

ASTRONOMICAL EPHEMERIS
of
Geocentric Places of Planets
for
1950

With Tables of Houses for
MADRAS AND BOMBAY.



Indian Standard Time Observed Throughout.

Published by
Shree Jiwaji Observatory, Ujjain,
with the sanction of Education Department.
Madhya Bharat.

Price Rupee One only.

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PREFACE.

The positions of the major planets *viz.* Jupiter, Saturn, Uranus and Neptune were computed from Newcomb and Hill's Tables, while those of the Sun and the remaining planets were calculated from their respective elements. Half-day positions of Moon were taken from Brown's Tables. Owing to some uncertainty in the elements of Pluto, the positions of this planet cannot be strictly correct.

As a precaution against accidental errors the final results were differenced and all the doubtful cases were carefully scrutinised.

It is a pleasure to express my heartfelt thanks to my assistants Messers D. K. Belekar, Purushottam Joshi, Tej Kiran, P. S. Karkhanis, Chavreker and Ramchandra Sharma.

I hope the work will be duly appreciated by the Astronomers in spite of the short comings and slight errors that may inadvertently have crept in.

UJJAIN,
October, 1949.

}

R. V. VAIDYA, M. A, B. T.,
Superintendent,
S. J. Observatory,

Mean Places of Principal Stars on 1st January 1950.

Names.	Stars.	Mag	R.	A.	Decl.	Long.	Lat.
			H.	M.	°	°	°
♈ Andromeda	U. Bhadra	2.1	0	6	+ 28 47	13 33	+ 25 41
♈ Pegasi	U. Bhadra	2.8	0	10	+ 14 53	8 26	+ 12 36
♈ Piscium	Revati.	5.6	1	11	+ 7 17	19 9	- 0 13
♈ Eridani	Achernar.	0.6	1	36	- 57 31	344 35	- 59 23
♈ Polaris	Dhruva.	2.1	1	45	+ 89 0	87 51	+ 66 6
♈ Arietes	Ashvini.	2.7	1	52	+ 20 32	33 15	+ 8 29
♈ Arietes	Ashvini.	2.2	2	4	+ 23 12	36 57	+ 9 58
♈ Arietes	Bharani.	3.7	2	47	+ 27 2	47 29	+ 10 27
♈ Persei	Algol'	Var	3	5	+ 40 45	45 27	+ 22 25
♈ Tauri	Krittika.	3.0	3	44	+ 23 56	59 16	+ 4 3
♈ Tauri	Rohini.	1.1	4	33	+ 16 24	69 4	- 5 28
♈ Orionis	Rigel'	0.3	5	12	- 8 16	76 7	- 31 8
♈ Aurigee	Capella.	0.2	5	13	+ 45 57	81 8	+ 22 52
♈ Orionis	Bellatrix.	1.7	5	22	+ 6 18	80 14	- 16 49
♈ Orionis	Mrigashirsh	4.5	5	32	+ 9 27	82 53	- 13 50
♈ Orionis	Mrig Bana	1.7	5	33	- 1 14	82 45	- 24 31
♈ Orionis	Ardra.	0.9	5	52	+ 7 24	88 2	- 16 2
♈ Carinae	Agastya.	0.9	6	23	- 52 40	104 15	- 75 50
♈ Canis Majori	Vyadha	1.6	6	43	- 16 38	103 22	- 39 36
♈ Geminorum	Castor'	2.0	7	31	+ 32 1	109 31	+ 10 5
♈ Canis Minor	Prashva.	0.5	7	36	+ 5 22	115 5	- 16 0
♈ Geminorum	Punarvasu	1.2	7	42	+ 28 10	112 31	+ 6 41
♈ Cancri	Pushya.	4.1	8	42	+ 18 21	127 60	+ 0 4
♈ Cancri	Ashleha.	4.3	8	55	+ 12 4	132 55	- 5 5
♈ Leonis	Magha.	1.3	10	5	+ 12 4	149 7	+ 0 27
♈ Leonis	Purva.	2.6	11	11	+ 20 49	160 36	+ 14 20
♈ Leonis	Uttara.	2.2	11	46	+ 14 53	170 54	+ 12 16
♈ Corvi	Hasta.	3.1	12	27	- 16 12	192 44	- 12 11
♈ Virginis	Chitra	1.2	13	22	- 10 52	203 7	- 2 3
♈ Bootes	Swati.	0.2	14	13	+ 19 28	203 31	+ 30 46
♈ Libra	Vishakha	2.9	14	48	- 15 49	224 22	+ 0 20
♈ Scorpui	Anuradha.	2.5	15	57	- 22 28	241 51	- 1 59
♈ Scorpui	Jyeshtha.	1.2	16	26	- 26 19	249 3	- 4 34
♈ Scorpui	Mool.	1.7	17	30	- 37 4	263 52	- 13 47
♈ Sagittarus	P. Shadha.	2.8	18	17	- 29 51	273 52	- 6 28
♈ Sagittarus	P. Shadha.	1.9	18	21	- 34 25	274 22	- 11 2
♈ Sagittarus	U. Shadha.	2.1	18	52	- 26 22	281 40	- 3 26
♈ Lyrae	Abnijit.	0.1	18	35	+ 38 44	284 36	+ 61 44
♈ Aquillae	Shravana	0.9	19	48	+ 8 43	301 3	+ 29 18
♈ Delphini	Dhanistha	3.7	20	35	+ 14 24	315 37	+ 31 55
♈ Delphini	Dhanistha	3.8	20	37	+ 15 43	316 40	+ 33 2
♈ Cygni	Deneb.	1.3	20	40	+ 45 5	334 37	+ 59 55
♈ Aquarii	Shatabhij.	3.8	22	50	- 7 52	340 51	- 0 23
♈ Piscis Astr.	Fomalhaut	1.3	22	55	- 29 55	333 8	- 21 8
♈ Pegasi	P. Bhadra	2.6	23	1	+ 27 47	358 39	+ 31 8
♈ Pegasi	P. Bhadra	2.6	23	2	+ 14 55	352 46	+ 19 24

EPHEMERIS

OF
Planets' Places for 1950.

INTRODUCTION.

THE places of the Sun, Moon and the Planets given in the following pages are *Sayan* and are true for the mean equinox of 1950. They are given for 12 o'clock noon Indian Standard Time (I.S.T.) which is 5½ hours in advance of Greenwich Mean Time, but, for convenience, the *Sidereal Time* is given for the *Mean Noon, Ujjain Local Time*.

Nirayana places are obtained by subtracting the *Ayanam* shas from the *Sayan* places.

It should be noted that the *Tithis* are the same both in the *Sayan* and the *Nirayana* systems.

EXPLANATION OF SYMBOLS.

Planets.	Signs.	Aspects.
☉ Sun.	♈ Aries.	♌ Conjunction = 0°
☾ Moon.	♉ Taurus.	♊ Semi-Sextile = 30°
♃ Pluto.	♊ Gemini.	♋ Semi-Quintile = 36°
♆ Neptune.	♋ Cancer.	♌ Semi-Square = 45°
♁ Herschel (Uranus).	♌ Leo.	♍ Sextile = 60°
♄ Saturn.	♍ Virgo.	♎ Quintile = 72°
♃ Jupiter.	♎ Libra.	♏ Square = 90°
♂ Mars.	♏ Scorpio.	♐ Trine = 120°
♀ Venus.	♐ Sagittarus.	♑ Sesqui-quadrant = 135°
☿ Mercury.	♑ Capricornus.	♒ Bi-quintile = 144°
⊕ Earth.	♒ Aquarius.	♓ Quincunx = 150°
♊ Rahu.	♓ Pisces.	♈ Opposition = 180°

2		JANUARY, 1950. S. J. O. UJJAIN									
Date	Day	Sidereal Time.		☉		☽		Midnight		ψ	
		H.	M.	S.	Long.	Decl.	Long.	Lat.	Decl.		
1	Su.	18	41	28	10 17	21	23 S 3	4 44	3 N 59	25 N 0	10 55
2	M.	45	25	11	18	31	22 58	17 7	4 32	27 20	23 25
3	Tu.	49	21	12	19	41	53 29	46 5	53 28	20 6	23 12
4	W.	53	18	13	20	51	47 12	41 5	0 27	10 19	19 15
5	Th.	57	14	14	21	1	39 25	52 4	51 25	45 2	2 32
6	F.	1	1	15	23	11	3 9	15 24	22 11	16 1	19
7	S.	5	7	16	24	21	26 22	49 3	45 17	27 29	39 20
8	Su.	9	4	17	25	30	19 6	30 2	51 11	47 13	25 20
9	M.	13	0	18	26	39	11 20	21 1	47 5	23 27	19 20
10	Tu.	16	57	19	22	48	2 4	17 0	35 1 S	9 11	16 21
11	W.	20	54	20	28	56	21 53	18 17	S 39	7 46	25 21
12	Th.	24	50	21	30	4	44 2	22 1	5 14	1 9	26 21
13	F.	28	47	22	31	11	34 16	30 2	58 19	37 23	37 21
14	S.	32	43	23	32	17	24 0	43 3	49 24	2 7	48 22
15	Su.	36	40	24	33	22	13 14	55 4	35 27	9 22	0 22
16	M.	40	36	25	34	28	2 29	3 56	28 24	6 3	4 22
17	Tu.	44	33	26	35	33	20 51	13 3	5 12	48 19	58 22
18	W.	48	2	27	36	38	39 26	49 4	49 25	32 3	36 22
19	Th.	52	26	28	37	42	27 10	17 22	21 52	16 56	R 22
20	F.	56	23	29	38	46	14 23	27 3	49 17	10 29	54 22
21	S.	20	0	19	0 50	46	1 6	15 2	49 11	50 12	32 22
22	Su.	4	16	1	40	53	19 48	18 44	1 49	6 8	24 22
23	M.	8	12	2	41	56	34 0	56 0	21 0	4 6	57 21
24	Tu.	12	9	3	42	58	20 12	55 N	27 5	29 18	51 21
25	W.	16	5	4	44	0	5 24	46 1	20 10	50 0	40 21
26	Th.	20	2	4	45	1	18 50	6 34	2 19	15 54	12 21
27	F.	23	58	6	46	1	35 18	25 3	12 20	11 24	23 21
28	S.	27	55	7	47	0	20 0	23 0	58 24	6 6	27 20
29	Su.	31	52	8	47	58	4 12	35 4	33 26	49 18	47 20
30	M.	35	48	9	48	53	17 48	25 3	56 28	17 1	25 20
31	Tu.	39	45	10	49	48	31 7	51 5	5 18	14 24	19
Date	ψ	☉		☽		☿		♂		♀	
		Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.
1	1N 36	5 S 19	0 N 16	23 N 41	2 N 0	6 N 1	0 S 35	19 S 12	2 N 31	1 N 24	
3	"	"	"	"	"	"	36	5	33	12	
5	"	"	"	"	42	"	36	18 58	35 0	55	
7	"	"	"	"	"	"	36	51	38	45	
9	"	"	"	"	"	2	36	44	40	26	
11	"	"	"	"	"	"	6	36	37	42	15
13	"	"	"	"	"	3	8	36	30	45	2
15	"	"	"	"	"	"	10	36	22	47	S 9
17	37	"	"	"	"	4	12	36	15	49	20
19	"	"	"	"	"	5	14	37	7	52	30
21	"	"	"	"	"	"	6	37	0	54	39
23	"	"	"	"	"	"	18	37	17 52	57	47
25	"	"	"	"	"	6	21	37	44	59	55
27	"	"	"	"	"	"	23	37	36 3	1	1
29	"	"	"	"	43	"	7	26	37	28	6
31	"	"	"	"	"	"	29	37	20	6	11

EPHEMERIS.																		JANUARY, 1950.																		3	
Date	Longitudes.																Lunar Aspects.																				
	☉	☽	☿	♂	♀	♂	♀	☉	☽	☿	♂	♀	♂	♀	☉	☽	☿	♂	♀	♂	♀	☉	☽	☿	♂	♀	♂	♀									
1	2	42	19	27	6	36	2	18	17	4	29	45	π	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀									
2	R	39		27		49		40		25	0	44	Δ	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀									
3		36		R 26	7	3	3	1		42	1	39	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀								
4		34		26		17		23		57	2	25	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀								
5		31		25		31		43	18	11	3	4	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀								
6		29		24		45	4	4		23		33	π	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀									
7		26		23		59		24		32		55	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀								
8		24		22	8	13		44		39	4	6	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀								
9		21		21		27	5	3		43	R	5	Δ	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀									
10		19		20		41		22		45	3	52	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀								
11		16		19		55		40	R	44		29	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀								
12		14		18	9	8		59		41	2	52	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀								
13		11		16		22	6	17		35		5	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀								
14		9		15		36		34		27	1	8	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀								
15		7		13		50		50		17	0	2	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀								
16		4		11	10	4	7	6		4	28	51	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀								
17		2		9		18		22	17	49	27	34	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀								
18		0		7		32		37		31	26	16	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀								
19	1	58		5		47		52		10	24	58	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀								
20		56		3	11	1	8	7	16	46	23	43	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀								
21		53		1		15		21		21	22	33	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀								
22		51	18	58		29		35	15	54	21	30	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀								
23		49		56		43		48		27	20	34	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀								
24		47		53		57	9	0	14	56	19	46	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀								
25		45		50	12	11		12		24		8	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀								
26		43		48		25		23	13	51	18	39	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀								
27		41		45		40		34		16		19	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀								
28		39		42		54		44	12	36		6	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀								
29		37		39	13	8		53	11	58		4	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀								
30		35		36		22	10	2		21		7	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀								
31		33		32		37		11	10	45		18	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀								
Date	☿		♂		Mean.		Date	Time.		Phenomena.																											
	Lat.	Decl.	Lat.	Decl.	☉			H.	M.																												
1	0 N 41	15 S 4	1 S 10	21 S 22	12 7	6	4	16	1	Full Mn., Decl. 5° N																											
3	1	5 14	30	0 47	20	36	0	6	7	☉ at Equator.																											
5		30 13	57	19 19	47	11	53	10	0 26	☉ at ☽																											
7		57	26	N 13	4	47	11	8	39	☉ at Perihelion.																											
9	2	25	12	56	48	18	28	41	16	3 Heli. setting of ☉ in West																											
11		53	28	1 26	17	59	34	11	8	☉ at Apogee.																											
13	3	23	3	2 3	37	28	12	16	22	☉ on Equator.																											
15		53	11	40	37	22	21	13	32	New Mn., Decl. 25° S 19'																											
17	4	23	19	3 4	38	15	18	20	16	☉ enters ☽.																											
19		53	2	22	50	9	20	☉	☽	Heli. setting of ☉ in West																											
21	5	22	10	49	30	18	6	2	21	12 17 ☉ on Equator.																											
23		51	37	29	27	10	56	23	7	55 ☉ at ☽																											
25	6	18	29	19	47	50	24	☉	☽	Heli. rising of ☉ in East.																											
27		42	24	4 19	9	43	25	☉	☽	Heli. setting of ☉ in West.																											
29	7	3	25	2 46	30	37	26	2	15	☉ at Perigee.																											
31		23	28	25	48	31	10	9	☉	☽ at First Quarter.																											

Date	Day	Sidereal Time	☉		☽			Midnight	ψ
		H. M. S.	Long.	Decl.	Long.	Lat.	Decl.	D	
1	W.	20 43 41	11 50	42 17	S 14 21	1 4 N 56	26 N 41	27 43	17 19
2	Th.	47 38 12	51 35	16 57	4 13	30 36	23 36	11 21	R 18
3	F.	51 34 13	52 27	40 18	16 3	57 19	49 25	15 15	18
4	S.	55 31 14	53 18	22 2	17 2	13 30	9 21	17	17
5	Su.	59 27 15	54 8	4 16	27 1	56 7	8 23	34	17
6	M.	21 3 24	16 54	57 15	46 0	42 0	S 21	7 50	16
7	Tu.	7 20 17	55 44	28 14	58 0	S 36	6 28	22 6	15
8	W.	11 17 18	56 30	9 29	13 1	50 12	54 6	m 18	15
9	Th.	15 14 19	57 14	14 50	13 m 23	2 57	18 40	20 26	14
10	F.	19 10 20	57 57	31 27	27 3	54 32	32 4	27	13
11	S.	23 7 21	58 39	11 11	26 4	36 26	43 18	22	12
12	Su.	27 3 22	59 20	13 51	25 16	5 128	23 2	8	12
13	M.	31 0 24	0 0	31 8	58 10	17 15	45		11
14	Tu.	34 56 25	0 33	11 22	30 2	26 32	29 10		10
15	W.	38 53 26	1 15	12 51	5 50	4 35	23 15	12 24	9
16	Th.	42 49 27	1 50	30 18	55 3	53 18	50 25	22	8
17	F.	46 40 28	2 24	9 1	45 5	13 44	8 5		7
18	S.	50 43 29	2 56	11 48	14 21	2 5 8	6 20	33	6
19	Su.	54 39 0	3 27	27 26	41 1	1 2 15	2 46		5
20	M.	58 36 1	3 56	6 8	49 0	N 5 3	N 35	14 48	4
21	Tu.	22 2 32	2 4	24 10	45 20	46 1	10 9	12	3
22	W.	6 29 3	4 50	23 2	38 2	12 14	27 8	31	2
23	Th.	10 25 4	5 13	1 14	25 3	7 19	9 20	19	1
24	F.	14 22 5	5 35	9 39	26 15	55 23	7 2	13	0
25	S.	18 13 6	5 56	17 8	13 4	33 26	11 14	17	16 59
26	Su.	22 15 7	6 16	8 54	20 24	5 27	59 26	35	58
27	M.	26 12 8	6 34	31 2	51 14	28 39	9 13		57
28	Tu.	30 8 9	6 50	8 15	40 11	15 22	13		55

Date	ψ		♈		♉		♊		♋	
	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.
2	1 N 37	5 S 18	0 N 16	23 N 43	2 N 8	6 N 32	0 S 38	17 S 12	3 N 9	1 S 14
4	"	17	"	"	"	35	"	4	11	17
6	"	17	"	"	9	38	"	16 55	14	18
8	" 38	16	"	"	"	42	"	47	16	19
10	"	15	"	"	"	45	"	39	18	19
12	"	15	"	"	10	49	"	31	20	18
14	"	14	"	"	"	52	"	22	22	15
16	"	13	"	"	"	56	"	13	24	11
18	"	12	"	"	11 7	0	39	5	26	6
20	"	11	"	"	"	3	"	15 56	28	0
22	"	11	"	"	"	7	"	48	30	0 54
24	" 38	10	"	"	"	11	"	39	31	45
26	"	9	"	"	12	15	"	30	32	36
28	"	8	"	"	"	20	40	22	33	25

EPHEMERIS.										FEBRUARY, 1950.										5
Date	Longitudes.										Lunar Aspects.									
	♈	♉	♊	♋	♌	♍	♎	♏	♐	☉	☽	♈	♉	♊	♋	♌	♍	♎	♏	
1	1 31	18 29	13 51	10 20	10 9	18 38						☐	*	*	*	*	*	*	*	
2	R 29	R 26	14 6	27 9	R 34	19 2						☐	*	*	*	*	*	*	*	
3	28	22	20	33	8 59	32						☐	*	*	*	*	*	*	*	
4	26	19	35	38	24 20	8						☐	*	*	*	*	*	*	*	
5	25	16	49	43	7 49	47						☐	*	*	*	*	*	*	*	
6	23	12 15	4	48	16 21	31						☐	*	*	*	*	*	*	*	
7	22	8	18	52	6 43	22						☐	*	*	*	*	*	*	*	
8	20	4	32	55	15 23	12						☐	*	*	*	*	*	*	*	
9	19	0	46	58	5 47	24						☐	*	*	*	*	*	*	*	
10	17	56 16	1	59	20 25	5						☐	*	*	*	*	*	*	*	
11	16	52	15 11	R 0	4 56	26						*	*	*	*	*	*	*	☐	
12	14	48	29	1	34 27	10						*	*	*	*	*	*	*	☐	
13	13	44	43	0	14 28	16						*	*	*	*	*	*	*	☐	
14	12	40	58 10	59 3	57 29	23						☐	*	*	*	*	*	*	☐	
15	11	35 17	12	57	42 0	33						☐	*	*	*	*	*	*	☐	
16	10	31	26	54	30 1	46						☐	*	*	*	*	*	*	☐	
17	3	27	40	50	20 2	59						☐	*	*	*	*	*	*	☐	
18	7	22	55	47	13 4	15						☐	*	*	*	*	*	*	☐	
19	6	18 18	9	42	8 5	32						☐	*	*	*	*	*	*	☐	
20	5	14	23	36	6 6	50						☐	*	*	*	*	*	*	☐	
21	5	9	37	29	6 8	10						☐	*	*	*	*	*	*	☐	
22	4	5	51	22	D 8	9						*	*	*	*	*	*	*	☐	
23	3	0 19	5	14	12 10	54						☐	*	*	*	*	*	*	☐	
24	2 16	55	19	5	19 12	18						☐	*	*	*	*	*	*	☐	
25	2	52	33	9 55	29 13	43						☐	*	*	*	*	*	*	☐	
26	1	46	48	44	42 15	10						☐	*	*	*	*	*	*	☐	
27	0	41 20	2	33	56 16	38						☐	*	*	*	*	*	*	☐	
28	0	37	16	21 4	13 18	7						☐	*	*	*	*	*	*	☐	

Date	♀	♊	Mean.	Time	Phenomena.
	Lat.	Decl.	Lat.	Decl.	
2	7 N 40	10 S 31	2 N 13	20 S	2 10 24 3 3 45 Full Moon, Decl. 21° N 3'
4	53	37 1	40	15	18 4 Heli. rising of ♀ in East
6	58	45	18	28	12 6 10 53 Moon on Equator.
8	2	55	35	32	5 7 4 12 ♀ at ☐
10	3 11	7 0	56	33	9 59 8 18 45 ♀ at Apogee.
12	1	20	15	30	52 10 0 4 ♀ at Last Quarter.
14	7 56	34 0	S 4	25	46 13 20 19 ♀ at ☐
16	48	47	22	8	40 17 4 26 New Mn., Decl. 15° S 21'
18	38 12	2	39 19	51	33 19 10 48 ☉ enters ☐
20	26	13	54	28	27 21 16 ♀ on Equator.
22	13	26 1	S 18	58	21 20 13 16 ♀ at ☐
24	6 59	37	21	25	14 22 16 10 ♀ at Perigee.
26	43	47	33 17	47	8 23 Heli. rising of ♀ in East
28	27	56	43	1	2 24 8 23 ♀ at Aphelion.
					25 7 21 ♀ at First Quarter.
					27 .. Heli. setting of ♀ in East

6		MARCH, 1950.										S. J. O. UJJAIN											
Date	Day	Sidereal Time.		☉				♂				Midnight		ψ									
				Long.		Decl.		Long.		Lat.					Decl.								
		H.	M.	S.	°	'	"	°	'	"	°	'	"	°	'	"	°	'	"				
1	W.	22	34	5	10	7	4	7	5	47	28	53	4	N	53	25	N	10	5	α	38	16	54
2	Th.		38	1	11	7	15			24	12	α	30		27	21	19	19	27			R	53
3	F.		41	58	12	7	25			1	26	30	3	27	16	3	3	38					51
4	S.		45	54	13	7	34	6		38	10	50	2	22	9	42	18		6				50
5	Su.		49	51	14	7	41			15	25	25	1	7	2	51	2	α	46				49
6	M.		53	47	15	7	46	5		52	10	α	7	0	S	14	45	13	17	29			48
7	Tu.		57	44	16	7	49			29	24	51	1	34	11	5	2	11					46
8	W.	23	1	41	17	7	50			6	9	29	2	47	17	18	16	45					45
9	Th.		5	37	18	7	49	4		43	23	58	3	49	22	28	1	7					44
10	F.		9	34	19	7	47			19	α	12	4	36	26	14	15	14					42
11	S.		13	30	20	7	43	3		55	22	11	5	5	28	18	29	5					41
12	Su.		17	27	21	7	35			31	5	α	54	5	16		35	12	39				39
13	M.		21	23	22	7	22			8	19	20	5	10	27	10	25	58					38
14	Tu.		25	20	23	7	17	2		44	2	α	31	4	47	24	16	9	1				36
15	W.		29	16	24	7	5			20	15	27	4	10	20	11	21	50					35
16	Th.		33	13	25	6	51	1		57	28	10	3	21	15	16		4	26				33
17	F.		37	10	26	6	34			33	10	α	40	2	24	9	47		16	51			32
18	S.		41	6	27	6	15			9	22	57	1	20	4	1	29		4				30
19	Su.		45	3	28	5	55	0		45	5	7	0	7	2	N	25	11	7				29
20	M.		48	59	29	5	33			21	17	6	0	N	53	8	21	23	4				27
21	Tu.	23	52	56	0	7	5	9		0	N	3	28	59	1	56	12	56		4	54		26
22	W.		56	52	1	4	43			27	10	α	49	2	55	17	50		16	43			24
23	Th.	0	0	49	2	4	14			50	22	37	3	44	22	3	28		32				22
24	F.		4	45	3	3	43	1		13	4	α	28	4	26	25	14	10		26			21
25	S.		8	42	4	3	11			37	16	26	4	57	27	40	22	29					19
26	Su.		12	39	5	2	37	2		0	28	35	5	14	28	40		4	α	45			18
27	M.		16	35	6	2	0			23	10	α	59	5	17	28	16		17	18			16
28	Tu.		20	32	7	1	21			47	23	43	5	5	26	23		0	α	14			15
29	W.		24	28	8	0	40	3		10	6	α	51	4	37	23	28		13	34			13
30	Th.		28	25	8	59	57			34	20	24	3	53	18	23		27	21				11
31	F.		32	21	9	59	13			57	4	α	25	2	54	12	36		11	35			10
Date	ψ		μ		η		ζ		δ														
	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	
2	1 N	39	5 S	7	0 N	16	23 N	43	2 N	12	7 N	23	0 S	40	15 S	13	3 N	34	0 S	15			
4	"		6	"	"	"	"	"	"		27	"	5		35							4	
6	"		5	"	"	"	"	"	"		30	"	41		56							N 10	
8	"		4	"	"	"	"	13			34	"			47							24	
10	"		2	"	"	"	"	"			38	"			39							39	
12	"		1	"	"	"	"	"			42	"			30							53	
14	"		0	"	"	"	"	"			46	"	42		21						1	9	
16	"	4	59	"	"	"	"	"			49	"			13							25	
18	"		58	"	"	"	"	"			53	"			4							40	
20	"		56	"	"	"	"	"			56	"			13							57	
22	"		54	"	"	"	"	"	8	0	"	"			48					2	14		
24	"		53	"	"	"	"	"	"	3	"	"			39					25		30	
26	"		53	"	"	"	"	"	"	7	"	"			31					22		46	
28	"		52	"	"	"	"	"	"	10	"	"			22					18	3	1	
30	"		50	"	"	"	"	"	"	13	"	"			14					15		16	

EPHEMERIS.										MARCH, 1950.										7																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
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	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽	☾	☽

S. J. O. UJJAIN										
APRIL, 1950.										
Date	Day	Sidereal Time.	☉		☽		Midnight			
			Long.	Decl.	Long.	Lat.	Decl.	☽	☽	☽
1 S.	0	34 18	10 58	26	4 N 21	18 50	1 N 43	5 N 59	26 11	16 8
2 Su.		40 14	11 57	36	44 3 35	0 S 23	1 S 5	11 6	R 6	
3 M.		44 11	12 56	45	5 7 18	37	1 S 1	8 14	26 10	5
4 Tu.		48 8	13 55	53	30 3 43	2	20 14	56	11 15	3
5 W.		52 4	14 54	59	53 18 46	3	29 20	45	26 13	1
6 Th.		56 0	15 54	2	6 16 3 37	4	23 25	11	10 56	0
7 F.		59 57	16 53	3	39 18 10	5	0 27	53	25 18	15 58
8 S.	1	3 54	17 52	2	7 2 2 20		15 28	41	9 17	56
9 Su.		7 5	18 50	58	25 16 7		13 27	39	22 51	55
10 M.		11 47	19 49	52	47 29 30	4	54 25	3	6 3	53
11 Tu.		15 43	20 48	45	8 9 12 31	3	20 21	12	18 55	52
12 W.		19 40	21 47	36	31 25 14	3	33 15	34	1 29	50
13 Th.		23 37	22 46	25	53 7 41	2	38 11	8	13 49	48
14 F.		27 33	23 45	12	9 14 19	55	1 37	5	29 58	47
15 S.		31 30	24 43	57	35 1 59	0	25 0 N	25	7 58	45
16 Su.		35 26	25 42	49	56 13 56	0 N 35	6 2	19 53		43
17 M.		39 23	26 41	20	10 17 25	49	1 39	11	30	42
18 Tu.		43 19	27 39	58	38 7 36	2	38 16	32	13 32	40
19 W.		47 16	28 38	35	59 19 27	3	30 20	58	25 21	12
20 Th.		51 12	29 37	10	11 20 1 17	4	39 24	32	7 13	37
21 F.		55 9	0 35	43	40 18 11		46 7	7	19 10	35
22 S.		59 1	1 34	15	12 0 25	11	5 7	28	1 15	34
23 Su.	2	3 2	2 32	44	20 7 22		13	27	13 31	32
24 M.		6 59	3 31	11	40 19 45		6 27	2	26 3	31
25 Tu.		10 55	4 29	37	13 0 2 22	4	44 24	13	8 53	29
26 W.		14 52	5 28	1	20 15 27		6 20	8	22 6	27
27 Th.		18 48	6 26	23	40 28 52	3	15 14	55	5 44	26
28 F.		22 45	7 24	43	59 12 43	2	10 8	48	19 48	24
29 S.		26 41	8 23	14	18 27 1	0	56 2	1	4 19	23
30 Su.		30 38	9 21	18	37 11 43	S 24	5 S 0		19 12	21

Date	☽		☿		♂		♂		♂	
	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.
1	1 N 40	4 S 49	0 N 16	23 N 42	2 N 12	8 N 16	0 S 44	13 S 6	3 N 11	3 N 31
3	"	48	"	"	"	19	45	12 58	7	46
5	"	47	"	"	"	22	"	50	3	57
7	"	45	"	"	"	25	"	42	2 58	4
9	"	43	"	"	"	27	46	35	53	19
11	"	41	"	"	"	30	"	27	48	28
13	"	41	"	"	"	32	"	19	43	37
15	"	40	"	"	11	34	47	12	39	45
17	"	39	"	"	"	36	"	4	33	50
19	"	38	"	"	"	38	48	11 57	27	54
21	"	36	"	"	"	40	"	50	22	58
23	"	35	"	"	10	41	"	43	17	5
25	"	4	34	"	"	43	49	36	12	1
27	"	33	"	"	"	44	"	29	6	1
29	"	32	"	"	"	45	50	23	1	1

EPHEMERIS.

