

ASTRONOMICAL EPHEMERIS
of
Geocentric Places of Planets
for
1953

(Indian Standard Time observed throughout)

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

Price Rupee One and Annas Four Only

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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 <i>Tithis</i>	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
Elements of Orbits	37
Timings of Lunar Aspects	38-47
Parallel Aspects of Planets	48-50
Daily Motion of Planets	51-54
Tables of Ascendants	55-62
Logarithmic Tables	63-66

PREFACE

The heliocentric places of Jupiter, Saturn, Uranus and Neptune were obtained from Newcomb and Hill's Tables and these were later converted into geocentric longitudes and latitudes. The geocentric places of Mercury, Venus and Mars were computed *directly* from their respective elements and this is why the heliocentric co-ordinates have been omitted from the following pages.

Owing to the 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 its longitude will hardly exceed ten minutes of arc.

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

Thanks are due to Shree G.C. Natarajan, the Superintendent of the Government Central Press, Gwalior, for the personal interest taken by him while this Ephemeris was in Press. Thanks are also due to my Assistants Pt. Purshottam Joshi, Tej Kiran, Karkhanis, D. B. Joshi, Chavreker, Sharma and Saxena.

UJJAIN,
November, 1952.

}

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

Mean Places of Principal Stars on 1st January, 1953

Names.	Stars	Mag	R. A.	Decl	Long.	Lat.
			H. M.	°	°	°
♄ Andromeda	U. Bhadra.	2.1	0 6	+ 28 50	13 38	+ 25 41
♊ Pegasi ..	U. Bhadra.	2.8	0 11	+ 14 55	8 30	+ 12 31
♓ Piscium ..	Revati.	5.6	1 11	+ 7 20	19 10	- 0 9
♈ Eridani ..	Achernar.	0.6	1 36	- 57 30	344 36	- 59 28
♊ Polaris ..	Dhruva.	2.1	1 50	+ 89 2	89 53	+ 66 6
♈ Arietes ..	Ashvini.	2.7	1 52	+ 20 35	33 18	+ 8 29
♈ Arietes ..	Ashvini.	2.2	2 5	+ 23 14	37 0	+ 9 58
♈ Arietes ..	Bharani.	3.7	2 47	+ 27 4	49 27	+ 10 27
♊ Persei ..	Algol'	Var	3 5	+ 40 47	55 30	+ 22 25
♊ Tauri ..	Krittika.	3.0	3 45	+ 23 58	59 20	+ 4 3
♈ Tauri ..	Rohini.	1.1	4 33	+ 16 25	69 8	- 5 28
♊ Orionis ..	Rigel'	0.3	5 12	- 8 16	76 10	- 31 8
♈ Aurigee ..	Capella.	0.2	5 13	+ 45 57	81 12	+ 22 52
♊ Orionis ..	Bellatrix.	1.7	5 23	+ 6 19	80 17	- 16 49
♊ Orionis ..	Mrigashirsh	4.5	5 32	+ 9 28	82 56	- 13 49
♊ Orionis ..	Mrig Bana.	1.7	5 34	- 1 14	82 49	- 24 31
♊ Orionis ..	Ardra.	0.9	5 53	+ 7 24	88 5	- 16 2
♈ Carinae ..	Agastya.	0.9	6 23	- 52 40	104 19	- 75 46
♈ Canis Majori	Vyadha.	1.6	6 43	- 16 39	103 25	- 39 36
♊ Geminorum	Castor'	2.0	7 32	+ 31 59	109 36	+ 10 2
♈ Canis Minor	Prashva.	0.5	7 37	+ 5 21	115 8	- 16 54
♊ Geminorum	Punarvasu	1.2	7 42	+ 28 8	112 34	+ 6 51
♈ Cancri ..	Pushya.	4.1	8 42	+ 18 20	128 2	+ 0 10
♈ Cancri ..	Ashlesha.	4.3	8 56	+ 12 3	132 58	- 5 5
♈ Leonis ..	Magha.	1.3	10 6	+ 12 12	149 10	+ 0 28
♈ Leonis ..	Purva.	2.6	11 12	+ 20 47	160 39	+ 14 53
♈ Leonis ..	Uttara.	2.2	11 47	+ 14 50	170 58	+ 12 16
♈ Corvi ..	Hasta.	3.1	12 27	- 16 15	192 47	- 13 1
♈ Virginis ..	Chitra.	1.2	13 23	- 10 53	203 10	- 2 1
♈ Bootes ..	Swati.	0.2	14 14	+ 19 26	203 34	+ 30 46
♈ Libra ..	Vishakha.	2.9	14 48	- 15 49	224 25	+ 0 22
♈ Scorpii ..	Anuradha.	2.5	15 58	- 22 28	241 55	- 1 58
♈ Scorpii ..	Jyeshtha.	1.2	16 27	- 26 19	249 5	- 4 23
♈ Scorpii ..	Mool.	1.7	16 26	- 26 19	263 55	- 13 47
♈ Sagittarius..	P. Shadha.	2.8	18 18	- 29 51	273 55	- 6 27
♈ Sagittarius..	P. Shadha.	1.9	18 21	- 34 25	274 25	- 11 3
♈ Sagittarius..	U. Shadha.	2.1	18 52	- 26 22	281 43	- 3 27
♈ Lyrae ..	Abnijit.	0.1	18 35	+ 38 44	284 39	+ 61 44
♈ Aquillae ..	Shravana.	0.9	19 48	+ 8 45	301 16	+ 29 19
♈ Delphini ..	Dhanistha.	3.7	20 35	+ 14 26	315 40	+ 31 55
♈ Delphini ..	Dhanistha.	3.8	20 37	+ 15 45	316 43	+ 33 2
♈ Cygni ..	Deneb.	1.3	20 40	+ 45 7	334 41	+ 59 54
♈ Aquarii ..	Shatabhij.	3.8	22 50	- 7 31	340 51	- 0 6
♈ Piscis Astr.	Fomalhaut	1.3	22 55	- 29 54	333 11	- 21 9
♈ Pegasi ..	P. Bhadra.	2.6	23 1	+ 27 50	358 43	+ 31 8
♈ Pegasi ..	P. Bhadra.	2.6	23 2	+ 14 57	352 50	+ 19 26

