

ASTRONOMICAL EPHEMERIS
of
Geocentric Places of Planets
for
1951



Indian Standard Time Observed Throughout.

Published by

Shree Jiwaji Observatory, Ujjain,

with the sanction of Education Department,

Madhya Bharat.

Price Rupee One only.

ASTRONOMICAL EPHEMERIS

of

Geocentric Places of Planets

for

1951



Indian Standard Time Observed Throughout.

Published by

Shree Jiwaji Observatory, Ujjain,

with the sanction of Education Department.

Madhya Bharat.

Price Rupee One only.

CONTENTS.

	Pages.
Preface	iii
Mean Places of Principal Stars on 1st January ..	iv
Introduction	1
Daily Ephemeris	2-25
Sunrise and Sunset	26-27
Position of Pluto and mean Long. of Sun and Moon ..	28
Ending moments of Tithis	29-30
Entry of Moon in Zodiacal Signs	31
Distances Apart of all conjunctions and oppositions ..	32-33
Mutual Aspects of Planets	34-35
Heliacal Risings and Settings of Planets	36
Timings of Lunar Aspects	37-46
Parallel Aspects of Planets	47-49
Daily Motion of Planets	50-53
Tables of M. C.	54
Elements of Orbits	55
Tables of Ascendants	56-63
Logarithmic Tables	64-67

PREFACE.

The positions of Saturn, Uranus and Neptune were obtained from Newcomb and Hill's Tables, while those of the remaining bodies (except Moon) were calculated from their respective elements. Owing to certain uncertainty in the elements of Pluto, the positions of this planet cannot be taken as strictly correct. It is estimated that the maximum error in the longitude of this planet will hardly exceed ten minutes of arc.

Some matter, *e. g.*, Tables of Houses, Heliocentric places of planets, etc, has been deleted this year to save space. This is, however, done as a temporary measure.

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

Thanks are due to Shri R. V. Vaidya under whose careful supervision these calculations were made. Thanks are also due to my assistants Pt. Purshottam Joshi, Tej Kiran, Shri P. S. Karkhanis, Shri Chavreker and Shri R. C. Sharma.

UJJAIN,
October, 1950.

D. K. BELEKAR,
Offg. Superintendent,
S. J. Observatory.

Mean Places of Principal Stars on 1st January 1951.

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	Ashlesha.	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
♄ Scorpii	Anuradha.	2.5	15	57	- 22 28	241 51	- 1 59
♄ Scorpii	Jyeshtha.	1.2	16	26	- 26 19	249 3	- 4 34
♄ Scorpii	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 1951.

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 1951. They are given for 12 o'clock noon Indian Standard Time (I.S.T.) which is $5\frac{1}{2}$ 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, 1951. S. J. O. UJJAIN.									
Date	Day	Sidereal Time.		O		D		Midnight		ψ	
				Long.	Decl.	Long.	Lat.	Decl.	D		
1 M.	18	40	30	10	2	30	23	4	10	43	1 S 38
2 Tu.		44	27	11	3	40	22	59	24	28	2 45 12
3 W.		48	23	12	4	50		54	8	36	3 42 17
4 Th.		52	20	13	6	0		48	23	8	4 27 22
5 F.		56	16	14	7	10		42	7	59	4 55 26
6 S.	19	0	13	15	8	20		35	23	3	4 58 28
7 Su.		4	16	9	9	30		28	8	8	4 38 27
8 M.		8	6	17	10	39		21	23	8	3 57 25
9 Tu.		12	2	18	11	47		13	7	51	3 21 21
10 W.		15	58	19	12	55		4	22	11	1 59 15
11 Th.		19	55	20	14	2	21	55	6	1	0 46 10
12 F.		23	51	21	15	9		46	19	23	0 N 24 3
13 S.		27	47	22	16	16		36	2	19	1 31 2 N 19
14 Su.		31	44	23	17	23		26	14	53	2 32 8
15 M.		35	40	24	18	29		16	27	8	3 26 13
16 Tu.		39	37	25	19	35		5	9	8	4 9 18
17 W.		43	33	26	20	40	20	53	21	5	4 39 22
18 Th.		47	29	27	21	45		42	2	55	5 0 25
19 F.		51	26	28	22	49		30	14	47	5 7 27
20 S.		55	22	29	23	53		17	26	42	5 5 28
21 Su.		59	18	0	24	56		4	8	44	4 51 27
22 M.	20	3	15	1	25	59	19	51	20	54	4 23 26
23 Tu.		7	11	2	27	1		37	3	14	3 44 23
24 W.		11	8	3	28	3		23	15	45	2 53 18
25 Th.		15	4	4	29	4		9	28	26	1 51 13
26 F.		19	1	5	30	5	18	54	11	17	0 4 8
27 S.		22	57	6	31	5		39	24	20	0 S 26 1
28 Su.		26	54	7	32	5		24	7	37	1 37 4
29 M.		30	50	8	33	4		8	21	7	2 47 10
30 Tu.		34	47	9	34	2	17	52	4	51	3 51 16
31 W.		38	43	10	34	59		35	18	50	4 28 21

Date	ψ		μ		λ		γ		δ	
	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.
1	1 N 37	6 S 7	0 N 20	23 N 34	2 N 15	1 N 10	1 S 4	10 S 45	1 S 10	17 S 58
3		7			15	9		10	37	9
5	38				16	9		10	28	9
7		7		35	17	9	1	3	10	19
9		8			17	9		10	10	7
11		8			18	10		10	1	6 15 34
13		8		36	18	10		9	52	5 14 59
15		8			19	11		9	43	4
17		8			19	11	1	2	9	33
19		8			20	13		9	24	3
21		8		37	21	14		9	14	2 12 47
23		8			21	15		9	4	1
25	39	8			22	17		8	54	0 11 38
27		7			22	19		8	44	0 59 3
29		7		38	23	21		8	34	58 10 28
31		7			23	23		8	23	57 9 54

EPHEMERIS.														JANUARY, 1951.														3
Date	Longitudes.												Lunar Aspects.															
	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	☉	☽	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓		
1	7	21	2	17	4	47	13	15	21	43	11	25	☐	♈				♐	♑	♒	♓	☐	♈			☐	*	
2		R 18		18		58	14	22		58	10	R 6						♐	♑	♒	♓	☐	♈			☐	*	
3		15		19	5	10	14	50	24	14	8	43	*	♈	♉	♊	♋	♌	♍	♎	♏	☐	♈			☐	*	
4		13		20		21	15	37	25	29	7	25	♈	♉	♊	♋	♌	♍	♎	♏	☐	♈			☐	*		
5		11		21		33	16	24	26	44	6	13	♈	♉	♊	♋	♌	♍	♎	♏	☐	♈			☐	*		
6		9		21		44	17	11	28	0	5	8	*	♈	♉	♊	♋	♌	♍	♎	♏	☐	♈			☐	*	
7		6		22		56	17	5	29	15	4	11		♈	♉	♊	♋	♌	♍	♎	♏	☐	♈			☐	*	
8		4		22	6	8	18	46	0	30	3	24	♈	♉	♊	♋	♌	♍	♎	♏	☐	♈			☐	*		
9		1		23		20	19	33	1	46	2	47		♈	♉	♊	♋	♌	♍	♎	♏	☐	♈			☐	*	
10	6	58		23		32	20	20	3	1	2	20	♈	♉	♊	♋	♌	♍	♎	♏	☐	♈			☐	*		
11		56		23		44	21	7	4	16	2	2	♈	♉	♊	♋	♌	♍	♎	♏	☐	♈			☐	*		
12		54		23		56	21	55	5	31	1	57	*	♈	♉	♊	♋	♌	♍	♎	♏	☐	♈			☐	*	
13		51	R	23	7	8	22	42	6	46	1	57		♈	♉	♊	♋	♌	♍	♎	♏	☐	♈			☐	*	
14		49		23		20	23	29	8	2	2D	5		♈	♉	♊	♋	♌	♍	♎	♏	☐	♈			☐	*	
15		46		23		33	24	16	9	17	2	23	☐	♈	♉	♊	♋	♌	♍	♎	♏	☐	♈			☐	*	
16		43		23		45	25	4	10	32	2	47		♈	♉	♊	♋	♌	♍	♎	♏	☐	♈			☐	*	
17		41		22		58	25	51	11	47	3	17	♈	♉	♊	♋	♌	♍	♎	♏	☐	♈			☐	*		
18		39		21	S	10	26	38	13	2	3	53		♈	♉	♊	♋	♌	♍	♎	♏	☐	♈			☐	*	
19		36		20		23	27	25	14	17	4	35		♈	♉	♊	♋	♌	♍	♎	♏	☐	♈			☐	*	
20		34		19		36	28	13	15	32	5	19	♈	♉	♊	♋	♌	♍	♎	♏	☐	♈			☐	*		
21		32		18		49	29	0	16	47	6	9		♈	♉	♊	♋	♌	♍	♎	♏	☐	♈			☐	*	
22		30		17	9	2	24	47	18	2	7	2		♈	♉	♊	♋	♌	♍	♎	♏	☐	♈			☐	*	
23		27		16		15	0	34	19	17	7	59		♈	♉	♊	♋	♌	♍	♎	♏	☐	♈			☐	*	
24		25		14		28	1	22	20	32	8	57		♈	♉	♊	♋	♌	♍	♎	♏	☐	♈			☐	*	
25		23		13		41	2	9	21	47	10	2		♈	♉	♊	♋	♌	♍	♎	♏	☐	♈			☐	*	
26		21		11		54	2	56	23	2	11	8	♈	♉	♊	♋	♌	♍	♎	♏	☐	♈			☐	*		
27		18		10	10	8	3	43	24	17	12	15	♈	♉	♊	♋	♌	♍	♎	♏	☐	♈			☐	*		
28		16		8		21	4	30	25	32	13	25	♈	♉	♊	♋	♌	♍	♎	♏	☐	♈			☐	*		
29		14		7		34	5	18	26	47	14	36		♈	♉	♊	♋	♌	♍	♎	♏	☐	♈			☐	*	
30		12		5		47	6	5	28	2	15	50	☐	♈	♉	♊	♋	♌	♍	♎	♏	☐	♈			☐	*	
31		10		3	11	1	6	52	29	17	17	6	♈	♉	♊	♋	♌	♍	♎	♏	☐	♈			☐	*		

Date.	♈		♉		Mean.	Date.	Time	Phenomena.		
	Lat.	Decl.	Lat.	Decl.						
1	1 S 10	2 S 50	2 N 27	20 S 31	22	10	50	D at Last Quarter.		
3	13	8	49	22	40	15	20	D at Perigee.		
5	16	3	3	10	12	34	8	New Mn., Decl. 26° S 25'		
7	18	21	36	17	6	27	12	D at ☉		
9	21	5	15	10	21	13	2	D on Equator.		
11	23	20	33	7	19	14	5	D at First Quarter.		
13	25	19	58	2	54	16	17	♀ at Apheion.		
15	27	20	37	48	1	19	6	D at Apogee.		
17	29	18	40	19	21	55	2	☉ enters in ♈		
19	30	7	59	1	59	49	23	10	Full Mn., Decl. 23° N 16'	
21	31	15	39	39	42	27	3	5	D at ☉	
23	32	16	30	19	53	36	27	18	5	D on Equator.
25	32	15	42	0	59	30	30	20	49	D at Last quarter.
27	2	14	53	40	13	23	31	23	17	♀ at ☉
29	32	2	22	17	17					
31	32	13	10	4	17	10				

FEBRUARY, 1951.

S. J. O. UJJAIN

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

Date	ψ		♈		♉		♊		♋	
	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.
2	1 N 39	6 S 6	0 N 20	23 N 38	2 N 24	1 N 25	1 S 2	8 S 13	0 S 55	9 S 17
4	39	6			24	27		2	54	8 40
6	39	5			25	29		7	52	3
8	39	5			26	32	1 1	41	52	7 26
10	39				26	35		30	51	6 49
12	40	4			27	38		19	50	12
14	40	3			27	41		9	49	5 34
16	40	3			28	44		6	58	4 56
18	40	2		39	28	47		46	46	18
20	40	1			29	50		35	45	3 40
22	40	0			29	54		24	44	2
24	40	5 59				57		13	43	2 24
26	40	58			30	1		2	42	1 46
28	40	57			30	4		5	50	8

EPHEMERIS.

FEBRUARY, 1951.

5

Date	Longitudes						Lunar Aspects.									
	♈	♉	♊	♋	♌	♍	☉	☽	♈	♉	♊	♋	♌	♍	♎	♏
1	6 8	2 1	11 15	7 39	0 32	18 22										
2	R 6	1 R 59	29 8	26 1	47 19	40										
3	4	57	42 9	13 3	120 59											
4	3	54	56 10	0 4	16 22	10										
5	1	52 12	10 10	47 5	31 23	42										
6	5 59	49	24 11	34 6	46 25	4										
7	57	47	38 12	21 8	1 26	28										
8	55	44	51 13	8 9	15 27	54										
9	53	41 13	5 13	53 10	30 29	20										
10	52	38	19 14	42 11	45 0	47										
11	50	35	33 15	29 12	59 2	14										
12	49	32	47 16	16 14	14 3	42										
13	48	29 14	1 17	3 15	28 5	12										
14	46	26	15 17	50 16	43 6	44										
15	44	23	29 18	37 17	58 8	16										
16	43	19	44 19	24 19	12 9	48										
17	42	16	58 20	10 20	27 11	21										
18	41	12 15	12 20	57 21	41 12	55										
19	40	8	26 21	44 22	55 14	31										
20	38	4	41 22	31 24	10 16	7										
21	37	1	55 23	17 25	24 17	44										
22	36	0	56 16	9 24	4 26	38										
23	35	53	23 24	51 27	53 21	2										
24	34	49	38 25	37 29	7 22	42										
25	33	45	52 26	24 0	21 24	22										
26	32	41 17	7 27	10 1	35 26	4										
27	32	37	21 27	57 2	49 27	48										
28	31	33	36 28	43 4	3 29	32										

Date	☽		☽		Mean.	Date	Time.	Phenomena.
	Lat.	Decl.	Lat.	Decl.				
2	1 S 32	12 S 16	0 S 13	22 S 13	21 4	2 2	56	☽ at Perigee.
4	31 11	21	29	4 20	58	11	1	New Moon 18° S 10'
6	30 10	25	44 21	51	51	9	12	☽ at ♈
8	28 9	28	58	32	49	14	2	☽ at Equator.
10	26 8	29 1	11	9	38	15	17	☽ at First Quarter.
12	24 7	30	23 20	40	32	19	16	☽ at Apogee.
14	22 6	30	33	5	26	22	2	☉ enters in ♈
16	20 5	30	42 19	26	19	23	8	Full Moon, 11° N 53'
18	17 4	29	51 18	42	12	24	1	☽ at ♈
20	14 3	27	57 17	52	6	25	..	☽ on Equator.
22	10 2	25	2 16	57	0	27	..	☽ Sets Heliocally.
24	7 1	23	6 15	56	19	54	..	☽ on Equator.
26	3 0	20	8 14	50	48	..	..	
28	0 59	0 N 43	8 13	22	41	..	..	

6		MARCH, 1951										S. J. O. UJJAIN									
Date	Day	Sidereal Time.			O		D			Midnight		Ψ									
					Long.	Decl.	Long.	Lat.	Decl.	D											
H.	M.	S.																			
1	Th.	22	33	4	9	52	26	7	S 52	13	56	5	S 14	27	S 40	21	3	19	8		
2	F.		37	0	10	52	40		29	28	10	5	S 28	31	5	17		R	7		
3	S.		40	57	11	52	52		6	12	24	4	36	27	27	19	31		6		
4	Su.		44	53	12	53	1	6	44	26	36	3	49	24	35	3	39		5		
5	M.		48	50	13	53	8		20	10	41	2	48	20	15	17	41		4		
6	Tu.		52	46	14	53	13	5	57	24	37	1	38	14	51	1	30		2		
7	W.		56	43	15	53	15		34	8	20	0	25	8	50	1	5	6	1		
8	Th.	23	0	39	16	53	16		11	21	48	0	N 49	2	30	28	26		0		
9	F.		4	36	17	53	15	4	47	4	58	2	0	3	N 48	11	27	18	58		
10	S.		8	32	18	53	12		24	17	51	3	1	9	48	24	10		56		
11	Su.		12	29	19	53	8		0	0	26	3	53	15	16	6	38		54		
12	M.		16	25	20	53	2	3	37	12	47	4	33	20	0	18	51		53		
13	Tu.		20	22	21	52	54		13	24	54	5	2	23	52	0	54		52		
14	W.		24	19	22	52	44	2	50	6	53	5	16	26	39	12	50		51		
15	Th.		28	15	23	52	32		26	18	46	5	19	28	16	24	42		49		
16	F.		32	12	24	52	18		2	0	39	5	11	28	37	6	37		47		
17	S.		36	8	25	52	2	1	38	12	36	4	50	27	39	18	38		46		
18	Su.		40	5	26	51	44		14	24	42	4	18	25	25	0	50		45		
19	M.		44	1	27	51	24	0	50	7	4	3	33	21	56	13	19		43		
20	Tu.		47	58	28	51	3		25	19	40	2	35	17	2	26	5		41		
21	W.		51	54	29	50	40	0	N 0	2	35	1	28	11	5	9	11		40		
22	Th.		55	51	0	50	16		24	15	52	0	16	6	2	22	37		39		
23	F.		59	47	1	49	50		47	29	28	0	S 58	0	S 40	6	22		37		
24	S.	0	3	43	2	49	21	1	10	13	21	2	12	7	18	20	24		35		
25	Su.		7	40	3	48	49		33	27	30	3	18	13	40	4	39		34		
26	M.		11	37	4	48	15		56	11	50	4	12	19	23	19	2		32		
27	Tu.		15	33	5	47	38	2	19	26	14	4	52	24	2	3	26		30		
28	W.		19	30	6	46	59		42	10	38	5	12	27	42	17	49		29		
29	Th.		23	26	7	46	18	3	5	24	59	5	8	28	29	2	6		28		
30	F.		27	23	8	45	35		28	9	11	4	43	27	50	16	14		26		
31	S.		31	19	9	44	51		52	23	14	3	59	25	22	0	12		24		
Date	Ψ		μ		η		χ		δ												
	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.											
2	1N 40	5 S 56	0 N 20	23 N 39	2 N 30	2 N 8	1 S 1	5 S 39	0 S 39	0 S 30											
4	40	55			30	12		28	38	0 N 8											
6	41	54			30	15		17	37	0 46											
8	41	53			31	19		5	36	1 24											
0	41	52			31	23		4	54	34 2 2											
12	41	51			31	27	2	43	33	39											
14	41	50			31	31		31	32	3 17											
16	41	49			31	35		20	30	54											
18	41	47			31	38		8	29	4 31											
20	41	46			32	42		3	57	28 5 8											
22	41	45			32	46		46	27	44											
24	41	44			32	50		34	25	6 20											
26	41	43			32	54		23	24	56											
28	41	42			32	57		12	23	7 32											
30	41	40			32	3	1	1	21	8 7											