APRIL, 1950.

9

Date	Longitudes.								Lunar Aspects.										
	♈	♉	♊	♋	♌	♍	♎	♏	☾	☿	♈	♉	♊	♋	♌	♍	♎	♏	♐
1	1 11	14 10	27 13	28 31	25 3	15 23													
2	12 R 6		30	R 9	57 27	27													
3	13 2		43 27	48 26	52 19	31													
4	15 13	59	55	27 27	48 30	35													
5	16	55 28	7	64 8	44 23	57													
6	18	51	19 26	46 29	40 25	39													
7	19	47	31	26 0 36	27 40														
8	21	44	43	7 1	33 29	39													
9	22	4	54 25	48 2	31 1 36														
10	24	37 29	5	30 3	29 3	32													
11	25	34	17	13 4	28 5	24													
12	27	30	29 24	58 5	27 7	12													
13	29	27	40	40 6	26 8	59													
14	31	24	51	25 7	26 10	41													
15	32	21 0 3	2	10 8	26 12	19													
16	34	18	13 23	56 9	26 13	54													
17	36	15	24	44 10	26 15	23													
18	38	13	35	32 11	27 16	48													
19	40	10	45	21 12	29 18	9													
20	42	8	56	9 13	31 19	24													
21	44	5	1 6 22	58 14	3 20	35													
22	47	3	17	49 15	35 21	40													
23	49	0	27	41 16	38 22	40													
24	51 12	58	37	33 17	41 23	34													
25	53	56	47	26 18	44 24	24													
26	56	54	57	20 19	47 25	6													
27	58	52 2	7	14 20	50	45													
28	2 0	50	16	8 21	53 26	18													
29	3	48	26	4 22	57	45													
30	5	47	36	1 24	1 27	6													

Date	☽		☽		Mean ☽	Date	Time.	Phenomena.
	Lat.	Decl.	Lat.	Decl.	☽		H. M.	
1	1 N 56	11 S 21	0 S 3	5 N 33	7 7 20	2 8 19		☽ on Equator.
3	"	0	14 7 2		14 3	2 19		☽ at ☽
5	27 10 35	N 8 9 20			7 4	16 43		☽ at ☽
7	13 7	31 11 8			1 20	50		☽ at Apogee.
9	0 9 39	54 12 54	6	55	9 7	54		☽ at Perigee.
11	47	9 1 16	14 25		4 17	16		☽ at Last Quarter.
13	34 8 38	38 16 1			42			Heli. rising of ☽ in Wes.
15	22 5	57 17 23	36	15 10	18	18		☽ on Equator.
17	10 7 30	2 14 18 34	29	21	9	9		☽ at ☽
19	0 S 1 6 53	28 19 35	23	13	54	11		New Mn., Decl. 11° N 55'
21	12	16	0 20 26		16 18	20		☽ at Perigee.
23	22 5 37	46 21 6	10	19 8	57	57		☽ at ☽
25	32 4 58	49 21 34	4	20 9	21	21		☽ enters ☽
27	41	16	50	56	57	25 16		☽ at First Quarter.
29	50 3 34	40 22 2	51	29 18	54	54		☽ on Equator.
31			30 8	57				☽ at ☽

MAY, 1950.										S. J. O. UJJAIN													
Date	Day	Sidereal Time.			☉		☽			Midnight			ψ										
		H.	M.	S.	Long.	Decl.	Long.	Lat.	Decl.	☽													
1	M.	2	34	35	10	19	33	14	N	5	26	45	1	S	44	11	S	57	4	m	22	15	20
2	Tu.		38	31	11	17	46	15	13	11	m	59	2	58	18	15			19	38		R	19
3	W.		42	28	12	15	57		31	27	15		3	59	23	25			4	52			17
4	Th.		46	24	13	14	7		49	12	24		4	42	26	57			19	49			16
5	F.		50	21	14	12	15	16	6	27	11		5	6	28	30			4	26			14
6	S.		54	17	15	10	20		23	11	35		9						18	37			13
7	Su.		58	14	16	8	24		40	25	32		4	55	25	51			2	19			12
8	M.	3	2	10	17	6	27		57	9	0			22	22	14			15	34			10
9	Tu.		6	7	18	4	28	17	13	22	1		3	38	17	37			28	23			9
10	W.		10	4	19	2	28		29	4	40		2	47	12	23			10	52			8
11	Th.		14	0	20	0	26		45	17	0		1	45	4	45			23	4			6
12	F.		17	57	20	58	22	18	0	29	6		0	41	0	59			5	7			5
13	S.		21	53	21	56	17		15	11	2		N	23	4	N	43			16	58		4
14	Su.		25	50	22	54	10		30	22	52		1	26	10	14			28	47			3
15	M.		29	46	23	52	1		45	4	40		2	25	15	21			10	34			1
16	Tu.		33	43	24	49	51		59	16	29		3	17	19	55			22	24			0
17	W.		37	39	25	47	40	19	13	28	20		4	1	23	42			4	16		14	59
18	Th.		41	36	26	45	28		26	10	15			35	26	31			16	14			58
19	F.		45	33	43	27	14		49	22	15			56	28	9			28	18			57
20	S.		49	29	40	28	5		52	4	23		5	5	28	27			10	31			56
21	Su.		53	26	29	38	43	20	5	16	41			0	27	22			22	53			55
22	M.		57	22	0	36	25		17	29	9		4	40	24	54			5	29			54
23	Tu.	4	1	19	1	34			29	11	52			7	21	11			18	19			53
24	W.		5	15	2	31	44		40	24	51		3	20	15	27			1	28			52
25	Th.		9	12	3	29	22		51	8	10		2	21	10	41			14	53			51
26	F.		13	8	4	26	59	21	2	21	52		1	12	4	20			28	52			50
27	S.		17	5	5	24	35		13	5	57		0	S	2	2			13	9			49
28	Su.		21	2	6	22	10		23	20	26		1	19	9	12			27	49			48
29	M.		24	58	7	19	44		33	5	17		2	31	15	40			12	48			47
30	Tu.		28	55	8	17	16		42	20	22		3	35	21	18			27	57			46
31	W.		32	51	9	14	47		51	5	33		4	23	25	33			13	7			45
Date	☽		☽		☽		☽		☽		☽		☽		☽		☽		☽				
	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.			
1	1N39	4S31	0N16	23N42	2N9	8N46	0S50	11S16	1N56	4N57													
3	"	30	"	"	"	47	51	10	51	53													
5	"	29	"	"	31	"	47	4	46	47													
7	"	28	"	"	"	8	48	"	52	10	58	41	41										
9	"	27	"	"	"	"	"	"	53	36	34												
11	"	26	"	"	"	"	"	53	47	31	25												
13	"	25	"	"	"	"	"	"	42	26	17												
15	"	24	"	"	"	7	"	54	36	22	7												
17	"	23	"	"	"	"	47	"	31	17	3	56											
19	"	20	"	"	"	"	"	"	27	13	44												
21	"	21	"	"	"	6	46	54	23	8	31												
23	"	20	"	"	40	"	45	55	18	4	17												
25	"	20	"	"	"	"	44	56	14	1	0	3											
27	"	19	"	"	"	5	43	"	22	11	0	56	2	48									
29	"	19	"	"	"	"	42	57	7	52	31												
31	"	18	"	"	"	"	41	"	4	48	15												

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5	"	27	"	"	"	40	15	47	38	11
7	35	28	"	30	"	35	16	53	39	2
9	"	29	"	"	"	29	16	58	40	55
11	"	30	"	"	"	24	17	4	42	12
13	"	31	"	"	"	18	17	9	43	50
15	"	32	"	"	56	13	17	15	45	13
17	"	34	"	29	"	7	17	23	47	45
19	"	35	"	"	"	2	18	27	48	14
21	"	36	"	"	"	5 56	18	32	50	3
23	"	38	"	"	"	50	18	39	51	15
25	"	39	"	28	"	45	19	45	52	2
27	"	40	"	"	"	39	19	51	54	5
29	"	42	"	28	"	33	19	56	55	16
31	"	44	"	27	"	27	19	2	56	4

Date.	☿		♂		♂		Date.	Time. H. M.	Phenomena.
	Lat.	Decl.	Lat.	Decl.	♂	♂			
1	0 S	25 22N	35 0 N	0 13N	3 0	0	52	2 12 27	☿ on Equator.
3		20	28	0 46	11 42		46	6 14	☿ at ☿
5		14	19	30 10	20 20		40	6 1 26	☿ at Last Quarter.
7		8	6	13 8	59 20		33	9 0 55	☿ at Perigee.
9		3 21	51	S 4	7 38	14	27	10 12 8	☿ at ☿
11	0 N	3 33		23 6	17		21	13 22 18	New Mn., Decl. 17° N 44'
13		8	14	43 4	59		14	16 19 36	☿ on Equator.
15		14 20	51 1	3 3	42		7	20 7	☿ at ☿
17		19	26	23 2	25		1	19 6 47	☿ at Apeli. n.
19		24 19	59	44 1	16	29	55	20 15 10	☿ at Apogee.
21		29	28	2 5	0 8		49	21 7	☿ at First Quarter.
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27		43 17	45 3	6 2	42		30	25 ..	Heliacal setting of ♄
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18		SEPTEMBER, 1950.										S. J. O. UJJAIN	
Date	Day	Sidereal Time.		☉		☽		Midnight		ψ			
		H. M.	S.	Long.	Decl.	Long.	Lat.	Decl.	D				
1 F.	10	39 31	8	15 23	8 N 28	2 5 6	2 N 55	14 N 57	8 5	15	43		
2 S.		43 27	9	13 28	7 14	3	46 19	39	19 59		45		
3 Su.		47 24	10	11 35	7 45	25 55	4 26	23 33	1 51		47		
4 M.		51 20	11	9 44	23 7	47	55 26	28	13 44		49		
5 Tu.		55 17	12	7 54	1 19	44	5 13	28 15	25 45		51		
6 W.		59 14	13	6 5	6 39	1 49	16	42	7 57		53		
7 Th.	11	3 10	14	4 18	17 14	9	5 27	45	20 24		55		
8 F.		7 7	15	2 33	5 54	26 45	4 39	25 22	3 11		57		
9 S.		11 3	16	0 50	31 9	41	3 59	21 39	16 17		58		
10 Su.		15 0	16	59 9	8 22	59	5 16	46	29 45	16	0		
11 M.		18 56	17	57 29	4 46	6 37	1 58	10 56	13 3		2		
12 Tu.		22 53	18	55 51	23 20	34 0	4 44	4 25	27 38		4		
13 W.		26 49	19	54 15	0 4	47	3 55	2 S 26	11 57		6		
14 Th.		30 46	20	52 41	3 37	19 8	1 52	9 13	26 24		9		
15 F.		34 43	21	51 9	14 3	39	3 31	5 36	10 54		11		
16 S.		38 39	22	49 40	2 51	18 9	4 22	1 21	25 22		13		
17 Su.		42 36	23	48 12	28 2	34	4 25	21 7	9 44		15		
18 M.		46 32	24	46 45	4 16	52 5	1 27	57 23	57		17		
19 Tu.		50 29	25	45 20	1 41	0 59	17 28	44 7	58		19		
20 W.		54 25	26	43 57	18 14	54	4 27	39 21	47		21		
21 Th.		58 22	27	42 36	0 55	28 35	4 35	24 56	5 21		23		
22 F.	12	2 18	28	41 17	32 12	2 3	50 20	52 18	42		25		
23 S.		6 15	29	40 0	N 8	25 17	2 54	15 48	1 49		27		
24 Su.		10 12	0	38 46	S 15	8 17	1 50	10 10	42		27		
25 M.		14 8	1	37 34	39 21	4	0 42	4 11	27 22	R	26		
26 Tu.		18 5	2	36 23	1 2	3 38	N 28	1 N 52	9 50		24		
27 W.		22 1	3	35 14	26 15	59	1 35	7 45	22 6		23		
28 Th.		25 5	4	34 7	49 28	10	2 37	13 16	4 14		21		
29 F.		29 54	5	33 2	2 12	10 12	3 31	18 13	16 10		20		
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4	" 34	46	"	"	"	16	"	13	59	32
6	"	48	"	"	"	10	"	19	1	55
8	"	49	"	"	"	4	"	24	18	18
10	"	51	"	"	26	4 58	"	29	2	41
12	"	52	"	"	"	52	"	34	3	19
14	"	54	"	"	"	46	"	39	4	24
16	"	55	"	"	25	40	"	44	5	46
18	"	57	18	"	"	34	"	49	6	20
20	"	58	"	"	"	29	"	53	7	26
22	"	5	0	"	"	23	"	57	8	46
24	"	0	"	"	"	17	"	13	1	5
26	"	0	"	"	"	11	"	4	9	23
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2	39	39	58	R	38	14	35	20	24	23	23	23	☉	☽	☉	☽	☉	☽	☉	☽	☉	☽		
3	41	21	5	30	15	14	21	3	33	33	33	33	☉	☽	☉	☽	☉	☽	☉	☽	☉	☽		
4	43	13	23	23	53	22	51	34	34	34	34	34	☉	☽	☉	☽	☉	☽	☉	☽	☉	☽		
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7	49	35	1	50	26	33	33	1	35	35	35	35	☉	☽	☉	☽	☉	☽	☉	☽	☉	☽		
8	51	42	0	53	18	29	27	47	1	35	35	35	☉	☽	☉	☽	☉	☽	☉	☽	☉	☽		
9	53	50	46	19	8	29	1	3	3	3	3	3	☉	☽	☉	☽	☉	☽	☉	☽	☉	☽		
10	55	57	38	48	0	15	0	26	26	26	26	26	☉	☽	☉	☽	☉	☽	☉	☽	☉	☽		
11	57	22	5	30	20	27	1	2	2	2	2	2	☉	☽	☉	☽	☉	☽	☉	☽	☉	☽		
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14	2	26	9	22	25	5	12	26	58	58	58	58	☉	☽	☉	☽	☉	☽	☉	☽	☉	☽		
15	4	35	2	23	6	6	26	25	56	56	56	56	☉	☽	☉	☽	☉	☽	☉	☽	☉	☽		
16	6	42	29	56	46	7	40	24	52	52	52	52	☉	☽	☉	☽	☉	☽	☉	☽	☉	☽		
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21	13	20	24	27	4	13	5	19	57	57	57	57	☉	☽	☉	☽	☉	☽	☉	☽	☉	☽		
22	14	28	18	47	15	7	14	14	57	57	57	57	☉	☽	☉	☽	☉	☽	☉	☽	☉	☽		
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25	18	50	1	48	18	48	17	54	54	54	54	54	☉	☽	☉	☽	☉	☽	☉	☽	☉	☽		
26	19	57	28	56	0	28	20	3	45	45	45	45	☉	☽	☉	☽	☉	☽	☉	☽	☉	☽		
27	20	24	5	51	1	9	21	18	D	50	50	50	☉	☽	☉	☽	☉	☽	☉	☽	☉	☽		
28	21	12	46	51	22	33	18	4	4	4	4	4	☉	☽	☉	☽	☉	☽	☉	☽	☉	☽		
29	22	20	41	2	30	23	47	27	27	27	27	27	☉	☽	☉	☽	☉	☽	☉	☽	☉	☽		
30	23	27	36	3	13	25	2	19	1	1	1	1	☉	☽	☉	☽	☉	☽	☉	☽	☉	☽		

Date	☉		☽		Mean.	Date	Time.	Phenomena.
	Lat.	Decl.	Lat.	Decl.	☉			
2	0 N 56	15 N 41	3 S 47	4 S 28	29	11	3 12	☉ at Perigee
4	1 0	14 57	4 9	44	4	4	3 12	☉ at Last Quarter.
6	3	11	1	52	28	58	4 19	☉ at Apogee.
8	7	13 24	22	38	52	12	8 59	New Mn., Decl. 5° N 43'
10	1	12 34	20	9	45	13	1 35	☉ at ☉
12	13	11 43	12	3 25	39	3	3 29	☉ on Equator.
14	15	10 50	3	54 2	26	33	4 49	☉ at Perihelion
16	18	9 58	29	1 12	26	17	3 45	☉ at Apogee.
18	20	2	2	57	0 N 10	20	18 9	☉ on Equator.
20	22	8	7	20	1 30	15	14 19	☉ at First Quarter.
22	23	7 10	1	41	2 43	7	23 20	☉ enters ♈.
24	25	6 13	0	59	3 46	1	...	☉ rising of ♈ in the E.
26	26	5 15	21	4 31	27	54	26 0	☉ at ♈
28	26	4 18	N 15	57	48	...	4 36	☉ on Equator.
30	27	3 18	45	5	3	42	9 52	Full Mn., Decl. 1° N 22'
						27 15	8	☉ at ♈

20		OCTOBER, 1950.										S. J. O. UJJAIN									
Date	Day	Sidereal Time.			☉		♂			♂			Midnight		ψ						
		H.	M.	S.	Long.	Decl.	Long.	Lat.	Decl.	Long.	Lat.	Decl.	D								
1	Su.	12	37	47	7 30	59	2 S 59	3 59	4 N 48	25 N 40	9 54	16 17									
2	M.		41	44	8 30	1	3 22	15 50	5 9	27 48	21 47	R 16									
3	Tu.		45	41	9 29	4	45 27	45	16 28	42	3 46	14									
4	W.		49	37	10 28	9	4 9	9 49	10	14	15 55	13									
5	Th.		53	34	11 27	17	32 22	6 4	50 26	24	28 20	12									
6	F.		57	30	12 26	26	55 4	39	15 23	14	11 4	11									
7	S.	13	1	27	13 25	37	5 18	17 37	3 27	18 52	24 11	9									
8	Su.		5	23	14 24	51	41 0	54	2 26	13 26	7 43	8									
9	M.		9	20	15 24	7	6 4	14 39	1 16	3 13	21 41	7									
10	Tu.		13	16	16 23	25	27 28	48	0 S 2	0 28	6 2	5									
11	W.		17	13	17 22	45	50 13	20	1 21	6 S 30	20 42	4									
12	Th.		21	10	18 22	6	7 13	2 7	2 36	13 14	5 34	3									
13	F.		25	6	19 21	30	35 13	3	3 39	19 6	20 31	2									
14	S.		29	3	20 20	56	57 27	59	4 31	24 7	5 25	1									
15	Su.		32	59	21 20	24	8 19	12 47	5 22	19 20	6 15	59									
16	M.		36	56	22 19	54	42 27	21	13 28	39	4 31	58									
17	Tu.		40	52	23 19	26	9 4	11 35	5	0 18	35	57									
18	W.		44	49	24 18	59	26 25	29	4 39	25 37	2 18	56									
19	Th.		48	45	25 18	35	48 9	1	3 58	21 49	15 40	55									
20	F.		52	42	26 18	13	10 10	22 14	4 17	1 28	43	54									
21	S.		56	39	27 17	54	31 5	8	2 31	11 32	11 30	53									
22	Su.	14	0	35	28 17	36	52 17	59	0 57	5 42	24 4	52									
23	M.		4	32	29 17	20	11 13	0 16	N 11	0 N 17	6 26	51									
24	Tu.		8	28	0 17	6	34 12	33	1 17	6 9	18 39	50									
25	W.		12	25	1 16	54	55 24	44	2 18	11 44	0 44	49									
26	Th.		16	21	2 16	44	12 16	6 44	3 14	16 49	12 43	48									
27	F.		20	18	3 16	38	37 18	41	4 0	21 13	24 37	47									
28	S.		24	14	4 16	30	57 0	34	35 24	45	6 29	46									
29	Su.		28	11	5 16	26	13 17	12 25	58 27	13 18	20 45										
30	M.		32	8	6 16	24	37 24	16	5	8 28	27 0 13	44									
31	Tu.		36	4	7 16	24	51 6	11	5 28	23 12	11 44	44									
Date	ψ		♂		♂		♂		♂		♂		♂								
	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.							
2	1 N 34	4 S 57	0 N 18	23 N 25	1 N 57	3 N 54	1 S 18	1 S 14	1 N 11	22 S 13											
4	"	56	"	18	"	48	"	17	"	12	30										
6	"	55	"	"	"	43	"	19	"	13	44										
8	"	35	54	"	"	37	"	17	"	13	58										
10	"	53	"	"	"	31	"	23	"	14	23	12									
12	"	52	"	"	"	26	"	24	"	14	25										
14	"	51	"	"	"	21	"	26	"	15	27										
16	"	50	"	"	"	15	"	16	"	27	15	48									
18	"	49	"	"	"	59	10	"	"	28	16	57									
20	"	48	"	"	25	"	4	"	"	28	16 24	7									
22	"	47	"	"	"	0	"	15	"	28	17	15									
24	"	46	"	"	2	0	2 54	"	"	28	17	15									
25	"	45	"	"	"	"	49	"	"	28	17	29									
28	"	44	"	"	"	"	44	"	14	27	18	34									
30	"	44	"	19	"	"	39	"	"	26	18	39									

EPHEMERIS.														OCTOBER, 1950.														21							
Date	Longitudes.														Lunar Aspects.																				
	♈		♉		♊		♋		♌		♍		♎		☉	☽	♁	♂	♀	♃	♄	♅	♆	♇	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒
1	9	24	24	35	28	31	37	53	26	17	19	40	Δ	☉	☽	♁	♂	♀	♃	♄	♅	♆	♇	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓
2	25	42		R	27	4	34	27	32	20	36	Δ	☉	☽	♁	♂	♀	♃	♄	♅	♆	♇	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	
3	26	49			23	5	15	28	47	21	33	Δ	☉	☽	♁	♂	♀	♃	♄	♅	♆	♇	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	
4	27	53			19		57	0	22	38		Δ	☉	☽	♁	♂	♀	♃	♄	♅	♆	♇	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	
5	27	25	4		15	6	38	1	17	23	48	Δ	☉	☽	♁	♂	♀	♃	♄	♅	♆	♇	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	
6	28	11			12	7	21	2	32	25	3	Δ	☉	☽	♁	♂	♀	♃	♄	♅	♆	♇	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	
7	28	19			9	8	4	3	47	26	29	Δ	☉	☽	♁	♂	♀	♃	♄	♅	♆	♇	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	
8	29	26			5		46	5	2	27	56	Δ	☉	☽	♁	♂	♀	♃	♄	♅	♆	♇	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	
9	29	33			2	9	28	6	17	29	26	Δ	☉	☽	♁	♂	♀	♃	♄	♅	♆	♇	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	
10	30	40	27		59	10	12	7	32	0	59	Δ	☉	☽	♁	♂	♀	♃	♄	♅	♆	♇	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	
11	30	47			57		55	8	47	2	35	Δ	☉	☽	♁	♂	♀	♃	♄	♅	♆	♇	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	
12	30	55			54	11	39	10	2	4	13	Δ	☉	☽	♁	♂	♀	♃	♄	♅	♆	♇	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	
13	30	26			52	12	22	11	17	5	52	Δ	☉	☽	♁	♂	♀	♃	♄	♅	♆	♇	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	
14	30	9			49	13	6	12	32	7	32	Δ	☉	☽	♁	♂	♀	♃	♄	♅	♆	♇	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	
15	30	16			47		46	13	47	9	14	Δ	☉	☽	♁	♂	♀	♃	♄	♅	♆	♇	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	
16	R	30	23		46	14	31	15	2	10	56	Δ	☉	☽	♁	♂	♀	♃	♄	♅	♆	♇	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	
17	30	30			44	15	15	16	17	12	39	Δ	☉	☽	♁	♂	♀	♃	♄	♅	♆	♇	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	
18	30	37			43		59	17	32	14	22	Δ	☉	☽	♁	♂	♀	♃	♄	♅	♆	♇	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	
19	30	44			42	16	42	18	47	16	5	Δ	☉	☽	♁	♂	♀	♃	♄	♅	♆	♇	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	
20	30	51			41	17	26	20	2	17	48	Δ	☉	☽	♁	♂	♀	♃	♄	♅	♆	♇	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	
21	30	58			41	18	10	21	17	19	31	Δ	☉	☽	♁	♂	♀	♃	♄	♅	♆	♇	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	
22	29	27	4		40		53	22	32	21	14	Δ	☉	☽	♁	♂	♀	♃	♄	♅	♆	♇	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	
23	29	11			40	19	38	23	47	22	56	Δ	☉	☽	♁	♂	♀	♃	♄	♅	♆	♇	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	
24	29	18			39	20	22	25	3	24	38	Δ	☉	☽	♁	♂	♀	♃	♄	♅	♆	♇	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	
25	28	24			39	21	6	26	18	26	20	Δ	☉	☽	♁	♂	♀	♃	♄	♅	♆	♇	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	
26	28	31			40		50	27	33	28	1	Δ	☉	☽	♁	♂	♀	♃	♄	♅	♆	♇	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	
27	27	37			41	22	34	28	48	29	42	Δ	☉	☽	♁	♂	♀	♃	♄	♅	♆	♇	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	
28	26	44			41	23	18	0	1	22	Δ	☉	☽	♁	♂	♀	♃	♄	♅	♆	♇	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓		
29	26	51			42	24	1	1	18	3	2	Δ	☉	☽	♁	♂	♀	♃	♄	♅	♆	♇	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	
30	25	57			43		46	2	33	4	41	Δ	☉	☽	♁	♂	♀	♃	♄	♅	♆	♇	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	
31	24	28	3		44	25	32	3	48	6	20	Δ	☉	☽	♁	♂	♀	♃	♄	♅	♆	♇	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	
Date	♈		♉		♊		♋		Mean.		Date	Time.		Phenomena.																					
	Lat.		Decl.		Lat.		Decl.		Ω			H. M.																							
2	1	N 27	2	S 19	1	N 10	4	N 47	27	35	1	2	15	☽ at Perigee.																					
4	27	1	19		29		13		29	3	2	6	26	☽ at Aphelion.																					
6	27	0	18		43	3	31		23	4	3	23	23	Heliacal rising of ♃																					
8	26	0	N 42		52	2	30		16	10	7	35	35	☽ at Last Quarter.																					
10	26	1	41		57	1	24		10	11	13	35	35	☽ on Equator.																					
12	25	2	40		58	0	8		4	12	15	35	35	Hel. setting of ♀ in East																					
14	23	3	40		56	1	S 11	26	57	11	19	4	26	New Mn., Decl. 8° S 26'																					
16	22	4	39		51	2	38		51	12	24	26	26	☽ on Equator.																					
18	20	5	38		44	4	5		45	14	16	15	15	☽ at Apogee.																					
20	18	6	37		35	5	32		38	18	9	49	49	☽ at First Quarter.																					
22	16	7	36		26	6	58		32	20	2	42	42	Hel. setting of ♀ in East.																					
24	13	8	34		14	8	24		26	23	4	42	42	☽ at Ω																					
26	11	9	30		2	9	48		19	25	10	25	25	☽ on Equator																					
28	8	10	26		0	50	11	11	13	24	5	12	12	☉ enters ♍																					
30	5	11	21		37	12	32		6	26	2	18	18	Full Mn., Decl. 13° N 59'.																					
										28	15	15	15	☽ at Perigee.																					

22		NOVEMBER, 1950.										S. J. O. UJJAIN	
Date	Day	Sidereal Time.		⊙		♂		Midnight		ψ			
				Long.	Decl.	Long.	Lat.	Decl.	ψ				
1 W.	14	H. 40	M. 1	8m 16	26	14 S 16	18m 14	4 N 49	27 N 8	24m 17	15m 43		
2 Th.		43	57	9	16	29	35	0m 27	19 24	17	6m 39	R	42
3 F.		47	54	10	16	34	54	12 55	3 37	20 24	19 17		41
4 S.		51	50	11	16	41	15	13 25	44	2 43	15 30		2m 16
5 Su.		55	47	12	16	50	32	8m 56	1	38	9 44	15	42
6 M.		59	43	13	17	1	0	22 33	0 26	3 21	29 36		39
7 Tu.	15	3	40	14	17	14	16	8 6m 44	S 48	3 S 24	13m 58		39
8 W.		7	37	15	17	28	26	21 25	2 5	10 15	28 46		38
9 Th.		11	33	16	17	44	43	6m 17	3 13	16 39	13m 52		38
10 F.		15	30	17	18	9	17	0 21 29	4 8	22 8	29 8		37
11 S.		19	26	18	18	21	17	6 7 46	5	46 29	9 14 22		37
12 Su.		23	23	19	18	42	34	21 56	5	4 28	15 29	24	36
13 M.		27	19	20	19	5	50	6m 49	0	16	14m 7		36
14 Tu.		31	16	21	19	30	18	6 21 19	4 38	26 20	28 24		35
15 W.		35	12	22	19	56	22	5m 21	3 59	22 47	12m 12		35
16 Th.		39	9	23	20	24	37	18 56	7 18	7 25	34		35
17 F.		43	6	24	20	54	52	2m 5	2 5	12 41	8m 31		34
18 S.		47	2	25	21	25	19	6 14 52	1 2	6 55	21 9		34
19 Su.		50	59	26	21	58	22	27 21	ON 3	1 0	3m 30		34
20 M.		54	55	27	22	32	35	9m 26	1 9	4N 51	15 40		34
21 Tu.		58	52	28	23	7	48	21 42	2 9	10 27	27 42		33
22 W.		2	48	29	23	43	20	1 3m 40	3 4	15 37	9m 38		33
23 Th.		6	45	0	24	22	14	15 35	49	20 10	21 32		33
24 F.		10	41	1	25	2	27	27 28	4 25	23 54	3m 24		33
25 S.		14	38	2	25	43	39	9m 20	49	26 36	15 16		33
26 Su.		18	35	3	26	25	51	21 12	5 0	28 9	27 10		33
27 M.		22	31	4	27	9	21	2 3m 7	4 58	28 23	9m 6	D	33
28 Tu.		26	28	5	27	54	13	15 6	43	27 18	21 8		33
29 W.		30	24	6	28	40	24	27 12	17	24 55	3m 17		33
30 Th.		34	21	7	29	28	34	9m 26	3 36	21 22	15 37		33

Date	ψ		♂		♀		♂		♀	
	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.
1	1N 36	4S 43	0N 19	23 N 25	2N 1	2N 34	1 S 14	13 S 24	1 S 18	24 S 42
3	"	42	"	25	1	30	"	13	23	18
5	"	42	"	26	2	26	"	21	19	44
7	"	41	"	26	2	21	"	19	19	45
9	"	41	"	26	2	17	"	12	16	19
11	"	40	"	26	3	12	"	14	19	42
13	"	40	"	27	3	8	"	11	19	39
15	"	40	"	27	3	4	"	11	8	19
17	"	39	"	27	4	0	"	4	19	30
19	37	39	"	28	4	1 56	"	1	19	24
21	"	39	"	28	5	53	"	10 12	56	19
23	"	38	"	28	5	49	"	52	19	7
25	"	38	"	28	6	46	"	48	18	23
27	"	38	"	28	6	43	"	9	43	18
29	"	38	"	29	7	40	"	38	18	35

EPHEMERIS.

