul's longitude is λ=29° and its latitude is φ=41°, the difference between their longitudes is f = 10°50' or 10.83°, and the difference between their latitudes is 19°34' or 19.57°. If Istanbul's approximate angle of Qibla, as measured from the direction of south, is, say, Q, the following, obtained utilizing the geometrical explanation in the book **Ma'rifatnâma**.

$$\tan Q = \frac{\sin(39{,}83° - \lambda)}{\sin(\varphi - 21{,}43°)} = \frac{\sin 10.83°}{\sin 19.57°} = \frac{0{,}18795}{0{,}33490} = 0{,}56121$$

$$\therefore Q = 29° 18'$$

Note: Since the difference, f, between the longitudes of Istanbul and Mekka mukarrama is less than 60°, Q is almost the same as the result obtained with the following exact formula. If f is greater than 120°, Q can be found using (longitude -140.17° and latitude -21.43°) for the place symmetrical to Mekka with respect to the center of the earth by means of the approximate formula. By subtracting the result from 180°, Q is found.

S= The point where the plumb-line of the location intersects the earth's surface; N= Point of Zawâl, when the sun is at culmination. AN represents the meridian.

The following formula based on the spherical triangle yields the exact angle of Qibla.

$$\tan Q = \frac{\sin(39{,}83° - \lambda)}{\cos(39{,}83° - \lambda)\,.\,\sin \varphi - 0{,}3925\,.\,\cos \varphi}$$

where λ and φ are the longitude and latitude, respectively, of the location for which Q is to be found. The sign of λ is (+) in the east, and (-) in the west of Greenwich (London). φ is (+) in the northern hemisphere, and (-) in the southern hemisphere. The Q found is the angle between the two directions from that location, one to the south and the other to the qibla (Mekka).

To find the direction of Qibla, we turn Q degrees from the geographical south of the earth divided into two regions by the great circle passing through Mekka (λ'= 39.83°) and through its symmetrical point (-140.17°), to the west at locations to the east of the Qibla and vice versa at locations to its west. The Q found with this formula should have a (+) sign for the eastern regions and (-) sign for the western regions. In case of opposite results, the angle of Qibla is found by adding (+ 180°) or (-180°). For example, for Karachi with λ =67°, φ=25°, the following keys are depressed on a CASIO calculator:

39.83-67 = cos x 25 sin - 25 cos x 0.3925 = Min 39.83 - 67 = sin ÷ MR = INV tan

Hence Q is obtained as -87° 27' for Karachi.

Q for is Istanbul +28° 21', (which may be rounded up to +29°.)

In the following, some Q values calculated by the exact and (approximate) formulas are given. The last three values are obtained by the symmetrical approach:

Munich　　: 50° (47°)　　　　　　　　　Tokyo　　: 113° (130°)

2

London   : 61° (52°)   New York : 122° (134°)
Basel   : 56° (50°)   Kumasi   : 115° (125°)
Frankfurt : 52° (47°)