EPHEMERIS.										MARCH, 1951.										7
Date	Longitudes.										Lunar Aspects.									
	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	☉	☽	♊	♋	♌	♍	♎	♏	♐	♑
1	5	30	0	29	17	30	29	30	5	17	1	17	3	3	3	3	3	3	3	3
2	R	29	R	24	18	5	0	16	6	31	3	3	3	3	3	3	3	3	3	3
3		29		20		19	1	2	7	45	4	51	*	3	3	3	3	3	3	3
4		28		16		34		49	8	59	39	39	3	3	3	3	3	3	3	3
5		28		11		48	2	35	10	13	8	28	3	3	3	3	3	3	3	3
6		27		6	19	3	3	2	11	27	10	18	3	3	3	3	3	3	3	3
7		27		2		17	4	8	12	41	12	9	3	3	3	3	3	3	3	3
8		26	29	58		32		54	13	54	14	2	3	3	3	3	3	3	3	3
9		26		53		45	5	40	15	8	15	55	3	3	3	3	3	3	3	3
10		26		48	20	1	6	26	16	22	17	50	3	3	3	3	3	3	3	3
11		26		44		15	7	12	17	55	19	45	3	3	3	3	3	3	3	3
12		25		39		30		58	18	49	21	41	3	3	3	3	3	3	3	3
13		25		34		44	8	44	20	2	23	38	*	3	3	3	3	3	3	3
14	D	25		30		59	9	30	21	16	25	36	3	3	3	3	3	3	3	3
15		25		25	21	13	10	16	22	29	27	35	3	3	3	3	3	3	3	3
16		26		20		28	11	2	23	42	29	34	3	3	3	3	3	3	3	3
17		26		16		42		48	24	56	1	35	3	3	3	3	3	3	3	3
18		26		11		57	12	33	26	9	3	34	3	3	3	3	3	3	3	3
19		26		6	22	11	13	19	27	22	5	33	3	3	3	3	3	3	3	3
20		6		2		26	14	5	28	35	7	32	3	3	3	3	3	3	3	3
21		26	28	57		40		50	29	49	9	31	3	3	3	3	3	3	3	3
22		27		52		55	15	36	1	2	11	28	3	3	3	3	3	3	3	3
23		27		47	23	9	16	22	2	15	13	25	3	3	3	3	3	3	3	3
24		28		43		24	17	7	3	28	15	20	3	3	3	3	3	3	3	3
25		28		38		38		53	4	40	17	13	3	3	3	3	3	3	3	3
26		29		33		53	18	38	5	53	19	3	3	3	3	3	3	3	3	3
27		29		29	24	7	19	23	7	5	20	50	3	3	3	3	3	3	3	3
28		30		24		21	20	8	8	18	22	34	3	3	3	3	3	3	3	3
29		31		19		35		54	9	31	24	13	3	3	3	3	3	3	3	3
30		32		15		50	21	38	10	43	25	51	3	3	3	3	3	3	3	3
31		33		10	25	4	22	24	11	55	27	22	3	3	3	3	3	3	3	3
Date	☽		☽		Mean		Date	Time.		Phenomena.										
	Lat.	Decl.	Lat.	Decl.	Ω		H.	M.												
2	0 S 55	1 N 45	2 S 7	12 S 21	19	34	1	4	32	D at Last Quarter.										
4	50	2 48	4	10 59	28	4	1	54	3	D at Perigee.										
6	46	3 50	1	58 9 32	21	7	20	6	2	D on Equator.										
8	41	4 52	51	8 0	14	8	2	29	6	D at Ω										
10	36	5 53	42	6 23	8	8	21	31	6	New Moon, 5° S 0'										
12	31	6 54	31	4 41	2	15	7	45	6	D on Equator.										
14	25	7 54	17	2 55	18	56	15	23	17	D at Apogee.										
16	20	8 54	1	1 6	50	18	22	49	17	D at First Quarter.										
18	14	9 53	0	43 0 45	43	21	15	45	18	D on Equator.										
20	8	10 49	23	2 N 38	36	22	14	5	19	☉ enters in ♍										
22	2	11 48	1	4 31	30	22	17	11	20	☽ at Ω										
24	0 N 4	12 44	0	N 22	24	23	4	0	21	☽ at Ω										
26	10	13 38	46	8 10	17	23	9	36	22	D on Equator.										
28	16	14 32	1	11 9 53	11	23	16	26	23	Full Moon, 1° S 49'										
30	22	15 24	34	11 27	4	27	0	37	24	☽ rises Heliacally										
					30	11	25		25	D at Perigee.										
										D at Last quarter.										

S		APRIL, 1951.										S. J. O. UJJAIN									
Date	Day	Sidereal Time.		☉		☽		Midnight		☿		☿		☿		☿		☿		☿	
		H.	M.	S.	Long.	Decl.	Long.	Lat.	Decl.	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿
1	Su.	0	35	16	10 44	5	4 N 15	7 57	3 S	4	21 S 28	13 59	18 22								
2	M.	39	13	11	43	17	38	20 48	1 58	16	29	27 34	R 20								
3	Tu.	43	9	12	42	26	5	1 4 16	0 48	10	42	10 56	19								
4	W.	47	6	13	41	33	24	17 33	0 N 26	4	31	24 6	17								
5	Th.	51	2	14	40	38	47	0 7 36	1 35	1 N 41	7 7	4	15								
6	F.	54	59	15	39	42	6	10 13	28	2 38	7	44	19 49	14							
7	S.	58	56	16	38	44	33	26 6	3 34	13	24	2 21	13								
8	Su.	1	2	52	17	37	44	55	8 33	4	18	18 26	14 42	12							
9	M.	6	49	18	36	41	7	18 20	48	4	49	22 33	26 51	10							
10	Tu.	10	45	19	35	36	41	2 11	52	5	7 25	45	8 52	8							
11	W.	14	42	20	34	29	8	2 14	50	5	14 27	47	20 43	6							
12	Th.	18	38	21	33	21	24	26 43	5	9 28	3	2 38	5								
13	F.	22	35	22	32	12	46	8 35	4	53 28	2	14 32	4								
14	S.	26	31	23	31	0	9	8 20	31	4	24 26	14	26 31	2							
15	Su.	30	28	24	29	46	30	2 21	35	3	44 23	13	8 42	0							
16	M.	34	24	25	28	29	51	14 53	2	52 19	6	21 9	17 58								
17	Tu.	38	21	26	27	10	10	13 27	29	1	51 14	5	3 55	56							
18	W.	42	17	27	25	48	34	10 27	0	43 8	19	17 5	55								
19	Th.	46	14	28	24	25	55	23 50	0 S 30	1	59	0 40	54								
20	F.	50	10	29	23	0	11	15 7 37	1	44	4 S 37	14 40	53								
21	S.	54	7	0	21	33	36	21 48	2	54 10	59	29 3	51								
22	Su.	58	3	1	20	5	57	6 21	3	51 17	16	13 44	49								
23	M.	2	2	0	2	18	35	12	17 21	9	4	35 22	2 35	47							
24	Tu.	5	56	3	17	3	37	6 7	2	5	0 26	14	13 28	45							
25	W.	9	53	4	15	30	57	20 52	5	3 28	10	28 13	43								
26	Th.	13	49	5	13	55	13	16 5 32	4	42 28	1	12 45	42								
27	F.	17	46	6	12	18	36	19 55	4	0 25	55	27 0	41								
28	S.	21	43	7	10	38	55	4 0	3	8 22	18	10 54	40								
29	Su.	25	40	8	8	56	14	14 17	45	2	6 17	31	24 31	38							
30	M.	29	36	9	7	12	32	1 12	0	57 11	56	7 50	36								

Date.	ψ		ϖ		ζ		η		δ	
	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.
1	1 N 41	5 S 49	0 N 19	23 N 39	2 N 31	3 N 5	1 S 3	2 S 49	0 S 20	8 N 42
3		38				8		38	19 9	16
5		37				12		27	17	50
7		35				15		16	16 10	24
9		34				19		5	15 10	57
11		33				22		1 54	13	29
13		32				25		4 43	12 12	2
15		30				28		32	11	33
17		29		38	30	31		22	9 13	4
19		28				34		11	8	35
21		27				36		0	7 14	5
23		25		37		39		5 0	50	34
25		24			29	41		40	4 15	3
27		23				43		29	3	32
29		22				45		19	2	59

EPHEMERIS.										APRIL 1951.										9	
Date	Longitudes.										Lunar Aspects.										
	☿	♈	♉	♊	♋	♌	♍	♎	♏	♐	☾	☾	☾	☾	☾	☾	☾	☾	☾	☾	☾
1	5 35	28 28	6 25	18 23	10 13	8 28	28 49	*	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿
2	35	1	32	55	14	20	0 11	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿
3	36	27	56	47	24	40	15	32	1	27	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿
4	37	52	26	1 25	25	16	44	2	38	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿
5	38	48	15	26	10	17	57	3	42	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿
6	39	43	29	55	19	9	4	40	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿
7	40	39	43	27	39	20	21	5	32	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿
8	41	34	57	28	24	21	33	6	22	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿
9	43	30	27	11	29	9	22	44	6	57	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿
10	44	26	25	54	23	56	7	29	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿
11	46	22	39	0 8	38	25	8	7	55	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿
12	47	18	53	1	23	26	19	8	14	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿
13	49	14	28	7	2	8	27	31	8	33	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿
14	51	10	21	52	28	43	8	27	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿
15	52	6	35	3	36	29	54	8	33	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿
16	53	2	49	4	21	1 5	8 R 26	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿
17	55	26	29	2	5	2	16	8	14	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿
18	57	54	16	50	3	27	7	57	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿
19	59	0	30	6	34	4	38	7	35	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿
20	6	1	47	44	7	18	5	49	7	7	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿
21	3	43	57	8	2	7	0	6	36	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿
22	5	40	0 7	11	46	8	10	6	2	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿
23	7	36	24	9	30	9	21	5	24	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿
24	9	33	37	10	14	10	31	4	45	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿
25	11	30	50	58	11	42	4	5	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿
26	13	27	1	3	11	42	52	3	24	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿
27	15	24	1 12	26	14	3	2	44	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿
28	17	21	30	13	10	15	13	2	5	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿
29	20	18	43	54	16	23	1	25	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿
30	22	15	50	14	38	17	33	0	52	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿	☿

MAY, 1951.										S. J. O. UJJAIN										
Date	Day	Sidereal Time.		⊙		♂			♂			Midnight		ψ						
				Long.	Decl.	Long.	Lat.	Decl.	♂	♂										
		H.	M.	S.	°	'	"	°	'	"	°	'	"	°	'	"				
1	Tu.	2	33	33	10	8	5	27	14	N	51	14	23	0	N	18				
2	W.		37	30	11	3	41	15	9	27	19	1	20	0	N	9				
3	Th.		41	26	12	1	53		27	10	2	2	23	6	10					
4	F.		45	23	13	0	3	45	22	34	3	3	19	11	51					
5	S.		9	19	13	58	11	16	2	4	55	4	4	16	59					
6	Su.		53	16	14	56	17		19	17	9	4	37	21	23					
7	M.		57	12	15	54	22		36	29	16	4	57	24	49					
8	Tu.	3	1	9	16	52	26		53	11	16	5	5	27	10					
9	W.		5	5	17	50	28	17	9	23	11	5	2	28	1					
10	Th.		9	3	18	48	28		25	5	3	4	50	28	11					
11	F.		12	59	19	46	26		41	16	53	4	25	26	45					
12	S.		16	56	20	44	22		57	28	48	3	49	24	8					
13	Su.		20	53	21	42	16	18	12	10	50	3	1	20	25					
14	M.		24	49	22	40	8		27	23	5	2	1	15	44					
15	Tu.		28	46	23	37	59		41	5	37	0	56	10	19					
16	W.		32	42	24	35	49		55	18	32	0	11	4	22					
17	Th.		36	39	25	33	38	19	9	1	52	1	21	2	5					
18	F.		40	35	26	31	26		23	15	42	2	29	8	28					
19	S.		44	32	27	29	13		36	0	14	4	3	14	46					
20	Su.		48	28	28	26	59		49	14	44	4	19	20	23					
21	M.		52	24	29	24	44	20	2	29	46	4	50	24	49					
22	Tu.		56	21	0	22	27		14	14	7	59	4	58	27					
23	W.	4	0	17	1	20	9		26	0	3	9	4	41	28					
24	Th.		4	14	2	17	49		38	15	9	4	3	26	36					
25	F.		8	10	3	15	28		49	29	51	3	10	23	17					
26	S.		12	7	4	13	6	21	0	14	4	2	9	18	40					
27	Su.		16	3	5	10	42		10	27	54	1	0	13	9					
28	M.		20	0	6	8	17		20	11	20	0	N	9	7					
29	Tu.		23	56	7	5	51		30	24	24	1	16	1	31					
30	W.		27	53	8	3	23		39	7	19	9	2	19	4					
31	Th.		31	49	9	0	54		49	19	39	3	14	10	41					
Date	ψ		μ		η		ζ		δ											
	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.										
1	1 N	41	5 S	21	0 N	19	23 N	36	2 N	29	3 N	47	1 S	6	0 S	9	0 S	0	16 N	26
3																				
5																				
7																				
9																				
11																				
13																				
15																				
17																				
19																				
21																				
23																				
25																				
27																				
29																				
31	1	40																		

EPHEMERIS.										MAY, 1951.										11			
Date	Longitudes.										Lunar Aspects.												
	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	☉	☽	♈	♉	♊	♋	♌	♍	♎	♏	♐		
1	6 ^h	24	26 ^m	13	2 ^h	9	15	8	22	18	π	42	0	8	19	✱	π					π	
2		26	R	10		22	16		6	19		52	29	γ	50	✱		♈	♉	✱	□	✱	
3		29		7		35			49	21		1	29		24	✱		□					
4		31		5		48	17		32	22		11	29		3		♈	π	✱	✱	✱	Δ	
5		34		2	3	0	18		15	23		20	28		45		✱	□	✱	✱	✱		
6		36		0		13			58	24		29	28		32	♈	π	✱	✱	♉	♊	□	
7		39	25	57		25	19		41	25		38	28		24		□		Δ	✱	✱	✱	
8		41		55		38	20		24	26		47	28		21				Δ	✱	✱	✱	
9		44		53		50	21		7	27		56	28	D	22	✱	Δ		□	♉	♊	✱	
10		47		51	4	3			52	29		5	28		28	✱		♈		□	✱	✱	
11		50		49		15	22		35	0 ^h	13	28	39		39	✱	□					✱	
12		52		46		27	23		18	1	22	28	54					✱	Δ	✱	✱	□	
13		55		45		39	24		1	2	30	29	14				✱	✱	✱				
14		58		44		51			44	3	38	29	34			□		✱	✱	□	✱	♈	
15	7	1		43	5	3	25		27	4	46	0	8	6		✱	✱	✱	✱	□	✱	Δ	
16		4		42		15	26		9	5	54	0	39		Δ							□	
17		7		41		26			52	7	2	1	15			♈	♉	♊	Δ	□	π	✱	
18		10		40		38	27		35	8	10	1	55		□	✱	♈	♉	π	□	✱	✱	
19		12		39		49	28		18	9	17	2	39		π		Δ	✱	π		♈		
20		15		38	6	1	29		1	10	24	3	27		✱		✱	✱	□	Δ		□	
21		18		37		12			43	11	31	4	18		♈	✱	□	✱	Δ	♈	π	Δ	
22		21		36		24	0	π	26	12	38	5	12		✱		✱		Δ	π	π	Δ	
23		24		35		35	1		8	13	45	6	10		π	✱	♈	□	□	π	□	Δ	
24		27		35		46			51	14	52	7	11		□				□	♈			
25		31		34		57	2		33	15	58	8	15		□		Δ		□	Δ	π	Δ	
26		34		34	7	8	3		15	17	4	9	22		Δ	π	□	✱		π	□	♈	
27		37		34		19			58	18	11	10	32		□	□	π	✱	✱	□	□		
28		40		34		30	4		40	19	16	11	45		□		Δ		✱		✱	✱	
29		43	D	34		40	5		22	20	22	13	1		π		♈		Δ	Δ	✱	✱	
30		46		34		51	6		4	21	27	14	19		✱	□	π	♈	✱	□	✱	□	
31		50		34	8	1			47	22	33	15	42		✱	♈		✱	✱	□	✱	✱	
Date	♀		♂		Mean.		Date	Time.		Phenomena.													
	Lat.	Decl.	Lat.	Decl.	♈			H.	M.														
1	1 N	56	24 N	53	0 S	27	11 N	10	16 22	1 6	14	♈ at ♈											
3	2	0	25	8	1	0	10	20	16	22	11	♈ at ♈											
5		5		21		30	9	38	9	3	7	♈ on Equator.											
7		9		31		57	5		3	6	7	♈ on Equator.											
9		12		38	2	21	8	42	15	57	9	New Moon 20° N 32'											
11		16		42		42		29		50	14	at Apogee.											
13		19		44		57		26		44	16	♈ at First Quarter.											
15		22		43	3	10		33		37	17	♈ at ♈											
17		24		39		19		48		31	21	♈ on Equator.											
19		26		33		24	9	12		25	22	Full Moon 24° S 43'											
21		28		20		27		42		18	22	Centers in π											
23		29		12		26	10	20		12	28	♈ at Perigee.											
25		30	24	58		22	11	4		5	28	♈ at Last Quarter.											
27		30		41		16		53	14	59	29	♈ at ♈											
29		30		22		7	12	47				♈ on Equator.											
31		29		1	2	55	13	45															

12		JUNE, 1951.										S. J. O. UJJAIN						
Date	Day	Sidereal Time.		☉		☽			Midnight		Ψ							
				Long.	Decl.	Long.	Lat.	Decl.	☽									
1 F.	4	35	46	9	58	24	21N57	1	58	3N58	15N55	8	3	16	58			
2 S.		39	43	10	55	53	22	5	14	7	4	31	20	23	9	57		
3 Su.		43	39	11	53	21		13	26	10	4	53	24	2	2	10	57	
4 M.		47	36	12	50	48		21	8	8	5	1	26	37	14	6	56	
5 Tu.		51	32	13	48	14		28	20	3	4	58	28	1	25	59	55	
6 W.		55	29	14	45	39		34	1	54	4	46	28	12	7	50	54	
7 Th.		59	25	15	43	3		41	13	46	4	20	27	2	19	42	53	
8 F.	5	3	22	16	40	26		47	25	38	3	45	24	44	1	36	52	
9 S.		7	18	17	37	49		52	7	35	2	58	21	14	13	35	52	
10 Su.		11	15	18	35	11		57	19	38	2	1	16	57	25	43	51	
11 M.		15	11	19	32	22	23	2	1	52	1	1	11	45	8	5	51	
12 Tu.		19	8	20	29	53		6	14	22	0	S	4	6	5	20	44	50
13 W.		23	4	21	27	13		10	27	13	1	13	0	S	1	3	47	50
14 Th.		27	1	22	24	32		14	10	28	2	18	6	16	17	17	49	
15 F.		30	58	23	21	51		17	24	13	3	17	12	26	1	16	49	
16 S.		34	54	24	19	9		19	8	27	4	8	18	17	15	44	49	
17 Su.		38	51	25	16	26		22	23	7	4	42	23	6	0	36	48	
18 M.		42	47	26	13	43		24	8	9	4	59	23	33	15	46	48	
19 Tu.		46	43	27	10	59		25	23	26	4	47	28	3	1	7	48	
20 W.		50	39	28	8	14		26	8	47	4	14	27	23	16	25	47	
21 Th.		54	36	29	5	29		27	23	59	3	22	24	38	1	28	47	
22 F.		58	33	0	2	43		27	8	51	2	20	20	18	16	7	46	
23 S.	6	2	29	0	59	57		27	23	17	1	8	14	50	0	20	46	
24 Su.		6	26	1	57	11		26	7	16	0	N	5	8	46	14	5	46
25 M.		10	23	2	54	24		25	20	47	1	15	2	3	27	23	46	
26 Tu.		14	11	3	51	37		23	3	53	2	18	3N39	10	17	46		
27 W.		18	16	4	48	50		22	16	36	3	15	9	31	22	51	46	
28 Th.		22	12	5	46	2		19	29	2	4	1	14	53	5	10	46	
29 F.		26	9	6	43	14		17	11	15	4	34	19	33	17	17	46	
30 S.		30	5	7	40	26		13	23	16	4	56	23	22	29	18	46	

Date.	☽		♈		♉		♊		♋	
	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.
2	1N40	5S7	0N19	23N31	2N23	3N57	1S11	2N14	0N20	22N0
4	40	7			23	56		21	21	14
6	40	6		23 30	22	55	12	28	22	27
8	40	6			22	54		35	23	40
10	40	5			21	53	13	42	24	51
12	40	5	23 29		21	51		49	25	23 1
14	40	4			20	49	14	56	27	11
16	40	4			20	47		3	2	28 21
18	40	4	23 28		19	45	15	8	29	29
20	39	4			18	43		14	30	37
22	39	4	23 27		19	41	16	19	31	43
24	39	4			18	39		25	32	49
26	39	4	23 26		18	36	17	30	33	53
28	39	4			17	34		35	35	58
30	39	4	23 25		17	31	18	39	36	24 1

EPHEMERIS.