NOVEMBER, 1950.

23

Date	Longitudes.										Lunar Aspects.									
	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀		
1	9	23	28	10	27	46	26	18	5	4	7	59	□	□	□	□	□	□		
2	R	23	16	47	27	3	6	20	9	37	□	□	□	□	□	□	□	□		
3		22	22	49	48	7	35	11	15	15	□	□	□	□	□	□	□	□		
4		21	28	51	28	31	8	51	12	52	□	□	□	□	□	□	□	□		
5		20	34	54	29	16	10	6	14	28	□	□	□	□	□	□	□	□		
6		19	41	57	0	11	21	16	4	□	□	□	□	□	□	□	□	□		
7		17	47	59	45	12	36	17	40	□	□	□	□	□	□	□	□	□		
8		16	53	28	2	1	30	13	51	19	15	□	□	□	□	□	□	□		
9		15	58	5	2	16	15	6	20	59	□	□	□	□	□	□	□	□		
10		14	29	4	3	1	16	22	22	25	□	□	□	□	□	□	□	□		
11		13	10	12	46	17	38	23	59	□	□	□	□	□	□	□	□	□		
12		11	16	16	4	31	18	53	25	33	□	□	□	□	□	□	□	□		
13		10	22	19	5	17	20	8	27	7	□	□	□	□	□	□	□	□		
14		8	27	23	6	22	24	28	40	□	□	□	□	□	□	□	□	□		
15		7	32	28	48	22	39	0	13	□	□	□	□	□	□	□	□	□		
16		5	38	32	7	33	23	54	1	46	□	□	□	□	□	□	□	□		
17		3	43	36	8	18	25	10	3	19	□	□	□	□	□	□	□	□		
18		2	48	41	9	5	26	25	4	52	□	□	□	□	□	□	□	□		
19		0	54	46	50	27	41	6	24	□	□	□	□	□	□	□	□	□		
20	8	58	59	51	10	36	28	56	7	56	□	□	□	□	□	□	□	□		
21		57	0	3	57	11	22	0	11	9	28	□	□	□	□	□	□	□		
22		55	9	29	3	12	8	1	27	11	0	□	□	□	□	□	□	□		
23		53	14	8	54	2	42	12	31	2	□	□	□	□	□	□	□	□		
24		51	19	14	13	40	3	58	14	2	□	□	□	□	□	□	□	□		
25		49	23	20	14	26	5	13	15	32	□	□	□	□	□	□	□	□		
26		47	28	26	15	12	6	28	17	2	□	□	□	□	□	□	□	□		
27		45	32	32	58	7	44	18	33	□	□	□	□	□	□	□	□	□		
28		43	37	39	16	46	8	59	20	3	□	□	□	□	□	□	□	□		
29		41	42	46	17	31	10	14	21	33	□	□	□	□	□	□	□	□		
30		39	46	53	18	18	11	30	23	2	□	□	□	□	□	□	□	□		

Date	♀		♂		Mean.	Date	Time.	Phenomena.
	Lat.	Decl.	Lat.	Decl.				
1	1N 0	12N 16	0N 23	13S 48	26	11	7	15
3	0	57 13	8	9 15	3	25	48	4
5		54 14	0	S 4 16	14	47	6	19
7		50	49	17 17	23	41	23	54
9		47 15	38	30 18	27	35	10	4
11		42 16	25	43 19	27	28	11	7
13		38 17	10	56 20	25	22	15	6
15		34	54	1	8 21	18	16	20
17		29 18	35	20 22	7	9	19	7
19		25 19	15	31	53	3	16	6
21		20	51	41 23	32	24	57	23
23		16 20	27	50 24	7	50	24	20
25		11 21	0	59	37	44	25	3
27		6	30	2	6 25	2	38	..
29		1	58	12	22	31	30	1

at Last Quarter.

at ☾

at ☽

on Equator.

New Mn., Decl. 20°S30'.

at Apogee.

at Aphelion.

at First Quarter.

at ☽

on Equator.

☾ enters ☿

Full Mn., Decl 24°N 55'.

at Perigee.

Hecl. risin. of ☿ in West.

at ☽

1 N at Last Quarter.
 3 at ☽
 5 at ☽
 7 at ☽
 9 New Mn., Decl. 20°S30'.
 11 at Apogee.
 13 at Aphelion.
 15 at First Quarter.
 17 at ☽
 19 on Equator.
 21 ☽ enters ♄
 23 Full Mn., Decl 24° N 55'.
 25 at Perigee.
 27 Hecl. risin. of ♄ in West.
 29 at ☽

24		DECEMBER, 1950										S. J. O. UJJAIN									
Date	Day	Sidereal Time.			☉		☽		☿		♂		♀		♂		♀		♂		ψ
		H.	M.	S.	Long.	Decl.	Long.	Lat.	Decl.	Long.	Lat.	Decl.	Long.	Lat.	Decl.	Long.	Lat.	Decl.	Long.	Lat.	
1 F.	16	38	17	8	30	18	21 S	44	21	53	2 N	46	16	N 51	28	12	15	33	33	33	
2 S.		42	14	9	31	9	53	4	36	1	45	11	28	11	35	5	33	34	34	34	
3 Su.		46	10	10	31	59	22	2	17	40	0	38	5	27	24	21	34	34	34	34	
4 M.		50	7	11	32	52	10	1	1	9	S 33	0	S 58	8	3	34	34	34	34	34	
5 Tu.		54	4	12	33	46	18	15	5	1	45	7	35	22	14	34	34	34	34	34	
6 W.		5	0	13	3	40	26	29	30	2	51	13	58	6	50	35	35	35	35	35	
7 Th.	17	1	57	14	35	35	33	14	20	3	49	19	48	21	53	35	35	35	35	35	
8 F.		5	53	15	36	31	40	29	34	4	32	24	29	7	9	35	35	35	35	35	
9 S.		9	50	16	37	28	46	14	7	51	56	27	29	22	30	36	36	36	36	36	
10 Su.		13	46	17	38	27	52	0	7	8	58	28	25	7	43	36	36	36	36	36	
11 M.		17	43	18	39	26	58	15	14		40	27	26	22	39	37	37	37	37	37	
12 Tu.		21	39	19	40	26	3	29	57		3	24	7	7	8	37	37	37	37	37	
13 W.		25	36	20	41	28	7	14	12	3	12	19	38	21	8	38	38	38	38	38	
14 Th.		29	33	21	42	38	11	27	56	2	11	14	15	4	37	38	38	38	38	38	
15 F.		33	29	22	43	32	15	11	11	1	5	8	23	17	39	39	39	39	39	39	
16 S.		37	26	23	44	35	18	24	0	ON	2	2	21	0	16	40	40	40	40	40	
17 Su.		41	22	24	45	38	21	6	28	1	7	3	N 36	12	35	40	40	40	40	40	
18 M.		45	19	25	46	42	23	18	40	2	8	9	19	24	41	41	41	41	41	41	
19 Tu.		49	1	26	47	47	25	0	4	40	3	2	14	33	6	42	42	42	42	42	
20 W.		53	12	27	48	53	26	12	34		49	19	15	18	29	43	43	43	43	43	
21 Th.		57	8	28	49	59	27	24	25	4	24	23	9	0	20	44	44	44	44	44	
22 F.	18	1	5	29	51	6	27	6	16	9	47	26	4	12	12	45	45	45	45	45	
23 S.		5	2	0	50	13	27	18	9		59	27	52	24	7	45	45	45	45	45	
24 Su.		8	58	1	53	20	26	0	6	6	57	28	24	6	7	46	46	46	46	46	
25 M.		12	55	2	54	28	25	12	8		42	27	3	18	11	47	47	47	47	47	
26 Tu.		16	51	3	55	36	24	24	16		15	25	27	0	23	48	48	48	48	48	
27 W.		20	48	4	56	44	22	6	31	3	35	22	7	12	42	49	49	49	49	49	
28 Tu.		24	44	5	57	53	19	18	55	2	45	17	46	25	11	49	49	49	49	49	
29 F.		28	41	6	59	2	16	1	29	1	45	12	35	7	51	50	50	50	50	50	
30 S.		32	37	8	0	11	12	14	16	0	40	6	48	20	46	50	50	50	50	50	
31 Su.		36	34	9	1	21	8	27	18	0	S 30	0	38	3	59	50	50	50	50	50	
Date	ψ		♂		♂		♂		♂		♂		♂		♂		♂		♂		ψ
	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	
1	1 N 37	4 S 38	0 N 20	23 N 29	2 N 4	1 N 36	1 S 9	12 S 33	1 S 18	23 N 23											
3	"	"	"	"	8	34	8	27	"	8											
5	"	"	"	"	30	31	"	22	"	17 22	54										
7	"	38	"	"	9	28	"	16	"	16 22	38										
9	"	"	"	"	31	26	"	10	"	16 22	1										
11	"	39	"	"	10	24	"	3	"	21	3										
13	"	"	"	"	"	22	"	11	57	"	21	44									
15	"	"	"	"	11	20	"	6	50	"	15	24									
17	"	40	"	"	32	12	18	"	43	"	14 20	44									
19	"	"	"	"	"	12	16	"	36	"	14 20	44									
21	"	39	"	"	"	12	15	"	29	"	13 19	55									
23	"	41	"	"	33	13	14	"	21	"	13 19	55									
25	"	"	"	"	"	13	12	"	5	"	12	31									
27	"	42	"	"	"	14	11	"	6	"	12	7									
29	"	"	"	"	34	15	9	"	10	58	11 18	44									
31	"	43	"	"	"	15	7	"	50	"	10	20									

EPHEMERIS.													DECEMBER, 1950.													25
Date	Longitudes.												Lunar Aspects.													
	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	☉	☽	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓
1	8	37	0	51	29	59	19	3	12	45	24	31														
2	R	35		55	0	6		49	14	25	25	59	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
3		33		59		14	20	36	15	39	27	26														
4		31	1	3		22	21	22	16	54	28	52														
5		28		7		29	22	8	17	8	0	18	*	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
6		26		10		37		55	19	3	1	44	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
7		24		14		45	23	42	20	19	3	2	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
8		22		18		53	24	28	21	34	4	33	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
9		19		22	1	1	25	15	22	49	5	57	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
10		17		25		9	26	22	4	7	21		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
11		15		28		18		48	25	19	8	33	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
12		12		32		27	27	34	26	35	9	45	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
13		10		35		36	28	31	27	50	10	55	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
14		7		38		45	29	8	29	36	12	5	*	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
15		4		41		54		55	0	21	13	11	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
16		2		44	2	3	0	42	1	37	14	13	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
17		0		46		13	1	29	2	52	15	5		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
18	7	57		49		22	2	15	4	7	58		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
19		55		52		32	3	1	5	23	16	41	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
20		52		54		42		49	6	38	17	19	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
21		50		57		51	4	38	7	53	45		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
22		47		59	3	1	5	23	9	8	18	4		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
23		45	2	1		12	6	10	10	24	13		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
24		42		4		22	56	11	39	R	11		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
25		39		6		32	7	42	12	54	17	54		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
26		37		9		42	8	27	14	8	25			☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
27		34		11		53	9	12	15	26	16	48		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
28		32		14	4	4		55	16	41	15	54		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
29		29		17		15	10	37	17	57	14	50		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
30		27		21		26	11	19	19	13	13	38		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
31		24		24		38	12	0	20	28	12	19		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Date.	☐		☐		Mean ☐	Date.	Time H. M.	Phenomena.		
	Lat.	Decl.	Lat.	Decl.						
1	0	S	3	22N	23	24	16	0	☐ at Perigee.	
3			8	46	21	25	21	51	☐ at Last Quarter.	
5			13	23	6	22	32	51	☐ at ☐	
7			18	23	22	4	8	25	☐ on Equator.	
9			23	37	18	37	23	59	☐ at Apogee	
11			27	49	13	23	16	11	22	New Moon, Decl. 27°N36'
13			32	57	4	5	4	11	29	☐ at ☐
15			36	24	1	52	41	21	29	☐ at First Quarter.
17			41	5	36	11	34	20	21	☐ on Equator.
19			45	5	15	23	28	15	40	Hl. rising of ☐ in East.
21	0	49	2	0	50	0	21	24	14	☐ enters ☐
23			54	23	56	20	22	15	51	☐ at ☐
25			57	23	46	N 16	0	9	27	Full Mn., Decl. 28° N 16'
27	1	1	34	54	21	30	0	22	6	Hl. stj. of ☐ in the West.
29			4	19	1	32	6	22	31	☐ at Perihelion.
31			7	2	2	6	20	47	49	☐ at ☐
										☐ on Equator.

Months and Dates.	Latitudes.										
	+5°	+8°	+11°	+14°	+17°	+20°	+23°	+26°	+29°	+32°	+35°
Jan. 1	16	10	6	16	6	21	6	26	6	31	6
8	11	16	21	26	31	36	44	50	56	1	8
15	14	19	23	26	32	36	44	50	56	0	6
22	16	19	24	27	31	35	42	46	50	6	3
29	16	19	23	27	31	34	40	44	48	53	6
Feb. 5	16	19	22	25	29	31	36	40	44	48	52
12	15	17	20	23	26	28	32	35	38	41	45
19	14	16	18	20	22	24	26	29	31	34	37
26	12	13	15	16	18	19	21	23	24	27	28
Mar. 5	8	9	10	12	13	14	15	16	17	18	19
12	5	6	6	6	8	8	8	9	9	9	9
19	3	2	2	2	2	2	2	1	0	0	0
26	0	5	5	5	5	5	5	5	5	5	5
Apr. 2	5	5	5	5	5	5	5	5	5	5	5
9	5	5	5	5	5	5	5	5	5	5	5
16	5	5	5	5	5	5	5	5	5	5	5
23	5	5	5	5	5	5	5	5	5	5	5
30	5	5	5	5	5	5	5	5	5	5	5
May 7	5	5	5	5	5	5	5	5	5	5	5
14	5	5	5	5	5	5	5	5	5	5	5
21	5	5	5	5	5	5	5	5	5	5	5
28	5	5	5	5	5	5	5	5	5	5	5
June 4	5	5	5	5	5	5	5	5	5	5	5
11	5	5	5	5	5	5	5	5	5	5	5
18	5	5	5	5	5	5	5	5	5	5	5
25	5	5	5	5	5	5	5	5	5	5	5
July 2	5	5	5	5	5	5	5	5	5	5	5
9	5	5	5	5	5	5	5	5	5	5	5
16	5	5	5	5	5	5	5	5	5	5	5
23	5	5	5	5	5	5	5	5	5	5	5
30	5	5	5	5	5	5	5	5	5	5	5
Aug. 6	5	5	5	5	5	5	5	5	5	5	5
13	5	5	5	5	5	5	5	5	5	5	5
20	5	5	5	5	5	5	5	5	5	5	5
27	5	5	5	5	5	5	5	5	5	5	5
Sep. 3	5	5	5	5	5	5	5	5	5	5	5
10	5	5	5	5	5	5	5	5	5	5	5
17	5	5	5	5	5	5	5	5	5	5	5
24	5	5	5	5	5	5	5	5	5	5	5
Oct. 1	5	5	5	5	5	5	5	5	5	5	5
8	5	5	5	5	5	5	5	5	5	5	5
15	5	5	5	5	5	5	5	5	5	5	5
22	5	5	5	5	5	5	5	5	5	5	5
29	5	5	5	5	5	5	5	5	5	5	5
Nov. 5	5	5	5	5	5	5	5	5	5	5	5
12	5	5	5	5	5	5	5	5	5	5	5
19	5	5	5	5	5	5	5	5	5	5	5
26	5	5	5	5	5	5	5	5	5	5	5
Dec. 3	5	5	5	5	5	5	5	5	5	5	5
10	5	5	5	5	5	5	5	5	5	5	5
17	5	5	5	5	5	5	5	5	5	5	5
24	5	5	5	5	5	5	5	5	5	5	5
31	5	5	5	5	5	5	5	5	5	5	5

Months and Dates.	Latitudes.										
	+5°	+8°	+11°	+14°	+17°	+20°	+23°	+26°	+29°	+32°	+35°
Jan. 1	18	1	17	56	17	51	17	46	17	39	17
8	4	59	54	50	45	42	34	29	23	17	3
15	7	18	3	58	54	49	46	39	33	28	16
22	9	6	18	2	57	53	50	44	39	34	23
29	12	8	5	18	1	57	54	48	44	39	30
Feb. 5	13	10	7	3	18	0	57	52	49	45	37
12	13	11	8	3	18	1	57	54	51	48	44
19	13	11	9	7	5	3	18	1	58	56	50
26	13	11	10	8	7	6	4	18	2	18	57
Mar. 5	12	11	11	10	9	8	7	6	5	18	3
12	12	11	11	11	10	10	10	10	9	9	9
19	10	11	11	11	12	12	12	13	13	14	14
26	9	10	11	12	13	14	15	16	18	19	20
Apr. 2	8	10	12	12	14	16	18	20	21	23	25
9	7	9	12	13	16	18	20	23	25	28	31
16	7	9	12	15	17	19	23	26	29	32	36
23	6	9	12	15	19	21	26	30	34	38	42
30	6	10	13	17	21	24	29	33	38	43	48
May 7	6	10	13	19	24	26	33	38	42	48	54
14	7	11	16	20	25	28	35	41	46	52	54
21	8	13	18	23	28	31	39	44	50	57	19
28	10	15	20	25	31	34	42	48	54	19	8
June 4	12	17	22	27	33	36	45	51	58	5	12
11	13	18	24	29	35	38	47	53	19	0	8
18	15	20	25	31	36	40	49	55	2	9	17
25	16	21	26	32	37	41	50	55	3	10	18
July 2	17	22	27	32	38	41	50	56	3	10	17
9	17	22	27	32	38	41	49	55	1	8	15
16	18	22	27	31	36	40	47	51	18	5	12
23	17	21	26	30	35	38	44	49	55	0	7
30	16	19	23	28	32	34	41	46	50	18	56
Aug. 6	14	18	21	25	28	31	36	40	45	49	18
13	12	15	18	21	24	26	31	34	38	42	46
20	18	10	18	12	18	14	18	19	18	25	18
27	6	8	10	12	14	16	18	20	24	25	28
Sep. 3	3	4	6	7	9	10	11	13	15	16	18
10	0	1	1	1	2	3	4	5	6	7	8
17	17	56	17	50	17	56	17	57	17	57	17
24	53	52	52	52	51	51	51	50	49	49	48
Oct. 1	50	49	48	46	45	44	43	42	41	40	38
8	47	45	44	42	40	39	37	35	33	31	29
15	44	42	40	38	36	34	31	29	26	23	20
22	42	40	37	34	32	30	26	22	19	16	12
29	41	38	35	32	28	26	21	17	13	9	5
Nov. 5	41	38	34	30	26	23	17	13	9	4	16
12	41	38	33	29	24	21	15	10	5	16	59
19	42	38	33	29	24	17	14	8	3	57	50
26	44	39	34	29	24	17	13	8	2	56	49
Dec. 3	46	41	36	31	26	23	15	8	2	55	48
10	50	45	39	34	28	25	17	10	4	57	50
17	53	48	43	37	32	28	20	13	7	17	0
24	57	53	46	41	35	32	24	17	11	4	56
31	18	0	56	49	44	38	35	27	20	14	7

28 Geocentric position of Pluto and Mean Longitudes
of the Sun and the Moon in 1950.

Month and Date.	Pluto.			Sun.			Moon.		
	Long.	Lat.	Decl.	Mean Long.	Mean Long.	Hor. Par.	Semi- Dia.		
Jan.	17 ^h 43 ^m R 31	8 S	23 N	19 280 20 53	67 57 4	54.9	14.9		
	11 18	14	23	290 12 17	199 42 54	59.1	16.1		
	21 18	16	27	300 3 40	331 28 44	56.1	15.3		
	31 4	17	34	309 55 3	103 14 35	56.1	15.3		
Feb.	10 16 50	18	41	319 46 26	235 0 25	59.2	16.1		
	20 36	18	50	329 37 50	6 46 15	54.7	14.7		
March	2 23	18	52	339 29 13	138 32 5	58.0	14.1		
	12 11	17	54	349 20 37	270 17 55	58.1	15.8		
	22 0	17	56	359 12 0	42 3 46	53.9	14.7		
April	1 15 51	16	57	9 3 24	173 49 36	59.9	16.3		
	11 45	14	58	18 54 46	305 35 25	56.8	15.5		
	21 42	13	57	28 46 9	77 21 16	54.0	14.0		
May	1 42	11	56	38 37 32	209 7 7	61.1	16.6		
	11 D 45	10	54	48 28 56	340 52 57	56.1	15.3		
	21 49	8	51	58 20 19	112 38 48	54.4	15.8		
	31 57	7	47	68 11 43	244 24 37	61.3	16.7		
June	10 16 7	6	43	78 3 6	16 10 38	54.9	14.9		
	20 19	5	38	87 54 30	147 56 18	55.7	15.8		
	30 33	4	33	97 45 53	279 42 9	60.1	16.4		
July	10 48	3	28	107 37 16	51 27 58	54.3	14.8		
	20 17 5	3	23	117 28 38	183 13 49	57.9	15.8		
	30 23	3	17	127 20 2	314 59 39	58.2	15.9		
August	9 41	4	12	137 11 25	86 45 29	54.7	14.8		
	19 59	5	7	147 2 50	218 31 20	59.0	16.1		
	29 18 17	6	2	156 54 13	350 17 10	56.3	15.3		
Sep.	8 35	8 22	58	166 45 36	122 3 0	55.9	15.2		
	18 52	9	54	176 36 59	252 48 50	59.4	16.2		
	28 19 7	11	52	186 28 23	35 34 41	54.8	14.8		
Oct.	8 20	14	50	196 19 46	157 20 31	57.7	15.7		
	18 30	16	48	206 11 10	289 6 21	58.6	15.9		
	28 38	19	49	216 2 33	60 52 11	54.0	14.7		
Nov.	7 44	22	50	225 53 55	192 38 1	59.3	16.2		
	17 46	25	52	235 45 19	324 23 52	52.2	15.6		
	27 19 46	8 S 29	22 S 54	245 36 41	96 9 42	53.9	14.7		
Dec.	7 R 43	32	55	255 28 5	227 55 32	60.7	16.5		
	17 36	34 23	2	265 19 28	359 41 22	55.8	15.2		
	27 29	37	9	275 10 52	131 27 13	54.8	14.9		
	31 27	38	11	279 7 25	184 9 33	57.0	15.5		

Ending Moments of Tithis for each date in 1950
(calculated in I. S. T.).

29

Date.	January.		February.		March.		April.		May.		June.	
	Ti.	Time.	Ti.	Time.	Ti.	Time.	Ti.	Time.	Ti.	Time.	Ti.	Time.
1	12 11 4	H. M.	13 5 44	H. M.	12 21 57	H. M.	13 8 40	H. M.	14 14 40	H. M.	16 14 37	H. M.
2	13 12 23		14 5 0		13 20 31		14 5 41		15 10 51		17 11 17	
3	14 13 57		15 3 45		14 18 31		15 2 19		16 6 59		18 8 30	
4	15 13 19		16 2 2		15 16 4		16 22 46		17 3 15		19 6 21	
5	16 13 0		17 0 3		16 13 15		18 15 43		19 20 58		20 4 54	
6	17 12 15		18 21 23		17 11 17		19 12 30		20 18 35		21 4 24	
7	18 11 12		20 17 22		18 7 15		20 9 43		21 17 0		22 4 44	
8	19 9 57		21 15 8		19 4 21		21 7 30		22 16 11		23 5 49	
9	20 8 26		22 13 2		20 1 35		22 5 52		23 16 13		24 7 36	
10	21 6 49		23 11 7		21 23 11		23 4 54		24 17 0		25 9 50	
11	22 5 0		24 9 19		22 21 7		24 4 37		25 18 27		26 12 20	
12	23 5 5		25 7 43		24 18 14		25 4 55		26 20 28		27 14 58	
13	24 1 5		26 6 23		25 17 29		26 5 54		27 22 49		28 17 20	
14	25 22 56		27 5 19		26 17 14		27 7 23		28 ..		29 19 30	
15	26 20 46		28 4 34		27 17 28		28 9 18		29 1 22		30 21 23	
16	27 18 39		29 4 17		28 18 9		29 11 31		30 3 56		1 22 51	
17	28 16 39		30 4 26		29 19 20		30 13 54		31 6 25		2 23 59	
18	29 14 55		1 5 10		30 20 53		1 16 12		1 8 43		3 ..	
19	30 13 32		2 6 25		1 22 53		2 19 4		2 10 50		3 0 43	
20	1 12 44		3 8 13		2 ..		3 21 32		3 12 38		4 1 2	
21	2 12 24		4 10 28		2 1 13		4 23 47		4 14 1		5 0 57	
22	3 12 53		5 13 0		3 3 44		5 ..		5 14 58		6 0 23	
23	4 14 2		6 15 42		4 6 21		6 1 42		6 15 24		7 23 21	
24	5 15 51		7 18 14		5 8 54		7 3 6		7 15 16		8 21 50	
25	6 18 2		8 20 20		6 11 10		8 4 4		8 14 29		9 19 49	
26	7 20 50		9 21 52		7 13 6		9 13 4		9 24 29		10 17 26	
27	8 23 29		10 22 44		8 14 9		10 11 1		10 34 4		11 14 31	
28	9 ..		11 22 44		9 14 34		11 8 20		11 8 20		12 11 42	
29	10 1 56		12 21 17		10 14 15		12 5 10		12 5 10		13 8 1	
30	10 3 56		11 13 6		11 13 6		13 18 11		13 1 40		14 4 41	
31	11 5 12		12 11 52		12 11 52		15 18 15		15 1 31		16 22 40	
	12 5 51		..		..		..		16 22 40		..	

Ending Moments of Tithis for each date in 1950
(calculated in I. S. T.)—(concl'd.).