2 - Finding the Qibla direction in Istanbul by way of the city's Qibla hour in the figure on the right hand side of the previous page, the point B is the point at which the Qibla direction CS is perpendicular to a declination circle or meridian AB. In the right angled spherical triangle ABS, using the Napier equations, cos (90°-φ) = cot i x cot Q, and as tan A x cot A=1, sin φ = (1/tan i) x (1/tan Q). Hence, tan i = 1 / (sin φ x tan Q). For example, on February 2, if the keys E/C 1 ÷ 41 sin÷ 28.21 ⌨→ tan = arc tan are depressed, we obtain i=70.5°. The equation i=70.5° is constant for Istanbul. In the right angled spherical triangle ABC, cos(i+H) = tan δ x cot d. In the triangle ABS, cos i = tan φ x cot d and, therefore, cot d = cos i / tan φ, and hence, cos(i+H) = tan δ x cos i ÷ tan φ . Keying in E/C 16.58 ⌨→ +/- tan x 70.5 cos ÷ 41 tan=arc cos -70.5=÷15= →⌨, the hour angle H, i.e., the arc CN, is obtained as 1 hour 45 minutes. Kadûsî notes in his annotation to Rub'-i-dâira: "The cursor set (for the date), when moved to the line of qibla, the complement of the angle indicated by the string on the arc of altitude is the supplement of the hour angle of İstanbul's time of Qibla. When it is divided by 15, the result is the hour angle H." The daily standard **time of Qibla** at which the Sun is on the direction of Qibla of a given location can be calculated by subtracting from 12:00 hours the time corresponding to the hour angle and combining the result with the Equation of Time and the difference of longitude from the Standard Meridian. In the example given above, (the standard time of Qibla) is 10 hr 33 min. The adhânî Qibla time is calculated to be 5 hr 6 min by subtracting the time corresponding to the hour angle and one Temkin from the time of dhuhr-i-adhânî (the adhânî time for early afternoon prayer). If you turn to the Sun at this time, you will face the Qibla. If the Qibla is to the east of the south, the Sun is also in the east, the time is before noon, and the H in the time equation will have a (-) sign. δ=the sun's declination. When δ = φ' (of Mekka) = 21.43°, the Sun will be exactly overhead the Ka'ba, which takes place twice a year. Anyone who turns towards the Sun at this time, (at the time of Qibla, that is,) regardless of their location worldover, will at the same time have turned in the direction of the Qibla.

Ahmed Ziyâ Begh found Q=29° for Istanbul by taking somewhat higher values for the longitudes and latitudes and using tables of logarithms of trigonometric functions. The mihrâb of the mosque at the Kandilli quay in Istanbul was calculated by him in this way during the restoration of the mosque.

By turning approximately thirty-one degrees eastward from the direction of south found by a compass, Qibla will be faced in Istanbul. However, the needle of a compass points to magnetic poles, which, in fact, are not the poles of the Earth's axis. And the locations of magnetic poles change in the course of time. They complete one rotation around true poles in a period of some six hundred years. The angle between the magnetic direction and the true polar direction is called the **magnetic declination**. Every location has a different angle of declination. There are populated areas where the needle of the compass even deviates 30° from the south to the east (+) or to the west (-). And a place's angle of declination changes yearly. Then, if the direction **of Qibla** is found with a compass, the angle of magnetic declination has to be added to or subtracted from the angle of Qibla. Istanbul's angle of magnetic declination is approximately +3°. When we turn eastward for 28° +3°=31° from the south direction found with a compass in Istanbul, we will face the Qibla.

If the south direction is found with the help of the Pole-Star or with a clock or by means of the **meridian line** drawn on the ground, it is not necessary to add the angle of declination to the angle of Qibla. The direction of Qibla is found by turning 29° eastward (from south) in Istanbul. For doing this you place your clock (or watch) on a table horizontally and turn the figure 6 towards south. When the minute-hand is moved to the position over 5 it points to the Qibla.

It is permissible, even when performing a namâz that is fard, to deviate from the direction of Qibla when there is the fear of illness, enemy or thieves, or by mistake, but it is a must to turn towards the Qibla when performing it on a ship or train.