JUNE, 1951.

13

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

Date.	☾		☾		Mean.		Date.	Time.	Phenomena.	
	Lat.	Decl.	Lat.	Decl.	☾	☾				
2	2N28	23N37	2S40	14N46	14	422	19	19	New Moon 27° N 13'	
4	27	11	25	15	49	33	12	10	☾ at Apogee.	
6	25	22	43	8	16	54	27	13	☾ at First Quarter.	
8	22	13	1	49	17	58	21	13	☾ on Equator.	
10	19	21	42	29	19	3	14	17	☾ at Perihelion	
12	15	8		7	20	5	8	18	☾ at Perihelion.	
14	11	20	33	0	45	21	5	19	18	Full Moon 27° N 52'
16	6	19	55	23	22	1	55	19	19	☾ at Perigee
18	0	17		23	22	50	48	22	14	☾ at ☽
20	1	54	18	37	0	1	23	32	42	☾ enters in ☽
22	48	17	56	0N	21	24	4	36	24	☾ at ☽
24	40	14		41	24	26		29	25	☾ on Equator.
26	32	16	30	0	59	24	37	23	26	☾ at Last Quarter.
28	23	15	46	1	15	24	36	16		
30	12	14	59		28	24	5	10		

14		JULY, 1951.										S. J. O. UJJAIN									
Date	Day	Sidereal Time.			☉		☽			☿			Midnight		ψ						
		H.	M.	S.	Long.	Decl.	Long.	Lat.	Decl.	Long.	Lat.	Decl.	D								
1	Su.	6	34	2	8 37 38	23N10	5 17 17	5N	4 26 N41	11 12 12	16 46	46									
2	M.		37	59	9 34 51		6 17 8		2 27 50	23 3	D 46										
3	Tu.		41	55	10 32 4		2 28 58	4	40 28	6 4 54	46										
4	W.		45	51	11 29 17	22 57	10 50		24 27 23	16 46	46										
5	Th.		49	48	12 26 30		52 22 43	3	39 25	8 28 41	46										
6	F.		53	45	13 23 44		46 4 40		2 22 2	10 41	46										
7	S.		57	42	14 20 58		40 16 43	2	6 17 50	22 47	47										
8	Su.	7	1	38	15 18 12		34 28 53	1	4 12 52	5 1	47										
9	M.		5	35	16 15 26		27 11 13	0 S	1 7 20	17 28	47										
10	Tu.		9	37	17 12 40		20 23 47	1	9 1 25	0 11	48										
11	W.		13	29	18 9 54		13 6 39	2	14 4 S 41	13 13	48										
12	Th.		17	26	19 7 8		5 19 52	3	13 10 45	26 38	49										
13	F.		21	22	20 4 22	21 57	3 29	4	4 16 30	10 29	49										
14	S.		25	19	21 1 36		48 17 34		43 21 36	24 46	50										
15	Su.		29	15	21 58 50		39 2 3	5	7 25 35	9 2 26	50										
16	M.		33	12	22 56 4		30 16 54	4	59 27 45	24 25	51										
17	Tu.		37	8	23 53 18		20 2 0		33 27 59	9 3 5	51										
18	W.		41	5	24 50 32		10 17 11	3	46 26 4	24 46	52										
19	Th.		45	1	25 47 46		0 2 19	2	43 22 20	9 48	52										
20	F.		48	57	26 45 0	20 49	17 12	1	30 17 7	24 32	53										
21	S.		52	54	27 42 14		38 1 44	0	13 11 4	8 51	53										
22	Su.		56	50	28 39 29		26 15 50	1 N	2 4 38	22 43	53										
23	M.	8	0	47	29 36 44		14 29 28	2	12 1 N 48	6 7 7	54										
24	Tu.		4	43	0 34 0		2 12 40	3	12 7 57	19 6	54										
25	W.		8	40	1 31 17	19 50	25 27	4	2 13 36	1 43	55										
26	Th.		12	36	2 28 35		37 7 54		37 18 30	14 2	56										
27	F.		16	33	3 25 54		24 20 7	5	1 22 36	26 9	58										
28	S.		20	30	4 23 14		10 2 8		11 25 40	8 6	17	0									
29	Su.		24	26	5 20 25	18 5	14 2		11 27 38	19 58	1										
30	M.		28	23	6 17 57		42 25 54		0 28 22	1 49	2										
31	Tu.		32	15	7 15 20		28 7 45	4	36 27 48	13 42	3										
Date.	☿		♂		♂		♂		♂		♂		♂		♂						
	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.					
2	1N 39	5 S 4	0N 19	23N 25	2N 17	3N 28	1S 18	3N 44	0 N 37	24N 4											
4	39	4		24	16	25	19	48	38												
6	38	5		24	16	22	19	51	39												
8	38	5		23	16	19	20	55	40												
10	38	6		23	15	15	20	58	41												
12	38	6		22	15	11	21	4	42												
14	38	7		22	14	7	21	4	43	23	59										
16	38	7		21	14	3	22	6	44												
18	38	8		2	14	0	22	9	45												
20	38	8		20	13	2 56	23	10	46												
22	38	9		20	13	52	24	12	47												
24	38	9		19	13	48	24	13	48												
26	37	10		19	13	43	25	14	49												
28	37	11		18	12	39	25	15	50												
30	37	11		18	12	34	26	15	51	23	8										

EPHEMERIS.										JULY, 1951.										15
Date	Longitudes.										Lunar Aspects.									
	♈	♉	♊	♋	♌	♍	♎	♏	♐	☉	☽	♈	♉	♊	♋	♌	♍	♎	♏	♐
1	9 39	26 29	12 22	28 28	8 23	55 15	26 26													
2	43	32	28	49	24	49	17	31												
3	46	35	34	29	30	25	43	19	35											
4	49	39	39	0 0	10	26	36	21	37											
5	53	43	45		51	27	29	23	37											
6		56		51	1	31	28	21	25	3										
7	10	0	50	56	2	12	29	13	27	32										
8		4	54 13	1		52	0 0	4	29	27										
9		8	58	6	3	32		54	1 20	20										
10		11 27	2	1	4	13	1	43	3	10										
11		14	6	16		5	2	32	4	59										
12		18	10	20	5	33	3	20	6	46										
13		21	14	25	6	13	4	7	8	31										
14		25	18	29		53		53	10	14										
15		29	22	33	7	33	5	39	11	55										
16		33	27	36	8	13	6	23	13	34										
17		36	32	39		53	7	7	15	11										
18		40	35	42	9	33		50	16	46										
19		44	41	45	10	13	8	31	18	19										
20		47	46	48		53	9	12	19	51										
21		51	50	51	11	33		52	21	20										
22		54	55	54	12	13	10	31	22	47										
23		58 28	0	57		53	11	8	24	12										
24	11	1	5	59	13	32		44	25	36										
25		4	10 14	1	14	12	12	19	26	56										
26		7	15	3		52		53	28	13										
27		11	21	5	15	33	13	25	29	30										
28		14	26	6	16	12		57	0 44											
29		18	31	7		51	14	26	1	56										
30		21	37	8	17	30		54	3	9										
31		24	42	9	18	9	15	21	4	17										
Date	☿		♈		Mean		Date	Time.		Phenomena.										
	Lat.	Decl.	Lat.	Decl.	Ω			H.	M.											
2	1 N	2 14	14	1	N 46	24 N 3	13 4	3	13	55	☽ at Apogee.									
4	0	52	13	27		51 23 32	12 57	9	11	38	New Moon 27° N 15'									
6		40	12	36		52 22 52	51	10	17	34	☽ at ♈									
8		28	11	54		51 22 5	44	12	10	33	☽ on E. equator									
10		15		3		47 21 12	38	12	18	24	☽ at First Quarter.									
12											☽ at ♈									
14		2	10	19		41 20 13	32	17	11	8	☽ at Perigee.									
16		13	9	32		33 19 10	25	19	0	58	Full Moon 24° S 2'.									
18		28	8	44		22 18 5	19	21	16	10	☽ at ♈									
20		4	7	59		10 16 55	12	23	5	17	☽ on Equator.									
22	1	1	12	0	55	15 24	6	23	21	41	☉ enters in ♈									
24		18	6	25		40 14 33	0	26	0	36	☽ at Last Quarter.									
26		37	5	40		22 13 20	11	26	21	3	☽ at ♈									
28		57	4	55		4 12 9	4	31	2	20	☽ at Apogee.									
30	2	16		13	0 S	16 10 58	41													
		40	3	30		37 9 47	34													

16		AUGUST, 1951.										S. J. O. UJJAIN									
Date	Day	Sidereal Time.			°		D			Midnight		ψ									
					Long.	Decl.	Long.	Lat.	Decl.	D											
1 W.	8	H. 36	M. 16	8 12	44	18 N 13	19 39	4 N 1	25 N 59	25 38	17 4										
2 Th.		40	12	9 10	9	17 58	1 38	3 15	22 58	7 39	5										
3 F.		44	9	10 7	35	43 13	43	2 21	18 58	19 49	6										
4 S.		48	5	11 5	2	27 25	57	1 16	14 4	2 7	7										
5 Su.		52	1	12 2	30	11 8	20	0 6	8 32	14 35	8										
6 M.		55	58	12 59	59	16 55	20 53	1 S 1	2 41	27 14	9										
7 Tu.		59	54	13 57	29	39 3	40	2 7	3 S 24	10 9	10										
8 W.	9	3	51	14 55	0	22 16	41	3 8	9 27	23 19	12										
9 Th.		7	48	15 52	32	5 0	0	4 2	15 15	6 46	13										
10 F.		11	44	16 50	45	48 13	37	43	20 25	20 33	14										
11 S.		15	41	17 47	37	30 27	34	5 8	24 37	4 40	15										
12 Su.		19	37	18 45	11	13 11	50	12	27 22	19 5	16										
13 M.		23	34	19 42	46	14 55	26	4 55	28 19	3 45	17										
14 Tu.		27	30	20 40	22	36 11	9	13	27 10	18 33	18										
15 W.		31	27	21 38	0	18 25	59	3 13	23 52	3 25	20										
16 Th.		35	23	22 35	39	15 59	10 49	2 1	19 28	18 10	22										
17 F.		39	20	23 33	19	40 25	29	0 44	13 43	2 43	24										
18 S.		43	17	24 31	1	21 9	53	0 N 30	7 24	16 58	25										
19 Su.		47	14	25 28	44	2 23	57	1 39	0 53	0 49	27										
20 M.		51	10	26 26	28	12 42	7 35	2 47	5 N 34	14 15	29										
21 Tu.		55	7	27 24	14	23 20	49	3 42	11 22	27 18	30										
22 W.		59	3	28 22	2	3 3	41	4 24	16 53	10 0	32										
23 Th.	10	3	0	29 19	52	11 43	16	5 2	21 30	22 42	34										
24 F.		6	56	0 17	44	22 28	28	16	24 57	4 31	36										
25 S.		10	53	1 15	37	2 10	31	18	27 16	16 29	37										
26 S.		14	50	2 13	31	10 41	22	26	10 28	23 28	38										
27 M.		18	46	3 11	27	20 4	18	4 48	28 10	10 14	40										
28 Tu.		22	43	4 9	24	9 59	16	11 16	26 42	22 8	41										
29 W.		26	40	5 7	22	38 28	7	3 31	23 59	4 8	43										
30 Th.		30	6	6 5	21	17 10	12	2 26	20 2	16 8	45										
31 F.		34	33	7 3	22	8 55	22	1 34	15 31	28 39	47										
Date.	ψ		♈		♉		♊		♋												
	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.											
1	1 N 37	5 S 12	0 N 20	23 N 17	2 N 11	2 N 30	1 S 27	4 N 15	0 N 52	22 N 58											
3		13		17	11	25	27	15	53	48											
5		14		16	11	20	28	15	54	37											
7		15		16	11	15	28	14	55	26											
9		16		15	10	10	29	13	55	13											
11		17		14	10	5	29	11	56	0											
13		18		3	10	0	30	10	57	21											
15		19		13	10	1 55	30	8	58	32											
17		21		12	10	50	31	5	59	17											
19		22		12	9	44	32	3	1	0											
21		23		11	9	39	32	0	1	20											
23		25		11	9	33	33	3	56	2											
25	1 36	26		11	9	28	33	53	3	11											
27		28		11	9	23	34	49	3	19											
29		29		10	9	17	34	45	4	35											
31		30		10	9	11	34	41	5	16											

EPHEMERIS.

AUGUST, 1951.

17

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

Date	♀		♊		Mean. Ω	Date	Time. H. M.	Phenomena.
	Lat.	Decl.	Lat.	Decl.				
1	3 S 2	2 N 49	0 S 59	8 N 38	11 28	3 4	19	New Moon 20° N 14'
3		25	10	1 21	7 32	5 14	9	☽ at ☉
5		49	1 34	44 6	30	21 6	22	☽ on Equator.
7	4 13	0	2 7	5 31		15 10	18	☽ at First Quarter.
9		38	0 26	30 4	38	9 11	3	☽ on Equator.
						2 14	1	☽ at Perigee.
11	5 2	0 S 6	54 3	49 10		56 17	8	37 Full Moon 14° S 32'.
13		27	25 3	17 3	8	49 18	2	16 ☽ at ☉
15		52	46	38 2	35	43 19	15	17 ☽ on Equator.
17	6 17	1 3	56 2	13		36 21	..	Hecl. settin of ♀ in W.
19		41	16 4	12 2	2	30 24	4	33 ☉ enters in ♋
21	7 3	25	26 1	59		24 24	15	57 ☽ at Last Quarter.
23		25	28	35 2	13	17 27	15	32 ☽ at Apogee.
25		44	27	37 2	38			
27	8 1	21	33 3	17				
29		16	10	22 4	8 9	58		
31		27	0 54	3 5	7	52		

18		SEPTEMBER, 1951.										S. J. O. UJJAIN	
Date	Day	Sidereal Time.		O		D			Midnight		ψ		
				Long.	Decl.	Long.	Lat.	Decl.	D	ψ			
1 S.	10	38	29	8 ^m 1	24	8 N 34	4 ^m 54	0 N 26	10 N 7	11 ^m 13	17 ^h 48		
2 Su.		42	26	8 ^m 59	28	12 17	34	0 S 44	4 14	23 59	50		
3 M.		48	23	9 57	33	7 50	0 ^m 28	1 53	1 S 55	7 ^m 40	52		
4 Tu.		50	19	10 55	40	28 13	36	2 57	8 5	20 15	54		
5 W.		54	16	11 53	49	6 26	57	3 52	13 59	3 ^m 43	56		
6 Th.		58	12	12 52	0	6 44	10 ^m 32	4 38	19 23	17 25	58		
7 F.	11	2	9	13 50	13	22 24	20	5 6	23 48	1 ^m 18	0		
8 S.		6	5	14 48	27	5 59	8 ^m 18	16 26	53	15 22	2		
9 Su.		10	2	15 46	43	36 22	27	0 28	13	29 35	4		
10 M.		13	58	16 45	0	14 6	44	4 25	27 41	13 ^m 55	6		
11 Tu.		17	55	17 43	19	4 51	21 7	3 33	25 18	28 19	8		
12 W.		21	51	18 41	40	28 5	32	2 28	21 17	12 ^m 44	10		
13 Th.		25	48	19 40	3	6 19	55	1 15	16 2	27 4	12		
14 F.		29	44	20 38	28	3 43	4 ^m 10	0 N 1 9	58	11 ^m 14	14		
15 S.		33	41	21 36	55	20 18	14	1 19	3 26	25 11	16		
16 Su.		37	37	22 35	24	2 57	2 ^m 3	2 30	3 N 6	8 ^m 51	18		
17 M.		41	34	23 33	55	34 15	34	3 30	9 21	22 12	20		
18 Tu.		45	31	24 32	28	10 28	44	4 19	15 3	5 ^m 13	22		
19 W.		49	27	25 31	3	1 47	11 ^m 36	52 19	56	17 55	24		
20 Th.		53	24	26 29	41	24 24	10	5 12	23 51	0 ^m 20	26		
21 F.		57	20	27 28	21	1 6	27	18 26	36	12 30	28		
22 S.	12	1	17	28 27	3	0 38	18 31	1 2	28 8	24 29	30		
23 Su.		5	13	29 25	47	14 0	26	4 56	28 23	6 ^m 22	32		
24 M.		9	10	0 ^m 24	33	0 S 9	12 18	27 27	18	18 13	34		
25 Tu.		13	6	1 23	21	33 24	10	3 46	24 59	0 ^m 8	36		
26 W.		17	3	2 22	10	56 6	8	2 53	21 32	12 10	39		
27 Th.		21	0	3 21	1	1 19	18 17	1 54	17 10	24 26	41		
28 F.		24	56	4 19	54	42 0	40	0 49	12 0	6 ^m 57	43		
29 S.		28	53	5 18	49	2 6	13 20	0 S 21	6 14	19 46	46		
30 Su.		32	49	6 17	46	30 26	18	1 30	0 6	2 ^m 54	48		

Date	ψ		θ		γ		μ		δ	
	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.
2	1 N 36	5 S 31	0 N 20	2 N 9	2 N 9	1 N 5	1 S 35	3 N 37	1 N 6	18 N 57
4		32		9	9	0	35	32	7	37
6		34		8	9	0 54	36	27	8	16
8		35		8	8	49	36	22	8	17 56
10		37		7	8	43	36	17	9	35
12		38		7	8	37	1 37	11	10	13
14		40	0 21	6	8	30	37	6	11	16 51
16		42		6	8	25	37	0	12	29
18		44		6	8	19	37	2 54	12	6
20		45		6	8	14	1 38	48	13	15 43
22		47		5	8	8	38	42	14	19
24		49		5	8	2	38	35	15	14 56
26		50		5	8	0 S 4	38	29	15	31
28		52		5	8	10	38	23	16	7
30		54		4	8	16	38	16	17	13 42

EPHEMERIS.																	SEPTEMBER, 1951.																	19			
Date	Longitudes.																Lunar Aspects.																				
	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	
1	12	58	2	5	12	55	8	50	11	47	6	16	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	
2	13	0			12	R 50	9	28	R 10	5	23	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓		
3		3			20	44	10	6	10	33	4	33	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	
4		5			27	38		44	9	56	3	48	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	
5		7			33	32	11	22	19	3	71	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓		
6		10			40	26	12	0	8	42	2	34	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	
7		12			47	20		38	6	2	8	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓		
8		14			55	14	13	16	7	30	1	49	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	
9		16	3		2	8		54	6	56	1	40	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	
10		18			9	1	14	32	23	1	39	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓		
11		20			16	11	55	15	10	5	51	1 D 48	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	
12		22			23	48		48	51	2	5	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓		
13		24			30	41	16	26	4	53	2	32	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	
14		26			37	34	17	3	27	3	7	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓		
15		28			45	27		41	3	3	51	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓		
16		29			53	20	18	19	3	40	4	43	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	
17		31	4		0	13		57	20	5	43	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓		
18		33			7	5	19	35	3	6	49	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓		
19		34			15	10	58	20	12	2	48	8	3	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓
20		36			22	50		49	35	9	22	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓		
21		37			29	43	21	27	24	10	46	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓		
22		39			37	35	22	4	17	12	16	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓		
23		40			44	27		42	11	13	49	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓		
24		42			52	20	23	19	8	15	26	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓		
25		44			59	12		56	8	17	5	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓		
26		45	5		6	4	24	34	D 9	18	47	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓		
27		46			14	9	56	25	11	12	20	31	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	
28		47			21	48		48		19	22	16	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	
29		49			29	40	26	25	28	24	2	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓		
30		50			36	32	27	2	38	25	49	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓		