Date.	July.		August.		September.		October.		November.		December.	
	Ti.	Time.	Ti.	Time.	Ti.	Time.	Ti.	Time.	Ti.	Time.	Ti.	Time.
1		H. M.		H. M.		H. M.		H. M.		H. M.		H. M.
1	17	22 10	18	6 48	20	..	20	19 49	21	16 21	21	9 6
2	18	18 35	19	7 14	20	1 26	21	22 15	22	17 54	22	9 48
3	19	17 35	20	8 22	21	3 48	22	..	23	18 56	23	9 45
4	20	17 23	21	10 4	22	6 14	22	0 25	24	18 59	24	8 55
5	21	16 0	22	12 13	23	8 30	23	2 8	25	18 2	25	7 23
6	22	19 32	23	14 40	24	10 27	24	3 15	26	16 56	26	4 59
7	23	21 31	24	17 2	25	11 47	25	3 43	27	14 44	27	2 3
8	24	..	25	19 12	26	12 37	26	3 32	28	11 57	28	22 38
9	24	0 53	26	20 53	27	12 40	27	2 8	29	8 35	29	18 53
10	25	2 19	27	22 6	28	11 58	28	0 18	30	4 57	30	14 58
							29	1 54			1	11 3
11	26	4 45	28	22 43	29	10 44	30	19 4			2	7 36
12	27	6 50	29	22 45	30	8 59		15 53	1	1 8		
13	28	8 33	30	22 18		1 6 47		2 12 33	2	21 23	3	4 30
14	29	9 48	1	21 19	2	4 22		3 9 11	3	17 51	4	2 0
									4	14 40	5	0 15
15	30	10 37	2	20 2	3	1 44		4 5 8	5	12 2	6	23 21
16	1	10 57	3	18 26	4	23 1		5 3 5	6	10 8	7	23 17
17	2	10 52	4	16 35	5	20 21		6 0 39	7	8 57	8	..
					6	17 46		7 22 40	8	8 35	9	0 3
18	3	10 24	5	14 35	7	15 27		8 21 15	9	8 55	10	3 32
19	4	9 35	6	12 27	8	13 24		9 20 26	10	9 55	11	5 56
20	5	8 32	7	10 13	9	11 41		10 20 9	11	11 34	12	8 30
21	6	7 4	8	7 57	10	10 22		11 20 34	12	13 30	13	11 5
22	7	5 17	9	5 44	11	9 24		12 21 23	13	15 49	14	13 30
23	8	3 15	10	3 35	12	8 50		13 22 40	14	18 13	15	15 50
24	9	0 57	11	1 35	13	8 44		14 ..	15	20 43		
	10	22 52	12	23 46								
25	11	19 44	13	22 14	14	9 5		14 0 18	16	22 19	16	17 59
26	12	17 1	14	21 5	15	9 52		15 2 18	17	..	17	19 50
27	13	14 23	15	20 21	16	11 9		16 4 7	17	1 43	18	21 21
28	14	11 5	16	20 17	17	12 51		17 6 58	18	4 3	19	22 30
29	15	9 50	17	20 31	18	14 56		18 9 28	19	7 3	20	23 15
30	16	8 16	18	21 30	19	17 18		19 11 58	20	7 51	21	23 26
31	17	7 12	19	23 12	..	..		20 14 22	..	..	22	23 16

Time when the Moon enters the Zodiacal signs in 1950. 31

[illegible]

32 Distances apart of all σ s and δ s in 1950.

Date.	Aspect.	Time.	Distance.	Date.	Aspect.	Time.	Distance.	Date.	Aspect.	Time.	Distance.
January.				March.				May.			
3	δ H.	17 16	4 23	1	δ H.	22 12	6 40				
4	δ M.	13 19	4 19	2	δ M.	5 9	1 3				
6	δ P1	1 28	4 34	3	δ P1	18 42	3 54				
7	δ P2	9 16	3 44	4	δ P2	2 26	2 58				
9	δ P3	4 21	5 28	6	δ P3	4 37	1 48				
10	δ P4	10 17	0 5	7	δ P4	16 4	2 0				
11	δ P5	13 54	1 26	8	δ P5	8 28	0 9				
16	δ P6	10 28	1 55	9	δ P6	22 52	9 7				
17	δ P7	22 9	4 34	10	δ P7	10 9	0 26				
18	δ P8	11 12	7 52	11	δ P8	3 17	4 21				
19	δ P9	13 32	4 39	12	δ P9	4 13	8 16				
20	δ P10	2 55	3 40	13	δ P10	13 18	3 29				
22	δ P11	0 44	4 2	14	δ P11	3 46	2 35				
24	δ P12	12 27	0 17	15	δ P12	1 14	0 5				
28	δ P13	3 59	2 54	16	δ P13	0 19	0 10				
31	δ P14	20 58	2 7	17	δ P14	20 53	1 1				
	δ P15	4 0	7 9	18	δ P15	11 19	6 56				
	δ P16	4 17	4 35	19	δ P16	16 53	4 52				
	δ P17	9 20	7 5	20	δ P17	4 4	3 30				
				21	δ P18	17 19	5 30				
February.				April.				June.			
1	δ P18	7 34	7 4	1	δ P18	4 20	0 1				
2	δ P19	20 32	11 46	2	δ P19	9 38	0 30				
3	δ P20	3 45	1 51	3	δ P20	20 34	1 24				
4	δ P21	5 3	3 45	4	δ P21	3 24	2 3				
5	δ P22	9 50	3 28	5	δ P22	2 19	0 3				
7	δ P23	2 36	0 38	6	δ P23	13 39	1 10				
12	δ P24	15 3	0 25	7	δ P24	15 49	4 21				
15	δ P25	3 51	0 4	8	δ P25	10 16	4 55				
16	δ P26	5 4	3 25	9	δ P26	18 4	4 10				
17	δ P27	22 24	4 38	10	δ P27	20 17	1 43				
18	δ P28	8 14	12 1	11	δ P28	9 23	2 55				
19	δ P29	7 55	4 12	12	δ P29	23 13	0 2				
20	δ P30	9 14	3 10	13	δ P30	20 40	0 27				
21	δ P31	4 26	2 54	14	δ P31	15 36	2 12				
27	δ P32	18 4	8 13	15	δ P32	13 54	1 35				
	δ P33	17 49	0 15	16	δ P33	9 1	0 54				
	δ P34	15 32	3 25	17	δ P34	3 22	1 57				
	δ P35	4 33	2 14	18	δ P35	1 5	4 45				
	δ P36	8 29	4 50	19	δ P36	12 27	3 55				
				20	δ P37	17 45	1 56				
				21	δ P38	12 12	0 4				
				22	δ P39	17 18	4 15				
				23	δ P40	3 49	0 48				
				24	δ P41	4 43	0 16				
				25	δ P42	7 49	0 43				
				26	δ P43	49 0	43 30				
				27	δ P44	49 0	43 30				

Distances apart of all σ s and δ s in 1949.—(contd.). 33

Date.	Aspect.	Time.	Distance.	Date.	Aspect.	Time.	Distance.	Date.	Aspect.	Time.	Distance.
July.				September.				November.			
2	δ P1	18 29	4 9	2	δ P1	13 8	2 42	1	δ P1	22 44	0 17
4	δ P2	22 30	0 31	7	δ P2	1 39	4 39	4	δ P2	0 45	5 5
5	δ P3	16 53	0 24	10	δ P3	1 18	0 20	6	δ P3	22 30	2 0
7	δ P4	1 21	0 23	10	δ P4	4 10	4 33	8	δ P4	2 45	2 44
9	δ P5	8 47	2 36	11	δ P5	1 43	1 0	10	δ P5	3 13	3 24
11	δ P6	6 42	3 1	12	δ P6	8 59	0 48	13	δ P6	4 57	4 4
12	δ P7	18 25	1 19	13	δ P7	14 48	1 13	13	δ P7	13 38	3 36
14	δ P8	15 17	6 10	14	δ P8	1 11	3 24	14	δ P8	9 23	3 38
15	δ P9	4 2	4 33	15	δ P9	7 0	2 59	16	δ P9	15 52	5 9
17	δ P10	10 17	1 43	18	δ P10	8 10	1 45	19	δ P10	6 0	0 36
19	δ P11	10 37	4 44	20	δ P11	21 47	3 14	20	δ P11	13 28	4 55
21	δ P12	20 16	2 6	21	δ P12	7 36	4 31	21	δ P12	17 1	1 13
23	δ P13	8 55	4 27	22	δ P13	2 6	4 40	22	δ P13	23 48	5 44
25	δ P14	13 4	2 45	23	δ P14	0 31	4 36	23	δ P14	20 43	3 35
27	δ P15	15 46	2 43	24	δ P15	7 18	1 7	24	δ P15	2 43	4 40
29	δ P16	22 40	1 9	25	δ P16	6 11	5 6	25	δ P16	2 21	2 46
31	δ P17	4 25	5 36	26	δ P17	17 19	2 22	26	δ P17	23 16	5 17
	δ P18	9 38	4 45	27	δ P18	9 52	0 22	27	δ P18	15 29	3 50
	δ P19	9 34	0 50	28	δ P19	12 47	2 59				
	δ P20	6 25	3 56	29	δ P20	23 39	1 1				
	δ P21	20 53	1 46								
August.				October.				December.			
1	δ P22	12 17	0 44	1	δ P22	11 47	3 33	1	δ P22	7 55	5 18
3	δ P23	17 41	2 44	4	δ P23	11 16	4 49	4	δ P23	10 3	1 7
4	δ P24	16 54	1 40	7	δ P24	15 7	4 39	5	δ P24	12 48	3 5
5	δ P25	41 4	0 42	10	δ P25	4 55	1 27	9	δ P25	14 58	4 48
10	δ P26	14 46	4 47	11	δ P26	6 39	1 31	10	δ P26	0 24	2 30
11	δ P27	20 2	4 46	11	δ P27	3 50	2 25	11	δ P27	0 53	3 47
13	δ P28	17 42	4 29	12	δ P28	16 26	2 43	12	δ P28	6 10	1 54
16	δ P29	22 18	3 9	13	δ P29	19 4	1 9	13	δ P29	7 51	2 28
17	δ P30	0 42	4 21	15	δ P30	13 45	3 41	15	δ P30	21 16	5 21
19	δ P31	0 55	1 42	17	δ P31	5 41	0 10	17	δ P31	2 53	0 3
23	δ P32	22 33	0 23	19	δ P32	8 27	4 42	18	δ P32	6 6	3 15
26	δ P33	22 18	2 43	20	δ P33	9 42	0 17	21	δ P33	11 4	0 26
27	δ P34	8 50	2 15	21	δ P34	7 2	4 47	22	δ P34	15 50	5 6
29	δ P35	18 57	4 12	23	δ P35	5 59	2 45	23	δ P35	3 5	4 20
31	δ P36	6 21	2 38	24	δ P36	18 29	2 53	24	δ P36	13 41	3 37
	δ P37	14 11	1 35	25	δ P37	10 18	0 4	25	δ P37	23 1	5 1
	δ P38	16 22	4 29	26	δ P38	15 29	3 52	26	δ P38	17 33	2 21
	δ P39	20 21	1 0	27	δ P39	15 44	3 55	27	δ P39	13 5	5 37
	δ P40	3 7	1 9	28	δ P40	2 18	2 34	28	δ P40	4 55	2 7
	δ P41	23 40	2 53	29	δ P41	13 5	5 48	29	δ P41	23 26	0 20
	δ P42	3 33	3 14	30	δ P42	18 26	5 27	30	δ P42		
				31	δ P43			31	δ P43		

Mutual Aspects of Planets in 1950.

Date.	Aspect	Time.	Date.	Aspect	Time.	Date.	Aspect	Time.	Date.	Aspect	Time.
January.									May.		
	H.	M.		H.	M.		H.	M.		H.	M.
2	♄ Δ P1	2 7	21	♄ Δ P1	12 0	26	♄ Δ P1	12 0	3	♄ Δ P1	12 0
	♄ Δ P1	2 52	22	♄ Δ P1	12 0	27	♄ Δ P1	12 0	4	♄ Δ P1	12 0
	♄ Δ P1	11 2	23	♄ Δ P1	12 0	28	♄ Δ P1	12 0	5	♄ Δ P1	12 0
	♄ Δ P1	14 11		♄ Δ P1	12 0		♄ Δ P1	12 0	6	♄ Δ P1	12 0
	♄ Δ P1	15 16		♄ Δ P1	12 0		♄ Δ P1	12 0	7	♄ Δ P1	12 0
	♄ Δ P1	20 54		♄ Δ P1	12 0		♄ Δ P1	12 0	8	♄ Δ P1	12 0
3	♄ Δ P1	4 48		♄ Δ P1	12 0		♄ Δ P1	12 0	9	♄ Δ P1	12 0
	♄ Δ P1	12 0		♄ Δ P1	12 0		♄ Δ P1	12 0	10	♄ Δ P1	12 0
4	♄ Δ P1	17 9		♄ Δ P1	12 0		♄ Δ P1	12 0	11	♄ Δ P1	12 0
8	♄ Δ P1	9 51		♄ Δ P1	12 0		♄ Δ P1	12 0	12	♄ Δ P1	12 0
	♄ Δ P1	15 6		♄ Δ P1	12 0		♄ Δ P1	12 0	13	♄ Δ P1	12 0
9	♄ Δ P1	3 32		♄ Δ P1	12 0		♄ Δ P1	12 0	14	♄ Δ P1	12 0
	♄ Δ P1	18 31		♄ Δ P1	12 0		♄ Δ P1	12 0	15	♄ Δ P1	12 0
10	♄ Δ P1	8 54		♄ Δ P1	12 0		♄ Δ P1	12 0	16	♄ Δ P1	12 0
13	♄ Δ P1	8 44		♄ Δ P1	12 0		♄ Δ P1	12 0	17	♄ Δ P1	12 0
17	♄ Δ P1	22 0		♄ Δ P1	12 0		♄ Δ P1	12 0	18	♄ Δ P1	12 0
18	♄ Δ P1	22 17		♄ Δ P1	12 0		♄ Δ P1	12 0	19	♄ Δ P1	12 0
19	♄ Δ P1	1 43		♄ Δ P1	12 0		♄ Δ P1	12 0	20	♄ Δ P1	12 0
	♄ Δ P1	12 0		♄ Δ P1	12 0		♄ Δ P1	12 0	21	♄ Δ P1	12 0
20	♄ Δ P1	1 6		♄ Δ P1	12 0		♄ Δ P1	12 0	22	♄ Δ P1	12 0
22	♄ Δ P1	15 48		♄ Δ P1	12 0		♄ Δ P1	12 0	23	♄ Δ P1	12 0
24	♄ Δ P1	15 45		♄ Δ P1	12 0		♄ Δ P1	12 0	24	♄ Δ P1	12 0
26	♄ Δ P1	4 0		♄ Δ P1	12 0		♄ Δ P1	12 0	25	♄ Δ P1	12 0
27	♄ Δ P1	19 4		♄ Δ P1	12 0		♄ Δ P1	12 0	26	♄ Δ P1	12 0
28	♄ Δ P1	4 0		♄ Δ P1	12 0		♄ Δ P1	12 0	27	♄ Δ P1	12 0
	♄ Δ P1	8 6		♄ Δ P1	12 0		♄ Δ P1	12 0	28	♄ Δ P1	12 0
	♄ Δ P1	8 57		♄ Δ P1	12 0		♄ Δ P1	12 0	29	♄ Δ P1	12 0
30	♄ Δ P1	18 0		♄ Δ P1	12 0		♄ Δ P1	12 0	30	♄ Δ P1	12 0
31	♄ Δ P1	9 20		♄ Δ P1	12 0		♄ Δ P1	12 0		♄ Δ P1	12 0
February.									June.		
1	♄ Δ P1	2 37	17	♄ Δ P1	12 0	17	♄ Δ P1	12 0	4	♄ Δ P1	12 0
2	♄ Δ P1	6 23		♄ Δ P1	12 0		♄ Δ P1	12 0	5	♄ Δ P1	12 0
4	♄ Δ P1	2 15		♄ Δ P1	12 0		♄ Δ P1	12 0	6	♄ Δ P1	12 0
5	♄ Δ P1	2 36		♄ Δ P1	12 0		♄ Δ P1	12 0	7	♄ Δ P1	12 0
6	♄ Δ P1	23 59		♄ Δ P1	12 0		♄ Δ P1	12 0	8	♄ Δ P1	12 0
	♄ Δ P1	6 35		♄ Δ P1	12 0		♄ Δ P1	12 0	9	♄ Δ P1	12 0
	♄ Δ P1	12 0		♄ Δ P1	12 0		♄ Δ P1	12 0	10	♄ Δ P1	12 0
	♄ Δ P1	20 24		♄ Δ P1	12 0		♄ Δ P1	12 0	11	♄ Δ P1	12 0
7	♄ Δ P1	16 26		♄ Δ P1	12 0		♄ Δ P1	12 0	12	♄ Δ P1	12 0
11	♄ Δ P1	13 30		♄ Δ P1	12 0		♄ Δ P1	12 0	13	♄ Δ P1	12 0
13	♄ Δ P1	16 30		♄ Δ P1	12 0		♄ Δ P1	12 0	14	♄ Δ P1	12 0
15	♄ Δ P1	7 12		♄ Δ P1	12 0		♄ Δ P1	12 0	15	♄ Δ P1	12 0
	♄ Δ P1	10 29		♄ Δ P1	12 0		♄ Δ P1	12 0	16	♄ Δ P1	12 0
16	♄ Δ P1	0 0		♄ Δ P1	12 0		♄ Δ P1	12 0	17	♄ Δ P1	12 0
	♄ Δ P1	18 40		♄ Δ P1	12 0		♄ Δ P1	12 0	18	♄ Δ P1	12 0
17	♄ Δ P1	2 1		♄ Δ P1	12 0		♄ Δ P1	12 0	19	♄ Δ P1	12 0
	♄ Δ P1	18 4		♄ Δ P1	12 0		♄ Δ P1	12 0	20	♄ Δ P1	12 0
20	♄ Δ P1	12 24		♄ Δ P1	12 0		♄ Δ P1	12 0		♄ Δ P1	12 0

[illegible]

Date.	Aspect	Time.	Date.	Aspect	Time.	Date.	Aspect	Time.	Date.	Aspect	Time.
December.						H. M.					
24	♂ ♀	0 1	1	♂ ♀	14 40	12	♂ ♀	11 36	24	♂ ♀	16 29
25	♂ ♀	15 8	2	♂ ♀	2 24	14	♂ ♀	13 43	25	♂ ♀	10 32
26	♂ ♀	12 16	3	♂ ♀	9 55	15	♂ ♀	21 17	26	♂ ♀	23 40
27	♂ ♀	12 16	4	♂ ♀	17 45	16	♂ ♀	21 17	27	♂ ♀	5 32
28	♂ ♀	20 54	5	♂ ♀	15 53	17	♂ ♀	21 21	28	♂ ♀	0 59
	♂ ♀	7 28	6	♂ ♀	2 10	18	♂ ♀	21 21	29	♂ ♀	4 16
	♂ ♀	7 1	7	♂ ♀	5 10	19	♂ ♀	16 40	30	♂ ♀	13 54
	♂ ♀		8	♂ ♀	0 38	20	♂ ♀	20 51	31	♂ ♀	23 26
	♂ ♀		9	♂ ♀	11 13	21	♂ ♀	12 0		♂ ♀	22 8
	♂ ♀		10	♂ ♀	14 34	22	♂ ♀	11 4		♂ ♀	22 59
	♂ ♀		11	♂ ♀	3 23		♂ ♀	15 36		♂ ♀	15 33
	♂ ♀			♂ ♀	6 10		♂ ♀			♂ ♀	

Heliacal Risings and Settings of the Planets in 1950.
(For the latitude 23°11' N.)

Mercury.

Sets

Rises.

11th Jan. in West.	25th Jan. in East
27th Feb. in East.	9th April in West
3rd May in West.	27th May in East
27th June in East.	26th July in West
3rd Sept. in West.	23rd Sept. in East
20th Oct. in East.	25th Nov. in West
27th Dec. in West.	

Venus.

Sets.

Rises.

26th Jan. in West.	4th Feb. in East
10th Oct. in East.	20th Dec. in West

Saturn.

Sets.

Rises.

Visible throughout the year.

Moonrise.

19th January.	16th July.
18th February	15th August.
20th March.	13th September.
18th April.	12th October.
18th May.	11th November.
17th June.	10th December.

Jupiter.

Sets.

Rises.

21st Jan. in West.	23rd Feb. in East.
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Mars.

Sets.

Rises.

5th January.	9th June.
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Date.	Aspect	Time.	Date.	Aspect	Time.	Date.	Aspect	Time.	Date.	Aspect	Time.
January.						H. M.					
1	♂ ♀	2 0	10	♂ ♀	17 26	19	♂ ♀	21 10	29	♂ ♀	17 22
2	♂ ♀	7 5	11	♂ ♀	8 38	20	♂ ♀	0 7	30	♂ ♀	3 56
3	♂ ♀	12 12	12	♂ ♀	9 1	21	♂ ♀	0 34	31	♂ ♀	6 39
4	♂ ♀	17 12	13	♂ ♀	11 5	22	♂ ♀	12 55		♂ ♀	13 5
5	♂ ♀	21 7	14	♂ ♀	11 17	23	♂ ♀	0 0		♂ ♀	13 11
6	♂ ♀	25 41	15	♂ ♀	13 54	24	♂ ♀	0 4		♂ ♀	20 50
7	♂ ♀	23 45	16	♂ ♀	19 41	25	♂ ♀	0 44		♂ ♀	21 12
8	♂ ♀	7 0	17	♂ ♀	10 28	26	♂ ♀	0 48		♂ ♀	22 39
9	♂ ♀	12 19	18	♂ ♀	10 44	27	♂ ♀	3 55		♂ ♀	23 41
10	♂ ♀	16 27	19	♂ ♀	12 46	28	♂ ♀	11 22		♂ ♀	5 15
11	♂ ♀	21 7	20	♂ ♀	13 45	29	♂ ♀	12 27		♂ ♀	14 20
12	♂ ♀	15 44	21	♂ ♀	16 3	30	♂ ♀	0 33		♂ ♀	18 29
13	♂ ♀	17 16	22	♂ ♀	11 46	31	♂ ♀	3 42		♂ ♀	0 17
14	♂ ♀	21 24	23	♂ ♀	12 48		♂ ♀	4 40		♂ ♀	1 17
15	♂ ♀	23 35	24	♂ ♀	15 17		♂ ♀	14 27		♂ ♀	16 19
16	♂ ♀	1 49	25	♂ ♀	18 17		♂ ♀	16 6		♂ ♀	17 4
17	♂ ♀	13 19	26	♂ ♀	23 41		♂ ♀	21 44		♂ ♀	17 55
18	♂ ♀	18 15	27	♂ ♀	13 9		♂ ♀	6 42		♂ ♀	22 45
19	♂ ♀	21 15	28	♂ ♀	13 26		♂ ♀	7 39		♂ ♀	
20	♂ ♀	23 56	29	♂ ♀	13 39		♂ ♀	9 12		♂ ♀	
21	♂ ♀	2 2	30	♂ ♀	13 49		♂ ♀	9 22		♂ ♀	
22	♂ ♀	6 21	31	♂ ♀	16 40		♂ ♀	12 27		♂ ♀	
23	♂ ♀	10 20		♂ ♀	20 13		♂ ♀	17 2		♂ ♀	
24	♂ ♀	14 25		♂ ♀	22 55		♂ ♀	3 30		♂ ♀	
25	♂ ♀	18 47		♂ ♀	12 39		♂ ♀	11 5		♂ ♀	
26	♂ ♀	22 5		♂ ♀	14 25		♂ ♀	13 45		♂ ♀	
27	♂ ♀	26 17		♂ ♀	16 10		♂ ♀	14 40		♂ ♀	
28	♂ ♀	30 37		♂ ♀	17 38		♂ ♀	15 51		♂ ♀	
29	♂ ♀	1 17		♂ ♀	19 17		♂ ♀	3 59		♂ ♀	
30	♂ ♀	5 49		♂ ♀	21 5		♂ ♀	10 2		♂ ♀	
31	♂ ♀	9 17		♂ ♀	24 11		♂ ♀	15 45		♂ ♀	
	♂ ♀	13 31		♂ ♀	27 9		♂ ♀	20 47		♂ ♀	
	♂ ♀	17 44		♂ ♀	30 58		♂ ♀	25 58		♂ ♀	
	♂ ♀	21 31		♂ ♀	1 0		♂ ♀	0 0		♂ ♀	
	♂ ♀	25 10		♂ ♀	4 10		♂ ♀	1 10		♂ ♀	
	♂ ♀	29 34		♂ ♀	7 24		♂ ♀	6 24		♂ ♀	
	♂ ♀	33 49		♂ ♀	10 9		♂ ♀	10 9		♂ ♀	
	♂ ♀	1 14		♂ ♀	13 49		♂ ♀	17 49		♂ ♀	
	♂ ♀	5 21		♂ ♀	20 6		♂ ♀	2 4		♂ ♀	
	♂ ♀	9 30		♂ ♀	8 30		♂ ♀	9 34		♂ ♀	
	♂ ♀	13 48		♂ ♀	11 48		♂ ♀	9 51		♂ ♀	
	♂ ♀	17 40		♂ ♀	14 40		♂ ♀	11 48		♂ ♀	
	♂ ♀	21 32		♂ ♀	17 32		♂ ♀	12 40		♂ ♀	
	♂ ♀	25 12		♂ ♀	20 12		♂ ♀	14 30		♂ ♀	
	♂ ♀	29 32		♂ ♀	23 32		♂ ♀	15 51		♂ ♀	
	♂ ♀	1 12		♂ ♀	26 12		♂ ♀			♂ ♀	
	♂ ♀	5 32		♂ ♀	29 32		♂ ♀			♂ ♀	
	♂ ♀	9 52		♂ ♀	32 52		♂ ♀			♂ ♀	
	♂ ♀	13 17		♂ ♀			♂ ♀			♂ ♀	

February.

1	♂ ♀	4 48	10	♂ ♀	17 22
2	♂ ♀	5 18	11	♂ ♀	3 56
3	♂ ♀	7 25	12	♂ ♀	6 39
4	♂ ♀	7 34	13	♂ ♀	13 5
5	♂ ♀	6 40	14	♂ ♀	13 11
6	♂ ♀	4 10	15	♂ ♀	20 50
7	♂ ♀	20 32	16	♂ ♀	21 12
8	♂ ♀	12 35	17	♂ ♀	22 39
9	♂ ♀	3 45	18	♂ ♀	23 41
10	♂ ♀	5 3	19	♂ ♀	5 15
11	♂ ♀	8 53	20	♂ ♀	14 20
12	♂ ♀	9 50	21	♂ ♀	18 29
13	♂ ♀	12 10	22	♂ ♀	0 17
14	♂ ♀	14 22	23	♂ ♀	1 17
15	♂ ♀	0 36	24	♂ ♀	16 19
16	♂ ♀	10 33	25	♂ ♀	17 4
17	♂ ♀	12 0	26	♂ ♀	17 55
18	♂ ♀	17 4	27	♂ ♀	22 45
19	♂ ♀	21 57		♂ ♀	
20	♂ ♀	2 14		♂ ♀	
21	♂ ♀	9 12		♂ ♀	
22	♂ ♀	11 0		♂ ♀	
23	♂ ♀	13 24		♂ ♀	
24	♂ ♀	14 32		♂ ♀	
25	♂ ♀	15 3		♂ ♀	
26	♂ ♀	19 31		♂ ♀	
27	♂ ♀	22 20		♂ ♀	
28	♂ ♀	22 20		♂ ♀	
29	♂ ♀	10 54		♂ ♀	

[illegible]

Date.	Aspect	Time.	Date.	Aspect	Time.	Date.	Aspect	Time.	Date.	Aspect	Time.
		H. M.			H. M.			H. M.			H. M.
16	♂ P1	12 59	27	♂	16 11	4	ψ	7 59	13	♂	11 27
	♂	13 18		♂	16 53		♂	13 39		♂	20 17
	♂	14 7		♂	18 31		♂	1 58		♂	22 43
	♂	20 9		♂	22 41		♂	2 17		♂	23 55
	♂	3 46		♂	1 6		♂	2 39		♂	9 23
17	♂	5 5	28	♂	1 41	5	♂	4 31	14	♂	12 11
	♂	17 24		♂	12 35		♂	8 3		♂	14 56
	♂	18 29		♂	18 41		♂	1 36		♂	23 13
	♂	0 2		♂	21 23		♂	4 17		♂	3 46
	♂	16 37		♂	22 6		♂	5 25		♂	3 52
18	P1	20 52	29	♂	7 40	6	♂	7 17	15	♂	20 17
	♂	22 31		♂	17 10		♂	7 37		♂	20 40
	♂	3 22		♂	22 29		♂	8 1		♂	1 14
	♂	0 19		♂	23 19		♂	21 3		♂	7 57
	♂	14 46		♂	1 36		♂	1 41		♂	9 31
19	♂	20 53	30	♂	14 15	7	♂	1 9	16	♂	11 6
	♂	23 50		♂	17 39		♂	3 17		♂	2 8
	♂	1 51		♂	1 20		♂	5 33		♂	10 44
	♂	3 58		♂	1 33		♂	7 45		♂	11 55
	♂	8 57		♂	4 4		♂	8 13		♂	14 37
20	♂	21 2	31	♂	4 30	8	♂	1 25	17	♂	15 36
	♂	7 42		♂	4 37		♂	4 45		♂	15 38
	♂	7 53		♂	17 19		P1	8 5		♂	7 51
	P1	9 51		♂	18 42		♂	8 21		♂	11 9
	♂	22 43		♂	22 8		♂	9 43		♂	13 54
21	♂	3 45	1	♂	23 24	9	♂	1 37	20	♂	16 55
	♂	13 57		♂	2 53		♂	5 45		♂	21 27
	♂	14 25		♂	6 27		♂	6 41		♂	23 45
	♂	16 8		♂	6 28		P1	9 23		♂	13 46
	♂	19 26		♂	22 1		♂	10 16		♂	20 29
22	♂	10 58	April.			10	♂	10 34	18	♂	23 17
	♂	20 12	2	♂	10 33		♂	10 33		♂	4 18
	♂	20 34		♂	7 54		P1	7 54		♂	4 24
	♂	22 35		P1	11 25		♂	11 25		♂	6 19
	♂	23 19		♂	11 41		♂	11 41		♂	9 1
23	♂	23 42		3	♂	14 14	11	♂	14 14	21	♂
	♂	0 43	♂		17 46	♂		17 46	♂		8 19
	♂	0 50	♂		4 55	♂		4 55	♂		10 39
	♂	17 49	♂		10 26	♂		10 26	♂		11 17
	♂	23 21	♂		11 11	♂		11 11	♂		12 51
24	♂	3 3	4	♂	15 30	12	♂	15 30	22	♂	11 48
	♂	5 13		♂	19 52		♂	19 52		♂	15 4
	♂	6 19		♂	20 37		♂	20 37		♂	16 49
	♂	8 54		♂	7 47		♂	7 47		♂	17 3
	♂	8 29		♂	13 58		♂	13 58		♂	17 16
25	♂	11 4	5	♂	8 7	13	P1	18 4	23	♂	4 19
	♂	11 46		♂	18 16		♂	18 16		♂	7 20
	♂	17 32		♂	19 19		♂	19 19		P1	22 54
	♂	6 56		♂	4 55		♂	4 55		♂	0 14
	♂			♂			♂			♂	

Date.	Aspect	Time.	Date.	Aspect	Time.	Date.	Aspect	Time.	Date.	Aspect	Time.
		H. M.			H. M.			H. M.			H. M.
24	♂ ♀	1 5	2	♂ ♀	12 59	10	♂ ♀	3 21	21	♂ ♀	13 49
	♂ ♀	1 42		♂ ♀	13 36		♂ ♀	10 53		♂ ♀	4 6
	♂ ♀	12 38		♂ ♀	20 30		♂ ♀	7 50		♂ ♀	7 43
	♂ ♀	22 58		♂ ♀	21 35		♂ ♀	12 27		♂ ♀	8 35
	♂ ♀	1 22		♂ ♀	4 8		♂ ♀	3 25		♂ ♀	10 19
	♂ ♀	3 51		♂ ♀	10 42		♂ ♀	8 17		♂ ♀	12 58
	♂ ♀	5 12		♂ ♀	10 51		♂ ♀	9 33		♂ ♀	17 55
	♂ ♀	17 16		♂ ♀	13 11		♂ ♀	18 27		♂ ♀	19 19
	♂ ♀	19 46		♂ ♀	17 51		♂ ♀	20 10		♂ ♀	19 59
	♂ ♀	3 34		♂ ♀	20 0		♂ ♀	19 8		♂ ♀	14 58
	♂ ♀	10 46		♂ ♀	3 43		♂ ♀	22 37		♂ ♀	19 35
	♂ ♀	10 58		♂ ♀	12 34		♂ ♀	2 59		♂ ♀	6 56
	♂ ♀	16 9		♂ ♀	16 47		♂ ♀	5 42		♂ ♀	13 28
	♂ ♀	21 14		♂ ♀	19 51		♂ ♀	8 40		♂ ♀	17 37
	♂ ♀	7 21		♂ ♀	12 30		♂ ♀	15 10		♂ ♀	19 26
	♂ ♀	12 27		♂ ♀	13 26		♂ ♀	21 34		♂ ♀	23 48
	♂ ♀	14 41		♂ ♀	17 38		♂ ♀	11 33		♂ ♀	1 8
	♂ ♀	20 29		♂ ♀	17 22		♂ ♀	12 4		♂ ♀	3 19
	♂ ♀	0 20		♂ ♀	3 34		♂ ♀	13 34		♂ ♀	21 6
	♂ ♀	6 10		♂ ♀	12 30		♂ ♀	13 26		♂ ♀	2 58
	♂ ♀	14 43		♂ ♀	15 34		♂ ♀	8 3		♂ ♀	3 14
	♂ ♀	17 26		♂ ♀	16 0		♂ ♀	12 6		♂ ♀	9 4
	♂ ♀	17 45		♂ ♀	17 51		♂ ♀	18 26		♂ ♀	20 5
	♂ ♀	2 10		♂ ♀	20 30		♂ ♀	0 58		♂ ♀	23 57
	♂ ♀	12 12		♂ ♀	22 20		♂ ♀	4 6		♂ ♀	1 43
	♂ ♀	16 34		♂ ♀	13 14		♂ ♀	9 2		♂ ♀	6 14
	♂ ♀	17 3		♂ ♀	13 51		♂ ♀	10 35		♂ ♀	13 45
	♂ ♀	3 49		♂ ♀	18 12		♂ ♀	14 43		♂ ♀	17 17
	♂ ♀	4 43		♂ ♀	18 35		♂ ♀	23 35		♂ ♀	3 27
	♂ ♀	5 32		♂ ♀	23 55		♂ ♀	1 15		♂ ♀	7 38
	♂ ♀	11 32		♂ ♀	5 32		♂ ♀	6 25		♂ ♀	7 44
	♂ ♀	18 3		♂ ♀	14 38		♂ ♀	10 31		♂ ♀	11 1
	♂ ♀	20 17		♂ ♀	15 44		♂ ♀	15 20		♂ ♀	12 9
	♂ ♀	21 1		♂ ♀	23 39		♂ ♀	21 13		♂ ♀	23 19
	♂ ♀	7 49		♂ ♀	0 11		♂ ♀	1 29		♂ ♀	2 44
	♂ ♀	7 53		♂ ♀	2 33		♂ ♀	16 43		♂ ♀	4 35
	♂ ♀	12 38		♂ ♀	8 6		♂ ♀	19 47		♂ ♀	8 42
	♂ ♀	13 42		♂ ♀	18 39		♂ ♀	21 27		♂ ♀	13 7
	♂ ♀	18 24		♂ ♀	23 16		♂ ♀	23 8		♂ ♀	13 37
	♂ ♀	21 33		♂ ♀	0 19		♂ ♀	9 13		♂ ♀	20 9
	♂ ♀			♂ ♀	3 33		♂ ♀	14 21		♂ ♀	20 15
	♂ ♀			♂ ♀	4 3		♂ ♀	23 47		♂ ♀	23 52
	♂ ♀			♂ ♀	5 25		♂ ♀	4 56		♂ ♀	9 8
	♂ ♀			♂ ♀	12 19		♂ ♀	9 18		♂ ♀	13 28
	♂ ♀			♂ ♀	19 53		♂ ♀	13 42		♂ ♀	15 30

May.