EPHEMERIS

OF

Planets' Places for 1953

INTRODUCTION

THE places of the Sun, Moon and the Planets given in the following pages are *Sayan* and are true for the true equinox of each day. 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* and Aspects 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.	♐ Sagittarius.	♈ Sesqui-quadrant = 135°
☿ Mercury.	♑ Capricornus.	♈ Bi-quintile = 144°
♁ Earth.	♒ Aquarius.	♈ Quincunx = 150°
♊ Rah.	♓ Pisces.	♈ Opposition = 180°

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

Date.	ψ		μ		ζ		η		δ	
	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.
1	1N40	7S40	0N27	22N50	2N26	7S51	1S7	14N5	1S1	12S3
3	40	40	27	51	27	53	6	5	0	11
5	40	40	27	52	27	55	6	5	0	58
7	40	40	27	52	28	57	5	6	56	18
9	40	41	27	53	28	59	4	7	55	9
11	40	41	27	53	29	8	0	4	8	53
13	40	41	27	54	29	1	3	9	51	8
15	40	41	27	55	30	2	3	11	50	7
17	41	42	27	55	30	3	2	13	48	17
19	41	42	27	56	31	4	2	15	46	6
21	41	42	27	56	31	5	1	18	45	3
23	41	42	27	57	32	5	0	20	43	5
25	41	42	27	57	32	6	0	23	41	4
27	41	42	27	57	33	6	59	26	39	9
29	41	42	27	58	33	6	59	30	38	3
31	41	42	27	58	34	6	58	34	35	2

[illegible]