Date.	♈		♉		Mean	Date.	Time.	Phenomena.						
	Lat.	Decl.	Lat.	Decl.	Ω		H. M.							
2	8 S	35	0 S	36	3 S	36	6 N	11	9	46	1	18	24	New Moon 11° N 43'
4		37		11		4	7	15		39	3	4	31	♈ at ♎
6		39	0 N	17	2	28	8	16		33	5	6	51	♈ on Equator.
8		36		46	1	49	9	8		26	8	23	51	♈ on Equator.
10		29	1	17		11	9	47		20	10	13	26	♈ at First Quarter.
12		19		48	0	34	10	12		14	10	..		♈ at Perigee.
14		6	2	20		1	10	21		7	14	11	41	Heli. rising of ♈ in E.
16	7	50		51	0 N	30	10	15		1	14	13	33	♈ at ♎
18		32	3	21		55	9	51	8	54	15	18	17	Full Moon 1° S 44'
20		13		49	1	15	9	13		48	16	0	37	♈ on Equator.
22	6	52	4	15		31	8	22		41	23	9	48	♈ at Last Quarter.
24		30		38		42	7	19		35	24	2	2	♈ enters in ♈
26		7		59		49	6	7		28	24	5	36	♈ at Apogee.
28	5	44	5	17		52	4	48		22	25	4	0	♈ on Equator.
30		22		31		52	3	23	0	16	29	4	48	♈ at ♎

20		OCTOBER, 1951.										S. J. O. UJJAIN	
Date	Day	Sidereal Time.			☉		☽			Midnight		ψ	
		H.	M.	S.	Long.	Decl.	Long.	Lat.	Decl.	D			
1	M.	12	36	46	7 16 45	2S 54	9 36	2 S 37	6 S 13	16 21	18 50		
2	Tu.		40	43	8 15 46	3 17	23 10	3 34	12 19	0 3	52		
3	W.		44	39	9 14 49	40	6 58	4 24	18 0	13 57	54		
4	Th.		48	36	10 13 53	4 3	20 57	5 26	22 45	28 0	57		
5	F.		52	32	11 12 59	26	5 4	5 11	26 15	12 9	59		
6	S.		56	29	12 12 6	49	19 15	0 27	59 26	22 19	1		
7	Su.	13	0	25	13 11 15	5 12	3 28	4 29	27 53	10 34	3		
8	M.		4	22	14 10 27	35	17 39	3 43	25 58	24 44	5		
9	Tu.		8	18	15 9 41	58	1 48	2 43	22 25	8 51	7		
10	W.		12	15	16 8 57	6 21	15 52	1 33	17 34	22 51	9		
11	Th.		16	11	17 8 16	44	29 48	0 18	11 49	6 44	11		
12	F.		20	7	18 7 37	7 7	13 37	0 N 56	5 35	20 27	14		
13	S.		24	4	19 7 1	29	27 15	2 6	0 N 50	4 7	16		
14	Su		28	0	20 6 27	52	10 41	3 8	7 7	17 19	18		
15	M.		31	57	21 5 55	8 14	23 54	3 59	12 58	0 8 24	20		
16	Tu.		35	53	22 5 25	36	6 51	4 37	18 20	13 14	23		
17	W.		39	50	23 4 57	58	19 34	5 11	22 37	25 50	25		
18	Th.		43	47	24 4 31	9 20	2 2	9 25	7 8	11 12	27		
19	F.		47	43	25 4 7	42	14 19	7 27	36 20	23 29			
20	S.		51	40	26 3 45	10 4	26 24	4 55	28 19	2 22	32		
21	Su.		55	36	27 3 25	26	8 19	5 28	27 38	14 14	34		
22	M.		59	33	28 3 7	47	20 9	3 51	25 44	26 4	36		
23	Tu.	14	3	29	29 2 51	11 8	2 0	4 22	42 7	57 38			
24	W.		7	26	0 2 37	30	13 57	2 8	18 41	19 59	41		
25	Th.		11	22	1 2 25	50	26 5	1 6	14 11	2 14	43		
26	F.		15	19	2 2 15	12 11	8 28	0 0	8 25	14 48	45		
27	S.		19	16	3 2 7	32	21 14	1 S 8	2 26	27 46	47		
28	Su.		23	13	4 2 1	52	4 25	2 15	3 S 43	11 4	50		
29	M.		27	9	5 1 57	13 12	17 59	3 16	10 4	24 25	52		
30	Tu.		31	6	6 1 55	32	1 55	4 6	15 59	9 1	54		
31	W.		35	2	7 1 54	32	16 12	4 21	11 23	25 56			
Date	ψ		♈		♉		♊		♋		♌		
	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	D ecl.			
2	1N36	5 S 56	0 N 21	23 N 4	2N 9	0 S 21	1 S 38	2N 10	1N 18	13 N 17			
4		58			9	27		4	19	12 51			
6		59			9	33		1 57	19	26			
8		6 0			9	38		51	20	1			
10		2			9	44		45	21	11 35			
12		4			9	50		39	21	9			
14		5			9	56		33	22	10 43			
16		7			9	1 1	1 37	27	23	16			
18		8			10	7		22	23	9 50			
20		10			10	12		16	24	23			
22		12			10	18		11	25	8 56			
24		14	0 22		10	23	1 36	6	26	29			
26		16			10	28		1	26	2			
28		17			11	34		0 56	27	7 35			
30		18			11	39	1 35	52	28	8			

EPHEMERIS.										OCTOBER, 1951.										21							
Date	Longitudes.												Lunar Aspects.														
	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	☉	☽	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	
1	13 51	5 43	9 24	27 39	2 51	27 37	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽
2	52	51	R 16	28 16	3 6	29 25	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽
3	53	58	8	54	23 1	31	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽
4	54	6	0	29 31	42 3	1	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽
5	55	13	8	52 0	4 49	2	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽
6	56	20	43	45	25 6	36	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽
7	57	28	35 1	22	49 8	22	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽
8	57	35	27	58 5	15 10	9	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽
9	58	42	19 2	35	43 11	55	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽
10	58	50	11 3	12 6	13 13	40	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽
11	59	57	3	49	43 15	25	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽
12	59	7	4	7	56 4	25 7	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽
13	59	11	48 5	2	49 18	54	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽
14	0	18	40	39 8	24 20	36	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽
15	0	26	33 6	15 9	1 22	17	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽
16	0	33	25	52	38 23	58	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽
17	1	40	18 7	29 10	17 25	38	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽
18	1	47	10 8	5	57 27	18	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽
19	1	54	3	41 11	39 28	57	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽
20	R 1	8 2	6 56	9 17	12 22	0 36	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽
21	1	9	49	54 13	5 2 15		♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽
22	1	16	42 10	31	50 3 52		♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽
23	0	24	35 11	7 14	35 5 28		♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽
24	0	31	28	42 15	22 7 4		♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽
25	0	38	21 12	18 16	9 8 39		♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽
26	0	45	15	51	56 10 14		♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽
27	0	52	8 13	31 17	46 11 49		♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽
28	13 59	59	2 14	7 18	37 13 23		♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽
29	59 9	6 5	56	43 19	28 14 56		♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽
30	58	13	50 15	18 20	19 16 29		♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽
31	58	20	44	54 21	10 18 2		♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽	♈	☉	☽
Date	♀		♊		Maen.		Time.		Phenomena.																		
	Lat.	Decl.	Lat.	Decl.	♈	♉	H.	M.																			
2	4 S 58	5N 44	0 N 49	1N 54	8 10	5 10	32	10	New Moon 5° S 6'																		
4	35	53	44	0 24	3 8	0 0	31	0	☽ on Equator.																		
6	12	6 0	37	1S 8	7 57	8 5	40	0	☽ at Perigee.																		
8	3 50	5	28	2 40	50 11	17 47	47	40	☽ at First Quarter.																		
10	28	0	18	4 11	44 13	8 53	53	47	☽ at ☉																		
12	7 5	57	7 5	43	37 15	6 28	28	45	☽ on Equator.																		
14	2 46	51	0 55	7 12	31 21	22 45	45	45	Full Moon 11° N 40'																		
16	26	42	42	8 39	24 22	19 23	23	47	☽ at Apogee.																		
18	7	30	29 10	3	18 23	5 29	29	47	☽ at ☉																		
20	1 48	15	16 11	26	12 24	10 59	59	47	☽ at Last Quarter.																		
22	30 4	59	2 12	46	5 26	12 0	0	42	☉ enters in ♍																		
24	12	38	0 S 11	14 3	6 59	27 20	20	42	☽ at ☉																		
26	0 56	18	25 15	17	52 30	19 29	29	46	☽ on Equator																		
28	40 3	54	38 16	29	46				New Moon 17° S 36'																		
30	24	28	51 17	35	40																						

Date	Day	Sidereal Time.	☉		☽			Midnight	ψ
			Long.	Decl.	Long.	Lat.	Decl.	ψ	
1 Th.	14	38 59	8m 1	54	14 S 11	0 41	5 S 11	7 59	19 59
2 F.		42 55	9	1 56	31 15	17	4 54	2 30	22 35
3 S.		46 52	10	2 0	50 29	51	27 27	54	7 6
4 Su.		50 48	11	2 6	15 9	14 18	3 42	26 21	21 29
5 M.		54 45	12	2 14	27 28	37	2 45	23 8	5 42
6 Tu.		58 42	13	2 24	45 12	44	1 38	18 34	19 43
7 W.	15	2 38	14	2 36	16 32	38	0 25	13 2	3 29
8 Th.		6 35	15	2 50	21 10	47	0 N 46	7 4	17 1
9 F.		10 29	16	3 6	39 23	42	1 55	0 44	0 21
10 S.		14 26	17	3 24	56 6	56	2 56	5 N 27	13 29
11 Su.		18 23	18	3 43	17 13	19 58	3 47	11 18	26 25
12 M.		22 19	19	4 4	30 2	49	4 25	16 36	9 11
13 Tu.		26 16	20	4 27	46 15	29	50 21	6	21 45
14 W.		30 13	21	4 51	18 2	27 59	5 124	3	4 10
15 Th.		34 10	22	5 17	18 10	17	126	57	16 23
16 F.		38 7	23	5 44	33 22	26	4 50	28 3	28 28
17 S.		42 4	24	6 13	48 4	27	25 27	47	10 25
18 Su.		46 0	25	6 44	19 3	16 21	3 51	26 16	22 16
19 M.		49 57	26	7 16	17 28	10	6 23	34	4 5
20 Tu.		53 53	27	7 50	31 10	0	2 12	19 52	15 56
21 W.		57 50	28	8 26	45 21	54	1 12	15 21	27 54
22 Th.	16	1 46	29	9 3	58 3	58	0 9	10 12	10 6
23 F.		5 43	0	9 41	20 11	16 19	0 S 56	4 32	22 37
24 S.		9 39	1	10 21	24 29	2	2 0	1 S 27	5 33
25 Su.		13 36	2	11 2	36 12	12	3 0	7 35	18 57
26 M.		17 32	3	11 44	48 25	51	4 52	13 30	2 52
27 Tu.		21 29	4	2 27	21 0	9 59	4 33	19 7	17 12
28 W.		25 25	5	13 12	11 24	32	56 23	41	1 56
29 Th.		29 22	6	13 58	21 9	23	55 26	43	16 53
30 F.		33 18	7	14 45	32 24	34	31 27	51	1 55

Date	☉		☽		♂		♀		♂	
	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.
1	1N36	6 S 20	0N22	23 N 5	2N 11	1 S 44	1 S 35	0N47	1 N28	6 N41
3		22			11	49	34	44	29	14
5		23			11	54	34	40	30	5 47
7		24			11	59	33	37	30	19
9		26			12 2	4	33	33	31	4 52
11		27			12	9	33	31	32	25
13		29			12	13	32	28	32	3 58
15		30			13	17	32	26	33	30
17		31			13	22	31	24	34	3
19		33			13	27	30	23	34	2 36
21		35			14	31	30	22	35	9
23		36			14	35	29	21	36	1 42
25	37	37	23	8	14	39	29	21	36	15
27	37	39			1	43	28	21	37	0 49
29	37	40	23	9	15	47	28	21	38	22

EPHEMERIS. NOVEMBER, 1951. 23

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

Date	☉	☽	Mean.	Date	Time.	Phenomena.
	Lat.	Decl.	☉			
1	0 S 10	3 N 0	1 S 4	18 S 39	6 34	2 22 17 ☽ at ☉
3	0 N 4	2 30	17 19	40	27	4 11 3 ☽ at Perigee.
5	17 1	58	28 20	36	21	6 12 33 ☽ at First Quarter.
7	30	25	40 21	29	14	7 20 27 ☽ at ☉
9	42 0	55	50 22	17	8	9 11 51 ☽ on Equator.
11	53	14	2 0	23	1	2 12 5 41 ☽ on Equator.
13	1 4	0 S 24	9 3	40	5	55 13 21 32 Full Moon 22°N31'
15	14 1	2	16 24	15	49	18 9 52 ☽ at Apogee.
17	23	43	23 24	43	42	20 4 45 ☽ at Ap.
19	31 2	24	27 25	8	36	2 1 38 ☽ at Last Quarter.
21	39 3	6	30 25	26	29	22 15 19 ☽ at ☉
23	47	48	31 25	49	23	23 8 10 ☽ enters in ♄
25	53	4	30 25	47	16	24 6 11 ☽ on Equator.
27	59	5	26 25	49	10	29 5 34 New Moon 25°S58'.
29	2	5	19 25	45	3	

24		DECEMBER, 1951.										S. J. O. UJJAIN	
Date	Day	Sidereal Time.		☉		☽			Midnight		ψ		
		H.	M.	S.	Long.	Decl.	Long.	Lat.	Decl.	ψ			
1	S.	16	37	15	8 15 33	21 S 41	9 30 30	3 S 46	2 6 S 52	16 52	20	Δ	57
2	Su.		41	11	9 16 22	51	24 16	2 47 24	0	1=36			59
3	M.		45	8	10 17 33	22	0 8=52	1 37 19	35	16 2	21		0
4	Tu.		49	4	11 18 5		8 23 8	0 23 14	12	0 8 8			1
5	W.		53	1	12 18 58		17 7 30	0 N 45	8 14	13 53			3
6	Th.		56	58	13 9 52		24 20 38	1 53 1	59	27 19			5
7	F.	17	0	55	14 20 47		32 3 55	2 55 4 N	14	10 27			6
8	S.		4	51	15 21 43		39 16 56	3 46 10	8	23 20			8
9	Su.		8	48	16 22 40		45 29 41	4 24 15	29	5 59			10
10	M.		12	44	17 23 38		51 12 14	5 20 20	6	18 27			11
11	Tu.		16	41	18 24 37		56 24 37	5 3 23	49	0 45			12
12	W.		20	37	19 25 38	23	1 6 51	1 26 24	12	55			13
13	Th.		24	34	20 26 40		6 18 58	4 51 27	49	25 0			15
14	F.		28	30	21 27 42		10 0 58	27 27	53	6 56			16
15	S.		32	27	22 28 45		14 12 54	3 53 26	41	18 50			17
16	Su.		36	24	23 29 49		17 24 46	8 24 16	0 40				19
17	M.		40	21	24 30 53		20 6 35	2 15 20	48	12 30			20
18	Tu.		44	17	25 31 57		22 18 24	1 15 16	30	24 21			21
19	W.		48	14	26 33 2		24 0 19	0 13 11	44	6 19			22
20	Th.		52	11	27 34 7		25 12 21	0 S 51	6 51	18 29			24
21	F.		56	7	28 35 12		26 24 39	1 55 0	22	0 55			25
22	S.	18	0	3	29 36 18		27 7 16	2 54 5 S	33	13 43			26
23	Su.		4	0	0 37 24		27 20 18	3 46 11	25	27 0			27
24	M.		7	56	1 38 31		28 3 50	4 28 17	0	10 48			27
25	Tu.		11	53	2 39 39		25 17 53	5 54 21	52	25 6			28
26	W.		15	49	3 40 47		24 2 27	5 1 25	4	9 53			29
27	Th.		19	46	4 41 55		22 17 23	4 43 27	32	24 58			30
28	F.		23	42	5 43 4		19 2 35	5 26 56	10 14				31
29	S.		27	39	6 44 13		17 17 52	3 7 25	20	25 28			32
30	Su.		31	35	7 45 22		13 3 2	1 56 21	22	10 31			33
31	M.		35	32	8 46 32		9 17 56	0 40 16	6	25 16	21		33
Date	ψ		♈		♉		♊		♋		♌		
	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	
1	1 N 37	6 S 41	0 N 23	23 N 9	2 N 16	2 S 51	1 S 27	0 N 21	1 N 38	0 S			4
3	37	42		10	16	54	27	22	39				30
5	37	43		10	17	58	26	23	40				56
7	37	44		11	17	3	1	25	40	1			22
9	37	45		11	18	4	25	27	41				48
11	37	46		12	18	7	24	29	42	2			13
13	38	47		12	18	10	24	32	42				39
15	38	48		13	19	13	23	34	43	3			4
17	38	49		13	19	16	22	38	43				29
19	38	50		13	20	18	22	41	44				53
21	38	50		14	20	20	21	45	44	4			18
23	38	51		14	21	23	21	49	45				42
25	38	51		14	22	25	20	53	46	5			5
27	38	52		15	22	27	20	58	46				29
29	38	52		16	23	28	19	1	3				52
31	38	53		17	23	30	18	8	47	6			15