1	♂	♂	4	27
1	♀	♀	9	10

Date.	Aspect	Time.	Date.	Aspect	Time.	Date.	Aspect	Time.	Date.	Aspect	Time.
		H. M.			H. M.			H. M.			H. M.
30	♂ ♀	20 46	7	♂ ♀	17 55	17	♂ ♀	18 13	27	♂ ♀	11 53
	♂ ♀	23 57		♂ ♀	21 21		♂ ♀	11 35		♂ ♀	14 47
	♂ ♀	3 8		♂ ♀	23 19		♂ ♀	13 40		♂ ♀	17 19
	♂ ♀	4 58		♂ ♀	11 8		♂ ♀	16 54		♂ ♀	21 0
	♂ ♀	9 8		♂ ♀	14 17		♂ ♀	21 17		♂ ♀	21 3
	♂ ♀	9 19		♂ ♀	16 59		♂ ♀	21 55		♂ ♀	22 8
	♂ ♀	20 56		♂ ♀	17 9		♂ ♀	4 36		♂ ♀	12 16
	♂ ♀	23 56		♂ ♀	5 9		♂ ♀	12 27		♂ ♀	12 58
	♂ ♀	2 52		♂ ♀	6 59		♂ ♀	16 24		♂ ♀	21 11
	♂ ♀	8 56		♂ ♀	18 5		♂ ♀	0 14		♂ ♀	22 41
	♂ ♀	13 20		♂ ♀	22 23		♂ ♀	4 4		♂ ♀	0 45
	♂ ♀	18 15		♂ ♀	4 25		♂ ♀	6 1		♂ ♀	2 19
	♂ ♀	23 34		♂ ♀	10 11		♂ ♀	9 9		♂ ♀	11 47
	♂ ♀			♂ ♀	14 2		♂ ♀	19 3		♂ ♀	12 26
	♂ ♀			♂ ♀	14 59		♂ ♀	20 49		♂ ♀	15 32
	♂ ♀			♂ ♀	22 23		♂ ♀	22 36		♂ ♀	0 35
	♂ ♀			♂ ♀	22 33		♂ ♀	1 47		♂ ♀	15 47
	♂ ♀			♂ ♀	0 0		♂ ♀	5 15		♂ ♀	17 12
	♂ ♀			♂ ♀	1 35		♂ ♀	8 13		♂ ♀	21 59
	♂ ♀			♂ ♀	4 33		♂ ♀	11 34		♂ ♀	1 28
	♂ ♀			♂ ♀	9 50		♂ ♀	0 57		♂ ♀	1 30
	♂ ♀			♂ ♀	16 34		♂ ♀	2 14		♂ ♀	1 31
	♂ ♀			♂ ♀	3 1		♂ ♀	9 45		♂ ♀	12 42
	♂ ♀			♂ ♀	8 12		♂ ♀	11 52		♂ ♀	13 7
	♂ ♀			♂ ♀	17 23		♂ ♀	16 35		♂ ♀	16 21
	♂ ♀			♂ ♀	21 12		♂ ♀	20 35		♂ ♀	19 35
	♂ ♀			♂ ♀	23 13		♂ ♀	3 58		♂ ♀	
	♂ ♀			♂ ♀	9 27		♂ ♀	5 24		♂ ♀	
	♂ ♀			♂ ♀	11 41		♂ ♀	8 28		♂ ♀	
	♂ ♀			♂ ♀	14 30		♂ ♀	22 56		♂ ♀	
	♂ ♀			♂ ♀	15 40		♂ ♀	10 42		♂ ♀	
	♂ ♀			♂ ♀	17 35		♂ ♀	11 4		♂ ♀	
	♂ ♀			♂ ♀	0 4		♂ ♀	16 44		♂ ♀	
	♂ ♀			♂ ♀	4 9		♂ ♀	17 18		♂ ♀	
	♂ ♀			♂ ♀	18 53		♂ ♀	21 38		♂ ♀	
	♂ ♀			♂ ♀	20 51		♂ ♀	3 22		♂ ♀	
	♂ ♀			♂ ♀	23 0		♂ ♀	8 24		♂ ♀	
	♂ ♀			♂ ♀	6 28		♂ ♀	8 41		♂ ♀	
	♂ ♀			♂ ♀	12 10		♂ ♀	9 49		♂ ♀	
	♂ ♀			♂ ♀	0 24		♂ ♀	12 56		♂ ♀	
	♂ ♀			♂ ♀	2 51		♂ ♀	23 12		♂ ♀	
	♂ ♀			♂ ♀	4 24		♂ ♀	7 2		♂ ♀	
	♂ ♀			♂ ♀	6 2		♂ ♀	10 7		♂ ♀	
	♂ ♀			♂ ♀	21 23		♂ ♀	13 12		♂ ♀	
	♂ ♀			♂ ♀	11 40		♂ ♀	17 26		♂ ♀	
	♂ ♀			♂ ♀	12 34		♂ ♀	18 37		♂ ♀	
	♂ ♀			♂ ♀	13 9		♂ ♀	21 5		♂ ♀	
	♂ ♀			♂ ♀	13 17		♂ ♀	0 15		♂ ♀	
	♂ ♀			♂ ♀	17 44		♂ ♀	11 3		♂ ♀	

July.

1	♂	♂	2	12
1	♀	♀	9	21
2	♂	♂	13	49
2	♀	♀	23	1
3	♂	♂	0	7
3	♀	♀	3	36
4	♂	♂	5	27
4	♀	♀	7	18
5	♂	♂	15	22
5	♀	♀	15	46
6	♂	♂	15	53
6	♀	♀	18	29
7	♂	♂	2	23
7	♀	♀	8	43
8	♂	♂	11	41
8	♀	♀	18	39
9	♂	♂	22	58

Date.	Aspect	Time.	Date.	Aspect	Time.	Date.	Aspect	Time.	Date.	Aspect	Time.
4	♂ ♀	5 38	15	♂ ♀	21 57	25	♂ ♀	6 38	3	♂ ♀	12 18
5	♂ ♀	9 9	16	♂ ♀	0 42	26	♂ ♀	20 22	4	♂ ♀	14 18
6	♂ ♀	9 24	17	♂ ♀	6 27	27	♂ ♀	22 3	5	♂ ♀	16 54
7	♂ ♀	13 8	18	♂ ♀	10 18	28	♂ ♀	23 16	6	♂ ♀	18 3
8	♂ ♀	17 23	19	♂ ♀	10 37	29	♂ ♀	5 44	7	♂ ♀	20 20
9	♂ ♀	22 23	20	♂ ♀	2 41	30	♂ ♀	6 48	8	♂ ♀	22 42
10	♂ ♀	22 30	21	♂ ♀	13 9	31	♂ ♀	7 41	9	♂ ♀	23 40
11	♂ ♀	7 15	22	♂ ♀	14 10		♂ ♀	21 0	10	♂ ♀	14 57
12	♂ ♀	7 17	23	♂ ♀	14 15		♂ ♀	23 54	11	♂ ♀	17 41
13	♂ ♀	15 9	24	♂ ♀	4 40		♂ ♀	0 49	12	♂ ♀	21 53
14	♂ ♀	18 22	25	♂ ♀	6 33		♂ ♀	1 7	13	♂ ♀	22 38
15	♂ ♀	19 42	26	♂ ♀	7 26		♂ ♀	3 41	14	♂ ♀	16 54
16	♂ ♀	0 57	27	♂ ♀	8 55		♂ ♀	4 25	15	♂ ♀	10 8
17	♂ ♀	8 25	28	♂ ♀	16 54		♂ ♀	5 11	16	♂ ♀	18 22
18	♂ ♀	8 47	29	♂ ♀	20 29		♂ ♀	8 15	17	♂ ♀	18 57
19	♂ ♀	9 15	30	♂ ♀	22 41		♂ ♀	8 38	18	♂ ♀	19 11
20	♂ ♀	12 58	31	♂ ♀	8 4		♂ ♀	22 54	19	♂ ♀	11 5
21	♂ ♀	10 20		♂ ♀	13 43		♂ ♀	2 7	20	♂ ♀	11 11
22	♂ ♀	15 40		♂ ♀	20 45		♂ ♀	3 3	21	♂ ♀	5 55
23	♂ ♀	3 38		♂ ♀	11 2		♂ ♀	9 11	22	♂ ♀	11 29
24	♂ ♀	6 29		♂ ♀	13 4		♂ ♀	11 38	23	♂ ♀	20 59
25	♂ ♀	16 33		♂ ♀	15 10		♂ ♀	21 53	24	♂ ♀	8 46
26	♂ ♀	19 46		♂ ♀	16 41		♂ ♀	3 39	25	♂ ♀	8 59
27	♂ ♀	21 24		♂ ♀	7 25		♂ ♀	9 50	26	♂ ♀	12 58
28	♂ ♀	21 26		♂ ♀	8 32		♂ ♀	10 32	27	♂ ♀	14 48
29	♂ ♀	22 18		♂ ♀	18 12		♂ ♀	12 26	28	♂ ♀	1 11
30	♂ ♀	1 48		♂ ♀	19 34		♂ ♀	12 42	29	♂ ♀	4 29
31	♂ ♀	2 19		♂ ♀	1 35		♂ ♀	2 5	30	♂ ♀	10 10
	♂ ♀	10 17		♂ ♀	1 40		♂ ♀	5 46	31	♂ ♀	10 13
	♂ ♀	3 50		♂ ♀	4 7		♂ ♀	6 25		♂ ♀	15 20
	♂ ♀	7 58		♂ ♀	15 46		♂ ♀	14 23		♂ ♀	19 5
	♂ ♀	11 20		♂ ♀	18 9		♂ ♀	17 41		♂ ♀	23 34
	♂ ♀	16 39		♂ ♀	19 49		♂ ♀	20 53		♂ ♀	20 59
	♂ ♀	18 56		♂ ♀	22 40		♂ ♀	15 7		♂ ♀	23 14
	♂ ♀	7 43		♂ ♀	3 24		♂ ♀	4 17		♂ ♀	8 48
	♂ ♀	9 51		♂ ♀	16 14		♂ ♀	15 57		♂ ♀	13 5
	♂ ♀	11 6		♂ ♀	20 2		♂ ♀	18 51		♂ ♀	19 38
	♂ ♀	14 13		♂ ♀	4 58		♂ ♀	21 59		♂ ♀	20 21
	♂ ♀	15 17		♂ ♀	5 17		♂ ♀	23 6		♂ ♀	21 47
	♂ ♀	19 47		♂ ♀	15 33		♂ ♀			♂ ♀	21 55
	♂ ♀	22 46		♂ ♀	18 58		♂ ♀			♂ ♀	22 25
	♂ ♀	19 44		♂ ♀	19 58		♂ ♀			♂ ♀	7 27
	♂ ♀	4 4		♂ ♀	21 34		♂ ♀			♂ ♀	9 48
	♂ ♀	5 44		♂ ♀	23 0		♂ ♀			♂ ♀	23 0
	♂ ♀	20 24		♂ ♀	3 43		♂ ♀			♂ ♀	23 23
	♂ ♀	20 50		♂ ♀			♂ ♀			♂ ♀	11 0

August.

Date.	Aspect	Time.	Date.	Aspect	Time.	Date.	Aspect	Time.	Date.	Aspect	Time.
13	♂ ♀	11 38	22	♂ ♀	15 53	31	♂ ♀	3 33		♂ ♀	6 0
14	♂ ♀	15 31	23	♂ ♀	8 10		♂ ♀	10 31		♂ ♀	13 37
15	♂ ♀	17 8	24	♂ ♀	8 39		♂ ♀	11 12		♂ ♀	22 11
16	♂ ♀	23 25	25	♂ ♀	11 16		♂ ♀	13 34		♂ ♀	3 33
17	♂ ♀	12 59	26	♂ ♀	16 35		♂ ♀	16 54		♂ ♀	6 0
18	♂ ♀	14 20	27	♂ ♀	22 38		♂ ♀			♂ ♀	10 9
19	♂ ♀	17 42	28	♂ ♀	3 35		♂ ♀			♂ ♀	13 39
20	♂ ♀	19 7	29	♂ ♀	9 56		♂ ♀			♂ ♀	0 35
21	♂ ♀	22 18	30	♂ ♀	10 8		♂ ♀			♂ ♀	1 25
22	♂ ♀	2 45		♂ ♀	18 22		♂ ♀			♂ ♀	1 43
23	♂ ♀	9 3		♂ ♀	18 57		♂ ♀			♂ ♀	2 13
24	♂ ♀	22 44		♂ ♀	19 11		♂ ♀			♂ ♀	16 4
25	♂ ♀	5 27		♂ ♀	7 5		♂ ♀			♂ ♀	4 17
26	♂ ♀	14 12		♂ ♀	7 18		♂ ♀			♂ ♀	8 46
27	♂ ♀	18 26		♂ ♀	11 21		♂ ♀			♂ ♀	8 59
28	♂ ♀	23 0		♂ ♀	14 53		♂ ♀			♂ ♀	12 58
29	♂ ♀	0 7		♂ ♀	15 21		♂ ♀			♂ ♀	14 48
30	♂ ♀	0 42		♂ ♀	10 53		♂ ♀			♂ ♀	1 11
31	♂ ♀	7 18		♂ ♀	13 2		♂ ♀			♂ ♀	4 29
	♂ ♀	18 49		♂ ♀	22 55		♂ ♀			♂ ♀	10 10
	♂ ♀	1 2		♂ ♀	1 31		♂ ♀			♂ ♀	15 20
	♂ ♀	2 33		♂ ♀	6 21		♂ ♀			♂ ♀	19 5
	♂ ♀	3 20		♂ ♀	9 7		♂ ♀			♂ ♀	23 34
	♂ ♀	9 43		♂ ♀	11 36		♂ ♀			♂ ♀	20 59
	♂ ♀	11 5		♂ ♀	16 22		♂ ♀			♂ ♀	8 48
	♂ ♀	22 18		♂ ♀	19 50		♂ ♀			♂ ♀	13 5
	♂ ♀	2 48		♂ ♀	1 39		♂ ♀			♂ ♀	19 38
	♂ ♀	4 1		♂ ♀	13 20		♂ ♀			♂ ♀	20 21
	♂ ♀	4 47		♂ ♀	14 33		♂ ♀			♂ ♀	21 47
	♂ ♀	9 11		♂ ♀	17 51		♂ ♀			♂ ♀	21 55
	♂ ♀	14 35		♂ ♀	20 21		♂ ♀			♂ ♀	22 25
	♂ ♀	3 2		♂ ♀	4 55		♂ ♀			♂ ♀	7 27
	♂ ♀	5 18		♂ ♀	10 14		♂ ♀			♂ ♀	9 48
	♂ ♀	6 31		♂ ♀	15 5		♂ ♀			♂ ♀	23 0
	♂ ♀	8 50		♂ ♀	18 10		♂ ♀			♂ ♀	23 23
	♂ ♀	12 48		♂ ♀	23 6		♂ ♀			♂ ♀	11 0
	♂ ♀	13 1		♂ ♀	3 7		♂ ♀			♂ ♀	
	♂ ♀	1 20		♂ ♀	15 46		♂ ♀			♂ ♀	
	♂ ♀	5 47		♂ ♀	22 19		♂ ♀			♂ ♀	
	♂ ♀	8 9		♂ ♀	23 40		♂ ♀			♂ ♀	
	♂ ♀	14 30		♂ ♀	1 12		♂ ♀			♂ ♀	
	♂ ♀	16 14		♂ ♀	3 31		♂ ♀			♂ ♀	
	♂ ♀	21 7		♂ ♀	9 6		♂ ♀			♂ ♀	
	♂ ♀	2 47		♂ ♀	13 37		♂ ♀			♂ ♀	
	♂ ♀	7 35		♂ ♀	22 11		♂ ♀			♂ ♀	
	♂ ♀	10 38		♂ ♀	3 33		♂ ♀			♂ ♀	
	♂ ♀	13 55		♂ ♀	6 0		♂ ♀			♂ ♀	

September.

Date.	Aspect	Time.	Date.	Aspect	Time.	Date.	Aspect	Time.	Date.	Aspect	Time.
		H. M.			H. M.			H. M.			H. M.
19	☿ ☊	21 17	29	♂ ♀	13 11	9	♂ ☊	8 28	18	♂ ☊	14 5
	☿ ☋	22 22		♂ ☋	19 43		♂ ☋	9 9		♂ ☋	18 38
	☿ ☌	2 25		♂ ☌	22 2		♂ ☌	12 25		♂ ☌	19 29
	☿ ☍	2 39		♂ ☍	1 48		♂ ☍	21 18		♂ ☍	20 52
	☿ ☎	9 41		♂ ☎	10 14		♂ ☎	2 33		♂ ☎	9 49
20	☿ ☏	7 0	30	♂ ☏	10 19	10	♂ ☏	3 3	19	♂ ☏	14 0
	☿ ☐	2 6		♂ ☐	0 20		♂ ☐	13 22		♂ ☐	15 56
	☿ ☑	5 42		♂ ☑	5 26		♂ ☑	14 30		♂ ☑	22 12
	☿ ☒	7 31		♂ ☒	6 1		♂ ☒	20 1		♂ ☒	1 33
	☿ ☓	22 41		♂ ☓	10 42		♂ ☓	6 39		♂ ☓	12 52
	☿ ☔	14 32		♂ ☔	16 45		♂ ☔	10 39		♂ ☔	16 57
21	☿ ☕	19 1		♂ ☕	16 46		♂ ☕	16 5		♂ ☕	0 27
	☿ ☖	21 42		♂ ☖	18 36		♂ ☖	21 16		♂ ☖	2 40
	☿ ☗	2 38		♂ ☗	Δ		♂ ☗	3 50		♂ ☗	2 42
	☿ ☘	9 15		♂ ☘	Δ		♂ ☘	5 42		♂ ☘	7 2
	☿ ☙	10 21		♂ ☙	Δ		♂ ☙	7 49		♂ ☙	7 33
	☿ ☚	12 25		♂ ☚	Δ		♂ ☚	11 22		♂ ☚	16 12
	☿ ☛	13 26		♂ ☛	Δ		♂ ☛	16 26		♂ ☛	20 9
22	☿ ☜	22 44		♂ ☜	Δ		♂ ☜	19 4		♂ ☜	20 37
	☿ ☝	5 32		♂ ☝	Δ		♂ ☝	21 53		♂ ☝	22 4
	☿ ☞	15 12		♂ ☞	Δ		♂ ☞	8 25		♂ ☞	22 4
	☿ ☟	16 58		♂ ☟	Δ		♂ ☟	9 30		♂ ☟	10 40
	☿ ☠	18 5		♂ ☠	Δ		♂ ☠	11 39		♂ ☠	14 24
	☿ ☡	19 54		♂ ☡	Δ		♂ ☡	23 2		♂ ☡	20 41
23	☿ ☢	0 20		♂ ☢	Δ		♂ ☢	6 20		♂ ☢	22 14
	☿ ☣	0 31		♂ ☣	Δ		♂ ☣	8 44		♂ ☣	8 20
	☿ ☤	8 52		♂ ☤	Δ		♂ ☤	8 54		♂ ☤	14 9
	☿ ☥	10 9		♂ ☥	Δ		♂ ☥	10 51		♂ ☥	15 20
	☿ ☦	18 7		♂ ☦	Δ		♂ ☦	16 47		♂ ☦	19 36
	☿ ☧	20 43		♂ ☧	Δ		♂ ☧	22 16		♂ ☧	22 2
24	☿ ☨	23 19		♂ ☨	Δ		♂ ☨	2 8		♂ ☨	5 59
	☿ ☩	13 52		♂ ☩	Δ		♂ ☩	6 24		♂ ☩	6 59
25	☿ ☪	3 18		♂ ☪	Δ		♂ ☪	9 1		♂ ☪	10 0
	☿ ☫	6 11		♂ ☫	Δ		♂ ☫	11 12		♂ ☫	20 22
	☿ ☬	7 18		♂ ☬	Δ		♂ ☬	11 44		♂ ☬	5 59
	☿ ☭	8 12		♂ ☭	Δ		♂ ☭	16 52		♂ ☭	12 12
26	☿ ☮	17 19		♂ ☮	Δ		♂ ☮	0 43		♂ ☮	18 29
	☿ ☯	3 4		♂ ☯	Δ		♂ ☯	5 28		♂ ☯	1 51
	☿ ☰	5 35		♂ ☰	Δ		♂ ☰	6 39		♂ ☰	4 22
	☿ ☱	9 52		♂ ☱	Δ		♂ ☱	19 45		♂ ☱	15 24
	☿ ☲	12 50		♂ ☲	Δ		♂ ☲	13 47		♂ ☲	15 44
27	☿ ☳	23 0		♂ ☳	Δ		♂ ☳	17 14		♂ ☳	17 23
	☿ ☴	7 53		♂ ☴	Δ		♂ ☴	22 57		♂ ☴	17 50
	☿ ☵	12 47		♂ ☵	Δ		♂ ☵	3 5		♂ ☵	2 18
	☿ ☶	15 42		♂ ☶	Δ		♂ ☶	10 20		♂ ☶	12 11
	☿ ☷	18 7		♂ ☷	Δ		♂ ☷	12 41		♂ ☷	17 29
28	☿ ☸	23 37		♂ ☸	Δ		♂ ☸	23 56		♂ ☸	23 43
	☿ ☹	4 5		♂ ☹	Δ		♂ ☹	8 27		♂ ☹	6 12
	☿ ☺			♂ ☺	Δ		♂ ☺	13 58		♂ ☺	13 53
	☿ ☻			♂ ☻	Δ		♂ ☻	20 22		♂ ☻	20 22

October.

Date.	Aspect	Time.	Date.	Aspect	Time.	Date.	Aspect	Time.	Date.	Aspect	Time.
		H. M.			H. M.			H. M.			H. M.
28	♂ ☊	23 39	6	♂ ☊	6 58	15	♂ ☊	12 9	25	♂ ☊	18 14
	♂ ☋	6 11		♂ ☋	11 56		♂ ☋	0 3		♂ ☋	20 43
	♂ ☌	6 14		♂ ☌	19 5		♂ ☌	1 53		♂ ☌	2 43
	♂ ☍	10 51		♂ ☍	21 11		♂ ☍	2 0		♂ ☍	10 56
	♂ ☎	12 24		♂ ☎	22 30		♂ ☎	4 41		♂ ☎	23 2
	♂ ☏	13 54		♂ ☏	22 32		♂ ☏	6 17		♂ ☏	0 34
29	♂ ☐	20 14		♂ ☐	1 23		♂ ☐	4 12		♂ ☐	2 21
	♂ ☑	5 58		♂ ☑	4 17		♂ ☑	6 2		♂ ☑	9 6
	♂ ☒	18 45		♂ ☒	8 37		♂ ☒	13 28		♂ ☒	4 43
	♂ ☓	20 47		♂ ☓	16 13		♂ ☓	18 55		♂ ☓	6 45
30	♂ ☔	1 13		♂ ☔	22 25		♂ ☔	20 36		♂ ☔	14 55
	♂ ☕	2 38		♂ ☕	2 40		♂ ☕	21 18		♂ ☕	15 19
	♂ ☖	5 22		♂ ☖	1 27		♂ ☖	21 56		♂ ☖	22 24
	♂ ☗	13 5		♂ ☗	2 45		♂ ☗	5 33		♂ ☗	23 16
	♂ ☘	18 59		♂ ☘	8 14		♂ ☘	7 36		♂ ☘	11 6
	♂ ☙	19 29		♂ ☙	9 23		♂ ☙	9 12		♂ ☙	12 54
31	♂ ☚	6 39		♂ ☚	22 53		♂ ☚	14 36		♂ ☚	15 29
	♂ ☛	8 55		♂ ☛	0 14		♂ ☛	0 22		♂ ☛	21 17
	♂ ☜	12 21		♂ ☜	5 15		♂ ☜	1 0		♂ ☜	23 12
	♂ ☝	14 22		♂ ☝	16 42		♂ ☝	13 20		♂ ☝	23 38
	♂ ☞	18 26		♂ ☞	0 14		♂ ☞	21 23		♂ ☞	7 40
	♂ ☟			♂ ☟	2 47		♂ ☟	9 55		♂ ☟	17 6
	♂ ☠			♂ ☠	4 57		♂ ☠	12 43		♂ ☠	18 57
	♂ ☡			♂ ☡	6 15		♂ ☡	14 47		♂ ☡	7 51
	♂ ☢			♂ ☢	9 14		♂ ☢	17 1		♂ ☢	8 54
	♂ ☣			♂ ☣	13 38		♂ ☣	2 30		♂ ☣	10 28
	♂ ☤			♂ ☤	16 20		♂ ☤	8 15		♂ ☤	16 28
	♂ ☥			♂ ☥	22 29		♂ ☥	10 47		♂ ☥	23 50
	♂ ☦			♂ ☦	23 59		♂ ☦	14 6		♂ ☦	
	♂ ☧			♂ ☧	2 19		♂ ☧	20 29		♂ ☧	
	♂ ☨			♂ ☨	7 3		♂ ☨	21 34		♂ ☨	
	♂ ☩			♂ ☩	15 52		♂ ☩	23 48		♂ ☩	
	♂ ☪			♂ ☪	1 59		♂ ☪	8 9		♂ ☪	
	♂ ☫			♂ ☫	6 43		♂ ☫	18 21		♂ ☫	
	♂ ☬			♂ ☬	7 33		♂ ☬	2 38		♂ ☬	
	♂ ☭			♂ ☭	8 31		♂ ☭	4 52		♂ ☭	
	♂ ☮			♂ ☮	22 14		♂ ☮	7 1		♂ ☮	
	♂ ☯			♂ ☯	23 52		♂ ☯	22 31		♂ ☯	
	♂ ☰			♂ ☰	8 38		♂ ☰	4 55		♂ ☰	
	♂ ☱			♂ ☱	9 23		♂ ☱	6 13		♂ ☱	
	♂ ☲			♂ ☲	14 58		♂ ☲	11 17		♂ ☲	
	♂ ☳			♂ ☳	15 52		♂ ☳	11 56		♂ ☳	
	♂ ☴			♂ ☴	22 44		♂ ☴	20 26		♂ ☴	
	♂ ☵			♂ ☵	2 27		♂ ☵	14 35		♂ ☵	
	♂ ☶			♂ ☶	9 22		♂ ☶	15 35		♂ ☶	
	♂ ☷			♂ ☷	12 2		♂ ☷	17 48		♂ ☷	

November.

December.