Date.	♀		♂		Mean α	Date.	Time H. M.	Phenomena
	Lat.	Decl.	Lat.	Decl.				
1	1 S 40	14 S 42	0 N 25	22 S 49	14 = 4	2 18 0	1	at Apogee.
3	34 13	4 1	9 23	12 13	57	3 3 53	2	⊙ at Perihelion,
5	28 12	56	0 S 6	32	51	4 14 48	3	♂ at ♄
7	21	1	21	47	45	6 12 20	4	♀ at ♄
9	14 11	5	34	57	38	8 15 34	5	on Equator.
11	6 10	8	48 24	3	32	12	15	at Last Quarter.
13	0 58	9 11	1 0	3	26	15 19 36	16	Heli. setting of ♄ in E.
15	49 8	12	11 23	59	19	16 23 25	17	New Mn., Decl. 22° S 25'
17	40 7	14	12	49	13	18 8	0	♂ at ♄
19	30 6	14	32	33	6	19 15 53	1	at Perigee.
21	29 5	15	40	12	0	20 14 2	2	on Equator.
23	10 4	15	48 22	44	12	54 22 11	19	♄ enters =
25	0 N 1	3 15	54	12	47	25 7 38	3	at First Quarter.
27	12 2	14	59 21	33	41	30 5 18	5	♀ at ♄
29	24 1	14	2 120	48	35	30 10 11	11	Full Mn., Decl. 17° N 56'
31	37 0	14	4 19	58	28			♄ at ♄

4		FEBRUARY, 1953										S. J. O. UJJAIN	
Date	Day	Sidereal Time		O		D			Midnight		ψ		
				Long.	Decl.	Long.	Lat.	Decl.	D	ψ			
1 Su.	20	44	40	12	7	17 S 10	6 m 50	2 S 12	6 N 58	12 m 44	23	53	
2 M.		48	37	13	7	55 16	53 18	38	3	1 40	24	33	R 53
3 Tu.		52	33	14	8	45	36	0 29	56	3 S 48	6 26	52	
4 W.		56	30	15	9	40	18 12	25	4	35 9	7	18	25
5 Th.	21	0	26	16	10	26	0 24	29	5	2 14	10	0 m 36	52
6 F.		4	23	17	11	13 15	41	6 m 47		15 18	45	13	2
7 S.		8	20	18	12	4	23 19	22		14 22	37	25	46
8 Su.		12	16	19	12	50	4	2 18	4	58 25	29	8 55	51
9 M.		16	13	20	13	34 14	45 15	38		24 27	2	22	29
10 Tu.		20	9	21	14	17	26 29	26	3	36		21	6 m 29
11 W.		24	6	22	15	0	6 13 13	40	2	32 25	16	20	56
12 Th.		28	2	23	15	40 13	46 28	18	1	17 21	46	5 45	49
13 F.		31	59	24	16	16	26 13 16	0 N 5	16	43	20	50	49
14 S.		35	56	25	16	55	6 28	26	1	27 10	39	6 3	48
15 Su.		39	52	26	17	31 12	46 13 38	2	44	3	55	21	12
16 M.		43	49	27	18	7	25 28	43	3	48	2 N 51	6 10	46
17 Tu.		47	45	28	18	40	4 13 32	4	36	9	35	20	48
18 W.		51	42	29	19	12 11	43 27	58	5	5 15	30	5 2	44
19 Th.		55	38	0 19	41		22 11 59	41		14 26	39	10 5	39
20 F.		59	35	1	20	10	0 25	33		6 24	6	2 10	42
21 S.	22	3	31	2	20	38 10	39	8 42	4	42 26	24	15	8
22 Su.		7	28	3	21	4	17 21	29		5 27	15	27	45
23 M.		11	24	4	21	25 9	16 26	39	3	16 26	39	10 5	39
24 Tu.		15	21	5	21	50	33 16	10	2	19 24	46	22	12
25 W.		19	18	6	22	8	11 28	11	1	17 21	47	4 9	37
26 Th.		23	14	7	22	23 8	45	10 6	0	12 17	55	16	1
27 F.		27	11	8	22	44	26 21	56	0 S 53	13	22	27	51
28 S.		31	7	9	22	59	3	3 m 45	1	55	8	21	9 m 40