EPHEMERIS.														DECEMBER, 1951.														25
Date	Longitudes.														Lunar Aspects.													
	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓				
1	13	17	12	29	4	15	3	57	22	28	29	32	Δ	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓			
2	R	15		34		15	4	32	23	35	0	18	Δ	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓			
3		13		39		15	5	5	24	41	0	58	*	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓			
4		11		44		16		33	25	48	1	31	*	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓			
5		9		49		17	6	12	26	55	1	56	Δ	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓			
6		7		54		18		46	28	2	2	13	Δ	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓			
7		5		59		19	7	19	29	10	2	20	Δ	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓			
8		3	13		4	21		53	0	18	2	17	Δ	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓			
9		1		9		23	8	26	1	26	2	R 3	Δ	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓			
10	12	59		14		25		59	2	34	1	38	Δ	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓			
11		56		18		27	9	32	3	42	1	2	Δ	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓			
12		54		22		29	10	5	4	50	0	14	Δ	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓			
13		52		26		32		38	5	58	29	17	Δ	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓			
14		49		30		35	11	11	7	7	28	9	Δ	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓			
15		46		34		38		44	8	16	26	54	Δ	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓			
16		44		38		41	12	16	9	26	25	34	Δ	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓			
17		42		42		44		49	10	36	24	11	Δ	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓			
18		39		46		48	13	21	11	45	22	48	Δ	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓			
19		37		50		52		54	12	55	21	29	Δ	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓			
20		34		54		56	14	26	14	5	20	15	Δ	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓			
21		31		58	5	0		58	15	15	19	8	Δ	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓			
22		29	14		1	4	15	30	16	25	18	11	Δ	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓			
23		27		4		9	16	2	17	35	17	24	Δ	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓			
24		25		7		14		34	18	45	16	47	Δ	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓			
25		22		10		19	17	6	19	56	16	21	Δ	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓			
26		19		13		24		37	21	6	16	5	Δ	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓			
27		16		16		29	18	9	22	17	16	2	Δ	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓			
28		13		19		34		40	23	28	16	D 6	Δ	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓			
29		10		22		40	1	11	24	39	16	19	Δ	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓			
30		8		25		46		42	25	50	16	41	Δ	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓			
31		7		28		52	20	13	27	1	17	9	Δ	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓			
Date	♈		♉		Mean		Date	Time.	Phenomena.																			
	Lat.	Decl.	Lat.	Decl.	Δ																							
1	2 N 10	6 S 44	2 S 8	25 35	4 x 57	1	4 37	♈ on Equator.																				
3	14 7	29 1	53 19		51 4 20	7	53	♈ at Perigee.																				
5	18 8	14 33	24 58		45 5 22	0		♈ at First Quarter.																				
7	21 58	7 32			38 6 19	39		♈ on Equator.																				
9	24 9	43 0	36 1		32 11 12	0		♈ at ♈																				
11	26 1	27 0	N 23 26		25 13 15	14		Full Moon., 27° N 49'.																				
13	28 11	11 40	22 47		19 15 23	2		♈ at Apogee.																				
15	29 54	1 20	5		12 19 16	53		♈ at ♈																				
17	30 12	38 57	21 20		6 21 13	29		♈ on Equator.																				
19	30 13	20 2	27 20	34	0 21 20	13		♈ at Last Quarter.																				
21	30 14	2 48	19 13	3	53 22 21	3		♈ enters ♈																				
23	29 42	59 19	52		47 28 17	17		New Moon., 26° S 35'																				
25	28 15	21 3	2 43		40 29 15	10		♈ at Perigee.																				
27	26 59	2 58	45		34																							
29	24 16	37 49	56		27																							
31	22 17	13 36	20 17		20																							

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

28 Geocentric position of Pluto and Mean Longitudes
of the Sun and the Moon in 1951.

Month and Date.	Pluto.			Sun.			Moon.		
	Long.	Lat.	Decl.	Mean Long.	Mean Long.	Hor. Par.	Semi-Dia.		
Jan.	1 19 28 5 11 R 16 8 21 3 9 31 18 50 0	8N 39 41 43 44	23N 10 16 22 28	280 6 33 289 57 58 299 49 20 309 40 44	197 20 8 329 5 59 100 51 49 232 37 39	58.2 57.9 54.7 59.1	15.8 15.7 14.9 16.1		
Feb.	10 35 5 20 21 1	45 46	34 39	319 32 7 329 23 30	4 23 30 136 9 20	56.2 55.9	15.3 15.2		
March	2 7 4 12 17 55 0 22 44 1	46 45 45	43 47 49	339 14 53 349 6 17 358 57 40	267 55 11 39 41 1 171 26 51	59.3 54.7 57.6	16.1 14.9 15.7		
April	1 35 7 11 29 3 21 24 0	44 42 40	51 52 52	8 49 3 18 40 27 28 31 50	303 12 44 74 58 31 206 44 23	58.4 54.3 59.6	15.9 14.7 16.2		
May	1 18 5 11 D 25 8 21 30 3 31 37 5	39 37 36 34	52 48 45 41	38 23 13 48 14 37 58 6 0 67 57 23	338 30 13 110 16 3 242 1 54 13 47 44	56.8 54.2 61.1 55.4	15.4 14.7 16.6 15.0		
June	10 47 2 20 59 1 30 18 13 9	33 31 30	40 32 27	77 48 46 87 40 10 97 31 33	145 33 35 277 16 25 49 5 15	54.8 61.4 54.5	14.9 16.7 14.8		
July	10 28 6 20 45 5 30 19 3 4	30 29 29	21 15 10	107 22 56 117 14 20 127 5 43	180 51 6 312 36 53 84 22 47	56.8 60.3 54.2	15.4 16.4 14.7		
August	9 21 8 19 40 5 29 58 8	30 31 32	4 58 54	136 57 6 146 48 29 156 39 53	216 8 37 347 54 27 119 40 18	57.5 58.6 54.5	15.6 15.9 14.8		
Sep.	8 20 16 5 18 33 1 28 48 4	33 35 37	49 46 42	166 31 16 176 22 39 186 14 3	251 26 8 23 11 59 154 57 49	58.9 56.7 55.6	16.0 15.4 15.1		
Oct.	8 21 1 7 18 12 6 28 21 7	40 43 46	41 40 40	196 5 26 205 56 50 215 48 13	286 43 39 58 29 30 190 15 16	59.2 55.3 57.5	16.1 15.0 15.6		
Nov.	7 21 27 7 17 31 0 27 31 3	47 52 55	22 40 45	225 39 36 235 30 59 245 22 23	322 1 11 93 47 12 225 32 51	58.3 54.4 59.5	15.9 14.8 16.2		
Dec.	7 R 27 8 17 23 4 27 15 6 31 11 5	58 9 4 523	49 54 59 1	255 13 46 265 5 10 274 56 33 278 53 6	357 18 42 129 4 32 260 50 18 313 32 38	57.0 56.3 61.0 59.8	15.5 15.3 6.6 16.8		

Ending Moments of Tithis for each date in 1951
(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	23	H. M. 22 3	24	H. M. 5 41	23	H. M. 15 31	25	H. M. 18 50	25	H. M. 3 32	27	H. M. 16 17
2	24	20 25	25	3 12	24	13 18	26	17 31	26	3 28	28	18 5
3	25	18 11	26	0 28	25	11 4	27	16 45	27	3 50	29	20 6
4	26	15 24	28	18 47	26	8 53	28	16 17	28	4 36	30	22 19
5	27	12 13	29	16 4	27	6 52	29	16 13	29	5 47	1	..
6	28	8 44	30	13 37	28	5 4	30	16 32	30	7 17	1	0 41
7	29	5 14	1	11 34	29	3 36	1	17 20	1	9 4	2	3 6
8	30	1 48	2	10 5	30	2 32	2	18 34	2	11 8	3	5 43
9	1	0 21	3	9 31	1	1 59	3	20 16	3	13 26	4	7 48
10	2	21 39	4	9 20	2	1 58	4	22 12	4	15 52	5	10 24
11	3	17 16	5	8 17	3	2 34	5	..	5	18 19	6	11 19
12	4	16 18	6	11 26	4	3 45	6	0 37	6	20 32	7	12 17
13	5	17 46	7	13 23	5	5 55	7	3 4	7	22 21	8	12 27
14	6	16 3	8	15 45	6	7 55	8	5 25	8	23 25	9	11 54
15	7	17 7	9	18 17	7	10 6	9	7 29	9	..	10	10 24
16	8	18 54	10	20 42	8	12 38	10	9 0	10	0 5	11	8 9
17	9	21 10	11	22 53	9	14 44	11	9 52	11	23 46	12	5 16
18	10	23 41	12	..	10	16 35	12	9 58	12	20 40	13	1 54
19	11	2 16	13	0 38	11	17 47	13	9 14	13	18 4	14	21 31
20	12	4 43	14	1 53	12	18 25	14	7 49	14	12 56	15	18 15
21	13	6 57	15	2 34	13	18 5	15	5 46	15	11 26	16	14 16
22	14	8 51	16	2 47	14	16 46	16	3 8	16	7 36	17	10 29
23	15	10 20	17	2 32	15	16 6	17	0 8	17	4 2	18	7 10
24	16	11 24	18	1 48	16	14 41	18	20 55	18	0 25	19	4 22
25	17	12 4	19	0 39	17	12 34	19	17 38	19	20 59	20	2 13
26	18	12 26	20	23 14	18	10 9	20	14 27	20	18 10	21	0 45
27	19	12 22	21	21 36	19	7 38	21	11 28	21	16 1	22	0 6
28	20	11 50	22	19 43	20	5 7	22	8 56	22	14 28	23	0 12
29	21	10 55	23	17 40	21	2 38	23	6 50	23	13 35	24	1 0
30	22	9 23	24	0 20	22	0 20	24	5 14	24	13 25	25	2 21
31	23	7 50	25	22 15	23	22 15	25	4 9	25	13 52	26	4 12
			26	20 24	24	20 24	26	14 53				

30 Ending Moments of Tithis for each date in 1951
(calculated in I. S. T.)—(concl.).

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

Time when the Moon enters the Zodiacal signs in 1951. 31

January.			February.			March.			April.			May.			June.		
Sign.	Date.	Time.	Sign.	Date.	Time.	Sign.	Date.	Time.	Sign.	Date.	Time.	Sign.	Date.	Time.	Sign.	Date.	Time.
		H. M.			H. M.			H. M.			H. M.			H. M.			H. M.
♈	2 21 29	♈	1 6 53	♈	2 15 15	♈	3 4 24	♈	2 16 39	♈	1 8 7						
♉	4 23 8	♉	3 8 27	♉	4 17 48	♉	5 10 54	♉	5 2 24	♉	3 19 39						
♊	6 23 3	♊	5 9 43	♊	6 21 22	♊	7 19 28	♊	7 13 28	♊	6 8 9						
♋	8 23 8	♋	7 11 51	♋	8 2 57	♋	10 6 18	♋	10 1 59	♋	8 20 41						
♌	11 1 27	♌	9 17 21	♌	11 11 9	♌	12 18 40	♌	12 14 25	♌	11 8 20						
♍	13 7 35	♍	12 2 14	♍	13 22 12	♍	15 6 52	♍	15 1 18	♍	13 17 9						
♎	15 17 39	♎	14 13 51	♎	16 10 41	♎	17 16 45	♎	17 8 46	♎	15 21 52						
♏	18 6 6	♏	17 2 26	♏	18 22 23	♏	19 22 50	♏	19 12 0	♏	17 23 2						
♐	20 18 37	♐	19 13 38	♐	21 7 12	♐	22 1 34	♐	21 12 22	♐	19 22 15						
♑	23 5 41	♑	21 22 18	♑	23 11 5	♑	24 2 17	♑	23 12 0	♑	21 21 38						
♒	25 14 58	♒	24 4 35	♒	25 6 14	♒	26 2 55	♒	25 12 15	♒	23 23 26						
♓	27 22 19	♓	26 9 5	♓	27 18 17	♓	28 5 11	♓	27 15 40	♓	26 4 18						
♈	30 3 32	♈	28 12 26	♈	31 23 39	♈	30 9 51	♈	30 1 30	♈	28 13 54						

July.			August.			September.			October.			November.			December.		
♈	1 1 24	♈	2 8 44	♈	1 2 36	♈	2 23 55	♈	1 10 53	♈	2 21 22						
♉	3 14 5	♉	4 19 54	♉	3 11 8	♉	5 3 24	♉	3 12 15	♉	4 23 46						
♊	6 2 38	♊	7 5 7	♊	5 17 26	♊	7 6 9	♊	5 14 21	♊	7 4 55						
♋	8 14 10	♋	9 12 0	♋	7 21 46	♋	9 8 57	♋	7 17 53	♋	9 12 29						
♌	10 23 39	♌	11 16 6	♌	10 0 42	♌	12 0 21	♌	9 23 22	♌	11 22 32						
♍	13 5 52	♍	13 17 52	♍	12 2 48	♍	13 16 50	♍	12 6 44	♍	14 10 4						
♎	15 8 36	♎	15 18 28	♎	14 4 59	♎	15 23 16	♎	14 15 56	♎	16 22 39						
♏	17 8 49	♏	17 19 28	♏	16 8 26	♏	18 8 5	♏	17 3 4	♏	19 11 22						
♐	19 8 20	♐	19 22 34	♐	18 14 22	♐	20 19 14	♐	19 14 44	♐	21 22 15						
♑	21 10 47	♑	22 5 8	♑	20 23 21	♑	23 7 57	♑	22 4 7	♑	24 5 19						
♒	23 12 58	♒	24 15 3	♒	23 11 8	♒	25 19 40	♒	24 13 46	♒	26 7 58						
♓	25 20 41	♓	27 3 18	♓	25 23 44	♓	28 3 58	♓	26 19 8	♓	28 7 55						
♈	28 8 37	♈	29 15 47	♈	28 10 45	♈	30 8 42	♈	28 20 53	♈	30 7 12						
♉	30 20 19	♉		♉	30 18 46	♉		♉	30 20 54	♉							

Date.	Aspect	Time.	Dis- tance.	Date.	Aspect	Time.	Dis- tance.	Date.	Aspect	Time.	Dis- tance.
January.				March.				May.			
		H. M.	°			H. M.	°			H. M.	°
2	D δ ψ	3 16	3 44	2	δ ϵ η	16 41	1 42	24	D δ ϵ η	19 51	3 14
4	ψ δ ψ	14 14	2 33	6	D δ Pl	0 33	6 19	25	ψ δ ψ	9 33	1 11
7	δ ψ ψ	6 16	7 48	8	δ ψ	19 51	1 45	26	D δ ψ	13 9	4 18
8	δ ψ ψ	10 22	4 16	9	δ ψ	7 50	1 32	29	δ Pl	11 17	6 12
9	δ ψ Pl	4 15	4 0	10	δ ψ	13 23	2 23				
10	δ ψ	8 41	0 56	11	ψ δ ψ	15 29	1 39	2	D δ ϵ η	9 53	3 26
11	δ ψ Pl	7 8	6 7	12	ψ δ ψ	19 8	0 29	3	δ ψ	21 41	2 31
13	δ ψ	13 17	0 20	14	ψ δ ψ	13 19	1 5	4	δ ψ	2 18	4 16
14	δ ψ	20 53	4 1	16	ψ δ ψ	9 8	1 23	5	δ ψ	0 15	4 36
21	ψ δ ψ	0 30	2 2	20	ψ δ ψ	21 37	4 35	6	δ ψ	7 16	4 16
22	ψ δ ψ	6 29	6 28	23	ψ δ ψ	8 21	5 45	9	δ ψ	15 49	4 25
23	ψ δ ψ	7 38	4 2	24	ψ δ ψ	16 3	2 21	10	δ ψ	22 37	2 28
24	ψ δ ψ	10 20	3 4	25	ψ δ ψ	10 45	2 29	11	δ Pl	1 31	5 51
25	ψ δ ψ	18 11	4 51	26	ψ δ ψ	18 47	2 41	12	ψ δ ψ	15 31	2 57
26	ψ δ ψ	19 25	0 33	27	ψ δ ψ	22 35	4 23	13	ψ δ ψ	13 51	2 5
28	ψ δ ψ	2 10	0 35	28	ψ δ ψ	1 8	3 23	14	ψ δ ψ	18 20	2 37
29	ψ δ ψ	9 12	3 59	29	ψ δ ψ	2 19	1 10	15	ψ δ ψ	14 32	3 56
February.				30	ψ δ ψ	5 47	4 20	16	ψ δ ψ	14 33	6 44
3	D δ ψ	18 22	4 15					17	ψ δ ψ	16 49	1 24
4	δ ψ	22 0	3 16	April.				18	ψ δ ψ	2 26	0 36
6	δ ψ	13 36	2 10					19	ψ δ ψ	7 36	2 12
8	δ ψ	17 0	6 24	2	D δ Pl	6 21	6 16	20	ψ δ ψ	14 27	4 42
	δ ψ	0 0	0 5	5	δ ψ	3 50	2 6	21	ψ δ ψ	11 24	4 42
	δ ψ	3 24	0 48	6	δ ψ	6 51	2 49	22	ψ δ ψ	11 55	4 31
	δ ψ Pl	10 4	8 19	7	δ ψ	16 29	2 33	23	ψ δ ψ	21 57	3 54
	δ ψ	10 22	0 56	8	δ ψ	15 10	3 35	24	ψ δ ψ	11 29	1 33
9	δ ψ	13 7	1 21	9	δ ψ	7 16	1 8	25	ψ δ ψ	18 0	6 27
11	ψ δ ψ	20 28	0 31	10	ψ δ ψ	1 46	1 34	26	ψ δ ψ	14 11	3 1
12	ψ δ ψ	5 47	4 25	11	ψ δ ψ	16 15	3 4	27	ψ δ ψ	13 21	3 15
16	ψ δ ψ	22 40	0 29	12	ψ δ ψ	14 24	1 20	28	ψ δ ψ	6 52	4 20
17	ψ δ ψ	13 52	4 38	13	ψ δ ψ	6 24	4 31				
20	ψ δ ψ	21 36	0 46	14	ψ δ ψ	16 55	5 48	3	D δ ϵ η	21 57	6 54
21	ψ δ ψ	0 33	5 50	15	ψ δ ψ	17 14	3 23	4	δ ψ	15 7	4 33
22	ψ δ ψ	2 51	1 16	16	ψ δ ψ	22 8	0 24	5	δ ψ	19 48	1 6
23	ψ δ ψ	4 6	0 44	17	ψ δ ψ	15 40	2 13	6	δ ψ	21 52	3 33
24	ψ δ ψ	19 56	1 14	18	ψ δ ψ	3 9	3 37	7	ψ δ ψ	12 19	4 31
25	ψ δ ψ	6 6	0 41	19	ψ δ ψ	11 33	1 44	8	ψ δ ψ	16 57	1 9
	ψ δ ψ	14 20	3 59	20	ψ δ ψ	16 8	3 45				
	ψ δ ψ	20 15	0 47								