46 Timings of Lunar Aspects in 1950.—(concl'd.).

Date.	Aspect	Time.	Date.	Aspect	Time.	Date.	Aspect	Time.	Date.	Aspect	Time.
		H. M.			H. M.			H. M.			H. M.
5	♄	10 37		♄	14 2		♄	3 40		♄	18 36
	♅	18 14		♅	19 12		♅	4 15		♅	20 49
	♆	0 44	11	♆	0 24	25	♆	8 24	25	♆	2 33
	♇	7 23		♇	0 53		♇	15 0		♇	3 5
	♈	12 41		♈	12 38	18	♈	6 6		♈	13 41
	♉	12 48		♉	13 44		♉	6 57		♉	19 15
	♊	16 58		♊	17 56		♊	9 24		♊	23 1
6	♋	23 10		♋	19 11		♋	13 50	26	♋	0 52
	♌	0 32	12	♌	5 56	19	♌	3 32		♌	2 36
	♍	10 23		♍	7 51		♍	14 25	27	♍	3 31
	♎	13 51		♎	14 32		♎	15 49		♎	6 47
	♏	14 44		♏	14 40		♏	17 5		♏	8 39
	♐	16 2		♐	20 28		♐	22 40		♐	14 2
7	♑	20 9	13	♑	1 46	20	♑	2 33	28	♑	17 33
	♒	2 23		♒	5 37		♒	12 33		♒	6 1
	♓	12 27		♓	9 7		♓	18 23		♓	6 34
	♈	13 59		♈	14 29		♈	20 50		♈	7 0
	♉	15 2		♉	16 9		♉	21 17		♉	8 44
	♊	18 41		♊	21 26	21	♊	2 11		♊	13 5
8	♋	20 34	14	♋	0 15		♋	8 33		♋	16 16
	♌	22 18		♌	3 2		♌	8 48		♌	18 54
	♍	2 21		♍	10 23		♍	21 47	29	♍	9 7
	♎	3 39		♎	14 17	22	♎	0 51		♎	10 46
	♏	13 42		♏	14 19		♏	3 19		♏	13 31
	♐	14 12		♐	16 52		♐	5 20		♐	14 43
	♑	14 52		♑	18 40		♑	5 21		♑	17 17
9	♒	20 43		♒	18 56		♒	10 6		♒	23 15
	♓	1 51	15	♓	6 21		♓	15 4	30	♓	23 17
	♈	4 25		♈	16 2		♈	18 29		♈	6 10
	♉	13 11		♉	19 22	23	♉	7 10		♉	10 55
	♊	14 58		♊	20 17		♊	12 8		♊	14 53
10	♋	19 37	16	♋	3 43		♋	14 47		♋	21 35
	♌	1 38		♌	11 29		♌	18 27		♌	21 36
	♍	5 13	17	♍	1 28	24	♍	15 50			
	♎	13 38		♎	2 53		♎	15 56			

The "Parallel" Aspects of Planets in 1950.

47

Date.	Aspect	Time.	Date.	Aspect	Time.	Date.	Aspect	Time.
January.			May.			September.		
		H. M.			H. M.			H. M.
8	♈	2 31	11	♈	6 0	5	♈	4 0
20	♈	23 29	14	♈	4 23	10	♈	16 17
			18	♈	16 0	11	♈	0 34
			19	♈	23 14	12	♈	5 21
			30	♈	20 19	20	♈	12 0
February.			June.			25	♈	17 11
1	♈	8 18				27	♈	0 51
18	♈	0 12				28	♈	14 1
						29	♈	23 33
								43
March.			October.					
2	♈	12 57	3	♈	4 19	3	♈	17 20
5	♈	0 15	30	♈	17 39	5	♈	20 51
8	♈	14 8				6	♈	12 0
16	♈	22 57				12	♈	8 19
17	♈	12 0				16	♈	7 18
20	♈	19 0				19	♈	12 0
30	♈	0 44				30	♈	0 0
31	♈	8 23				31	♈	21 14
April.			July.			November.		
2	♈	16 10	2	♈	14 24	3	♈	0 12
4	♈	10 28	6	♈	10 9	21	♈	7 6
6	♈	14 28	16	♈	19 23	23	♈	12 0
9	♈	4 0	19	♈	4 25	30	♈	12 0
12	♈	12 0	20	♈	7 22	December.		
13	♈	2 24						
						7	♈	21 36
14	♈	12 0				16	♈	4 0
21	♈	22 13				17	♈	21 0
24	♈	23 31				20	♈	7 12
26	♈	9 42						

Heliocentric Places of Planets at Noon I. S. T. in 1950.

Month and Date.	λ			δ			φ			ψ		
	Long.	Lat.	Radius Vector.	Long.	Lat.	Radius Vector.	Long.	Lat.	Radius Vector.	Long.	Lat.	Radius Vector.
January												
1	11 32	0 S 41	5.0758	26 27	1 N 50	1.6638	22 12	0 N 21	.7200	17 56	3 S 30	.3349
5	12 54	42	5.0749	28 12	50	1.6645	28 40	44	.7197	10 23	0 54	.3181
9	12 15	42	5.0737	29 58	50	1.6650	5 38	1 6	.7193	4 47	2 N 4	.3087
13	12 36	43	5.0725	1 42	48	1.6654	11 37	27	.7190	0 44	4 44	.3090
17	12 57	43	5.0712	3 27	48	1.6656	18 6	48	.7188	24 31	6 26	.3191
21	13 18	43	5.0700	5 12	47	1.6657	24 35	2 6	.7186	17 5	7 0	.3366
25	13 39	44	5.0688	6 57	46	1.6656	1 5	24	.7184	7 9	6 36	.3584
29	14 0	44	5.0676	8 42	45	1.6654	7 35	39	.7183	24 46	5 36	.3818
February												
2	21	45	5.0664	10 23	44	1.6650	14 5	53	.7183	10 21	4 16	.4038
6	22	45	5.0651	12 11	43	1.6645	20 35	3 4	.7185	24 19	2 48	.4237
10	23	46	5.0639	13 56	41	1.6637	27 5	12	.7186	7 4	1 18	.4404
14	24	46	5.0626	15 42	39	1.66 9	3 35	19	.7188	19 0	0 S 9	.4532
18	25	46	5.0614	17 27	38	1.6618	10 5	23	.7190	0 22	1 32	.4619
22	26	47	5.0601	19 12	36	1.6606	16 35	24	.7193	11 26	2 49	.4662
26	27	47	5.0587	20 57	34	1.6593	23 4	22	.7196	22 26	4 0	.4660
March												
2	48	48	5.0574	22 43	33	1.6578	29 33	18	.7200	3 33	5 2	.4614
6	49	48	5.0561	24 29	31	1.6561	6 1	12	.7204	15 4	54	.4534
10	50	48	5.0548	26 15	29	1.6543	12 29	3	.7208	27 11	6 44	.4393
14	51	49	5.0535	28 0	27	1.6524	18 56	2 N 51	.7214	10 11	6 S 56	.4223
18	52	49	5.0522	29 48	24	1.6503	25 23	38	.7220	24 24	57	.4021
22	53	49	5.0509	1 35	22	1.6 81	1 49	23	.7225	10 14	29	.3797

Heliocentric Places of Planets at Noon I. S. T. in 1950.

Month and Date.	λ			δ			φ			ψ		
	Long.	Lat.	Radius Vector.	Long.	Lat.	Radius Vector.	Long.	Lat.	Radius Vector.	Long.	Lat.	Radius Vector.
March												
26	19 16	55	5.0497	3 22	20	1.6457	8 14	6	.7231	28 0	5 21	.3566
30	19 50	50	5.0485	5 10	17	1.6431	14 38	1 47	.7237	18 5	3 27	.3350
April												
3	38	51	5.0472	6 58	15	1.6404	21 1	27	.7242	10 33	0 53	.3180
7	39	51	5.0460	8 46	12	1.6375	27 24	6	.7247	4 59	2 N 5	.3087
11	40	51	5.0447	10 35	9	1.6346	3 46	0 44	.7252	0 12	4 44	.3091
15	41	52	5.0436	12 24	7	1.6315	10 8	22	.7257	24 42	6 27	.3192
19	42	52	5.0425	14 13	4	1.6282	16 29	0 S	.7262	17 15	7 0	.3367
23	43	52	5.0414	16 3	1	1.6249	22 50	23	.7266	7 17	6 36	.3586
27	44	53	5.0403	17 53	0	1.6215	29 10	46	.7271	24 54	5 35	.3817
May												
1	22	53	5.0392	19 44	55	1.6179	5 30	1 7	.7274	10 28	4 15	.4040
5	27	53	5.0381	21 35	51	1.6142	11 49	28	.7277	24 25	2 47	.4239
9	29	54	5.0369	23 27	48	1.6103	18 9	48	.7280	7 11	1 17	.4405
13	30	54	5.0358	25 19	45	1.6063	24 28	2 6	.7281	19 5	0 S 10	.4533
17	31	55	5.0346	27 13	42	1.6023	0 47	23	.7283	0 27	1 33	.4620
21	33	55	5.0335	29 6	38	1.5981	7 7	38	.7283	11 31	2 50	.4662
25	34	55	5.0323	1 0	35	1.5938	13 26	51	.7283	22 31	4 0	.4660
29	35	56	5.0312	2 55	0 N 31	1.5895	19 46	3 S 2	.7283	3 39	5 S 2	.4613
June												
2	57	56	5.0301	4 50	27	1.5851	26 6	11	.7282	15 9	54	.4523
6	25	56	5.0290	6 46	24	1.5805	2 26	18	.7280	27 16	6 34	.4391
10	39	57	5.0279	8 43	20	1.5758	8 46	22	.7277	10 18	56	.4221
14	26	57	5.0268	10 41	16	1.5711	15 7	24	.7275	24 32	57	.4020
18	22	57	5.0257	12 39	13	1.5663	21 28	23	.7271	10 21	28	.3796
22	43	58	5.0245	14 38	9	1.5615	27 49	19	.7267	28 8	21	.3565

Heliocentric Places of Planets at Noon I. S. T. in 1950.

Month and Date.	α			δ			φ			ψ		
	α		Radius Vector.	δ		Radius Vector.	φ		Radius Vector.	ψ		Radius Vector.
	Long.	Lat.		Long.	Lat.		Long.	Lat.		Long.	Lat.	
June	26	..	58	5	0236	16 38	5	15566	4 π 11	13	18 π 16	3349
30	..	58	5	0226	18 38	1	15516	10 33	6	7259	10 π 45	3159
July	4	..	59	5	0215	20 39	0 S	15466	16 56	2 55	5 π 10	3086
8	..	28	59	5	0205	22 41	7	15415	23 19	43	0 π 23	3091
12	..	30	59	5	0194	24 44	11	15364	29 42	28	24 53	3193
16	..	52	59	5	0184	26 47	15	15312	6 π 6	11	17 π 25	3369
20	..	29	1	0	50174	28 52	19	15260	13 30	1 53	7 π 27	3587
24	..	35	0	5	0164	0 π 57	23	15208	8 55	34	25 2	3819
28	..	56	0	5	0154	3 3	27	15156	25 20	13	10 π 15	4041
August	1	..	1	5	0144	5 10	31	15104	1 π 45	0 51	24 31	4240
5	..	39	1	5	0134	7 18	35	15052	8 11	29	7 π 16	4406
9	..	1	1	5	0124	9 27	38	15000	14 38	6	19 11	4534
13	..	22	2	5	0114	11 36	42	15948	21 5	0N17	0 π 33	4620
17	..	44	2	5	0104	13 47	46	14897	27 33	40	11 37	4662
21	..	5 π 2	1 S	2	50094	15 π 58	0 S50	14846	4 π 1	1 N 2	22 π 36	4660
25	..	27	3	5	0085	18 11	54	14794	10 29	24	17 π 1	4613
29	..	48	3	5	0075	20 24	58	14744	16 58	44	15 15	4522
September	2	..	3	5	0065	22 38	1	14693	23 27	2 3	27 23	4390
6	..	31	4	5	0056	24 54	5	14644	29 57	21	17 π 15	4220
10	..	53	4	5	0046	27 10	8	14595	6 π 27	36	10 π 24	4018
14	..	4	15	4	50037	29 36	12	14547	12 57	50	17 π 13	3794
18	..	36	5	5	0028	1 π 44	15	14499	19 27	3 2	28 18	3563
22	..	57	5	5	0018	4 3	18	14454	25 57	11	18 π 26	3347
26	..	5 19	5	5	0009	6 23	21	14409	2 π 27	18	10 π 56	3180

Heliocentric Places of Planets at noon I. S. T. in 1950.

Month and Date.	α			δ			φ			ψ		
	α		Radius Vector.	δ		Radius Vector.	φ		Radius Vector.	ψ		Radius Vector.
	Long.	Lat.		Long.	Lat.		Long.	Lat.		Long.	Lat.	
September	30	..	0	41	5	5	0000	8 43	25	14364	8 57	7190
October	4	..	6	2	4	9991	11 5	27	14321	15 27	24	7192
8	..	24	6	4	9982	13 27	30	14280	21 57	23	0 π 35	3092
12	..	45	6	4	9974	15 50	33	14239	28 25	19	25 4	3194
16	..	7	6	4	9965	18 13	35	14201	4 π 54	13	17 π 35	3370
20	..	29	7	4	9957	20 38	37	14164	11 22	4	7 π 35	3589
24	..	50	7	4	9948	23 3	40	14127	17 49	2 54	25 10	3820
28	..	8 12	7	4	9940	25 29	42	14093	24 16	40	10 π 42	4242
November	1	..	8	4	9931	27 58	44	14061	0 π 42	25	24 38	4043
5	..	55	8	4	9924	0 π 33	45	14003	7 7	9	7 π 27	4407
9	..	9 π 17	1 S	8	4	9914	2 π 51	1 S 47	14001	13 π 31	19 47	4535
13	..	39	8	4	9906	5 20	48	13975	19 55	30	0 π 38	4621
17	..	10	9	4	9898	7 49	49	13950	26 18	9	11 42	4662
21	..	22	9	4	9889	10 19	50	13926	2 π 40	0 48	22 41	4660
25	..	44	9	4	9882	12 49	50	13905	9 2	26	3 π 50	4612
29	..	11 5	9	4	9874	15 19	51	13887	15 23	3	15 21	4522
December	3	..	9	4	9866	17 50	51	13870	21 44	0 S19	27 29	4389
7	..	49	10	4	9858	20 22	51	13856	28 4	42	10 π 31	4219
11	..	12	10	4	9851	22 53	51	13844	4 π 24	1 3	24 45	4030
15	..	32	10	4	9843	25 25	50	13834	10 43	24	22 27	3792
19	..	54	10	4	9835	27 57	50	13827	17 3	44	7 π 18	3561
23	..	13	11	4	9828	0 π 29	49	13821	23 22	2 3	18 π 36	3346
27	..	37	11	4	9821	3 2	48	13817	29 41	20	11 π 8	3177
31	..	59	11	4	9813	5 34	47	13816	6 π 2	35	5 π 34	3085
											0 π 47	3092

52 Heliocentric Places of Planets at Noon I. S. T. in 19 0.

Month and Date.	ζ			η			ψ		
	Long.	Lat.	Radius Vector.	Long.	Lat.	Radius Vector.	Long.	Lat.	Radius Vector.
Jan.	1 13 48 9 14 5 17 22 56 25 38 56	0 1 55 0 1 55 0 1 56 0 1 56	9.3530 9.3554 9.3577 9.3600	3 5 0 11 15 16 16 22 16	0 15 0 15 0 16 0 16	18.9444 18.9431 18.9418 18.9405	15 26 1 29 1 36 32 1 36 34 1 36	30.2947 30.2948 30.2949 30.2950	
Feb.	2 55 10 15 12 18 28 26 45	57 57 57 58	9.3622 9.3646 9.3671 9.3692	28 16 34 16 39 16 45 16	18.9391 18.9378 18.9364 18.9349	37 1 36 40 1 36 43 1 36 46 1 36	30.2950 30.2951 30.2952 30.2953		
March	6 16 2 14 18 22 35 30 51	58 59 59 2 0	9.3716 9.3739 9.3762 9.3785	51 16 57 16 4 3 16 9 16	18.9334 18.9318 18.9304 18.9291	49 1 36 51 1 36 54 1 36 57 1 36	30.2953 30.2954 30.2954 30.2955		
April	7 17 8 15 25 23 41	0 1 1	9.3808 9.3832 9.3855	14 16 20 16 26 16	18.9274 18.9264 18.9247	16 0 1 3 1 36 6 1 36	30.2956 30.2957 30.2957		
May	1 58 9 18 14 17 31 25 47	1 2 2 3	9.3879 9.3903 9.3923 9.3948	32 16 37 17 43 17 49 17	18.9234 18.9221 18.9204 18.9191	8 1 37 11 1 37 14 1 37 17 1 37	30.2957 30.2958 30.2958 30.2959		
June	2 19 4 10 20 18 37 26 54	3 3 4 4	9.3972 9.3995 9.4019 9.4043	55 17 5 1 17 7 17 12 17	18.9177 18.9164 18.9151 18.9138	20 1 37 23 1 37 26 1 37 28 1 37	30.2960 30.2960 30.2961 30.2962		
July	4 20 10 12 26 20 43 28 59	5 5 5 6	9.4066 9.4090 9.4114 9.4137	18 17 24 17 30 17 35 17	18.9122 18.9108 18.9094 18.9082	31 1 37 34 1 37 37 1 37 40 1 37	30.2962 30.2963 30.2964 30.2964		
Aug.	5 21 16 13 32 21 49 29 22 5	6 7 7 7	9.4161 9.4184 9.4208 9.4232	41 17 47 17 53 17 59 18	18.9066 18.9052 18.9039 18.9026	43 1 37 46 1 37 48 1 37 51 1 37	30.2965 30.2966 30.2966 30.2967		
Sept.	6 22 14 22 30 22 55 30 23 11	8 2 8 8 9	9.4256 9.4280 9.4304 9.4327	6 5 18 6 10 0 18 16 18 22 18	18.9012 18.8999 18.8982 18.8969	54 1 37 16 57 1 37 17 0 1 37 3 1 37	30.2968 30.2969 30.2969 30.2970		

Heliocentric Places of Planets at Noon I. S. T. in 1950. 53

Month and Date.	ζ			η			ψ		
	Long.	Lat.	Radius Vector.	Long.	Lat.	Radius Vector.	Long.	Lat.	Radius Vector.
Oct.	8 27 16 44 24 24 0	0 27 0 27 0 27	9.4351 9.4376 9.4399	28 18 34 18 40 18	18.8956 18.8944 18.8930	5 1 37 8 1 37 11 1 37	30.2971 30.2971 30.2972		
Nov.	1 17 9 33 17 49 25 25 6	10 11 11 11	9.4423 9.4446 9.4471 9.4495	45 18 51 18 57 18 7 3 18	18.8917 18.8899 18.8886 18.8873	14 1 37 17 1 37 20 1 37 23 1 37	30.2973 30.2974 30.2974 30.2975		
Dec.	3 22 11 38 19 55 27 26 11 31 19	12 12 12 13 13	9.4519 9.4543 9.4567 9.4591 9.4603	8 18 14 18 20 19 26 19 29 19	18.8860 18.8843 18.8830 18.8816 18.8808	25 1 37 28 1 38 31 1 38 34 1 38 35 1 38	30.2976 30.2976 30.2977 30.2978 30.2978		

Date.	JANUARY.					FEBRUARY.					MARCH.				
	D	h	m	s	°	D	h	m	s	°	D	h	m	s	°
1	12	23	07	59	D 21	13	29	0D	24	R 35	13	37	ID	30	D 18
2	2	39	55	46	17	46	46	30	36	35	14	0	32	32	22
3	3	55	46	15	61	21	14	1	36	35	15	20	33	23	60
4	13	11	39	14	61	21	10	10	39	35	16	35	34	25	61
5	5	3	31	12	61	21	15	15	44	33	17	42	36	27	60
6	6	34	20	9	61	20	16	16	49	33	18	44	36	28	60
7	7	41	11	7	62	20	15	15	52	28	19	38	38	30	60
8	8	51	R 1	4	61	19	10	10	55	28	20	29	38	31	60
9	9	55	13	2	61	19	4	4	58	27	21	14	40	34	60
10	14	0	23	3	61	19	13	59	1	24	22	13	41	41	35
11	11	5	37	3	61	18	50	50	4	22	23	26	42	42	35
12	12	8	47	6	61	18	42	42	6	20	24	11	44	44	35
13	13	13	57	8	61	17	32	32	7	17	25	11	46	46	36
14	14	12	1	10	61	16	20	20	10	15	26	11	48	48	36
15	15	8	11	13	61	16	5	5	13	12	27	12	50	50	41
16	16	0	17	15	62	16	12	12	13	10	28	12	52	52	42
17	13	46	18	18	61	15	36	36	16	7	29	13	54	54	43
18	18	28	18	21	61	15	20	20	17	5	30	14	56	56	44
19	19	0	15	24	61	15	8	8	18	2	31	15	58	58	45
20	12	48	10	25	61	14	11	57	20	0	32	16	59	59	46
21	21	29	3	27	61	14	52	52	21	D 2	33	7	59	59	47
22	22	12	0	56	61	13	47	47	23	4	34	8	55	55	48
23	11	59	48	31	61	12	58	58	24	7	35	9	57	57	48
24	24	51	38	32	61	12	50	50	25	10	36	10	58	58	49
25	25	48	29	33	62	11	12	11	27	13	37	11	59	59	50
26	26	51	20	35	61	11	27	27	28	14	38	12	2	2	51
27	27	58	13	40	61	10	49	49	29	17	39	13	2	2	52
28	12	12	2	38	61	9	13	13	29	17	40	14	3	3	53
29	29	28	11	36	61	9	...	...	...	...	41	1	4	4	53
30	30	48	36	36	61	9	...	...	...	...	42	25	5	5	59
31	13	10	20	36	61	9	...	...	...	...	43	25	6	6	59

Date.	APRIL.					MAY.					JUNE.				
	D	h	m	s	°	D	h	m	s	°	D	h	m	s	°
1	14	45	2D	4	D 54	15	14	0	D 10	D 65	14	54	0D	23	D 69
2	15	2	4	4	55	21	16	9	R 1	65	14	31	4	27	69
3	3	6	4	2	56	21	47	24	7	65	15	35	13	32	69
4	4	3	2	56	59	20	14	24	10	65	16	5	5	37	69
5	14	51	5	1	56	20	13	57	15	65	17	40	40	40	69
6	6	33	1	56	59	19	28	28	20	66	18	20	44	44	69
7	10	7	1	57	59	19	1	1	23	66	19	4	50	50	69
8	13	47	57	58	59	18	12	39	27	66	20	4	54	54	69
9	9	23	52	59	59	17	20	6	30	67	21	49	1	0	69
10	11	12	43	48	59	17	6	34	34	67	22	51	2	2	69
11	12	27	47	59	58	16	11	56	35	66	23	47	5	5	70
12	13	14	42	60	59	15	50	35	36	66	24	55	10	10	70
13	14	4	38	60	59	15	48	36	37	67	25	11	26	26	70
14	11	57	35	60	59	14	49	49	37	67	26	12	26	26	70
15	15	53	29	60	58	12	51	51	35	67	27	13	22	22	70
16	17	50	25	61	59	12	55	55	34	67	28	14	22	22	70
17	18	48	21	62	59	12	12	0	32	67	29	15	26	26	70
18	19	50	15	62	58	11	8	8	30	67	30	16	29	29	70
19	20	54	11	61	59	11	18	18	27	67	31	17	32	32	70
20	12	0	5	62	58	9	28	28	24	68	32	18	33	33	70
21	21	11	1	62	58	8	43	43	20	68	33	19	38	38	69
22	22	23	0	63	58	8	69	69	17	68	34	20	41	41	69
23	23	41	50	63	58	7	13	19	11	68	35	21	44	44	69
24	24	1	42	63	58	6	14	5	9	68	36	22	47	47	69
25	13	1	42	63	58	6	14	5	4	68	37	23	49	49	69
26	26	25	39	63	58	6	29	29	4	68	38	24	53	53	69
27	27	51	33	64	58	4	4	51	5	68	39	25	55	55	69
28	14	18	27	64	58	3	15	1	10	68	40	26	57	57	69
29	29	42	21	64	58	3	15	1	15	68	41	27	58	58	69
30	15	2	16	64	59	1	8	8	19	69	42	28	59	59	69
31	...	...	...	...	...	...	...	...	19	69	43	25	59	59	69

Daily Motion of Planets in 1950.

Date.	JULY.					AUGUST.					SEPTEMBER.				
	h	m	s	°	'	h	m	s	°	'	h	m	s	°	'
1	14	1	1D59	D 70	57	D 29	12	38	1D37	D 72	57	D 35	11	57	D 75
2	13	35	2 3	70	57	29	29	22	3	72	58	35	52	10	75
3	13	5	5 69	70	57	29	35	35	3	72	57	36	52	1	75
4	12	43	7 7	69	57	29	11	57	31	73	57	36	57	5	74
5	12	12	6 8	70	58	30	51	31	31	73	58	36	12	5	75
6	11	55	9 9	70	57	30	39	29	29	72	57	36	20	17	75
7	11	50	9 9	70	57	30	59	27	73	58	33	36	26	32	75
8	11	50	9 9	70	57	31	12	5	25	73	58	36	56	32	75
9	11	53	9 9	70	57	31	18	24	24	73	58	37	13	18	75
10	11	53	9 9	70	58	31	33	22	22	73	58	36	38	43	75
11	12	2	8 70	57	57	31	48	20	73	57	57	36	57	53	75
12	11	11	8 70	57	57	32	13	6	18	73	57	37	14	13	75
13	11	23	7 70	57	57	31	21	16	74	74	57	37	21	58	75
14	11	35	5 5	71	58	32	35	14	74	58	37	37	31	2	75
15	11	48	5 5	71	57	32	46	13	73	58	37	37	30	4	75
16	13	0	3 70	57	57	32	5	9	74	57	37	37	25	4	75
17	12	12	1 70	57	57	33	14	3	74	58	37	37	18	3	75
18	12	24	2 0	70	58	33	8	5	74	58	38	38	7	2	76
19	12	32	1 59	71	57	33	11	4	74	57	39	39	13	55	76
20	12	45	58 71	57	57	33	13	0	74	58	38	38	41	51	75
21	12	57	56 71	57	57	33	11	58	74	58	38	38	27	43	75
22	14	8	54 71	58	58	33	8	54	74	58	39	39	15	40	75
23	18	18	50 71	57	57	34	1	51	74	58	38	38	0	23	75
24	26	50	50 71	57	57	34	13	53	75	58	38	38	12	47	75
25	31	49	49 71	58	58	33	9	44	74	57	38	38	34	9	75
26	26	46	46 71	57	57	34	26	40	75	58	38	38	21	14	75
27	20	46	46 72	57	57	34	7	37	75	58	38	38	11	23	75
28	13	6	44 72	58	58	34	12	51	75	58	38	38	2	23	75
29	13	47	42 72	57	57	35	35	28	75	58	38	38	11	55	75
30	26	40	40 72	57	57	35	17	24	75	58	38	38	39	39	75
31	6	38	72	58	58	35	6	18	75	58	38	38	52	52	75

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Daily Motion of Planets in 1950.

Date.	OCTOBER.					NOVEMBER.					DECEMBER.				
	D	h	m	s	°	D	h	m	s	°	D	h	m	s	°
1	11	51	0	D	59	12	13	1D	38	76	12	43	1D	28	61
2	12	5	57	75	59	28	49	37	38	75	4	13	27	75	61
3	12	4	1	75	59	42	13	36	36	76	29	29	26	75	61
4	5	17	10	50	59	42	12	36	36	75	56	26	26	76	61
5	4	33	15	75	59	42	39	36	36	75	14	25	26	76	61
6	56	26	75	60	43	9	35	35	35	75	50	23	25	76	61
7	13	19	27	75	60	42	35	35	35	75	15	10	24	75	61
8	15	30	75	59	42	58	12	35	35	75	21	24	24	75	60
9	14	9	33	75	59	43	15	35	35	76	17	24	24	75	61
10	32	36	75	60	43	17	34	34	34	76	6	12	12	75	61
11	47	38	75	59	44	10	34	34	34	75	14	43	12	76	61
12	56	39	75	60	43	14	53	34	34	75	1	15	10	75	61
13	56	40	75	59	43	30	33	33	33	76	13	44	10	76	61
14	48	42	75	59	43	2	33	33	33	75	15	15	6	75	61
15	34	42	75	60	43	13	35	33	33	75	12	49	2	76	61
16	14	43	75	59	44	9	33	33	33	76	28	59	0	75	61
17	54	43	75	60	44	12	47	33	33	75	46	12	46	75	61
18	32	43	75	60	43	29	32	32	32	76	0	43	43	76	61
19	13	43	75	59	44	15	32	32	32	75	11	54	38	75	61
20	12	54	43	75	60	44	6	32	32	75	51	51	26	75	61
21	41	43	75	60	43	11	58	32	32	76	46	51	19	75	61
22	27	42	75	59	44	55	44	31	31	75	53	9	9	76	61
23	17	42	75	60	44	53	31	31	31	76	57	R	2	75	61
24	11	42	75	60	44	52	30	30	30	75	12	2	17	75	61
25	0	41	75	60	44	52	30	30	30	75	8	29	29	74	62
26	11	57	41	75	60	55	31	31	31	76	15	37	54	74	61
27	53	40	75	60	44	59	30	30	30	75	24	34	34	73	61
28	51	40	75	59	44	12	6	30	30	75	34	1	4	72	61
29	51	39	75	60	45	14	29	29	29	76	47	12	12	72	61
30	55	39	75	60	46	27	29	29	29	75	13	2	19	71	61
31	12	3	76	60	46	27	29	29	29	75	25	26	26	71	61

58 Table showing the Position of M. C. corresponding to a given sidereal time.

Sid. Time.		M. C.		Sid. Time.		M. C.		Sid. Time.		M. C.		Sid. Time.		M. C.	
H.	M.	°	'	H.	M.	°	'	H.	M.	°	'	H.	M.	°	'
0	0	0	7	0	6	0	0	0	0	0	0	12	0	0	0
	15	4	5		15	3	26		15	4	5		15	3	26
	30	8	10		30	6	53		30	8	10		30	6	53
	45	12	14		45	10	20		45	12	14		45	10	20
1	0	16	17	7	0	13	48	13	0	16	17	19	0	13	48
	15	20	18		15	17	18		15	20	18		15	17	18
	30	24	18		30	20	48		30	24	18		30	20	48
	45	28	16		45	24	20		45	28	16		45	24	20
2	0	2	8	11	8	0	27	54	14	0	2	11	20	0	27
	15	6	4		15	1	30		15	6	4		15	1	30
	30	9	54		30	5	9		30	9	54		30	5	9
	45	13	42		45	8	49		45	13	42		45	8	49
3	0	17	28	9	0	12	32	15	0	17	28	21	0	12	32
	15	21	11		15	16	17		15	21	11		15	16	17
	30	24	51		30	20	5		30	24	51		30	20	5
	45	28	29		45	23	56		45	28	29		45	23	56
4	0	2	11	5	10	0	27	49	16	0	2	5	22	0	27
	15	5	39		15	1	44		15	5	39		15	1	44
	30	9	11		30	5	42		30	9	11		30	5	42
	45	12	42		45	9	42		45	12	42		45	9	42
5	0	16	12	11	0	13	43	17	0	16	12	23	0	13	53
	15	19	39		15	17	46		15	19	39		15	17	46
	30	23	7		30	21	50		30	23	7		30	21	50
	45	26	33		45	25	55		45	26	33		45	25	55

59 Elements of the Planetary orbits for 12 O'clock noon (I. S. T.) on 1st January 1950.

Planet.	Mean Long.		Mean Daily Motion.		Per. of Revolution (Sid).		Long. of Asc. Node.		Long. of Perihelion.		Eccentricity.		Mean Distance from Sun.		Inclination of the Orbit.	
	°	'	°	'	Days.		°	'	°	'					°	'
Mercury	36	19	22	4	5	87.9693	47	44	14	76	40	26	.3870984	7	0	14
Venus	82	48	28	1	36	224.701	76	14	42	130	49	36	.7233302	3	23	39
Earth	100	16	28	0	59	365.256	..	..	..	102	4	33	.1	..	..	..
Mars	144	43	51	0	31	686.980	49	10	31	335	8	19	1.523678	1	51	0
Jupiter	316	13	22	0	4	4332.59	99	56	55	13	31	33	5.202561	1	18	21
Saturn	158	19	43	0	2	10759.2	113	13	37	92	4	39	9.554747	2	29	26
Uranus	99	7	56	0	0	30888.5	73	43	35	172	17	26	.046331	0	46	22
Neptune	194	24	9	0	0	60181.3	131	13	51	47	26	23	.00900	1	46	28
Moon	67	57	4	13	10	35	12	5	54	208	52	27	.05490	5	8	43
										(Perigee).						