Date	ψ		μ		λ		μ		δ	
	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.
2	1 N 42	7 S 42	0 N 27	22 N 59	2 N 35	8 S 6	0 S 58	14 N 37	0 S 34	2 S 16
4	42	42		23 0	35	6	57	41	33	1 39
6	42	41		1	36	6	56	46	31	0
8	42	41		1	36	5	56	50	30	0 23
10	42	40		2	37	4	55	54	28	0 N 14
12	42	40		2	37	3	55	59	26	52
14	42	39		3	38	1	54	15	4	25
16	42	38		3	38	0	54	9	23	2 7
18	43	37		4	39	7	53	14	21	44
20	43	37		4	39	57	53	19	20	3 20
22	43	36		5	40	55	52	25	18	58
24	43	36		5	40	53	52	30	17	4 34
26	43	35		5	41	52	52	36	15	5 10
28	43	34		5	41	50	51	42	14	47

EPHEMERIS				FEBRUARY, 1953																								
Date	Longitudes												Lunar Aspects															
	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	☾	☾	☾	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	
1	15	27	15	12	8	13	24	51	29	5	1	10	54	π	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ
2	R	25	15		18	25	36	0	7	1	12	38		Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ
3		23	16		23	26	22	1	1	14	22			Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ
4		21	16		29	27	8	2	1	16	7			Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ
5		19	16		35		54	5	0	17	53			Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ
6		17		13	42	28	39		58	14	40				Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ
7		15	R	15	48	29	25	4	56	21	27			Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ
8		13		15	55	0	7	10	5	53	23	15		Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ
9		11		14	1		56	6	50	25	3			Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ
10		9		14	8	1	41	7	47	26	52			Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ
11		7		1	15	2	26	8	42	28	41			Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ
12		5		13	22	3	12	9	38	0	30			Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ
13		3		12	29		57	10	34	2	20			Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ
14		1		11	36	4	42	11	26	4	10			Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ
15	14	59		10	44	5	28	12	19	6	0			Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ
16		57		9	52	6	13	13	11	7	50			Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ
17		55		8	0		58	14	3	9	39			Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ
18		54		7	8	7	43		54	11	27			Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ
19		53		5	16	8	29	15	44	13	14			Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ
20		51		3	24	9	14	16	33	15	0			Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ
21		49		1	32		59	17	22	16	44			Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ
22		48	26	59	41	10	44	18	10	18	26			Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ
23		47		57	50	11	29		56	20	5			Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ
24		45		56	58	12	14	19	42	21	41			Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ
25		44		54	59	15	7		59	20	26	23	11		Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ
26		43		52	16	13	44	21	10	24	38			Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ
27		41		50	25	14	29		52	26	0			Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ
28		40		47	34	15	13	22	34	27	17			Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ

Date	♀		♂		Mean		Date	Time H. M.	Phenomena.
	Lat.	Decl.	Lat.	Decl.	♂				
2	0 N 49	0 N 46	2 S 5	19 S 1	12	22	1	7 0	♂ at Apogee.
4	1 2	1 45	4 17	58		16	2	19 19	♂ on Equator.
6	16 2	44	0 16	50		9	7 9	35	♂ at Last Quarter.
8	30 3	43	7 55	15 35		3	8 ..		Heli. rising of ♀ in West.
10	44 4	41	48 14	15 11	57	9	17 50		♂ on Equator.
12	59 5	38	38 12	49		50	11 ..		Heli. setting of ♀ in West.
14	2 14	6 35	26 11	19		44	13 10	32	♂ at ♂
16	29 7	30	11 9	44		37	14 6	39	New Moon Decl. 13° S 1'
18	45 8	24	0 53	8 6		31	15 0	0	♂ at Perigee.
20	3 1	9 17	34 6	26		25	16 1	36	♂ on Equator.
22	17 10	9	10 4	44		18	19 4	8	☉ enters ♋
24	33 11	0	0 N 15	3 5		12	20 23	25	♂ at First Quarter.
26	50	49	42 1	29		6	23 7	12	♀ at ♂
28	4 6	12 36	1 10	0 14	10	59	26 16	26	♂ at ♂
							28 9	17	♀ on Equator.
							18 ..		♂ at Apogee.