Date.	Aspect	Time.	Dis- tance.	Date.	Aspect	Time.	Dis- tance.	Date.	Aspect.	Time.	Dis- tance.
										H. M.	°
July.				September.				November.			
2	$\odot$ δ ψ	15 33	0 19	1	δ ψ	14 25	3 51	26	δ ψ	7 47	8 39
3	δ ψ	13 8	4 0	2	ψ δ	18 24	0 3	27	ψ δ	5 7	0 1
4	ψ δ	9 46	4 3	3	ψ δ	0 27	6 29	28	ψ δ	20 13	4 25
5	ψ δ	14 11	1 42	4	ψ δ	14 51	1 49	29	ψ δ	15 16	4 34
7	ψ δ Pl	15 27	6 14	5	ψ δ ψ	19 46	4 28	30	ψ δ ψ	19 29	4 0
10	ψ δ ψ	14 29	0 36	6	ψ δ ψ	2 24	1 27	31	ψ δ ψ	16 2	4 51
12	ψ δ ψ	18 7	3 9	7	ψ δ ψ	23 0	3 34				
17	ψ δ ψ	0 9	4 2	8	ψ δ ψ	12 50	7 1	December.			
18	ψ δ ψ	23 23	3 9	9	ψ δ ψ	10 9	0 8	1	δ ψ	11 23	3 18
19	ψ δ ψ	1 40	3 34	10	ψ δ ψ	12 29	1 46	2	ψ Pl	3 2	7 32
20	ψ δ ψ	0 5	4 47	11	ψ δ ψ	15 14	7 41	3	ψ δ	2 49	8 40
22	ψ δ Pl	18 24	5 59	12	ψ δ ψ	18 17	1 28	4	ψ δ	7 22	3 0
23	ψ δ ψ	8 7	6 26	13	ψ δ ψ	15 16	3 31	5	ψ δ	23 17	1 22
24	ψ δ ψ	14 33	6 44	14	ψ δ ψ	17 1	4 48	6	ψ δ	18 30	4 55
27	ψ δ ψ	16 49	1 24	15	ψ δ ψ	3 20	6 59	7	ψ δ	12 39	4 57
28	ψ δ ψ	2 26	0 36	16	ψ δ ψ	11 12	6 25	8	ψ δ	21 32	4 44
29	ψ δ ψ	7 36	2 12	17	ψ δ ψ	14 51	3 59	9	ψ δ	11 53	2 42
31	ψ δ ψ	14 27	4 19	18	ψ δ ψ	16 53	3 37	10	ψ δ	6 33	3 31
	ψ δ ψ	19 54	4 41	19	ψ δ ψ	2 11	0 4	11	ψ δ	9 3	0 32
	ψ δ ψ	18 22	4 1	20	ψ δ ψ	15 14	5 56	12	ψ δ	11 14	7 12
August.				21	ψ δ ψ	5 10	5 33	13	ψ δ	12 46	9 40
1	δ ψ	10 11	3 9	22	ψ δ ψ	16 48	1 58	14	ψ δ	13 49	0 24
3	ψ δ ψ	4 19	3 41	23	ψ δ ψ	10 56	3 3	15	ψ δ	11 33	4 49
5	ψ δ Pl	22 45	6 1	24	ψ δ ψ	17 17	0 28	16	ψ δ	19 13	4 43
6	ψ δ ψ	13 54	1 35	25	ψ δ ψ	20 50	3 59	17	ψ δ	3 12	5 50
7	ψ δ ψ	23 14	2 7	26	ψ δ ψ	1 22	2 25	18	ψ δ	6 34	6 8
8	ψ δ ψ	5 15	3 9	27	ψ δ ψ	23 46	0 35	19	ψ δ	19 8	4 4
9	ψ δ ψ	3 55	0 51	28	ψ δ ψ	17 56	8 31	October.			
13	$\odot$ Pl	6 0	7 48	29	ψ δ ψ	5 11	3 6				
14	ψ δ ψ	13 38	3 45	30	ψ δ ψ	7 18	6 31	1	δ ψ	18 13	2 59
15	ψ δ ψ	18 16	1 14	31	ψ δ ψ	8 23	1 30	2	ψ δ	9 13	8 1
17	ψ δ Pl	2 23	6 56					3	ψ δ	7 12	8 57
18	ψ δ ψ	8 37	0 40					4	ψ δ	18 32	4 19
19	ψ δ ψ	18 43	1 29					5	ψ δ	2 56	4 56
20	ψ δ ψ	20 50	3 59					6	ψ δ	19 54	5 11
21	ψ δ ψ	1 22	2 25					7	ψ δ	15 39	7 51
22	ψ δ ψ	23 46	0 35					8	ψ δ	15 14	4 43
23	ψ δ ψ	17 56	8 31					9	ψ δ	6 49	5 25
24	ψ δ ψ	5 11	3 6					10	ψ δ	11 44	3 29
25	ψ δ ψ	6 23	1 30					11	ψ δ	8 41	0 31
26	ψ δ ψ	7 18	6 31					12	ψ δ	21 9	9 24
27	ψ δ ψ	13 41	3 45					13	ψ δ	0 37	5 21
28	ψ δ ψ	2 26	0 36					14	ψ δ	3 54	4 55
29	ψ δ ψ	7 36	2 12					15	ψ δ	14 3	5 3
30	ψ δ ψ	14 27	4 19					16	ψ δ	12 46	9 40
31	ψ δ ψ	19 54	4 41					17	ψ δ	13 49	0 24
	ψ δ ψ	18 22	4 1					18	ψ δ	11 33	4 49
								19	ψ δ	19 13	4 43
								20	ψ δ	3 12	5 50
								21	ψ δ	6 34	6 8
								22	ψ δ	9 3	0 32
								23	ψ δ	11 14	7 12
								24	ψ δ	12 46	9 40
								25	ψ δ	13 49	0 24
								26	ψ δ	11 33	4 49
								27	ψ δ	6 33	3 31
								28	ψ δ	9 3	0 32
								29	ψ δ	11 14	7 12
								30	ψ δ	12 46	9 40
								31	ψ δ	13 49	0 24

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

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

36 **Heliacal Risings and Settings of the Planets in 1951.**
(For the latitude 23°11' N).

Mercury.

Sets.

15th February in East.
16th April in West.
12th June in East.
17th August in West.
27th September in East.
11th December in West.

Rises.

7th January in East.
25th March in West.
9 h May in East.
7th July in West.
8th September in East.
11th November in West.
22nd Decembr in East.

Venus.

21st August in West.

10th September in East.

Saturn.

7th September Sets.

16th October Rises.

Jupiter.

25th February Sets.

27th March Rises.

Mars.

20th March Sets.

19th July Rises.

Moonrise.

9th January.
7th February.
9th March.
7th April.
7th May.
6th June.
5th July.
5th August.
3rd September.
2nd October.
30th October.
30th November.
30th December.

Timings of Lunar Aspects in 1951.

37

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

38 Timings of Lunar Aspects in 1951.—(contd.).

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

March.

Timings of Lunar Aspects in 1951.—(contd.)

39

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

April.

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

May.

1	♂ ♀	3 30
	♂ ♀	11 53
	♂ ♀	13 55
	♂ ♀	17 23
	♂ ♀	17 56
	♂ ♀	20 45
	♂ ♀	20 28
	♂ ♀	9 53

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

June.

1	♂ ♀	23 33
	♂ ♀	23 42
	♂ ♀	0 26
	♂ ♀	4 59
	♂ ♀	5 10
	♂ ♀	17 38
	♂ ♀	19 5
	♂ ♀	21 57
	♂ ♀	5 39
	♂ ♀	6 38
	♂ ♀	8 58
	♂ ♀	10 50
	♂ ♀	23 34
	♂ ♀	11 50
	♂ ♀	13 7
	♂ ♀	15 7
	♂ ♀	20 14
	♂ ♀	22 19
	♂ ♀	5 41
	♂ ♀	7 17
	♂ ♀	18 56
	♂ ♀	23 15
	♂ ♀	5 32
	♂ ♀	13 41
	♂ ♀	0 45
	♂ ♀	2 35
	♂ ♀	6 26
	♂ ♀	16 17
	♂ ♀	18 18
	♂ ♀	20 3
	♂ ♀	12 4
	♂ ♀	15 42
	♂ ♀	17 48
	♂ ♀	0 7
	♂ ♀	1 12
	♂ ♀	13 30
	♂ ♀	15 54
	♂ ♀	18 12

July.

1	♂ ♀	4 57
	♂ ♀	19 23
	♂ ♀	20 54
	♂ ♀	2 37
	♂ ♀	11 15
	♂ ♀	12 56
	♂ ♀	14 26
	♂ ♀	4 52
	♂ ♀	7 9
	♂ ♀	13 8
	♂ ♀	20 59
	♂ ♀	13 26
	♂ ♀	13 40
	♂ ♀	15 42
	♂ ♀	0 0
	♂ ♀	3 20
	♂ ♀	14 11
	♂ ♀	20 5
	♂ ♀	22 20
	♂ ♀	5 19
	♂ ♀	22 33
	♂ ♀	4 26
	♂ ♀	6 53
	♂ ♀	12 8
	♂ ♀	12 14
	♂ ♀	13 1
	♂ ♀	15 27
	♂ ♀	4 27
	♂ ♀	8 4

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

August.

1	♂ ☿ ☽	0 59
	♂ ☿ ☽	3 54
	♂ ☿ ☽	6 45
	♂ ☿ ☽	10 11
	♂ ☿ ☽	11 0
	♂ ☿ ☽	13 35
	♂ ☿ ☽	1 4
	♂ ☿ ☽	6 27
	♂ ☿ ☽	11 0
	♂ ☿ ☽	22 24
	♂ ☿ ☽	4 19
	♂ ☿ ☽	7 43
	♂ ☿ ☽	12 54
	♂ ☿ ☽	14 31
	♂ ☿ ☽	17 41
	♂ ☿ ☽	18 39
	♂ ☿ ☽	22 45
	♂ ☿ ☽	1 19
	♂ ☿ ☽	13 19
	♂ ☿ ☽	18 9

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

September.

1	♂ ☿ ☽	6 32
	♂ ☿ ☽	7 58

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

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

December.

1	♌ ♋	3 12
	♌ ♋	3 44
	♌ ♋	7 20
	♌ ♋	10 9
	♌ ♋	16 58
	♌ ♋	18 13
	♌ ♋	3 52
	♌ ♋	6 40
	♌ ♋	7 31
	♌ ♋	10 48
	♌ ♋	12 0
	♌ ♋	22 50
	♌ ♋	4 23
	♌ ♋	5 35

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

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

Date.	Aspect.	Time.	Date.	Aspect.	Time.	Date.	Aspect.	Time.	Date.	Aspect.	Time.
June.			July.								
		H. M.			H. M.			H. M.			H. M.
2	☿	0 56	2	♈	10 27	5	♈	20 58	4	♈	20 58
3	♈	23 45	3	♈	21 36	6	♈	21 36	6	♈	21 36
4	♈	23 45	4	♈	21 36	7	♈	22 12	7	♈	22 12
5	♈	23 45	5	♈	21 36	8	♈	22 12	8	♈	22 12
6	♈	23 45	6	♈	21 36	9	♈	22 12	9	♈	22 12
7	♈	23 45	7	♈	21 36	10	♈	22 12	10	♈	22 12
8	♈	23 45	8	♈	21 36	11	♈	22 12	11	♈	22 12
9	♈	23 45	9	♈	21 36	12	♈	22 12	12	♈	22 12
10	♈	23 45	10	♈	21 36	13	♈	22 12	13	♈	22 12
11	♈	23 45	11	♈	21 36	14	♈	22 12	14	♈	22 12
12	♈	23 45	12	♈	21 36	15	♈	22 12	15	♈	22 12
13	♈	23 45	13	♈	21 36	16	♈	22 12	16	♈	22 12
14	♈	23 45	14	♈	21 36	17	♈	22 12	17	♈	22 12
15	♈	23 45	15	♈	21 36	18	♈	22 12	18	♈	22 12
16	♈	23 45	16	♈	21 36	19	♈	22 12	19	♈	22 12
17	♈	23 45	17	♈	21 36	20	♈	22 12	20	♈	22 12
18	♈	23 45	18	♈	21 36	21	♈	22 12	21	♈	22 12
19	♈	23 45	19	♈	21 36	22	♈	22 12	22	♈	22 12
20	♈	23 45	20	♈	21 36	23	♈	22 12	23	♈	22 12
21	♈	23 45	21	♈	21 36	24	♈	22 12	24	♈	22 12
22	♈	23 45	22	♈	21 36	25	♈	22 12	25	♈	22 12
23	♈	23 45	23	♈	21 36	26	♈	22 12	26	♈	22 12
24	♈	23 45	24	♈	21 36	27	♈	22 12	27	♈	22 12
25	♈	23 45	25	♈	21 36	28	♈	22 12	28	♈	22 12
26	♈	23 45	26	♈	21 36	29	♈	22 12	29	♈	22 12
27	♈	23 45	27	♈	21 36	30	♈	22 12	30	♈	22 12
28	♈	23 45	28	♈	21 36						
29	♈	23 45	29	♈	21 36						
30	♈	23 45	30	♈	21 36						
			August.			September.			October.		
		H. M.			H. M.			H. M.			H. M.
1	♈	0 56	1	♈	10 2	1	♈	18 57	1	♈	10 52
2	♈	11 25	2	♈	11 25	2	♈	19 0	2	♈	11 1
3	♈	12 1	3	♈	12 1	3	♈	19 45	3	♈	12 30
4	♈	13 47	4	♈	13 47	4	♈	20 25	4	♈	13 10
5	♈	15 11	5	♈	15 11	5	♈	21 14	5	♈	14 0
6	♈	16 4	6	♈	16 4	6	♈	22 40	6	♈	15 0
7	♈	17 17	7	♈	17 17	7	♈	23 35	7	♈	16 56
8	♈	18 35	8	♈	18 35	8	♈	24 13	8	♈	17 16
9	♈	19 17	9	♈	19 17	9	♈	25 8	9	♈	18 57
10	♈	20 4	10	♈	20 4	10	♈	26 38	10	♈	19 17
11	♈	21 21	11	♈	21 21	11	♈	27 28	11	♈	20 3
12	♈	22 1	12	♈	22 1	12	♈	28 15	12	♈	21 12
13	♈	23 1	13	♈	23 1	13	♈	29 30	13	♈	22 47
14	♈	24 1	14	♈	24 1	14	♈	30 43	14	♈	23 21
15	♈	25 1	15	♈	25 1	15	♈	31 0	15	♈	24 12
16	♈	26 1	16	♈	26 1	16	♈	32 0	16	♈	25 1
17	♈	27 1	17	♈	27 1	17	♈	33 0	17	♈	26 1
18	♈	28 1	18	♈	28 1	18	♈	34 0	18	♈	27 1
19	♈	29 1	19	♈	29 1	19	♈	35 0	19	♈	28 1
20	♈	30 1	20	♈	30 1	20	♈	36 0	20	♈	29 1
21	♈	31 1	21	♈	31 1	21	♈	37 0	21	♈	30 1
22	♈	32 1	22	♈	32 1	22	♈	38 0	22	♈	31 1
23	♈	33 1	23	♈	33 1	23	♈	39 0	23	♈	32 1
24	♈	34 1	24	♈	34 1	24	♈	40 0	24	♈	33 1
25	♈	35 1	25	♈	35 1	25	♈	41 0	25	♈	34 1
26	♈	36 1	26	♈	36 1	26	♈	42 0	26	♈	35 1
27	♈	37 1	27	♈	37 1	27	♈	43 0	27	♈	36 1
28	♈	38 1	28	♈	38 1	28	♈	44 0	28	♈	37 1
29	♈	39 1	29	♈	39 1	29	♈	45 0	29	♈	38 1
30	♈	40 1	30	♈	40 1	30	♈	46 0	30	♈	39 1

[illegible]

JANUARY.

FEBRUARY.

MARCH.

Date.	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓
1	13 45	19	7 5	61	47	14 28	1 18	75	61	47	14 14	1	46	74	61	46	74	60	46	74	60	46	74	60
2	14 28	23	76	61	48	37	19	74	61	47	14 14	1	48	74	60	46	74	60	46	74	60	46	74	60
3	32	18	75	61	47	39	21	75	61	47	12 48	5	49	74	60	46	74	60	46	74	60	46	74	60
4	51	12	75	61	47	34	22	75	61	47	13 56	5	50	74	60	46	74	60	46	74	60	46	74	60
5	15 4	5	76	61	47	24	22	75	61	47	13 56	5	50	74	60	46	74	60	46	74	60	46	74	60
6	5	0	75	61	47	8	24	75	61	47	13 56	5	50	74	60	46	74	60	46	74	60	46	74	60
7	14 43	37	76	61	48	13 48	26	74	61	47	12 53	55	55	74	60	46	74	60	46	74	60	46	74	60
8	20	27	75	61	47	21	26	75	61	47	12 53	55	55	74	60	46	74	60	46	74	60	46	74	60
9	13 50	18	75	61	47	38	27	74	61	47	12 53	55	55	74	60	46	74	60	46	74	60	46	74	60
10	22	5	75	61	47	20	28	75	61	47	12 53	55	55	74	60	46	74	60	46	74	60	46	74	60
11	12 50	0	75	61	47	6	30	74	60	47	12 53	55	55	74	60	46	74	60	46	74	60	46	74	60
12	34	8	76	61	47	11 57	32	75	61	47	12 53	55	55	74	60	46	74	60	46	74	60	46	74	60
13	14 15	18	75	61	47	52	32	75	61	47	12 53	55	55	74	60	46	74	60	46	74	60	46	74	60
14	2	24	75	61	48	53	32	75	61	47	12 53	55	55	74	60	46	74	60	46	74	60	46	74	60
15	11 55	30	75	61	47	57	33	75	61	47	12 53	55	55	74	60	46	74	60	46	74	60	46	74	60
16	50	36	75	61	47	12 6	34	74	60	46	12 53	55	55	74	60	46	74	60	46	74	60	46	74	60
17	52	42	75	61	47	17 17	36	74	60	46	12 53	55	55	74	60	46	74	60	46	74	60	46	74	60
18	55	44	75	61	47	32	36	75	61	47	12 53	55	55	74	60	46	74	60	46	74	60	46	74	60
19	12	50	75	61	47	46	37	74	60	46	12 53	55	55	74	60	46	74	60	46	74	60	46	74	60
20	10	53	75	61	47	59	38	74	60	46	12 53	55	55	74	60	46	74	60	46	74	60	46	74	60
21	20	57	75	61	47	13 14	40	74	60	46	12 53	55	55	74	60	46	74	60	46	74	60	46	74	60
22	31	58	75	61	48	41	40	74	60	46	12 53	55	55	74	60	46	74	60	46	74	60	46	74	60
23	41	1	75	61	47	50	42	74	60	46	12 53	55	55	74	60	46	74	60	46	74	60	46	74	60
24	51	6	75	61	47	5	44	74	60	46	12 53	55	55	74	60	46	74	60	46	74	60	46	74	60
25	13 3	8	75	61	47	14 6	45	74	60	46	12 53	55	55	74	60	46	74	60	46	74	60	46	74	60
26	17	10	75	61	47	11	45	74	60	46	12 53	55	55	74	60	46	74	60	46	74	60	46	74	60
27	30	12	75	61	48	14 6	4	74	60	46	12 53	55	55	74	60	46	74	60	46	74	60	46	74	60
28	44	14	75	61	47	14 6	4	74	60	46	12 53	55	55	74	60	46	74	60	46	74	60	46	74	60
29	5	16	75	61	47	11	45	74	60	46	12 53	55	55	74	60	46	74	60	46	74	60	46	74	60
30	14 15	17	75	61	47	11	45	74	60	46	12 53	55	55	74	60	46	74	60	46	74	60	46	74	60
31	14 15	17	75	61	47	11	45	74	60	46	12 53	55	55	74	60	46	74	60	46	74	60	46	74	60

APRIL.

MAY.

JUNE.

Date.	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓
1	13 41	1 22	72	59	45	12 56	0	29	58	44	12 9	1	26	65	58	42	65	58	42	65	58	42	65	58
2	28	16	72	59	45	32	21	26	58	43	11 58	3	28	64	57	42	64	57	42	64	57	42	64	57
3	17	11	72	59	45	21	18	13	58	43	55	55	34	65	58	42	65	58	42	65	58	42	65	58
4	3	4	73	59	45	14	13	8	58	43	51	38	34	64	57	41	64	57	41	64	57	41	64	57
5	12 52	0	72	59	45	7	8	69	58	43	52	42	40	63	57	42	63	57	42	63	57	42	63	57
6	38	52	72	59	45	12 0	3	3	58	43	52	42	40	63	57	42	63	57	42	63	57	42	63	57
7	27	50	72	59	45	11 55	0	6	58	43	52	42	40	63	57	42	63	57	42	63	57	42	63	57
8	15	35	71	59	45	11 55	0	6	58	43	52	42	40	63	57	42	63	57	42	63	57	42	63	57
9	4	32	72	59	45	50	11	11	58	43	52	42	40	63	57	42	63	57	42	63	57	42	63	57
10	11 58	26	72	59	45	55	15	15	58	43	52	42	40	63	57	42	63	57	42	63	57	42	63	57
11	53	19	71	59	45	12 2	20	20	58	43	52	42	40	63	57	42	63	57	42	63	57	42	63	57
12	52	13	72	59	45	12 2	20	20	58	43	52	42	40	63	57	42	63	57	42	63	57	42	63	57
13	56	0	71	59	45	15	24	28	58	43	52	42	40	63	57	42	63	57	42	63	57	42	63	57
14	4	0	71	59	45	13 20	36	36	58	43	52	42	40	63	57	42	63	57	42	63	57	42	63	57
15	18	7	71	59	45	13 20	36	36	58	43	52	42	40	63	57	42	63	57	42	63	57	42	63	57
16	36	12	71	59	45	14 18	44	44	58	43	52	42	40	63	57	42	63	57	42	63	57	42	63	57
17	58	17	71	59	45	14 18	44	44	58	43	52	42	40	63	57	42	63	57	42	63	57	42	63	57
18	23	22	71	59	45	15 2	51	51	58	43	52	42	40	63	57	42	63	57	42	63	57	42	63	57
19	47	28	71	59	45	15 2	51	51	58	43	52	42	40	63	57	42	63	57	42	63	57	42	63	57
20	11	31	71	59	45	13	54	54	58	43	52	42	40	63	57	42	63	57	42	63	57	42	63	57
21	33	34	70	58	44	10	58	58	58	43	52	42	40	63	57	42	63	57	42	63	57	42	63	57
22	48	38	71	59	45	15 0	4	4	58	43	52	42	40	63	57	42	63	57	42	63	57	42	63	57
23	53	39	70	58	44	14 42	4	4	58	43	52	42	40	63	57	42	63	57	42	63	57	42	63	57
24	50	40	71	59	45	14 42	4	4	58	43	52	42	40	63	57	42	63	57	42	63	57	42	63	57
25	40	41	70	58	44	13 50	10	10	58	43	52	42	40	63	57	42	63	57	42	63	57	42	63	57
26	23	40	71	59	45	12 45	16	16	58	43	52	42	40	63	57	42	63	57	42	63	57	42	63	57
27	13 45	39	70	58	44	12 45	16	16	58	43	52	42	40	63	57	42	63	57	42	63	57	42	63	57
28	27	37	70	58	44	12 45	16	16	58	43	52	42	40	63	57	42	63	57	42	63	57	42	63	57
29	27	37	70	58	44	12 45	16	16	58	43	52	42	40	63	57	42	63	57	42	63	57	42	63	57
30	11	33	69	58	44	11 59	21	21	58	43	52	42	40	63	57	42	63	57	42	63	57	42	63	57
31	11	33	69	58	44	11 59	21	21	58	43	52	42	40	63	57	42	63	57	42	63	57	42	63	57

Daily Motion of Planets in 1951.