A musâfir travelling on a ship or train must begin the fard namâz standing towards the Qibla and put a compass somewhere near the place he will prostrate. He must turn towards the Qibla as the ship or train changes direction. Or someone else should make him turn right or left. If his chest deviates from the Qibla when performing the namâz, his namâz becomes nullified. For a ship or a train is like one's own home. It is not like an animal. Since the fard namâz of those who cannot turn toward the Qibla on buses, on trains, on ships when the sea is rough will not be acceptable, they can imitate Shâfi'î Madhhab as long as they travel, and perform the late afternoon prayer together with the early afternoon prayer and the night prayer together with the evening prayer, one immediately after the other. Likewise, if a person in Hanafî Madhhab will not be able to turn towards the Qibla on the way after starting the journey, he must perform the late afternoon prayer immediately after performing the early afternoon prayer at the time of the early afternoon prayer when they halt somewhere for some time during the day, and perform the evening prayer and the night prayer together at the time of the night prayer when they halt somewhere during the night, and when intending to start each of those four prayers he must intend, that is, pass through his heart the thought: "I am performing it by imitating Shâfi'î Madhhab." According to Shâfi'î and Mâlikî Madhhabs, when a travelling person goes to his hometown or to a place where he intends to stay more than three days excluding the days when he enters and goes out of the city, or when he stays more than eighteen days at a place where he went for some business which he thought would take him less than four days, he becomes muqîm (settled). As he leaves the place he will not become safarî unless he intends to travel to a place at a distance of not less than 80 km. Hadrat Ibni Hajar-i Makkî states in his book **Fatâwâ-i Fiqhiyya:** "If a travelling (safarî) person postpones his early afternoon prayer in order to perform it together with his late afternoon prayer but becomes muqîm (settled) after the time for early afternoon prayer is over before he performs his early afternoon prayer, he makes qadâ of his early afternoon prayer (performs it) first. He does not become sinful for having postponed his early afternoon prayer until its time is over. Anyone who imitates Mâlikî or Shâfi'î Madhhab because he has a crowned or filled tooth in his mouth, must not make qasr (shorten) the fard prayers where he stays more than three and less than fifteen days; he must perform all four rak'ats of those prayers. Otherwise, his fard prayers which he performs as two rak'ats will not be sahîh according to the Mâlikî and Shâfi'î Madhhabs. If he prays four rak'ats, it is sahîh, although it is makrûh in the Hanafî. Similarly, one's namâz is sahîh (valid) according to Mâlikî Madhhab if one's skin comes in contact with that of a nâmahram woman or if one's ablution (wudu') is broken during namâz. As is written in the final paragraph of the fourth chapter, this person cannot combine (perform by jem') his prayers where he stays as safarî (traveller) unless there is a haraj.

Although it is not permissible to determine the beginning of Ramadân-i sherîf beforehand by using calendars or by calculation, it is permissible to find the direction of the Qibla by calculation, pole star [compass], etc. or to ascertain the prayer times by using a calendar prepared by astronomical calculations. For, though they will not be found out

accurately by sole calculation or instrumental observation and analysis, they will be guessed strongly. Finding out the Qibla or prayer times by strong conviction is permissible.

At places where there is no mihrâb and where the Qibla cannot be found by calculation or with the help of the Pole-Star [a compass], true Muslims who know which direction the Qibla is must be consulted. We should not ask disbelievers, fâsiqs, or children. Disbelievers and fâsiqs can be believed in mu'amalât (business transactions and social dealings), but not in diyânât [worships]. When you have no one with you who knows about the Qibla, you need not look for one. You must search for it yourself and then perform namâz towards the direction you have decided to be the Qibla. If later you find out that it was the wrong direction you do not have to perform the namâz again.

The Qibla is not the building of Ka'ba; it is its building plot. That is, that space from the Earth to the 'Arsh is the Qibla. For this reason, a person who is down in a well, [under the sea], on top of a high mountain [or on a plane] can perform namâz in that direction. [For being a hadji a Muslim visits not the building of Ka'ba but its building plot. He who visits another place cannot become a hadji].

Hadrat Ibni Hajar-i Makkî says in his book **Fatâwâ-i-fiqhiyya:** "It is not permissible to change today's shape of the building of Ka'ba. It is harâm. Today's building was constructed by Hajjâj. When the Khalîfa Hârûn-ur-Rashîd wanted to have it changed in order to put it in the right shape given by Abdullah Ibni Zubayr, Imâm-i Mâlik 'rahmatullâhi ta'âlâ 'alaih' dissuaded him, saying, "If from now on anybody changes it, it is wâjib for us to demolish the changes, provided we will not cause fitna or give damage to the original building. Otherwise it is not wâjib."