Date	Day	Time		Long		Decl.		Long		Decl.		Midnight		ψ
		H.	M.	Long	Decl.	Long	Decl.	Long	Decl.	Long	Decl.	Long	Decl.	
1	Su.	22	35	4	10	23	10	7	5	41	15	23	30	23
2	M.		39	0	11	23	24	18	27	26	3	41	2	32
3	Tu.		42	57	12	23	31	6	55	9	22	4	22	31
4	W.		46	54	13	23	42	31	21	23	51	12	27	29
5	Th.		50	5	14	23	46	8	3	34	5	8	17	28
6	F.		54	47	15	23	49	11	15	55	10	21	3	27
7	S.		58	43	16	23	49	22	28	1	4	58	24	26
8	Su.	23	2	40	17	23	56	4	49	1	2	31	26	25
9	M.		6	36	18	23	53	35	24	36	3	48	27	23
10	Tu.		10	33	19	23	52	12	8	11	2	52	26	22
11	W.		14	30	20	23	46	3	48	22	12	1	45	21
12	Th.		18	26	21	23	38	25	6	37	0	28	19	19
13	F.		22	23	22	23	28	1	21	24	0	N52	13	18
14	S.		26	19	23	23	20	2	38	6	27	2	9	17
15	Su.		30	16	24	23	6	14	21	39	3	18	0	16
16	M.		34	12	25	22	52	1	50	6	50	4	13	14
17	Tu.		38	9	26	22	34	26	21	49	49	12	58	13
18	W.		42	5	27	22	16	3	6	28	5	6	18	12
19	Th.		46	2	28	21	54	0	39	20	41	3	22	10
20	F.		49	59	29	21	32	15	4	25	4	42	25	9
21	S.		53	53	0	21	7	0	N	8	17	39	7	7
22	Su.		57	52	1	20	42	32	0	29	3	21	47	5
23	M.	0	1	48	2	20	10	56	12	56	2	26	25	4
24	Tu.		5	45	3	19	41	1	19	25	7	1	25	2
25	W.		9	41	4	19	8	4	7	24	4	0	22	1
26	Th.		13	38	5	18	29	2	7	18	34	0	S	22
27	F.		17	34	6	17	49	30	0	22	1	43	9	58
28	S.		21	31	7	17	13	54	12	30	2	39	4	56
29	Su.		25	28	8	16	24	3	17	24	21	3	29	54
30	M.		29	24	9	15	50	40	6	19	4	10	6	53
31	Tu.		33	21	10	15	7	4	4	18	24	40	11	51

Date	ψ		θ		λ		δ		Mean		Time	Phenomena
	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.		
2	1N43	7S33	0N27	23N5	2N42	7S47	0S51	15N48	0S12	6N23		
4	43	32	27		42	45	50	4	11	58		
6	43	31	27		42	43	50	16	0	9	7	33
8	43	30	27		43	40	49	6	8	8		
10	43	29	27		43	38	49	12	6	43		
12	43	28	27		44	35	49	19	5	9	17	
14	44	27	26		44	32	49	25	3	51		
16	44	26	26		44	29	48	31	2	10	24	
18	44	25	26		45	27	48	38	0	57		
20	44	24	26		45	24	47	45	0	N	11	29
22	44	23	26		45	20	47	51	3	12	2	
24	44	22	26		45	17	47	58	4	33		
26	44	21	26		46	14	46	17	5	13	6	
28	44	19	26		46	11	46	11	7	34		
30	44	18	26		46	7	46	18	8	14	3	