Daily Motion of Planets in 1871.										AUGUST.					SEPTEMBER.					
Date.		JULY.		°		°		°		°		°		°		°		°		
1	11	51	2	5	54	41	11	59	1	2	23	39	12	40	0	53	D	37	58	33
2	2	50	4		54	41	12	5			22	39	40	54	50				58	38
3	3	52	2		53	41	14	5	0	56	20	39	54	13	45				58	38
4	4	53	0		53	41	23	23	54	18	57	39	21	8	45				58	38
5	5	57	1		52	40	33	33	51	16	57	39	35	37	33				58	38
6	12	3	58	57	52	40	47	47	47	14	57	39	48	26	36				58	38
7	7	10	55	51	57	40	13	1	45	13	58	40	58	19	35				59	38
8	8	20	53	50	57	40	19	19	40	10	58	39	14	9	9				58	38
9	9	34	50	49	57	40	37	37	37	8	57	39	17	17	1				58	38
10	10	52	49	49	57	40	57	57	33	6	57	39	23	23	9				58	38
11	11	13	47	48	57	40	14	16	28	3	57	39	25	25	17				58	33
12	12	37	45	47	57	40	33	33	25	1	58	39	23	23	27				58	38
13	13	14	43	46	58	40	46	46	19	1	57	38	15	15	35				58	37
14	14	29	41	45	57	40	50	50	14	3	58	39	4	4	44				59	38
15	15	51	39	45	57	40	50	50	10	6	58	39	13	59	52				58	38
16	16	6	37	44	57	40	40	40	5	8	58	39	31	31	0				59	38
17	17	11	35	43	57	40	24	24	1	10	58	38	10	10	6				58	38
18	18	8	33	41	57	40	4	4	7	13	58	39	12	52	14				59	37
19	19	14	32	41	57	40	13	38	13	15	57	38	34	34	19				59	37
20	20	32	29	40	57	40	14	14	16	18	58	39	17	17	24				59	38
21	21	6	27	39	57	40	12	52	25	19	58	38	4	4	30				58	37
22	22	13	25	37	57	40	32	32	30	22	58	39	11	55	38				59	38
23	23	12	24	36	57	40	15	15	34	24	58	38	52	52	37				59	37
24	24	47	20	35	57	40	3	3	40	26	58	39	58	58	0				59	38
25	25	27	17	34	58	40	11	55	45	28	58	38	12	12	42				59	37
26	26	13	17	32	57	40	53	53	48	30	58	39	9	9	6				59	37
27	27	1	14	32	57	40	56	56	52	32	58	38	23	23	45				59	37
28	28	11	54	29	57	40	12	12	55	33	58	39	40	40	46				59	37
29	29	52	10	28	58	39	12	5	56	34	58	38	58	58	47				59	37
30	30	51	8	27	57	39	15	15	56	35	58	38	13	13	48				59	37
31	31	54	5	25	58	39	27	27	55	36	58	37	18	18	59				59	37

53

Daily Motion of Planets in 1951.

Date.	OCTOBER.						NOVEMBER.						DECEMBER.						
	D	h	m	s	°	'	D	h	m	s	°	'	D	h	m	s	°	'	
1	13	34	1	43	59	37	14	36	1	32	54	3	14	46	0	46	60	35	
2	2	44	48	17	59	38	34	34	31	31	55	3	36	36	40	66	61	34	
3	3	59	48	19	59	37	27	30	30	30	55	60	36	16	33	67	60	34	
4	14	7	48	20	59	37	19	30	30	30	55	60	36	13	55	67	61	34	
5	5	11	47	23	59	37	7	30	30	30	56	60	35	35	17	67	61	34	
6	13	46	24	24	59	37	13	54	30	30	57	60	36	17	7	68	61	33	
7	7	11	47	26	59	36	39	29	29	29	57	60	35	1	3	68	61	33	
8	9	46	28	30	59	37	25	23	23	23	58	60	35	12	45	68	61	33	
9	4	45	30	30	59	37	14	28	28	28	59	60	36	3	25	68	61	33	
10	13	56	45	30	59	37	2	23	23	23	59	60	35	23	36	68	61	33	
11	11	49	45	32	60	36	12	51	27	27	59	60	35	14	48	68	61	33	
12	12	38	44	34	59	37	40	26	26	26	60	60	35	7	57	68	61	33	
13	26	42	35	59	37	37	30	26	26	26	60	61	35	12	0	69	61	33	
14	13	41	37	60	36	36	18	25	25	25	61	60	35	11	56	69	61	33	
15	12	57	41	38	59	37	9	24	24	24	61	61	35	52	20	70	61	32	
16	16	43	40	39	60	37	1	24	24	24	61	60	35	49	23	70	61	33	
17	28	40	40	40	60	36	11	54	22	22	62	61	35	49	23	69	61	32	
18	17	39	42	60	36	36	49	22	22	22	63	60	35	55	19	70	61	33	
19	5	39	43	60	36	36	50	20	20	20	63	61	35	12	2	70	61	32	
20	11	55	38	44	59	37	54	19	19	19	63	60	35	18	7	70	61	32	
21	50	38	44	60	37	37	12	4	18	18	63	61	34	37	70	61	32		
22	51	36	45	60	36	36	21	16	16	16	63	61	35	13	2	70	61	32	
23	57	36	47	60	35	35	43	14	14	14	64	60	35	32	47	70	61	32	
24	12	8	35	49	60	36	13	10	12	12	65	61	35	14	3	70	61	32	
25	23	35	50	60	36	36	39	10	10	10	65	61	35	34	26	71	61	32	
26	46	35	51	60	37	37	14	8	7	7	65	60	34	34	16	70	61	31	
27	13	11	34	51	60	36	33	4	4	4	65	61	34	56	3	71	61	32	
28	34	33	51	60	36	36	51	5	0	59	65	61	34	15	12	4	71	61	31
29	56	33	51	60	35	35	15	11	56	66	61	61	34	10	22	71	61	31	
30	14	17	33	52	60	36	14	56	51	51	66	61	34	14	28	71	61	31	
31	29	32	53	60	36	36	16	56	51	51	66	61	34	14	54	71	61	31	

54 Table showing the Position of M. G. 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.	°	'	H.	M.	°	'	H.	M.	°	'	H.	M.	°	'	H.	M.	°	'
0	0	0	γ	0	6	0	0	0	12	0	0	α	0	18	0	0	β	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	15	4	5		15	3	26		15	4	5		15	3	26		15	4	5		15	3	26		15	4	5		15	3	26
	30	8	10		30	6	53		30	8	10		30	6	53		30	8	10		30	6	53		30	8	10		30	6	53
	45	12	14		45	10	20		45	12	14		45	10	20		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	13	0	16	17	19	0	13	48	13	0	16	17	19	0	13	48
	15	20	18		15	17	18		15	20	18		15	17	18		15	20	18		15	17	18		15	20	18		15	17	18
	30	24	18		30	20	48		30	24	18		30	20	48		30	24	18		30	20	48		30	24	18		30	20	48
	45	28	16		45	24	20		45	28	16		45	24	20		45	28	16		45	24	20		45	28	16		45	24	20
2	0	2	α	11	8	0	27	54	14	0	2	μ	11	20	0	27	54	14	0	2	μ	11	20	0	27	54	14	0	27	54	
	15	6	4		15	1	α	30		15	6	4		15	1	μ	30		15	6	4		15	1	α	30		15	6	4	
	30	9	54		30	5	9		30	9	54		30	5	9		30	9	54		30	5	9		30	9	54		30	5	9
	45	13	42		45	8	49		45	13	42		45	8	49		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	0	17	28	21	0	12	32	15	0	17	28	21	0	12	32
	15	21	11		15	16	17		15	21	11		15	16	17		15	21	11		15	16	17		15	21	11		15	16	17
	30	24	51		30	20	5		30	24	51		30	20	5		30	24	51		30	20	5		30	24	51		30	20	5
	45	28	29		45	23	56		45	28	29		45	23	56		45	28	29		45	23	56		45	28	29		45	23	56
4	0	2	π	5	10	0	27	49	16	0	2	ζ	5	22	0	27	49	16	0	2	ζ	5	22	0	27	49	16	0	27	49	
	15	5	39		15	1	μ	44		15	5	39		15	1	κ	44		15	5	39		15	1	μ	44		15	5	39	
	30	9	11		30	5	42		30	9	11		30	5	42		30	9	11		30	5	42		30	9	11		30	5	42
	45	12	42		45	9	42		45	12	42		45	9	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	17	0	16	12	23	0	13	53	17	0	16	12	23	0	13	53
	15	19	39		15	17	46		15	19	39		15	17	46		15	19	39		15	17	46		15	19	39		15	17	46
	30	23	7		30	21	50		30	23	7		30	21	50		30	23	7		30	21	50		30	23	7		30	21	50
	45	26	33		45	25	55		45	26	33		45	25	55		45	26	33		45	25	55		45	26	33		45	25	55

55 Elements of the Planetary orbits for 12 O'clock noon (I. S. T.) on 1st January 1951.

Planet.	Mean Long.	Mean Daily Motion.	Per. of Revolution (Sid).	Long. of Asc. Node.	Long. of Perihelion or Perigee.	Eccentricity.	Mean Distance from Sun.	Inclination of the Orbit.
Mercury	° 0 2 26	4 5 32	Days. 87.9693	47 44 56	76 41 22	.205625	.3870984	° 7 0 14
Venus	307 35 56	1 36 8	224.701	76 15 15	130 50 25	.006789	.7233302	3 23 29
Earth	100 6 34	0 59 8	365.256	..	282 5 52	.016729	1.000000	..
Mars	336 1 0	0 31 26	686.980	49 10 58	335 9 25	.093356	1.523678	1 51 0
Jupiter	346 33 53	0 4 59	4332.59	99 57 31	13 32 31	.048117	5.202561	1 18 21
Saturn	170 33 19	0 2 0	10759.2	113 14 8	92 5 50	.055720	9.554747	2 23 26
Uranus	103 25 40	0 0 42	30688.5	73 43 53	172 18 19	.046331	19.21824	0 46 22
Neptune	196 36 21	0 0 21.5	60181.3	131 14 30	47 27 14	.00900	30.10957	1 46 28
Moon	197 20 8	13 10 35	..	352 46 13	249 32 11	.05490	..	5 8 13

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	0 94	25 94	50 95	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	3 99	28 99	53 100	18 100	44 101	10 101
30	99	39 100	3 100	27 100	50 101	14 101	38 102	2 102	27 102	51 103	15 103	40 104	5 104	31 104
45	102	3 103	28 103	52 104	15 104	39 105	3 105	27 105	50 106	15 106	38 107	3 107	27 107	52 108
1	0 106	31 106	54 107	16 107	40 108	3 108	26 108	49 109	13 109	36 110	0 110	23 110	47 111	11 111
15	109	58 110	20 110	42 111	5 111	28 111	5 112	13 112	36 112	59 113	21 113	45 114	8 114	31 114
30	113	24 113	47 114	9 114	31 114	53 115	15 115	37 115	59 116	21 116	43 117	6 117	28 117	51 118
45	116	54 117	14 117	36 117	58 118	19 118	40 119	2 119	23 119	45 120	6 120	27 120	49 121	11 121
2	0 120	23 120	44 121	4 121	25 121	45 122	7 122	27 122	47 123	9 123	29 123	50 124	11 124	31 124
15	123	53 124	14 124	34 124	55 125	14 125	34 125	53 126	13 126	33 126	53 127	13 127	33 127	53 128
30	127	26 127	45 128	4 128	24 128	42 129	1 129	24 129	39 129	58 130	17 130	37 130	56 131	15 131
45	131	1 131	18 131	37 131	56 132	13 132	31 132	49 133	7 133	25 133	43 134	1 134	20 134	38 134
3	0 134	37 134	54 135	12 135	29 135	45 136	2 136	19 136	36 136	53 137	10 137	26 137	43 138	0 138
15	138	14 138	31 138	47 139	4 139	19 139	35 139	51 140	6 140	22 140	38 140	54 141	10 141	25 141
30	141	53 142	10 142	25 142	40 142	55 143	10 143	25 143	39 143	54 144	8 144	23 144	37 144	52 145
45	145	36 145	50 146	4 146	19 146	31 146	45 146	59 147	12 147	27 147	39 147	52 148	5 148	19 148
4	0 149	20 149	33 149	45 149	59 150	10 150	22 150	35 150	47 150	59 151	11 151	23 151	35 151	46 151
15	153	6 153	17 153	29 153	40 153	50 154	0 154	11 154	22 154	33 154	43 154	53 154	5 154	15 154
30	156	54 157	3 157	12 157	22 157	32 157	41 157	51 158	0 158	9 158	19 158	29 158	37 158	46 158
45	160	41 160	45 161	2 161	12 161	18 161	27 161	35 161	42 161	50 161	58 162	5 162	13 162	20 162
5	0 164	33 164	39 164	45 164	51 164	58 165	4 165	11 165	17 165	23 165	30 165	36 165	42 165	49 165
15	168	22 168	28 168	33 168	38 168	43 168	47 168	52 168	57 169	2 169	7 169	11 169	16 169	20 169
30	172	16 172	19 172	21 172	24 172	28 172	31 172	35 172	37 172	40 172	44 172	47 172	51 172	54 172
45	176	6 176	9 176	11 176	12 176	14 176	15 176	18 176	19 176	20 176	22 176	23 176	24 176	27 176
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	48 183	46 183	45 183	42 183	41 183	40 183	38 183	37 183	36 183	33 183
30	187	45 187	41 187	39 187	36 187	32 187	29 187	25 187	23 187	20 187	16 187	13 187	9 187	6 187
45	191	36 191	32 191	27 191	22 191	17 191	13 191	8 191	3 190	58 190	53 190	49 190	44 190	40 190
7	0 195	27 195	22 195	15 195	9 195	2 194	56 194	49 194	43 194	37 194	30 194	24 194	18 194	11 194
15	199	19 199	10 199	2 198	52 198	46 198	37 198	25 198	18 198	14 198	6 198	0 197	51 197	44 197
30	203	7 202	57 202	48 202	38 202	28 202	19 202	9 202	0 201	51 201	41 201	32 201	23 201	14 201
45	206	55 206	43 206	31 206	20 206	10 205	59 205	49 205	38 205	27 205	17 205	5 204	55 204	45 204
8	0 210	40 210	27 210	15 210	1 209	50 209	38 209	25 209	13 209	1 208	49 208	37 208	25 208	14 208
15	214	24 214	10 213	56 213	41 213	29 213	15 213	1 212	48 212	33 212	21 212	8 211	55 211	41 211
30	218	4 217	50 217	35 217	20 217	5 216	35 216	9 215	54 215	38 215	22 215	37 215	23 215	8 214
45	221	46 221	30 221	13 220	56 220	41 220	25 220	9 219	54 219	38 219	22 219	6 218	50 218	35 218
9	0 225	22 225	6 224	49 224	31 224	15 223	58 223	41 223	24 223	7 222	59 222	34 222	17 222	0 221
15	229	0 228	42 228	23 228	4 227	47 227	29 227	11 226	53 226	35 226	17 225	59 225	4 225	22 225
30	232	34 232	15 231	56 231	36 231	18 230	59 230	41 230	21 230	2 229	43 229	23 229	4 228	45 228
45	236	6 235	46 235	26 235	5 234	46 234	26 234	7 233	47 233	27 233	7 232	47 232	27 232	7 231
10	0 239	37 239	17 238	56 238	35 238	15 237	53 237	33 237	13 236	51 236	31 236	10 235	49 235	29 235
15	243	7 242	46 242	24 242	2 241	41 241	20 240	58 240	37 240	15 239	33 239	54 242	32 242	9 241
30	246	36 246	13 245	51 245	29 245	7 244	45 244	23 244	1 243	39 243	17 242	15 242	52 245	29 245
45	250	2 249	40 249	18 248	55 248	32 248	9 247	47 247	25 247	1 246	39 246	15 246	37 249	49 248
11	0 253	29 253	7 252	44 252	20 251	57 251	34 251	11 250	47 250	24 250	0 249	57 252	33 252	8 251
15	256	56 256	32 256	8 255	45 255	21 254	57 254	33 254	10 253	45 253	22 252	57 252	33 252	8 251
30	260	21 259	57 259	34 259	10 258	24 258	22 257	58 257	35 257	9 256	45 256	20 255	55 255	29 255
45	263	47 263	23 262	59 262	35 262	10 261	46 261	21 260	57 260	32 260	7 259	42 259	16 258	50 258
12	0 267	13 266	48 266	23 266	0 265	35 265	10 264	45 264	20 263	55 263	30 263	4 262	38 262	13 261

Table of Ascendants for Latitudes 7° to 20°.