If you are ill or when there is the danger that your belongings may be stolen or it may cause the ship you are on board to sink or if there is the danger of a wild animal or of being seen by the enemy or if you will not be able to mount your animal without help in case you get down from it or if your companions will not wait for you in case you make your animal stand towards the Qibla, you combine (jem') two salâts. If jem' is impossible, you perform even the fard namâz standing toward any direction you can manage, and do not perform it again later. For, you have not caused these excuses yourself, but they have happened willy-nilly. If a person who does not know the direction of Qibla performs namâz without looking at the mihrâb or asking someone who knows or trying to find out, his namâz will not be accepted even if he has found the Qibla by chance. But if he finds out after the namâz that he has found the right direction it will be accepted. If he finds it out during the namâz it will not be accepted. If he has inquired for the Qibla but has not performed the namâz in the direction which he has decided to be right, he has to perform it again even if he understands that he has found the right direction by chance. Likewise, a person who performs namâz though he thinks that he does not have an ablution, that his clothes are najs, or that it is not prayer time yet, and who finds out later that his thought has not been correct, performs the namâz again.

[To determine the direction of Qibla, a rod is erected at a place taking sunlight. Or a key or piece of stone is tied to the end of a piece of string and let to hang loosely. At (the time of Qibla) read on the daily calendar, the shadow of the rod or the string shows the direction of Qibla, as the Sun is overhead the direction of Qibla. The Sun is on the Qibla side of the shadow.]

Thy love has infatuated me;
O my Allah, I love Thee!
Thy love is so sweet, really;
O my Allah, I love Thee!

Neither wealth pleaseth me,
Nor do I worry about property.
Thy love, alone, makes me happy;
O my Allah, I love Thee!

Thou hast commanded us to pray,
And advised to keep in the right way.
Thine blessings to enjoy in endless way.
O my Allah, I love Thee!

The nafs I have is so teacherous;
Poor me, with this being so lecherous!
I've found the real delight, so gorgeous:
O my Allah, I love Thee!

Doing the prayers properly,
And also earning the worldly,
Is what I do daily and nightly.
O my Allah, I love Thee!

Love is not only words, O Hilmi!
Thy Allah commandeth drudgery;
Let your manners testify to thee;
O my Allah, I love Thee!

Islam's enemies are so many,
Attacking the religion insidiously;
How could one ever sit idly!
O my Allah, I love Thee!

A lover simply will not sit lazily,
Lest his darling should be hurt slightly.
Silence the enemy, and then say honestly:
O my Allah, I love Thee!

Qibla angles for places with various latitudes and longitudes

Longitudes (in degrees)

West / East longitude columns, left portion (lines 1 and 2 on top; lines 3 and 4 on bottom):