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

Date	♀		♂		Mean		Time	Phenomena
	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.		
2	4N23	13N21	1N39	1N19	10	53	1	0
4	40	14	2	7	2	26	47	8
6	57	43	34	3	18	40	12	20
8	5	14	15	25	57	53	34	14
10	31	16	1	3	16	4	28	15
12	47	34	29	7	21	15	16	37
14	6	3	17	5	36	3	46	15
16	19	32	34	9	9	21	3	36
18	34	56	25	2	18	22	13	49
20	48	18	15	9	1	20	56	23
22	7	1	31	2	46	0	17	49
24	13	43	19	0	S	45	43	28
26	23	47	1	49	1	43	37	23
28	31	44	18	2	34	30	29	7
30	37	42	0	47	3	15	24	30

Full Moon, Decl. 5° N 32'
 ☽ on Equator.
 ☽ at Last Quarter.
 ☽ at ☽
 ☽ at Perigee.
 ☽ on Equator.
 New Moon, Decl. 1° N 4'
 ☽ at ☽
 ☽ enters ♍
 ☽ at First Quarter.
 ☽ on Equator.
 ☽ at ☽
 ☽ at Apogee.
 Heli. rising of ♍ in East.
 ☽ on Equator.
 Full Moon, Decl. 7° S 43'
 ☽ on Equator.

8		APRIL, 1953										S. J. O. UJJAIN								
Date	Day	Sidereal Time			☉		♂			Midnight		ψ								
					Long.	Decl.	Long.	Lat.	Decl.	♂										
1	W.	0	37	17	11	14	20	4	N 27	0	m 37	4	S 58	16	S 20	6	m 47	22	50	
2	Th.		41	14	12	13	30		50	12	59	5	2	20	32	19	14		48	
3	F.		45	10	13	12	40	5	13	25	32	4	52	23	52	1	7	53	47	
4	S.		49	7	14	11	42		36	8	17	27	26	5		14	44		45	
5	Su.		53	4	15	10	48		59	21	15	3	49		58	27	49		43	
6	M.		57	0	16	9	50	6	22	4	22	2	56		18	11	10		41	
7	Tu.	1	0	57	17	8	49		44	17	57	1	52	24	6	24	5		40	
8	W.		4	53	18	7	48	7	7	1	57	0	41	20	26	8	49		39	
9	Th.		8	50	19	6	43		29	15	57	0	N 34	15	31	23	9		37	
10	F.		12	46	20	5	38		51	0	26	1	47	9	39	8	47		36	
11	S.		16	43	21	4	30	8	14	15	11	2	55	3	9	22	38		35	
12	Su.		20	39	22	3	22		36	0	7	3	52	3	N 36	7	36		33	
13	M.		24	36	23	2	10		58	15	5	4	34	10	9	22	32		31	
14	Tu.		28	33	24	0	56	9	19	29	57		56	16	4	7	18		29	
15	W.		32	29		59	42		41	14	34		58	20	58	21	44		27	
16	Th.		36	26	25	5	23	10	2	28	49		42	24	29	5	11	46		26
17	F.		40	22	26	57	4		23	12	37		10	26	27	19	20		25	
18	S.		44	19	27	55	41		45	25	56	3	24		47	2	26		23	
19	Su.		48	15	28	54	18	11	5	8	50	2	28	25	33	15	5		22	
20	M.		52	12	29	52	52		26	21	20	1	27	23	11	27	27		20	
21	Tu.		56	8	0	51	25		47	3	31	0	24	19	46	9	32		18	
22	W.	2	0	5	1	49	55	12		7	15	30	0	S 39	15	36	21	26		16
23	Th.		4	2	2	48	25		27	27	20	1	38	10	52	3	m 14		14	
24	F.		7	5	3	46	52		47	9	m 9	2	34	5	46	15	3		13	
25	S.		11	55	4	45	18	13		7	20	58	3	23	0	28	26	55		12
26	Su.		15	51	5	43	11		26	2	54	4	5	4	S 53	8	55		10	
27	M.		19	48	6	42	3		46	14	59		35	10	8	21	5		9	
28	Tu.		23	44	7	40	23	14		5	27	14		54	15	3	m 25		8	
29	W.		27	41	8	38	38		23	9	m 41		58	19	26	16	0		6	
30	Th.		31	38	9	36	54		42	22	20		49	23	0	28	44		4	
Date	ψ		♂		♀		♂		♀											
	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.										
1	1N 44	7S 16	0N 26	23N 5	2N 46	7S 4	0S 45	17N 25	0N 9	14N 33										
3		15		5	46	1	44	32	11	15										
5		14		4	47	6	57	44	12	30										
7		13		4	47	54	44	45	13	57										
9		11		4	47	51	44	52	15	16										
11		9		4	47	47	43	59	16	51										
13		7		4	47	44	43	18	6	17										
15		7		3	47	40	43	12	18	42										
17		7		3	47	37	42	19	20	18										
19		6		3	47	34	42	26	21	30										
21		4		2	47	30	42	32	22	53										
23		3		2	47	27	42	39	23	19										
25		2		2	47	24	42	45	24	36										
27		1		2	46	21	42	52	25	57										
29		0		1	46	18	41	58	27	20										