Daily Motion of Moon's Node = 0 3 10.62.
Perigee + 0 6 41.05.

Table of Ascendants for Latitudes 7° to 20°.

Sid. Time.	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°	20°
H. M.	°	°	°	°	°	°	°	°	°	°	°	°	°	°
0	0 92	48 93	12 93	34 94	9 94	25 94	50 94	15 95	40 96	5 96	30 96	56 97	22 97	47 98
15	96 13	96 37	97 1	97 25	97 50	98 14	98 39	99 15	99 39	99 28	99 53	100 18	101 44	101 36
30	99 39	100 31	101 14	101 50	101 25	101 50	102 14	102 39	102 64	102 89	103 14	103 39	104 64	104 59
45	102 31	103 28	104 15	104 51	104 26	105 1	105 26	105 51	106 26	106 51	107 26	107 51	108 26	108 51
1	0 106	31 06	54 07	16 07	40 08	3 08	26 08	49 09	13 09	36 10	0 11	23 11	47 11	11 11
15	109 58	110 20	111 42	111 51	112 28	111 51	112 28	113 5	113 36	112 59	111 21	110 45	111 18	111 54
30	113 24	113 47	114 11	114 31	114 53	115 15	115 37	115 59	116 21	115 43	114 6	113 28	112 51	113 14
45	116 54	117 14	117 36	117 58	118 19	118 40	119 1	119 23	119 45	120 6	119 27	118 49	118 11	118 32
2	0 120	23 12	44 12	4 12	25 12	45 12	7 12	27 12	47 12	9 12	29 12	50 12	1 12	31 12
15	123 53	124 14	124 34	124 55	125 16	125 37	125 58	126 19	126 40	126 61	126 82	126 103	126 124	126 145
30	127 26	127 47	128 8	128 28	128 49	129 1	129 22	129 43	129 64	130 25	130 46	131 67	131 88	131 109
45	131 11	131 31	131 51	132 11	132 32	132 52	133 13	133 33	133 54	134 14	134 35	134 56	135 17	135 38
3	0 134	37 13	54 13	12 13	29 13	45 13	61 13	77 13	93 13	109 13	125 13	141 13	157 13	173 13
15	138 14	138 34	138 54	139 14	139 34	139 54	140 14	140 34	140 54	141 14	141 34	141 54	142 14	142 34
30	141 53	142 13	142 33	142 53	143 13	143 33	143 53	144 13	144 33	144 53	145 13	145 33	145 53	146 13
45	145 36	145 56	146 16	146 36	146 56	147 16	147 36	147 56	148 16	148 36	148 56	149 16	149 36	149 56
4	0 149	20 14	33 14	45 14	59 14	10 15	22 15	35 15	48 15	61 15	74 15	87 15	100 15	113 15
15	153 17	153 37	153 57	154 17	154 37	154 57	155 17	155 37	155 57	156 17	156 37	156 57	157 17	157 37
30	156 54	157 14	157 34	157 54	158 14	158 34	158 54	159 14	159 34	159 54	160 14	160 34	160 54	161 14
45	160 51	161 11	161 31	161 51	162 11	162 31	162 51	163 11	163 31	163 51	164 11	164 31	164 51	165 11
5	0 164	33 16	50 16	16 16	33 16	50 16	67 16	84 16	101 16	118 16	135 16	152 16	169 16	186 16
15	168 22	168 42	168 62	168 82	168 102	168 30	168 50	169 10	169 30	169 50	170 10	170 30	170 50	171 10
30	172 16	172 36	172 56	173 16	173 36	173 56	174 16	174 36	174 56	175 16	175 36	175 56	176 16	176 36
45	176 17	176 37	176 57	177 17	177 37	177 57	178 17	178 37	178 57	179 17	179 37	179 57	180 17	180 37
6	0 180	0 180	0 180	0 180	0 180	0 180	0 180	0 180	0 180	0 180	0 180	0 180	0 180	0 180

Table of Ascendants for Latitudes 7° to 20°

Sid. Time.	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°	20°
H. M.	°	°	°	°	°	°	°	°	°	°	°	°	°	°
6	0 180	0 180	0 180	0 180	0 180	0 180	0 180	0 180	0 180	0 180	0 180	0 180	0 180	0 180
15	183 53	183 51	183 49	183 47	183 45	183 43	183 41	183 39	183 37	183 35	183 33	183 31	183 29	183 27
30	187 45	187 43	187 41	187 39	187 37	187 35	187 33	187 31	187 29	187 27	187 25	187 23	187 21	187 19
45	191 36	191 34	191 32	191 30	191 28	191 26	191 24	191 22	191 20	191 18	191 16	191 14	191 12	191 10
7	0 195	27 19	22 19	15 19	9 19	2 19	56 19	49 19	43 19	37 19	30 19	24 19	18 19	11 19
15	199 19	199 17	199 15	199 13	199 11	199 9	199 7	199 5	199 3	199 1	198 59	198 57	198 55	198 53
30	203 7	202 57	202 55	202 53	202 51	202 49	202 47	202 45	202 43	202 41	202 39	202 37	202 35	202 33
45	206 55	206 53	206 51	206 49	206 47	206 45	206 43	206 41	206 39	206 37	206 35	206 33	206 31	206 29
8	0 210	40 21	27 21	15 21	1 21	50 21	43 21	37 21	31 21	25 21	19 21	13 21	7 21	1 21
15	214 42	214 40	214 38	214 36	214 34	214 32	214 30	214 28	214 26	214 24	214 22	214 20	214 18	214 16
30	218 4	217 50	217 48	217 46	217 44	217 42	217 40	217 38	217 36	217 34	217 32	217 30	217 28	217 26
45	221 46	221 44	221 42	221 40	221 38	221 36	221 34	221 32	221 30	221 28	221 26	221 24	221 22	221 20
9	0 225	22 25	22 23	22 21	22 19	22 17	22 15	22 13	22 11	22 9	22 7	22 5	22 3	22 1
15	229 0	228 58	228 56	228 54	228 52	228 50	228 48	228 46	228 44	228 42	228 40	228 38	228 36	228 34
30	232 34	232 32	232 30	232 28	232 26	232 24	232 22	232 20	232 18	232 16	232 14	232 12	232 10	232 8
45	236 6	235 54	235 52	235 50	235 48	235 46	235 44	235 42	235 40	235 38	235 36	235 34	235 32	235 30
10	0 239	37 23	17 23	56 23	35 23	15 23	54 23	43 23	33 23	23 23	13 23	3 23	23 23	13 23
15	243 7	242 46	242 44	242 42	242 40	242 38	242 36	242 34	242 32	242 30	242 28	242 26	242 24	242 22
30	246 36	246 34	246 32	246 30	246 28	246 26	246 24	246 22	246 20	246 18	246 16	246 14	246 12	246 10
45	250 24	249 40	249 38	249 36	249 34	249 32	249 30	249 28	249 26	249 24	249 22	249 20	249 18	249 16
11	0 253	29 23	7 23	44 23	22 23	0 23	51 23	39 23	27 23	15 23	3 23	21 23	9 23	23 23
15	256 56	256 54	256 52	256 50	256 48	256 46	256 44	256 42	256 40	256 38	256 36	256 34	256 32	256 30
30	260 21	259 57	259 55	259 53	259 51	259 49	259 47	259 45	259 43	259 41	259 39	259 37	259 35	259 33
45	263 47	263 45	263 43	263 41	263 39	263 37	263 35	263 33	263 31	263 29	263 27	263 25	263 23	263 21
12	0 267	13 26	48 26	23 26	0 26	35 26	10 26	45 26	20 26	55 26	30 26	4 26	38 26	13 26

Table of Ascendants for Latitudes 7° to 20°.

Sid. Time.	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°	20°
H. M.	°	°	°	°	°	°	°	°	°	°	°	°	°	°
12 0	267	13266	48266	23266	0265	35265	10264	45264	20263	55263	30263	4262	38262	13261
15 15	270	38270	14269	49269	25269	0268	35268	10267	44267	19266	53266	27266	1265	34265
30 30	274	4273	41273	17272	51272	27272	2271	36271	11270	47270	21269	55269	27269	0268
45 45	277	34277	9276	44276	20275	55275	30275	4274	39274	13273	47273	51272	54272	27271
13 0	281	3280	38280	14279	50279	25279	0278	35278	9277	43277	17276	51276	24275	57275
15 15	284	34284	10283	45283	21282	56282	31282	6281	41281	15280	48280	22279	55279	28279
30 30	288	8287	44287	19286	55286	30286	6285	41285	15284	50284	24283	58283	30283	3282
45 45	291	41291	19290	55290	32290	7289	43289	18288	53288	27288	0287	35287	8286	41286
14 0	295	19294	56294	33294	11293	46293	22292	58292	34292	8291	42291	17290	50290	23289
15 15	299	0298	38298	15297	52297	28297	5296	41296	16295	52295	27295	2294	35294	9293
30 30	302	43302	21301	59301	27301	14300	51300	28300	4299	40299	15298	50298	25297	59297
45 45	306	29306	8305	46305	27305	3304	41304	18303	55303	32303	8302	44302	19301	54301
15 0	310	17309	59309	38309	17308	56308	35308	13307	51307	28307	5306	41306	17305	52305
15 15	314	11313	52313	32313	12312	52312	32312	12311	51311	35311	14311	53311	31314	93313
30 30	318	7317	50317	32317	12316	55316	34316	15315	55315	35315	14314	53314	31314	93313
45 45	322	6321	50321	32321	18320	58320	41320	23320	33319	45319	25319	5318	45318	24318
16 0	326	11325	55325	39325	24325	7324	51324	34324	17324	0323	42323	23223	5322	45322
15 15	330	14330	23329	48329	33329	20329	5328	49328	34328	18328	2327	46327	29327	40326
30 30	334	25334	11334	0333	47333	35333	22333	9332	56332	41332	28332	13331	58331	42331
45 45	338	37338	25338	15338	5337	54337	42337	31337	19337	8336	56336	43336	30336	17336
17 0	342	37342	41342	33342	25342	15342	6341	58341	48341	38341	28341	17341	7340	56340
15 15	347	58346	58346	52346	47346	39346	33346	25346	18346	11346	3345	55345	47345	39345
30 30	351	22351	18351	15351	11451	6351	1350	56350	51350	46350	41350	36350	30350	25350
45 45	355	42355	40355	38355	34355	33355	31355	29355	26355	23355	20355	17355	15355	13355
18 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table of Ascendants for Latitudes 7° to 20°.

Sid. Time.	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°	20°
H. M.	°	°	°	°	°	°	°	°	°	°	°	°	°	°
18 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15 15	4	19	4	20	4	27	4	34	4	37	4	4	4	4
30 30	8	37	8	42	8	54	8	49	9	14	9	9	9	9
45 45	12	56	13	2	13	17	45	13	42	13	49	13	14	14
19 0	17	14	17	9	17	27	17	54	18	22	18	43	18	19
15 15	21	27	21	18	21	22	22	29	22	22	23	23	23	23
30 30	25	35	25	48	26	25	26	38	26	27	32	27	28	28
45 45	29	46	29	5	30	40	30	55	31	31	38	32	32	32
20 0	33	51	34	5	34	43	35	26	35	42	31	36	35	35
15 15	37	54	38	10	38	27	39	37	39	45	46	45	45	45
30 30	41	53	42	10	42	28	43	45	44	54	46	45	45	45
45 45	47	48	46	9	46	28	46	48	48	48	48	48	48	48
21 0	49	42	50	2	50	43	51	4	52	52	53	53	53	53
15 15	53	30	53	52	54	14	58	23	54	54	54	54	54	54
30 30	57	17	57	39	58	1	58	33	58	58	58	58	58	58
45 45	61	0	61	22	61	45	62	8	62	62	62	62	62	62
22 0	64	41	65	4	65	27	65	49	66	66	66	66	66	66
15 15	68	19	68	41	69	5	69	28	69	69	69	69	69	69
30 30	71	53	72	17	72	41	73	5	73	73	73	73	73	73
45 45	75	27	75	50	76	15	76	39	77	77	77	77	77	77
23 0	78	58	79	21	79	46	80	10	80	80	80	80	80	80
15 15	82	28	82	51	83	16	83	40	84	84	84	84	84	84
30 30	85	45	86	19	86	43	87	9	87	87	87	87	87	87
45 45	89	21	89	46	90	11	90	35	91	91	91	91	91	91
24 0	92	48	93	12	93	34	94	0	94	94	94	94	94	94

Table of Ascendants for Latitudes 21° to 34°.

64

Sid. Time.	21°	22°	23°	24°	25°	26°	27°	28°	29°	30°	31°	32°	33°	34°
H. M.	°	°	°	°	°	°	°	°	°	°	°	°	°	°
0	98 41 99	8 99	35 100	3 100	31 100	59 101	27 101	56 102	34 102	57 103	26 103	57 104	29 105	2
15	102 2 102	28 102	55 103	22 103	49 104	17 104	45 105	18 105	43 106	12 106	41 107	11 107	42 108	13
30	105 22 105	48 106	14 106	40 107	7 107	33 108	2 108	29 108	58 109	26 109	54 110	24 110	53 111	23
45	108 42 109	7 109	32 109	57 110	23 110	49 111	16 111	43 112	38 113	38 113	6 113	34 114	2 114	31
1	0 112	24 112	49 113	14 113	39 114	5 114	31 114	56 115	22 115	49 116	16 116	43 117	10 117	38
15	115 18 115	42 116	16 116	30 116	54 117	19 117	44 118	9 118	34 119	0 119	25 119	50 120	18 120	45
30	118 39 119	0 119	23 119	46 120	10 120	33 120	57 121	21 121	46 122	11 122	35 123	0 123	25 123	51
45	121 54 122	17 122	38 123	2 123	24 123	47 124	9 124	32 124	56 125	21 125	44 126	8 126	32 126	56
2	0 125	14 125	35 125	57 126	18 126	39 127	1 127	23 127	45 128	8 128	31 128	54 129	17 129	1
15	128 31 128	53 129	14 129	34 129	54 130	15 130	36 130	57 131	19 131	40 132	2 132	24 132	45 133	7
30	131 54 132	13 132	35 132	51 133	10 133	30 133	50 134	9 134	29 134	50 135	11 135	30 135	51 136	12
45	135 15 135	32 135	50 136	7 136	26 136	44 137	3 137	22 137	41 138	1 138	18 138	37 138	57 139	15
3	0 138	34 138	52 139	9 139	26 139	43 140	0 140	17 140	34 140	51 141	11 141	28 141	45 142	21
15	141 57 142	13 142	29 142	45 143	1 143	17 143	33 143	49 144	5 144	23 144	39 144	55 145	12 145	30
30	145 20 145	35 145	50 146	5 146	19 146	33 146	48 147	18 147	33 147	43 147	49 148	4 148	19 148	34
45	148 45 148	59 149	12 149	26 149	38 149	51 150	5 150	19 150	33 150	46 150	59 151	13 151	28 151	40
4	0 152	10 152	22 152	46 152	58 153	10 153	22 153	35 153	47 153	59 154	11 154	24 154	36 154	48
15	155 36 155	47 155	58 156	8 156	19 156	30 156	40 156	51 157	2 157	13 157	23 157	34 157	45 157	55
30	159 4 159	13 159	22 159	31 159	40 159	50 159	59 160	8 160	18 160	27 160	36 160	46 160	55 161	4
45	162 35 162	44 162	50 162	26 163	3 163	10 163	18 163	25 163	33 163	41 163	49 163	57 164	6 164	12
5	0 166	2 166	8 166	14 166	20 166	26 166	32 166	38 166	44 166	50 166	57 167	3 167	16 167	22
15	169 30 169	35 169	40 169	44 169	48 169	53 169	58 170	2 170	7 170	13 170	17 170	22 170	26 170	31
30	173 0 173	3 173	6 173	9 173	12 173	15 173	19 173	21 173	24 173	28 173	31 173	34 173	37 173	40
45	176 29 176	32 176	33 176	34 176	36 176	38 176	40 176	41 176	43 176	44 176	45 176	47 176	50 176	50
6	0 180	0 180	0 180	0 180	0 180	0 180	0 180	0 180	0 180	0 180	0 180	0 180	0 180	0

Table of Ascendants for Latitudes 21° to 34°.

65

Sid. Time.	21°	22°	23°	24°	25°	26°	27°	28°	29°	30°	31°	32°	33°	34°
H. M.	°	°	°	°	°	°	°	°	°	°	°	°	°	°
6	0 180	0 180	0 180	0 180	0 180	0 180	0 180	0 180	0 180	0 180	0 180	0 180	0 180	0
15	183 31 183	28 183	27 183	26 183	24 183	22 183	20 183	19 183	17 183	16 183	15 183	13 183	10 183	10
30	187 0 186	57 186	54 186	51 186	46 186	45 186	41 186	39 186	36 186	32 186	27 186	26 186	23 186	20
45	190 30 190	25 190	20 190	16 190	12 190	7 190	2 189	58 189	53 189	47 189	43 189	38 189	34 189	29
7	0 193	58 193	52 193	46 193	40 193	34 193	28 193	22 193	16 193	10 193	3 192	57 192	51 192	38
15	197 29 197	20 197	14 197	1 196	57 196	50 196	42 196	35 196	27 196	19 196	11 196	3 195	54 195	48
30	200 56 200	47 200	38 200	29 200	20 200	10 200	1 199	52 199	42 199	33 199	24 199	14 199	5 198	56
45	204 24 204	13 204	2 203	52 203	41 203	30 203	20 203	9 202	58 202	47 202	37 202	26 202	15 202	5
8	0 207	50 207	38 207	27 207	14 207	2 206	50 206	38 206	25 206	13 206	1 205	49 205	36 205	12
15	211 15 211	12 210	48 210	34 210	22 210	9 209	55 209	41 209	27 209	14 209	1 208	47 208	32 208	20
30	214 40 214	25 214	10 213	55 213	42 213	27 213	12 212	57 212	42 212	27 212	11 211	56 211	41 211	26
45	218 32 217	47 217	31 217	15 216	59 216	43 216	27 216	11 215	55 215	37 215	21 215	5 214	48 214	30
9	0 221	26 221	8 220	51 220	34 220	17 220	0 219	43 219	26 219	9 218	49 218	32 218	15 217	39
15	224 46 224	28 224	10 223	53 223	34 223	16 222	57 222	38 222	19 221	59 221	42 221	23 221	3 220	45
30	228 4 227	47 227	28 227	9 226	50 226	30 226	10 225	51 225	31 225	10 224	50 224	33 224	9 223	48
45	231 29 231	7 230	46 230	26 230	6 229	45 229	24 229	3 228	41 228	20 227	58 227	37 227	15 226	53
10	0 234	46 234	25 234	3 233	42 233	21 232	59 232	37 232	15 231	52 231	29 231	6 230	23 229	59
15	238 6 237	43 237	21 236	50 236	36 236	13 235	51 235	28 235	4 234	39 234	16 233	53 233	23 233	4
30	241 22 241	0 240	37 240	14 239	50 239	27 239	3 238	39 238	14 237	49 237	25 237	0 236	35 236	9
45	244 42 244	18 243	54 243	30 243	6 242	41 242	16 241	51 241	26 241	0 240	35 240	9 239	42 239	15
11	0 248	0 247	36 247	11 246	46 246	21 245	55 245	29 245	4 244	33 244	11 243	41 243	17 242	29
15	251 18 250	53 250	28 250	3 249	37 249	11 248	44 248	17 247	49 247	22 246	54 246	26 246	58 245	22
30	254 38 254	38 254	12 253	46 253	20 252	53 252	58 251	31 251	2 250	34 250	4 249	33 249	7 248	37
45	257 58 257	32 257	5 256	38 256	11 255	43 255	15 254	46 254	17 253	48 253	19 252	49 252	18 251	47
12	0 261	52 260	25 259	57 259	29 259	1 258	31 258	4 257	34 257	0 180	3 256	34 256	31 254	53

Table of Ascendants for Latitudes 21° to 34°.

Sid. Time.	21°	22°	23°	24°	25°	26°	27°	28°	29°	30°	31°	32°	33°	34°
H. M.	°	°	°	°	°	°	°	°	°	°	°	°	°	°
12 0	261	19 260	52 260	25 259	57 259	29 259	0 258	31 258	4 257	34 257	3 256	34 256	3 255	31 254
15 0	264	41 264	14 263	45 263	18 262	49 262	20 261	51 261	22 260	51 260	19 259	49 259	18 258	45 258
30 0	268	6 267	38 267	8 266	41 266	12 265	42 264	12 264	22 264	11 263	39 263	8 262	36 262	2 261
45 0	271	32 271	4 270	35 270	6 269	38 269	7 268	37 268	6 267	34 267	1 266	29 265	56 265	22 264
3 0	275	1 274	33 274	4 273	34 273	6 272	34 272	4 271	33 271	0 270	27 269	54 269	21 268	46 268
15 0	278	32 278	3 277	35 277	5 276	36 276	4 275	34 275	2 274	29 273	55 273	22 272	48 272	12 271
30 0	282	7 281	38 281	9 280	39 280	10 279	38 279	8 278	35 278	2 277	28 276	54 276	19 275	43 275
45 0	285	46 285	17 284	48 284	18 283	49 283	17 282	47 282	13 281	40 281	5 280	32 279	57 279	20 278
14 0	289	28 288	59 288	30 288	0 287	31 286	59 286	29 285	55 285	22 284	48 284	14 283	36 283	1 282
15 0	293	14 292	46 292	17 291	48 291	18 290	46 290	16 289	43 289	10 288	35 288	1 287	25 286	49 286
30 0	297	5 296	38 296	9 295	40 295	11 294	11 294	11 293	38 293	5 292	30 291	57 291	20 290	43 290
45 0	301	2 300	34 300	7 299	38 299	9 298	39 298	10 297	38 297	5 296	31 295	57 295	22 294	45 294
15 0	305	2 304	36 304	8 303	41 303	13 302	44 302	14 301	42 301	10 300	36 300	3 299	28 298	52 298
15 0	309	9 308	44 308	18 307	51 307	24 306	55 306	26 305	56 305	24 304	52 304	20 303	46 303	10 302
30 0	313	22 312	59 312	54 312	8 311	42 311	15 310	47 310	18 309	48 309	17 308	45 308	13 307	38 307
45 0	317	41 317	18 316	56 316	31 316	6 315	40 315	14 314	47 314	18 313	48 313	19 312	48 312	15 311
16 0	322	5 321	43 321	21 320	59 320	36 320	12 319	48 319	23 318	55 318	27 317	59 317	30 316	59 316
15 0	326	33 326	15 325	56 325	35 325	14 324	52 324	30 324	6 323	42 323	16 322	51 322	24 321	55 321
30 0	331	9 330	53 330	35 330	16 329	57 329	38 329	18 328	57 328	36 328	12 327	50 327	25 326	59 326
45 0	335	49 335	56 335	39 335	3 334	48 334	31 334	14 333	55 333	36 333	17 332	57 332	36 332	13 331
17 0	340	34 340	22 340	9 339	56 339	43 339	30 339	16 339	0 338	44 338	29 338	12 337	58 337	35 337
15 0	345	22 345	13 344	3 344	54 344	44 344	33 344	22 344	11 343	59 343	46 343	33 343	19 343	4 342
30 0	350	14 350	7 350	1 349	54 349	47 349	41 349	34 349	25 349	17 349	8 348	59 348	49 348	40 348
45 0	355	7 355	4 354	59 354	53 354	49 354	43 354	46 354	42 354	38 354	33 354	29 354	24 354	19 354
18 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table of Ascendants for Latitudes 21° to 34°.

Sid. Time	21°	22°	23°	24°	25°	26°	27°	28°	29°	30°	31°	32°	33°	34°
H. M.	°	°	°	°	°	°	°	°	°	°	°	°	°	°
18 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15 0	4 53	4 56	5 5	1 5	4 5	7 5	11 5	14 5	18 5	22 5	27 5	31 5	36 5	41 5
30 0	9 46	9 53	9 59	10 6	10 13	10 19	10 26	10 33	10 39	10 46	10 52	11 11	11 16	11 20
45 0	14 38	14 47	14 57	15 15	16 15	17 15	18 15	19 15	20 15	21 16	21 31	21 48	22 6	22 25
19 0	19 26	19 38	19 51	20 4	20 17	20 30	20 44	21 0	21 16	21 31	21 48	22 6	22 25	22 44
15 0	24 11	24 25	24 41	24 57	25 12	25 25	25 46	26 5	26 24	26 43	27 3	27 24	27 47	28 8
30 0	28 51	29 7	29 25	29 44	30 3	30 22	30 42	31 3	31 25	31 48	32 10	32 35	33 1	33 28
45 0	33 27	33 45	34 4	34 25	34 46	35 8	35 30	35 54	36 18	36 44	37 7	37 36	38 5	38 35
20 0	37 55	38 17	38 39	39 1	39 24	39 48	40 12	40 37	41 5	41 33	42 1	42 30	43 1	43 31
15 0	42 19	42 42	43 4	43 29	43 54	44 20	44 46	45 13	45 42	46 12	46 41	47 12	47 45	48 18
30 0	46 38	47 1	47 26	47 52	48 18	48 45	49 13	49 42	50 12	50 43	51 15	51 47	52 22	52 55
45 0	50 51	51 16	51 42	52 9	52 36	53 5	53 34	54 4	54 36	55 8	55 40	56 14	56 50	57 26
21 0	54 58	55 24	55 52	56 19	56 47	57 17	57 50	58 18	58 54	59 24	59 57	60 32	61 8	61 45
15 0	58 58	59 26	59 53	60 22	60 51	61 21	61 50	62 22	62 55	63 29	64 3	64 38	65 15	65 53
30 0	62 55	63 22	63 51	64 20	64 48	65 19	65 49	66 22	66 55	67 30	68 3	68 40	69 17	69 54
45 0	66 46	67 14	67 43	68 12	68 42	69 13	69 44	70 17	70 50	71 25	71 59	72 35	73 11	73 47
22 0	70 32	71 1	71 30	72 0	72 29	73 1	73 31	74 5	74 38	75 12	75 46	76 24	77 3	77 35
15 0	74 14	74 43	75 12	75 42	76 11	76 43	77 13	77 47	78 20	78 55	79 28	80 3	80 40	81 16
30 0	77 53	78 22	78 51	79 21	79 50	80 22	80 52	81 25	81 54	82 32	83 6	83 87	84 17	84 52
45 0	81 28	81 57	82 25	82 55	83 24	83 56	84 26	84 58	85 31	86 5	86 38	87 12	87 48	88 24
23 0	84 59	85 27	85 56	86 26	86 54	87 26	87 56	88 27	89 0	89 33	90 6	90 39	91 14	91 49
15 0	88 28	88 56	89 25	89 54	90 22	90 53	91 23	91 54	92 26	92 59	93 3	93 36	94 9	94 49
30 0	91 54	92 22	92 52	93 19	93 48	94 18	94 48	95 18	95 49	96 4	96 32	97 24	97 58	98 31
45 0	95 19	95 46	96 15	96 42	97 11	97 40	98 8	98 38	99 9	99 41	100 11	100 42	101 15	101 48
24 0	98 41	99 8	99 35	100 3	100 31	100 59	101 27	101 56	102 26	102 57	103 26	103 57	104 29	105 8

Tables of Houses for Bombay, Lat. 18° N. 57'

Sid. Time.	10	11 12	Asc.	2 3	Sid. Time.	10	11 12	Asc.	2 3	Sid. Time.	10	11 12	Asc.	2 3
H. M.	°	'	°	'	H. M.	°	'	°	'	H. M.	°	'	°	'
12 0	0	0	22	33	14	0	2	20	23	16	0	2	22	45
5	1	22	29	19	5	3	3	126	37	5	5	3	17	13
10	2	43	3	26	10	4	47	2	53	10	4	4	28	42
15	4	5	4	34	15	6	6	328	9	15	5	39	0	10
20	5	27	5	44	20	7	7	0	25	20	6	50	2	4
25	6	48	7	52	25	8	8	6	42	25	8	1	3	12
30	8	10	8	0	30	9	9	11	8	30	9	11	4	42
35	9	31	10	9	35	11	11	8	329	35	10	22	5	14
40	10	53	11	18	40	12	12	27	9	40	11	32	6	45
45	12	14	12	8	45	13	13	42	10	45	12	42	8	17
50	13	35	13	9	50	14	14	57	11	50	13	52	9	51
55	14	56	14	10	55	16	16	13	12	55	15	12	11	23
13 0	16	17	15	11	15	0	17	28	13	17	0	16	12	56
5	17	37	16	12	5	5	18	42	14	5	17	21	13	29
10	18	58	18	13	10	10	19	57	16	10	18	36	15	42
15	20	18	19	14	15	21	21	11	17	15	19	39	15	39
20	21	38	21	16	20	22	22	25	19	20	20	49	16	13
25	22	58	22	17	25	23	23	38	20	25	21	58	17	49
30	24	18	23	18	30	24	24	51	21	30	23	7	18	25
35	25	38	24	19	35	26	26	4	22	35	24	16	19	25
40	26	57	25	20	40	27	27	17	23	40	25	25	20	0
45	28	16	26	21	45	28	28	29	24	45	26	33	22	35
50	28	34	28	23	50	29	29	42	25	45	26	42	23	48
55	0	53	29	24	55	0	0	54	26	55	28	51	24	24

Tables of Houses for Bombay, Lat. 18° N. 57'

Sid. Time.	10	11 12	Asc.	2 3	Sid. Time.	10	11 12	Asc.	2 3	Sid. Time.	10	11 12	Asc.	2 3
H. M.	°	'	°	'	H. M.	°	'	°	'	H. M.	°	'	°	'
18 0	0	0	25	0	20 0	0	27	54	26	22 0	0	27	54	26
5	1	9	27	26	5	5	29	6	28	15	5	10	26	2
10	2	18	28	28	10	10	0	18	29	10	10	0	26	2
15	3	26	29	0	15	15	1	30	0	15	15	1	26	2
20	4	35	0	1	20	20	2	43	2	20	20	2	26	2
25	5	44	2	2	25	25	3	56	3	25	25	3	26	2
30	6	53	3	3	30	30	5	9	4	30	30	5	26	2
35	8	2	4	5	35	35	6	22	6	35	35	6	26	2
40	9	11	5	6	40	40	7	35	8	40	40	7	26	2
45	10	20	6	8	45	45	8	49	9	45	45	8	26	2
50	11	30	7	10	50	50	10	3	10	50	50	10	26	2
55	12	39	8	11	55	55	11	17	11	55	55	11	26	2
19 0	13	48	11	12	19 0	13	12	32	13	23	0	13	32	13
5	14	58	12	13	5	15	13	47	15	23	5	15	47	15
10	16	8	13	15	10	16	14	17	18	10	16	14	17	15
15	17	18	15	16	15	17	15	31	19	15	17	15	31	15
20	18	28	16	17	20	18	16	43	20	15	17	16	43	15
25	19	38	17	19	25	19	17	56	21	15	17	16	56	15
30	20	48	18	21	30	20	18	7	23	30	20	18	7	23
35	21	59	20	22	35	21	19	19	24	35	21	19	19	24
40	23	10	21	24	40	23	21	20	2	40	23	21	20	2
45	24	20	22	26	45	24	22	31	27	45	24	22	31	27
50	25	32	23	28	50	25	23	42	29	50	25	23	42	29
55	26	43	24	29	55	26	24	52	31	55	26	24	52	31

Tables of Houses for Madras, Lat. 13° N. 4'.