(1)	145	150	155	160	165	170	175	180	175	170	165	160	155	150	145	140	135	Latitudes
(2) 140	135	130	125	120	115	110	105	100	95	90	85	80	75	70	65	60	55	es
	180	175	170	165	161	156	151	146	141	136	131	127	122	117	112	107	102	97	84
	180	175	170	166	161	157	152	147	143	138	133	129	124	119	115	110	105	101	74
	180	175	171	166	161	157	152	147	143	138	134	129	124	120	115	111	106	101	72
	180	175	171	166	161	157	152	147	143	138	134	129	125	120	116	111	107	102	70
	180	175	171	166	161	157	152	148	143	138	134	130	125	121	116	112	107	103	68
	180	175	171	166	161	157	152	148	143	139	134	130	125	121	117	112	108	103	66
	180	175	171	166	161	157	152	148	143	139	134	130	126	121	117	113	108	104	64
	180	175	170	166	161	157	152	148	143	139	134	130	126	121	117	113	109	105	62
	180	175	170	166	161	157	152	148	143	139	134	130	126	122	118	113	109	105	60
	180	175	170	166	161	156	152	147	143	139	134	130	126	122	118	114	110	106	58
	180	175	170	166	161	156	152	147	143	139	134	130	126	122	118	114	110	106	56
	180	175	170	165	161	156	152	147	143	138	134	130	126	122	118	114	111	107	54
	180	175	170	165	161	156	151	147	143	138	134	130	126	122	118	115	111	107	52
	180	175	170	165	160	156	151	147	142	138	134	130	126	122	119	115	111	108	50
	180	175	170	165	160	156	151	147	142	138	134	130	126	122	119	115	112	108	48
	180	175	170	165	160	155	151	146	142	138	134	130	126	122	119	115	112	108	46
	180	175	170	165	160	155	150	146	142	137	133	130	126	122	119	115	112	109	44
	180	176	169	164	159	155	150	146	141	137	133	129	126	122	119	116	112	109	42
	180	175	169	164	159	154	150	145	141	137	133	129	126	122	119	116	113	110	40
	180	174	169	164	159	154	149	145	140	136	133	129	125	122	119	116	113	110	38
	180	174	169	164	158	153	149	144	140	136	132	129	125	122	119	116	113	110	36
	180	174	169	163	158	153	148	144	139	135	132	128	125	122	119	116	113	111	34
	180	174	168	163	157	152	148	143	139	135	131	128	125	122	119	116	113	111	32
	180	174	168	162	157	152	147	142	138	134	131	127	124	121	118	116	113	111	30
	180	174	168	162	156	151	146	142	138	134	130	127	124	121	118	116	113	111	28
	180	173	167	161	156	150	146	141	137	133	130	126	123	121	118	116	113	111	26
	180	173	167	161	155	150	145	140	136	132	129	126	123	120	118	115	113	112	24
	180	173	166	160	154	149	144	139	135	132	128	125	122	120	118	115	113	112	22
	180	173	166	159	153	148	143	138	134	131	127	125	122	119	117	115	113	112	20
	180	172	165	159	153	147	142	137	133	130	127	124	121	119	117	115	113	112	18
	180	172	165	158	152	146	141	136	132	129	126	123	121	119	117	115	113	112	16
	180	172	164	157	150	145	140	135	131	128	125	122	120	118	116	115	113	112	14
	180	171	163	156	149	143	138	134	130	127	124	121	119	117	116	114	113	112	12
	180	171	162	155	148	142	137	133	129	126	123	121	119	117	115	114	113	112	10
	180	170	161	153	146	140	135	131	128	124	122	120	118	116	115	114	113	112	8
	180	170	160	152	145	139	134	130	126	123	121	119	117	116	114	113	112	112	6
	180	169	159	150	143	137	132	128	125	122	120	118	116	115	114	113	112	112	4
	180	168	158	148	141	135	130	126	123	120	118	117	115	114	113	113	112	112	2
(3) 35	30	25	20	15	10	5	0	5	10	15	20	25	30	35	40	45		
(4) 40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	

Right portion:

Latitudes	130	125	120	115	110	105	100	95	90	85	80	75	70	65	60	55	50	45	40
es	50	45	40	35	30	25	20	15	10	5	0	5	10	15	20	25	30	35	
84	92	87	82	77	72	67	62	57	52	47	42	36	31	26	21	16	10	5	0
74	96	91	86	82	77	72	67	61	56	51	45	40	34	29	23	17	12	6	0
72	97	92	87	82	78	73	68	62	57	52	46	41	35	30	24	18	12	6	0
70	97	93	88	83	79	74	69	64	58	53	47	42	36	30	24	18	12	6	0
68	98	94	89	84	80	75	70	65	59	54	49	43	37	31	25	19	13	6	0
66	99	94	90	85	81	76	71	66	61	55	50	44	38	32	26	19	13	6	0
64	100	95	91	86	82	77	72	67	62	57	51	45	39	33	27	20	13	7	0
62	100	96	92	87	83	78	73	68	63	58	52	47	41	34	28	21	14	7	0
60	101	97	93	88	84	79	75	70	65	59	54	48	42	35	29	22	15	7	0
58	102	98	93	89	85	80	76	71	66	61	55	49	43	37	30	23	15	8	0
56	102	98	94	90	86	82	77	72	68	62	57	51	45	38	31	24	16	8	0
54	103	99	95	91	87	83	79	74	69	64	59	53	47	40	33	25	17	8	0
52	103	100	96	92	88	84	80	75	71	66	60	55	48	42	34	26	18	9	0
50	104	100	97	93	89	85	81	77	72	68	62	57	50	43	36	28	19	9	0
48	105	101	98	94	90	87	83	79	74	69	64	59	52	46	38	29	20	10	0
46	105	102	98	95	92	88	84	80	76	71	66	61	55	48	40	31	21	11	0
44	106	102	99	96	93	89	86	82	78	73	69	63	57	50	42	33	23	12	0
42	106	103	100	97	94	90	87	83	80	75	71	66	60	53	45	36	25	13	0
40	107	104	101	98	95	92	89	85	82	78	73	68	63	56	48	39	27	14	0
38	107	104	102	99	96	93	90	87	83	80	76	71	66	59	52	42	30	15	1
36	108	105	102	100	97	94	91	89	85	82	78	74	69	63	55	46	33	17	1
34	108	105	103	101	98	96	93	90	87	84	81	77	72	67	59	50	37	20	1
32	108	106	104	101	99	97	94	92	89	87	83	80	76	71	64	55	42	23	1
30	109	106	104	102	100	98	96	94	91	89	86	83	79	75	69	61	48	28	1
28	109	107	105	103	101	99	97	95	93	91	89	86	83	79	74	67	56	35	1
26	109	107	106	104	102	100	99	97	95	93	91	89	87	84	80	75	65	45	2
24	110	108	106	105	103	102	100	99	97	96	94	92	91	89	86	82	76	61	4
22	110	108	107	105	104	103	101	100	99	98	97	96	94	93	92	90	88	84	16
20	110	109	107	106	105	104	103	102	101	100	99	99	98	98	98	99	101	108	174
18	110	109	108	107	106	105	104	103	103	102	102	102	102	102	104	106	112	128	177
16	111	109	108	108	107	106	105	105	104	105	105	106	107	108	109	113	122	141	178
14	111	110	109	108	108	107	107	106	106	107	107	108	109	111	114	120	130	149	179
12	111	110	109	109	108	108	108	108	108	109	109	110	112	115	119	126	136	155	179
10	111	110	110	109	109	109	109	109	110	110	112	113	115	119	123	131	142	158	179
8	111	110	110	110	110	110	110	111	111	111	112	114	116	118	125	131	146	161	179
6	111	111	111	111	111	111	111	112	113	114	116	118	121	125	131	139	149	164	179
4	111	111	111	111	111	112	112	113	114	116	118	120	124	128	134	142	152	165	179
2	111	111	111	112	112	113	113	114	116	118	120	122	126	131	137	144	154	167	180
(3)	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	135	140
(4)	130	135	140	145	150	155	160	165	170	175	180	175	170	165	160	155	150	145	

Longitudes are printed in rows at the top and bottom of the table in 5° intervals and Latitudes in the middle column in 2° intervals. Longitudes with a dashed line under them are to the west (-) and the rest are to the east (+) of London. Longitudes in the lines 1 and 2 are for the northern and 3 and 4 for the southern hemisphere. The figure on the cross-section of the column including the longitude and the line including the latitude for a place gives the angle of Qibla Q for it. The Qibla will be faced by turning Q degrees from the south to the west for lines (1 and 4) and to the east for lines (2 and 3). These Q angles are measured from the geographical south found by either the Sun or the Pole-star. If the measurement is made with a compass, the magnetic declination (of the location) must be taken into account.