EPHEMERIS														APRIL, 1953														9	
Date	Longitudes														Lunar Aspects														
	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓					
1	14	29	24	54	21	28	8	42	29	7	39	19	48																
2		29	R	50	40	9	26	R	15	D	51																		
3		30		46	53	10	9	28	51	20	0																		
4		31		41	22	5	52		22	14																			
5		32		36	18	11	34	27	53	33																			
6		33		32	31	12	17		21	56																			
7		34		28	44	13	1	26	49	21	24																		
8		35		23	57		44		15	57																			
9		35		18	23	10	14	27	25	40	22	54																	
10		36		13	23	15	10		3	23	14																		
11		37		9	36		53	24	26	59																			
12		38		5	49	16	3	23	49	24	46																		
13		39		0	24	17	19		11	25	38																		
14		40	23	55	15	18	2	22	33	26	32																		
15		41		50	28		44	21	55	27	29																		
16		42		46	41	19	27		19	28	29																		
17		44		41	54	20	9	20	42	29	32																		
18		45		36	25	7	52		8	0	38																		
19		47		32	21	21	34	19	33	1	46																		
20		48		28	34	22	17		1	2	56																		
21		49		23	48		59	18	29	4	9																		
22		50		18	26	2	23	42	0	5	24																		
23		52		13	15	24	24	17	32	6	42																		
24		54		9	28	25	6		9	8	1																		
25		56		5	42		48	16	43	9	23																		
26		58		0	56	26	30		24	10	46																		
27	15	0	22	55	27	10	27	12	4	12	12																		
28		2		51	23		55	15	48	13	40																		
29		4		47	37	28	37		33	15	9																		
30		6		42	51	29	19		22	16	41																		
Date	♀		♂		Mean		Date	Time		Phenomena																			
	Lat.	Decl.	Lat.	Decl.	♈	♉		H.	M.																				
1	7N 40	18N 31	0N 17	3S 47	9	18	2	16	8	♀ at ♈																			
3	41	14	0S 12	4	9		11	7	10	♂ at Last Quarter.																			
5	39	17	51	38	20		5	8		Heli. setting of ♀ in W.																			
7	33	22	1	2	22	S	59	9	1	♂ at ♈																			
9	24	16	48	24	14		52	11	9	♂ at Perigee.																			
11		12	9	43	3	58	46	11	23	♂ on Equator.																			
13	6	56	15	26	2	0	40	14	1	New Moon, D. 13°N 30'																			
15	37	14	40	14	3		33	16		Heli. rising of ♀ in E.																			
17	15	13	53	26	2	25	27	20	14	☉ enters ♈																			
19	5	51	4	34	1	39	20	21	6	♂ at First Quarter.																			
21		26	12	15	41	0	14	21	9	♀ at ♈																			
23	4	58	11	29	45	0	8	23	5	♀ on Equator.																			
25	30	10	44	47	1	9	1	25	5	♂ at Apogee.																			
27		2	2	47	2	16	55	25	14	♂ on Equator.																			
29	3	33	9	44	3	27	49	29	9	Full Moon, D. 19° S 3'																			