72

Sid. Time.	10	11 12	Asc.	2 3	Sid. Time.	10	11 12	Asc.	2 3	Sid. Time.	10	11 12	Asc.	2 3		
H. M.	°	′	″	°	′	″	°	′	″	H. M.	°	′	″	°	′	″
0	0	0	0	0	0	0	2	0	0	4	0	5	2	1	0	35
5	1	22	4	6	6	33	5	2	0	5	3	17	3	3	1	46
10	2	43	6	8	7	33	10	4	1	10	4	38	4	4	2	59
15	4	5	7	9	8	39	15	6	2	15	5	29	5	5	4	11
20	5	27	8	11	9	47	20	7	3	20	6	50	6	6	5	24
25	6	48	10	12	10	54	25	8	4	25	8	1	7	7	6	37
30	8	10	11	13	12	54	30	9	5	30	9	11	8	9	7	51
35	9	31	13	14	13	10	35	11	6	35	10	22	9	10	9	4
40	10	53	14	15	14	19	40	12	7	40	11	32	10	11	10	17
45	12	14	15	16	15	27	45	13	8	45	12	42	11	12	11	35
50	13	35	16	18	16	34	50	14	9	50	13	52	13	13	12	44
55	14	56	18	19	17	42	55	16	10	5	15	2	14	14	13	57
1	16	17	19	20	18	49	1	17	11	5	17	12	15	15	15	11
5	17	37	20	21	19	57	5	18	12	10	18	30	17	18	17	39
10	18	58	21	22	21	5	10	19	13	15	19	39	18	19	18	52
15	20	18	22	23	22	13	15	21	14	20	20	49	20	20	21	6
20	21	38	23	25	23	21	20	22	15	20	21	58	21	21	22	20
25	22	58	25	26	24	29	25	23	16	25	23	7	22	22	23	35
30	24	18	26	27	25	37	30	24	17	30	24	16	24	23	23	49
35	25	38	27	28	26	49	35	26	18	35	25	25	25	24	25	3
40	26	57	29	29	27	54	40	27	19	40	26	33	26	25	26	18
45	28	16	0	0	29	2	45	28	20	45	27	42	27	26	27	31
50	29	34	2	1	0	9	50	29	21	50	28	51	28	28	28	46
55	0	53	3	2	1	19	55	0	22	55	28	0	28	28	29	29

Tables of Houses for Madras, Lat. 13° N. 4'.

73

Sid. Time.	10	11 12	Asc.	2 3	Sid. Time.	10	11 12	Asc.	2 3	Sid. Time.	10	11 12	Asc.	2 3
H. M.	°	′	″	′	H. M.	°	′	″	′	H. M.	°	′	″	′
6	0	0	0	0	8	0	27	54	29	0	27	49	0	26
5	1	9	0	1	5	1	29	0	0	10	0	26	3	29
10	2	18	1	2	10	2	0	18	2	15	1	44	4	3
15	3	26	3	3	15	3	1	30	3	20	3	3	5	2
20	4	35	4	4	20	4	2	43	4	25	4	23	7	3
25	5	44	5	5	25	5	3	56	5	35	5	42	8	4
30	6	53	7	7	30	6	4	6	6	47	6	20	9	5
35	8	2	8	8	35	8	5	22	8	58	8	22	11	6
40	9	11	9	9	40	9	7	35	9	9	9	42	12	7
45	10	20	10	11	45	10	8	49	11	10	10	42	13	8
50	11	30	11	13	50	11	9	32	13	11	11	22	15	9
55	12	39	12	14	55	12	10	17	14	12	12	22	16	10
7	0	13	14	15	9	0	12	32	15	13	13	43	16	11
5	16	58	15	16	5	13	13	47	16	14	14	43	17	12
10	17	8	16	17	10	15	15	37	18	16	15	46	19	13
15	18	17	17	18	15	16	16	17	18	17	16	47	20	14
20	19	28	19	19	20	17	17	33	20	18	17	48	21	15
25	20	38	20	20	25	18	18	49	21	19	18	49	22	16
30	21	48	22	22	30	20	20	52	23	20	19	50	23	17
35	22	59	23	23	35	21	21	58	24	21	20	51	24	18
40	23	10	24	24	40	22	22	39	25	22	21	52	25	19
45	24	20	25	25	45	23	23	56	26	23	22	53	26	20
50	25	32	26	26	50	24	24	1	27	24	23	54	27	21
55	26	43	28	28	55	25	25	13	27	25	24	55	28	22
						26	26	31	28	26	25			23

Sid. Time.	10	11 12	Asc.	2 3	Sid. Time.	10	11 12	Asc.	2 3	Sid. Time.	10	11 12	Asc.	2 3
H. M.	°	'	°	'	H. M.	°	'	°	'	H. M.	°	'	°	'
12	0	0	0	1 29 24	46 25 27	14	0	2	11 0 27 22	58 25 0	16	0	2	5 29 25 24
5	1	22	2 0 25	53 26 28	1 27 29	15	6	4	4 0 26	41 0 5	5	3	17 0 26 25	58 2 5
10	2	43	3 1 27	53 26 28	1 27 29	20	7	21	5 1 27	56 1 6	10	4	28 1 27 27	24 3 7
15	4	5	5 2 28	10 28 1	19 29 2	25	8	38	6 2 29	11 2 7	15	5	39 2 8 28	49 5 8
20	5	27	6 3 29	19 29 2	19 29 2	30	9	54	8 3 0	28 4 9	20	6	50 3 29 0	15 6 9
25	6	48	7 4 0	28 1 4	28 1 4	35	11	11	9 4 1	44 5 11	25	8	1 4 1	42 7 10
30	8	10	8 5 1	36 2 5	36 2 5	40	12	17	10 5 3	1 7 12	30	9	11 5 2 3	9 9 12
35	9	31	10 6 2	45 3 7	45 3 7	45	13	42	11 6 4	18 8 13	35	10	22 6 3 4	37 10 13
40	10	53	11 8 3	55 5 8	55 5 8	50	14	57	12 8 5	35 10 14	40	11	32 8 4 6	3 12 14
45	12	14	12 9 5	4 6 10	4 6 10	55	16	13	13 9 6	55 11 16	45	12	42 9 5 7	31 13 15
50	13	35	13 10 6	14 7 11	14 7 11	15	17	28	14 10 8	13 13 17	50	13	52 10 7 9	0 15 16
55	14	56	15 12 7	25 8 12	25 8 12	5	18	42	15 11 9	32 14 19	55	15	2 12 8 10	28 16 18
13	16	17	16 13 8	35 9 14	35 9 14	10	19	57	17 13 10	52 16 20	17	0	12 13 9 11	58 17 19
5	17	37	17 14 9	44 10 15	44 10 15	15	21	11	18 14 12	12 17 22	5	17	30 15 12 14	26 19 20
10	18	58	19 15 10	55 12 16	55 12 16	20	22	25	19 15 13	32 19 23	10	18	41 16 13	55 20 21
15	20	18	20 16 12	6 13 18	6 13 18	25	23	38	20 16 14	53 20 24	15	19	39 16 13 16	25 22 23
20	21	38	21 17 13	17 14 19	17 14 19	30	24	51	22 18 16	15 21 25	20	20	49 17 15 17	55 23 24
25	22	58	22 19 14	29 16 20	29 16 20	35	26	4	23 19 17	37 23 27	25	21	58 18 16 19	25 25 25
30	24	18	23 20 15	41 17 22	41 17 22	40	27	17	24 20 18	59 24 29	30	23	7 20 18 20	56 26 27
35	25	38	24 21 16	52 18 23	52 18 23	45	28	29	25 21 20	23 26 0	35	24	16 21 19 22	27 28 28
40	26	57	26 22 18	5 20 24	5 20 24	50	29	42	26 22 21	47 27 1	40	25	25 22 21 23	57 29 29
45	28	16	27 23 19	18 21 26	18 21 26	55	0	54	27 24 23	10 29 2	45	26	33 23 22 25	29 0 0
50	29	24	28 24 20	30 22 27	30 22 27	55	0	54	27 24 23	10 29 2	50	27	42 24 24 26	58 2 1
55	0	53	29 25 21	44 24 29	44 24 29	55	0	54	27 24 23	10 29 2	55	28	51 25 25 28	30 3 3

Sid. Time.	10	11 12	Asc.	2 3	Sid. Time.	10	11 12	Asc.	2 3	Sid. Time.	10	11 12	Asc.	2 3
H. M.	°	'	°	'	H. M.	°	'	°	'	H. M.	°	'	°	'
18	0	0	0 26 26	0 4 4	20	0	27	54	27 0 5	26 5 2	22	0	27	49 0 5 7
5	1	9	28 27 1	30 6 6	20	5	29	6 28	2 6	50 7 4	5	5	29	7 2 6 8
10	2	18	29 29 3	2 7 7	5	10	0	18	0 3 8	13 8 5	10	0	15	1 1 16 5 1
15	3	26	0 0 4	31 9 8	10	15	1	30	1 5 9	37 9 6	15	1	15	2 6 3 8 9
20	4	35	1 1 6	31 10 9	15	20	2	43	2 6 11	1 10 7	20	3	10	4 4 5 9 10
25	5	44	2 2 7	33 12 10	20	25	3	56	4 7 12	23 11 8	25	4	15	3 6 10 11
30	6	43	3 4 9	4 13 11	25	30	5	9	5 9 13	45 13 9	30	5	20	4 2 9 13 14
35	8	2	5 5 10	35 14 12	30	35	6	22	6 10 15	7 14 10	35	7	3	5 8 10 11
40	9	11	7 6 12	5 16 14	35	40	7	35	7 12 16	28 15 11	40	8	7	6 10 11 15
45	10	20	8 8 13	35 17 15	45	45	8	49	8 13 17	48 16 12	45	9	8	7 2 10 14 15
50	11	30	9 9 15	5 19 16	50	50	10	3	10 14 19	8 17 13	50	11	9	8 13 17 17
55	12	39	10 11 16	34 20 17	55	55	11	17	12 16 20	28 19 15	55	12	10	9 14 18 19
0	13	48	11 12 18	2 21 18	21	0	12	32	13 17 21	47 20 16	0	13	11	10 14 18 19
5	14	58	12 14 19	23 22 19	5	5	13	47	14 19 23	5 21 17	5	15	12	11 15 18 19
10	16	8	14 15 21	0 24 21	10	10	15	17	17 22 25	25 22 18	10	16	13	12 16 16 16
15	17	18	15 17 22	29 25 22	15	15	16	17	17 22 25	42 24 19	15	17	14	13 17 17
20	18	28	16 18 23	57 26 23	20	20	17	33	19 23 26	59 25 20	20	19	15	14 18 19
25	19	38	17 20 25	23 27 24	25	25	18	49	20 25 28	16 26 21	25	20	16	15 15 11
30	20	48	19 21 26	51 28 25	30	30	20	5	21 26 29	32 27 22	30	21	17	16 16 13
35	21	59	20 23 28	18 29 26	35	35	21	22	23 28 0	49 28 24	35	23	18	17 17 17
40	23	10	22 24 29	45 1 28	40	40	22	39	24 29 2	4 29 25	40	24	19	18 18 15
45	24	20	23 26 1	11 2 29	45	45	23	56	26 0 3	19 0 26	45	25	20	19 19 15
50	25	32	24 27 2	36 3 0	50	50	25	13	27 2 4	34 2 27	50	27	21	20 20 16
55	26	43	25 29 4	2 4 1	55	55	26	31	29 3 5	48 3 28	55	28	22	21 21 18

LOGARITHMIC TABLE.

Hours or Degrees.

Min.	0	1	2	3	4	5	6	7	8	9	10	11	Min.
0	3.1584	1.3802	1.0792	.9031	.7781	.6812	.6021	.5351	.4771	.4260	.3802	.3388	0
1	3.1584	1.3730	1.0756	.9007	.7763	.6798	.6009	.5341	.4762	.4252	.3797	.3382	1
2	2.8573	1.3660	1.0720	.8983	.7745	.6784	.5997	.5330	.4753	.4244	.3788	.3375	2
3	2.6812	1.3590	1.0685	.8959	.7728	.6769	.5985	.5320	.4744	.4236	.3780	.3368	3
4	2.5563	1.3522	1.0649	.8935	.7710	.6755	.5973	.5310	.4735	.4228	.3773	.3362	4
5	2.4594	1.3454	1.0614	.8912	.7692	.6741	.5961	.5300	.4726	.4220	.3766	.3355	5
6	2.3802	1.3388	1.0580	.8888	.7674	.6726	.5949	.5289	.4717	.4212	.3759	.3349	6
7	2.3133	1.3323	1.0546	.8865	.7657	.6712	.5937	.5279	.4708	.4204	.3752	.3342	7
8	2.2553	1.3258	1.0511	.8842	.7639	.6698	.5925	.5269	.4699	.4196	.3745	.3336	8
9	2.2041	1.3195	1.0478	.8819	.7622	.6684	.5913	.5259	.4690	.4188	.3737	.3329	9
10	2.1584	1.3133	1.0444	.8796	.7604	.6670	.5902	.5249	.4682	.4180	.3730	.3323	10
11	2.1170	1.3071	1.0411	.8773	.7587	.6656	.5890	.5239	.4673	.4172	.3723	.3316	11
12	2.0792	1.3010	1.0378	.8751	.7570	.6642	.5878	.5229	.4664	.4164	.3716	.3310	12
13	2.0444	1.2950	1.0345	.8728	.7552	.6628	.5866	.5219	.4655	.4156	.3709	.3303	13
14	2.0122	1.2891	1.0313	.8706	.7535	.6614	.5855	.5209	.4646	.4148	.3702	.3297	14
15	1.9823	1.2833	1.0280	.8683	.7518	.6600	.5843	.5199	.4638	.4141	.3695	.3291	15
16	1.9542	1.2775	1.0248	.8661	.7501	.6587	.5832	.5189	.4629	.4133	.3688	.3284	16
17	1.9279	1.2719	1.0216	.8639	.7484	.6573	.5820	.5179	.4620	.4125	.3681	.3278	17
18	1.9031	1.2663	1.0185	.8617	.7467	.6559	.5809	.5169	.4611	.4117	.3674	.3271	18
19	1.8796	1.2607	1.0153	.8595	.7451	.6546	.5797	.5159	.4603	.4109	.3667	.3265	19
20	1.8573	1.2553	1.0122	.8573	.7434	.6532	.5786	.5149	.4594	.4102	.3660	.3258	20
21	1.8361	1.2499	1.0091	.8552	.7417	.6519	.5774	.5139	.4585	.4094	.3653	.3252	21
22	1.8159	1.2445	1.0061	.8530	.7401	.6505	.5761	.5129	.4577	.4086	.3646	.3246	22
23	1.7966	1.2393	1.0030	.8509	.7384	.6492	.5732	.5110	.4568	.4079	.3639	.3239	23
24	1.7781	1.2341	1.0000	.8487	.7368	.6478	.5714	.5100	.4559	.4071	.3632	.3233	24
25	1.7604	1.2289	.9970	.8466	.7351	.6465	.5709	.5100	.4551	.4063	.3625	.3227	25
26	1.7434	1.2239	.9940	.8445	.7335	.6451	.5701	.5090	.4542	.4055	.3618	.3220	26
27	1.7270	1.2188	.9910	.8424	.7318	.6438	.5706	.5081	.4534	.4048	.3611	.3214	27
28	1.7112	1.2139	.9881	.8403	.7302	.6425	.5695	.5071	.4525	.4040	.3604	.3208	28
29	1.6960	1.2090	.9852	.8382	.7286	.6412	.5684	.5061	.4516	.4032	.3597	.3201	29

LOGARITHMIC TABLE.

Hours or Degrees.

Min.	0	1	2	3	4	5	6	7	8	9	10	11	Min.
30	1.6812	1.2041	.9823	.8361	.7270	.6398	.5673	.5051	.4508	.4025	.3590	.3195	30
31	1.6670	1.1993	.9794	.8341	.7254	.6385	.5662	.5042	.4499	.4017	.3583	.3189	31
32	1.6532	1.1946	.9765	.8327	.7238	.6372	.5651	.5032	.4491	.4010	.3576	.3183	32
33	1.6398	1.1899	.9737	.8300	.7222	.6359	.5640	.5023	.4482	.4002	.3570	.3176	33
34	1.6269	1.1852	.9708	.8279	.7206	.6346	.5629	.5013	.4474	.3994	.3563	.3170	34
35	1.6143	1.1806	.9680	.8259	.7190	.6333	.5618	.5003	.4466	.3987	.3556	.3164	35
36	1.6021	1.1761	.9652	.8239	.7174	.6320	.5607	.4994	.4457	.3979	.3549	.3157	36
37	1.5902	1.1716	.9625	.8219	.7159	.6307	.5596	.4984	.4449	.3972	.3542	.3151	37
38	1.5786	1.1671	.9597	.8199	.7143	.6294	.5585	.4975	.4440	.3964	.3535	.3145	38
39	1.5673	1.1627	.9570	.8179	.7128	.6282	.5573	.4965	.4432	.3957	.3529	.3139	39
40	1.5563	1.1584	.9542	.8159	.7112	.6269	.5563	.4956	.4424	.3949	.3522	.3133	40
41	1.5456	1.1540	.9515	.8140	.7097	.6256	.5552	.4947	.4415	.3942	.3515	.3126	41
42	1.5351	1.1498	.9488	.8120	.7081	.6243	.5541	.4937	.4407	.3934	.3508	.3120	42
43	1.5249	1.1455	.9462	.8101	.7066	.6231	.5531	.4928	.4399	.3927	.3501	.3114	43
44	1.5149	1.1413	.9435	.8081	.7050	.6218	.5520	.4918	.4390	.3919	.3495	.3108	44
45	1.5051	1.1372	.9409	.8062	.7035	.6205	.5509	.4909	.4382	.3912	.3488	.3102	45
46	1.4956	1.1331	.9383	.8042	.7020	.6193	.5498	.4900	.4374	.3905	.3481	.3096	46
47	1.4863	1.1290	.9356	.8023	.7005	.6180	.5488	.4890	.4365	.3897	.3475	.3089	47
48	1.4771	1.1249	.9330	.8004	.6990	.6168	.5477	.4881	.4357	.3890	.3468	.3083	48
49	1.4682	1.1209	.9305	.7985	.6975	.6155	.5466	.4872	.4349	.3882	.3461	.3077	49
50	1.4594	1.1170	.9279	.7966	.6960	.6143	.5456	.4863	.4341	.3875	.3454	.3071	50
51	1.4508	1.1130	.9254	.7947	.6945	.6131	.5445	.4853	.4333	.3868	.3448	.3065	51
52	1.4424	1.1091	.9228	.7929	.6920	.6118	.5435	.4844	.4324	.3860	.3441	.3059	52
53	1.4341	1.1053	.9203	.7910	.6915	.6101	.5424	.4835	.4316	.3853	.3434	.3053	53
54	1.4260	1.1015	.9178	.7891	.6900	.6094	.5414	.4826	.4308	.3846	.3428	.3047	54
55	1.4180	1.0977	.9153	.7873	.6885	.6081	.5403	.4817	.4300	.3838	.3421	.3041	55
56	1.4102	1.0939	.9128	.7854	.6871	.6069	.5393	.4808	.4292	.3831	.3415	.3034	56
57	1.4025	1.0902	.9104	.7836	.6856	.6057	.5382	.4798	.4284	.3824	.3408	.3028	57
58	1.3949	1.0865	.9079	.7818	.6841	.6045	.5372	.4789	.4276	.3817	.3401	.3022	58
59	1.3875	1.0828	.9055	.7800	.6827	.6033	.5361	.4780	.4268	.3809	.3395	.3016	59

Hours or Degrees.

Min.	12	13	14	15	16	17	18	19	20	21	22	23	Min.
0	.3010	.2663	.2341	.2041	.1761	.1498	.1249	.1015	.0792	.0580	.0378	.0185	0
1	.3004	.2657	.2336	.2036	.1756	.1493	.1245	.1011	.0788	.0576	.0375	.0182	1
2	.2998	.2652	.2330	.2032	.1752	.1489	.1241	.1007	.0785	.0573	.0371	.0179	2
3	.2992	.2646	.2325	.2027	.1747	.1485	.1237	.1003	.0781	.0569	.0368	.0175	3
4	.2986	.2640	.2320	.2022	.1743	.1481	.1233	.0999	.0778	.0566	.0366	.0172	4
5	.2980	.2635	.2315	.2017	.1738	.1476	.1229	.0996	.0774	.0563	.0361	.0169	5
6	.2974	.2629	.2310	.2012	.1734	.1472	.1225	.0992	.0770	.0559	.0358	.0166	6
7	.2968	.2624	.2305	.2008	.1729	.1468	.1221	.0988	.0766	.0556	.0355	.0163	7
8	.2962	.2618	.2300	.2003	.1725	.1464	.1217	.0984	.0763	.0552	.0352	.0160	8
9	.2956	.2613	.2295	.1998	.1720	.1459	.1213	.0980	.0759	.0549	.0348	.0157	9
10	.2950	.2607	.2289	.1993	.1716	.1455	.1209	.0977	.0756	.0546	.0345	.0154	10
11	.2944	.2602	.2284	.1988	.1711	.1451	.1205	.0973	.0752	.0542	.0342	.0150	11
12	.2938	.2596	.2279	.1984	.1707	.1447	.1201	.0969	.0749	.0539	.0339	.0147	12
13	.2933	.2591	.2274	.1979	.1702	.1443	.1197	.0965	.0745	.0535	.0335	.0144	13
14	.2927	.2585	.2269	.1974	.1698	.1438	.1193	.0962	.0741	.0532	.0332	.0141	14
15	.2921	.2580	.2264	.1969	.1694	.1434	.1190	.0958	.0738	.0529	.0329	.0138	15
16	.2915	.2574	.2259	.1965	.1689	.1430	.1186	.0954	.0734	.0525	.0326	.0135	16
17	.2909	.2569	.2253	.1960	.1685	.1426	.1182	.0950	.0731	.0522	.0322	.0132	17
18	.2903	.2564	.2249	.1955	.1680	.1422	.1178	.0947	.0727	.0518	.0319	.0129	18
19	.2897	.2558	.2244	.1950	.1676	.1417	.1174	.0943	.0724	.0515	.0316	.0125	19
20	.2891	.2553	.2239	.1946	.1671	.1413	.1170	.0939	.0720	.0512	.0313	.0122	20
21	.2885	.2547	.2234	.1941	.1667	.1409	.1166	.0935	.0716	.0508	.0309	.0119	21
22	.2880	.2542	.2229	.1936	.1662	.1405	.1162	.0932	.0713	.0505	.0306	.0116	22
23	.2874	.2536	.2223	.1932	.1658	.1401	.1158	.0928	.0709	.0501	.0303	.0113	23
24	.2868	.2531	.2218	.1927	.1654	.1397	.1154	.0924	.0706	.0498	.0300	.0110	24
25	.2862	.2526	.2213	.1922	.1649	.1392	.1150	.0920	.0702	.0495	.0296	.0107	25
26	.2856	.2520	.2208	.1917	.1645	.1388	.1146	.0917	.0699	.0491	.0293	.0104	26
27	.2850	.2515	.2203	.1913	.1640	.1384	.1142	.0913	.0695	.0488	.0290	.0101	27
28	.2845	.2509	.2198	.1908	.1636	.1380	.1138	.0909	.0692	.0484	.0287	.0098	28
29	.2839	.2504	.2193	.1903	.1632	.1376	.1134	.0906	.0688	.0481	.0284	.0095	29

LOGARITHMIC TABLE.

Hours or Degrees.

Min.	12	13	14	15	16	17	18	19	20	21	22	23	Min.
30	.2833	.2499	.2188	.1899	.1627	.1372	.1130	.0902	.0685	.0478	.0280	.0091	30
31	.2827	.2493	.2183	.1894	.1623	.1368	.1127	.0898	.0681	.0474	.0277	.0088	31
32	.2821	.2488	.2178	.1889	.1618	.1363	.1123	.0894	.0678	.0471	.0274	.0085	32
33	.2816	.2483	.2173	.1885	.1614	.1359	.1119	.0891	.0674	.0468	.0271	.0082	33
34	.2810	.2477	.2168	.1880	.1610	.1355	.1115	.0887	.0670	.0464	.0267	.0079	34
35	.2804	.2472	.2164	.1875	.1605	.1351	.1111	.0883	.0667	.0461	.0264	.0076	35
36	.2798	.2467	.2159	.1871	.1601	.1347	.1107	.0880	.0663	.0458	.0261	.0073	36
37	.2793	.2461	.2154	.1866	.1597	.1343	.1103	.0876	.0660	.0454	.0258	.0070	37
38	.2787	.2456	.2149	.1862	.1592	.1339	.1099	.0872	.0656	.0451	.0255	.0067	38
39	.2781	.2451	.2144	.1857	.1588	.1335	.1095	.0869	.0652	.0448	.0251	.0064	39
40	.2775	.2445	.2139	.1852	.1584	.1331	.1091	.0865	.0649	.0444	.0248	.0061	40
41	.2770	.2440	.2134	.1848	.1579	.1326	.1088	.0861	.0646	.0441	.0245	.0058	41
42	.2764	.2435	.2129	.1843	.1575	.1322	.1084	.0857	.0642	.0438	.0242	.0055	42
43	.2758	.2430	.2124	.1838	.1571	.1318	.1080	.0854	.0639	.0434	.0239	.0052	43
44	.2753	.2424	.2119	.1834	.1566	.1314	.1076	.0850	.0635	.0431	.0236	.0049	44
45	.2747	.2419	.2114	.1829	.1561	.1310	.1072	.0846	.0632	.0428	.0232	.0046	45
46	.2741	.2414	.2109	.1825	.1558	.1306	.1068	.0843	.0628	.0424	.0229	.0042	46
47	.2736	.2409	.2104	.1820	.1553	.1302	.1064	.0839	.0625	.0421	.0226	.0039	47
48	.2730	.2403	.2099	.1816	.1549	.1298	.1061	.0835	.0622	.0418	.0223	.0036	48
49	.2724	.2398	.2095	.1811	.1545	.1294	.1057	.0832	.0618	.0414	.0220	.0033	49
50	.2719	.2393	.2090	.1806	.1540	.1290	.1053	.0828	.0615	.0411	.0216	.0030	50
51	.2713	.2388	.2085	.1802	.1536	.1286	.1049	.0825	.0611	.0408	.0213	.0027	51
52	.2707	.2382	.2080	.1797	.1532	.1282	.1045	.0821	.0608	.0404	.0210	.0024	52
53	.2702	.2377	.2075	.1793	.1528	.1278	.1041	.0817	.0604	.0401	.0207	.0021	53
54	.2696	.2372	.2070	.1788	.1523	.1274	.1038	.0814	.0601	.0398	.0204	.0018	54
55	.2691	.2367	.2065	.1784	.1519	.1270	.1034	.0810	.0597	.0394	.0201	.0015	55
56	.2685	.2362	.2061	.1779	.1515	.1266	.1030	.0806	.0594	.0391	.0197	.0012	56
57	.2679	.2356	.2056	.1774	.1510	.1261	.1026	.0803	.0590	.0388	.0194	.0009	57
58	.2674	.2351	.2051	.1770	.1506	.1257	.1022	.0799	.0587	.0384	.0191	.0006	58
59	.2668	.2346	.2046	.1765	.1502	.1253	.1018	.0795	.0583	.0381	.0188	.0003	59

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