58

Sid. Time.	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°	20°
H. M.	°	°	°	°	°	°	°	°	°	°	°	°	°	°
12	0 267	13 266	48 266	23 266	0 265	35 265	10 264	45 264	20 263	55 263	30 263	4 262	38 262	13 261
15	270	38 270	14 269	49 269	25 269	0 268	35 268	10 267	44 267	19 266	53 266	27 266	1 265	34 265
30	274	4 273	41 273	17 272	51 272	27 272	2 271	36 271	11 270	47 270	21 269	55 269	27 269	0 268
45	277	34 277	9 276	44 276	20 275	55 275	30 275	4 274	39 274	13 273	47 273	21 272	54 272	27 271
13	0 281	3 280	38 280	14 279	50 279	25 279	0 278	35 278	9 277	43 277	17 276	51 276	24 275	57 275
15	284	34 284	10 283	45 283	21 282	56 282	31 282	6 281	41 281	15 280	48 280	22 279	55 279	28 279
30	288	8 287	44 287	19 286	55 286	30 286	6 285	41 285	15 284	50 284	24 283	58 283	30 283	3 282
45	291	41 291	19 290	55 290	32 290	7 289	43 289	18 288	53 288	27 288	0 287	35 287	8 286	41 286
14	0 295	19 294	56 294	33 294	11 293	46 293	22 292	58 292	34 292	8 291	42 291	17 290	50 290	23 289
15	299	0 298	38 298	15 297	52 297	28 297	5 296	41 296	16 295	52 295	27 295	2 294	35 294	9 293
30	302	43 302	21 301	59 301	37 301	14 300	51 300	28 300	4 299	40 299	15 298	50 298	25 297	59 297
45	306	29 306	8 305	46 305	27 305	3 304	41 304	18 303	55 303	32 303	8 302	44 302	19 301	54 301
15	0 310	17 309	59 309	38 309	17 308	56 308	35 308	13 307	51 307	28 307	5 306	41 306	17 305	52 305
15	314	11 313	52 313	32 313	12 312	52 312	32 312	12 311	51 311	30 311	6 310	45 310	22 309	58 309
30	318	7 317	50 317	32 317	12 316	55 316	34 316	15 315	55 315	35 315	14 314	53 314	31 314	9 313
45	322	6 321	50 321	32 321	18 320	58 320	41 320	24 320	17 320	0 320	42 320	23 320	5 320	45 320
16	0 326	11 325	55 325	39 325	24 325	7 324	51 324	34 324	17 324	0 323	42 323	23 323	5 322	45 322
15	330	14 330	2 329	48 329	33 329	20 329	5 328	49 328	34 328	18 328	2 327	46 327	29 327	10 326
30	334	25 334	11 334	0 333	47 333	35 333	22 333	9 332	56 332	41 332	28 332	13 331	59 331	42 331
45	338	37 338	25 338	15 338	5 337	54 337	42 337	31 337	19 337	8 336	56 336	43 336	30 336	17 336
17	0 342	37 342	41 342	33 342	25 342	15 342	6 341	58 341	48 341	38 341	28 341	17 341	7 340	56 340
15	347	5 346	58 346	52 346	47 346	39 346	33 346	25 346	18 346	11 346	3 345	55 345	47 345	39 345
30	351	22 351	18 351	15 351	11 451	6 351	1 350	56 350	51 350	46 350	41 350	36 350	30 350	25 350
45	355	42 355	40 355	38 355	34 355	33 355	31 355	29 355	26 355	23 355	20 355	17 355	15 355	13 355
18	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0

Table of Ascendants for Latitudes 7° to 20°.

59

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 0	0 0	0 0	0 0	0 0	0 0	0 0
15	4 19	4 20	4 23	4 26	4 27	4 29	4 31	4 34	4 37	4 40	4 43	4 45	4 47	4 50
30	8 37	8 42	8 46	8 49	8 54	8 59	9 04	9 09	9 14	9 19	9 24	9 30	9 35	9 40
45	12 56	13 02	13 08	13 13	13 18	13 23	13 28	13 33	13 38	13 43	13 48	13 53	13 58	14 03
19	0 17	14 17	17 17	17 35	17 45	17 54	18 02	18 10	18 18	18 26	18 34	18 42	18 50	19 00
15	21 27	21 18	21 45	21 55	22 06	22 17	22 28	22 39	22 50	23 01	23 12	23 23	23 34	23 45
30	25 35	25 25	25 48	26 00	26 13	26 26	26 39	26 51	27 04	27 17	27 30	27 43	27 56	28 09
45	29 46	29 53	29 50	30 02	30 15	30 28	30 41	30 54	31 07	31 20	31 33	31 46	31 59	32 12
20	0 33	51 34	5 34	21 34	36 34	53 35	26 35	43 36	0 36	18 36	37 36	55 37	73 37	91 37
15	37 54	38 10	38 27	38 52	39 17	39 42	40 07	40 32	40 57	41 22	41 47	42 22	42 47	43 22
30	41 53	42 10	42 28	42 48	43 08	43 28	43 48	44 08	44 28	44 48	45 08	45 28	45 48	46 08
45	47 48	48 09	48 26	48 46	49 05	49 24	49 43	49 62	50 01	50 20	50 39	50 58	51 17	51 36
21	0 49	42 50	2 50	22 50	43 51	4 51	25 51	47 52	5 52	32 52	54 53	56 54	58 55	60 56
15	53 30	53 53	54 14	54 35	54 56	55 17	55 38	55 59	56 20	56 41	56 62	56 83	57 04	57 25
30	57 17	57 39	58 01	58 23	58 45	59 07	59 29	59 51	60 13	60 35	60 57	61 19	61 41	62 03
45	61 01	61 23	61 45	62 07	62 29	62 51	63 13	63 35	63 57	64 19	64 41	65 03	65 25	65 47
22	0 64	41 65	4 65	27 65	49 66	71 67	93 68	115 69	137 70	159 71	181 72	203 73	225 74	247 75
15	68 19	68 41	69 03	69 25	69 47	69 69	70 01	70 23	70 45	70 67	70 89	71 11	71 33	71 55
30	71 53	72 15	72 37	72 59	73 21	73 43	73 65	73 87	74 09	74 31	74 53	75 15	75 37	75 59
45	75 27	75 50	76 13	76 36	76 59	77 22	77 45	78 08	78 31	78 54	79 17	79 40	79 63	80 26
23	0 78	58 79	21 79	46 80	10 80	35 81	50 81	75 82	90 83	115 84	140 85	165 86	190 87	215 88
15	82 28	82 51	83 14	83 37	83 60	83 83	84 06	84 29	84 52	85 15	85 38	85 61	85 84	86 07
30	85 45	86 08	86 31	86 54	87 17	87 40	88 03	88 26	88 49	89 12	89 35	89 58	90 21	90 44
45	89 21	89 44	89 67	90 10	90 33	90 56	91 19	91 42	92 05	92 28	92 51	93 14	93 37	93 60
24	0 92	48 93	34 94	0 94	25 94	50 95	75 95	100 96	125 97	150 98	175 99	200 100	225 101	250 102

Table of Ascendants for Latitudes 21° to 34°.

60

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	31 100	31 100	59 101	27 101	56 102	34 102	57 103	26 103	57 104	29 105	2
15	102 2102	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	11 112	38 113	6 113	34 114	2 114	31
1	0 112	0 112	24 112	49 113	14 113	39 114	5 114	31 114	56 115	22 115	49 116	16 116	43 117	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	37 130
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	11 143	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	3 147	18 147	33 147	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	32 152	46 152	58 153	10 153	22 153	35 153	47 153	59 154	11 154	24 154	48
15	155 36 155	48 155	58 156	8 156	19 156	30 156	40 156	5 156	15 157	23 157	33 157	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	35 161	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°.

61

Sid. Time.	21°	22°	23°	24°	25°	26°	27°	28°	29°	30°	31°	32°	33°	34°
H. M.	°	°	°	°	°	°	°	°	°	°	°	°	°	°
5	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	27 183	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 0 187	5 186	5 186	4 186	4 186	4 186	4 186	4 186	3 186	3 186	2 186	2 186	2 186	20
45	190 30 190	25 190	20 190	16 190	12 190	7 190	2 190	2 189	58 189	53 189	47 189	43 189	38 189	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	44 195	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	2 204	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	15 211	12 210	48 210	34 210	22 210	9 209	55 209	41 209	27 209	14 209	1 208	47 208	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 3 217	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	18 224	10 223	53 223	34 223	16 222	57 222	38 222	19 221	59 221	42 221	23 221	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	30 224	9 223	43
45	231 29 231	7 230	46 230	26 230	6 229	6 229	45 229	37 229	15 231	52 231	29 231	6 230	45 230	59
10	0 234	46 234	25 234	3 233	42 233	21 232	59 232	37 232	15 231	4 234	39 234	16 233	53 233	4
15	238 6 237	43 237	21 236	58 236	36 236	13 235	51 235	38 235	14 234	14 237	49 237	25 237	9 236	9
30	241 22 241	0 240	37 240	14 239	50 239	27 239	3 238	39 238	16 241	0 240	35 240	9 239	35 238	15
45	244 42 244	18 243	54 243	30 243	6 242	41 242	16 241	51 241	4 244	38 244	11 243	44 243	17 242	29
11	0 248	0 247	36 247	11 246	46 246	21 245	55 245	29 245	4 244	38 244	11 243	44 243	17 242	22
15	251 18 250	53 250	28 250	3 249	53 249	27 248	11 248	44 248	17 247	49 247	22 246	54 246	58 245	29
30	254 38 254	12 253	46 253	20 252	37 252	52 251	58 251	31 251	2 250	34 250	4 249	36 249	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	19 260	52 260	25 259	57 259	29 259	1 258	31 258	4 257	34 257	3 256	34 256	3 255	58

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 15	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 30	268	6 267	38 267	8 266	41 266	12 265	42 265	12 264	42 264	11 263	39 263	8 262	36 262	2 261
45 45	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
13 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 15	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 30	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 45	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	16 285	55 285	22 284	48 284	14 283	36 283	1 282
15 15	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 30	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 45	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
30 30	309	9 308	44 308	18 307	51 307	24 306	53 306	26 305	56 305	24 304	52 304	20 303	46 303	10 302
45 45	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
16 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
15 15	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 30	331	9 330	35 330	16 329	57 329	38 329	18 328	57 328	35 328	12 327	50 327	25 326	59 326	32 326
45 45	335	49 335	55 335	19 335	3 334	48 334	31 334	14 333	55 333	36 333	12 332	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 15	345	22 345	13 345	3 344	54 344	47 344	33 344	22 344	11 343	59 343	46 343	33 343	19 343	4 342
30 30	350	14 350	7 350	1 349	54 349	47 349	33 349	25 349	17 349	17 349	8 348	59 348	40 348	29 348
45 45	355	7 355	4 354	59 354	53 354	49 354	46 354	42 354	38 354	33 354	29 354	24 354	19 354	14 354
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 15	4 53	4 56	5 59	10 59	13 10	10 13	5 14	5 18	0 18	5 22	5 27	5 31	5 36	5 41
30 30	9 46	9 53	14 57	15 59	16 13	15 16	10 15	10 35	5 16	10 43	10 52	11 11	11 11	11 20
45 45	14 38	14 47	14 14	15 20	16 15	15 16	10 15	15 49	1 21	16 21	16 31	16 27	16 41	16 56
19 0	19 26	19 38	19 51	20 4	20 17	20 30	20 44	21 0	5 26	24 26	24 31	24 27	24 32	24 47
15 15	24 11	24 25	24 4	24 57	25 12	25 29	25 46	26 5	31 3	25 31	25 48	25 32	25 47	25 62
30 30	28 51	29 7	29 24	34 25	34 46	35 8	35 12	35 34	31 3	31 18	31 48	31 32	31 47	31 62
45 45	33 27	33 45	34 4	34 25	34 46	35 8	35 12	35 34	31 3	31 18	31 48	31 32	31 47	31 62
20 0	37 55	38 17	38 39	39 1	39 24	39 48	40 12	40 37	41 5	42 46	42 51	42 46	42 61	42 76
15 15	42 19	42 42	42 43	43 29	43 54	44 18	44 45	45 13	45 42	46 12	46 43	46 15	46 44	46 69
30 30	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 19	52 52
45 45	50 51	51 16	51 42	52 18	52 45	53 12	53 40	54 8	54 36	55 8	55 39	56 11	56 44	57 16
21 0	54 58	55 26	55 53	56 19	56 47	57 15	57 43	58 11	58 39	59 24	59 59	60 32	61 8	61 45
15 15	58 58	59 24	59 53	60 22	60 51	61 21	61 50	62 19	62 48	63 18	63 47	64 16	64 45	65 15
30 30	62 55	63 22	63 51	64 20	64 48	65 19	65 49	66 22	66 53	67 24	67 53	68 22	68 51	69 20
45 45	66 46	67 14	67 43	68 12	68 42	69 14	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	76 59	77 35
15 15	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 41	81 16
30 30	77 53	78 22	78 51	79 21	79 50	80 22	80 52	81 25	81 54	82 32	83 6	83 41	84 17	84 52
45 45	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	88 58	89 0	89 33	90 6	90 39	91 14
15 15	88 28	88 56	89 25	89 54	90 22	90 53	91 23	91 54	92 26	92 59	93 31	94 4	94 38	95 11
30 30	91 54	92 22	92 52	93 19	93 48	94 18	94 48	95 18	95 49	96 4	96 52	97 24	97 58	98 31
45 45	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	105 105

LOGARITHMIC TABLE.

64

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	.4166	.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	.5752	.5120	.4568	.4079	.3639	.3239	23
24	1.7781	1.2341	1.0000	.8487	.7368	.6478	.5740	.5110	.4559	.4071	.3632	.3233	24
25	1.7604	1.2289	.9970	.8466	.7351	.6465	.5729	.5100	.4551	.4063	.3625	.3227	25
26	1.7434	1.2239	.9940	.8445	.7335	.6451	.5718	.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.

65

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	.6930	.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	.6867	.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

LOGARITHMIC TABLE.

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	.792	.580	.378	.185	0
1	.3004	.2657	.2336	.2036	.1756	.1493	.1245	.1011	.788	.576	.375	.182	1
2	.2998	.2652	.2330	.2032	.1752	.1489	.1241	.1007	.785	.573	.371	.179	2
3	.2992	.2646	.2325	.2027	.1747	.1485	.1237	.1003	.781	.570	.368	.175	3
4	.2986	.2640	.2320	.2022	.1743	.1481	.1233	.0999	.778	.566	.363	.172	4
5	.2980	.2635	.2315	.2017	.1738	.1476	.1229	.0996	.774	.563	.361	.169	5
6	.2974	.2629	.2310	.2012	.1734	.1472	.1225	.0992	.770	.559	.358	.166	6
7	.2968	.2624	.2305	.2008	.1729	.1468	.1221	.0988	.766	.556	.355	.163	7
8	.2962	.2618	.2300	.2003	.1725	.1464	.1217	.0984	.763	.552	.352	.160	8
9	.2956	.2613	.2295	.1998	.1720	.1459	.1213	.0980	.759	.549	.348	.157	9
10	.2950	.2607	.2289	.1993	.1716	.1455	.1209	.0977	.756	.546	.345	.154	10
11	.2944	.2602	.2284	.1988	.1711	.1451	.1205	.0973	.752	.542	.342	.150	11
12	.2938	.2596	.2279	.1984	.1707	.1447	.1201	.0969	.749	.539	.339	.147	12
13	.2933	.2591	.2274	.1979	.1702	.1443	.1197	.0965	.745	.535	.335	.144	13
14	.2927	.2585	.2269	.1974	.1698	.1438	.1193	.0962	.741	.532	.332	.141	14
15	.2921	.2580	.2264	.1969	.1694	.1434	.1190	.0958	.738	.529	.329	.138	15
16	.2915	.2574	.2259	.1965	.1689	.1430	.1186	.0954	.734	.525	.326	.135	16
17	.2909	.2569	.2253	.1960	.1685	.1426	.1182	.0950	.731	.522	.322	.132	17
18	.2903	.2564	.2249	.1955	.1680	.1422	.1178	.0947	.727	.518	.319	.129	18
19	.2897	.2558	.2244	.1950	.1676	.1417	.1174	.0943	.724	.515	.316	.125	19
20	.2891	.2553	.2239	.1946	.1671	.1413	.1170	.0939	.720	.512	.313	.122	20
21	.2885	.2547	.2234	.1941	.1667	.1409	.1166	.0935	.716	.508	.309	.119	21
22	.2880	.2542	.2229	.1936	.1662	.1405	.1162	.0932	.713	.505	.306	.116	22
23	.2874	.2536	.2223	.1932	.1658	.1401	.1158	.0928	.709	.501	.303	.113	23
24	.2868	.2531	.2218	.1927	.1654	.1397	.1154	.0924	.706	.498	.300	.110	24
25	.2862	.2526	.2213	.1922	.1649	.1392	.1150	.0920	.702	.495	.296	.107	25
26	.2856	.2520	.2208	.1917	.1645	.1388	.1146	.0917	.699	.491	.293	.104	26
27	.2850	.2515	.2203	.1913	.1640	.1384	.1142	.0913	.695	.488	.290	.101	27
28	.2845	.2509	.2198	.1908	.1636	.1380	.1138	.0909	.692	.484	.287	.098	28
29	.2839	.2504	.2193	.1903	.1632	.1376	.1134	.0906	.688	.481	.284	.095	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	.685	.478	.280	.091	30
31	.2827	.2493	.2183	.1894	.1623	.1368	.1127	.0898	.681	.474	.277	.088	31
32	.2821	.2488	.2178	.1889	.1618	.1363	.1123	.0894	.678	.471	.274	.085	32
33	.2816	.2483	.2173	.1885	.1614	.1359	.1119	.0891	.674	.468	.271	.082	33
34	.2810	.2477	.2168	.1880	.1610	.1355	.1115	.0887	.670	.464	.267	.079	34
35	.2804	.2472	.2164	.1875	.1605	.1351	.1111	.0883	.667	.461	.264	.076	35
36	.2798	.2467	.2159	.1871	.1601	.1347	.1107	.0880	.663	.458	.261	.073	36
37	.2793	.2461	.2154	.1866	.1597	.1343	.1103	.0876	.660	.454	.258	.070	37
38	.2787	.2456	.2149	.1862	.1592	.1339	.1099	.0872	.656	.451	.255	.067	38
39	.2781	.2451	.2144	.1857	.1588	.1335	.1095	.0869	.652	.448	.251	.064	39
40	.2775	.2445	.2139	.1852	.1584	.1331	.1091	.0865	.649	.444	.248	.061	40
41	.2770	.2440	.2134	.1848	.1579	.1326	.1088	.0861	.646	.441	.245	.058	41
42	.2764	.2435	.2129	.1843	.1575	.1322	.1084	.0857	.642	.438	.242	.055	42
43	.2758	.2430	.2124	.1838	.1571	.1318	.1080	.0854	.639	.434	.239	.052	43
44	.2753	.2424	.2119	.1834	.1566	.1314	.1076	.0850	.635	.431	.236	.049	44
45	.2747	.2419	.2114	.1829	.1561	.1310	.1072	.0846	.632	.428	.232	.046	45
46	.2741	.2414	.2109	.1825	.1558	.1306	.1068	.0843	.628	.424	.229	.042	46
47	.2736	.2409	.2104	.1820	.1553	.1302	.1064	.0839	.625	.421	.226	.039	47
48	.2730	.2403	.2099	.1816	.1549	.1298	.1061	.0835	.622	.418	.223	.036	48
49	.2724	.2398	.2095	.1811	.1545	.1294	.1057	.0832	.618	.414	.220	.033	49
50	.2719	.2393	.2090	.1806	.1540	.1290	.1053	.0828	.615	.411	.216	.030	50
51	.2713	.2388	.2085	.1802	.1536	.1286	.1049	.0825	.611	.408	.213	.027	51
52	.2707	.2382	.2080	.1797	.1532	.1282	.1045	.0821	.608	.404	.210	.024	52
53	.2702	.2377	.2075	.1793	.1528	.1278	.1041	.0817	.604	.401	.207	.021	53
54	.2696	.2372	.2070	.1788	.1523	.1274	.1038	.0814	.601	.398	.204	.018	54
55	.2691	.2367	.2065	.1784	.1519	.1270	.1034	.0810	.597	.394	.201	.015	55
56	.2685	.2362	.2061	.1779	.1515	.1266	.1030	.0806	.594	.391	.197	.012	56
57	.2679	.2356	.2056	.1774	.1510	.1261	.1026	.0803	.590	.388	.194	.009	57
58	.2674	.2351	.2051	.1770	.1506	.1257	.1022	.0799	.587	.384	.191	.006	58
59	.2668	.2346	.2046	.1765	.1502	.1253	.1018	.0795	.583	.381	.188	.003	59



A. D. P., Gwallor