MAY, 1953										S. J. O. UJJAIN									
Date	Day	Sidereal Time		☉		☽		Midnight		ψ	☿		♀		♂		♂		☿
H.	M.	S.	Long.	Decl.	Long.	Lat.	Decl.	Long.	Lat.	Decl.	Long.	Lat.	Long.	Lat.	Long.	Lat.	Long.	Lat.	Decl.
1	F.	2	35	34	10 34 48	15N 0	5 11	4 S 24	25 S 3	11 41	22 2								
2	S.	39	31	11	33 22	18 18	13	3 46	26 40	24 48	R 1								
3	Su.	43	27	12	31 34	36 1 26	2	55	21	8 3	21 59								
4	M.	47	24	13	29 42	54 14	50	1 53	24 30	21 38	58								
5	Tu.	51	20	14	27 50	16 11	28 28	0 44	21 12	5 20	56								
6	W.	55	17	15	25 55	28 12	17	0 N 28	16 40	19 16	54								
7	Th.	59	13	16	24 0	45 26	18	1 40	11 11	3 24	52								
8	F.	3	10	17	22 1	17 1 10	33	2 47	5	17 44	50								
9	S.	7	7	18	20 18	18 24	58	3 44	1 N 26	2 14	49								
10	Su.	11	3	19	18 6	34 9 31	4	27	7 52	16 49	47								
11	M.	15	0	20	15 58	49 24	6	53 13	53	1 23	46								
12	Tu.	18	5	21	13 55	18 5 8	37	59 19	6	15 48	45								
13	W.	22	53	22	11 59	20 22	56	47 23	8	0 0	43								
14	Th.	26	49	23	9 53	34 6 58		18 25	41	13 46	41								
15	F.	30	46	24	7 37	50 20	38	3 34	26 40	27 13	40								
16	S.	34	42	25	5 24	19 3 3	54	2 40	3	10 23	39								
17	Su.	38	39	26	3 14	16 16	47	1 38	24	1 23	38								
18	M.	42	36	27	1 1	30 29	18	0 33	20 55	5 26	37								
19	Tu.	46	32		58 44	43 11	30	0 S 31	16 51	17 32	36								
20	W.	50	29	28	56 31	56 23	31	1 33	12 13	29 29	35								
21	Th.	54	25	29	54 18	20 8 5	24	2 31	7 12	1 10	33								
22	F.	58	22	0 11	51 58	20 17	14	3 22	1 56	23 10	31								
23	S.	2	1	1	49 37	32 29	8	4 5	3 S 23	5 6	30								
24	Su.	6	15	2	47 17	44 11	7	36 8	38	17 11	29								
25	M.	10	12	3	44 56	55 23	18	56 13	38	29 28	28								
26	Tu.	14	8	4	42 32	21 5 5	42	5 3	18 11	12 0	27								
27	W.	18	5	5	40 8	16 18	22	4 55	22 1	24 48	26								
28	Th.	22	1	6	37 41	26 1 18		32 24	51	7 52	25								
29	F.	25	58	7	35 17	35 14	29	3 54	26 25	21 8	24								
30	S.	29	54	8	32 46	44 27	53	2	28	4 40	23								
31	Su.	33	51	9	30 18	53 11	29	2 0	24 55	18 20	22								
☿										♂									
Date	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.
1	1 N 44	6 S 58	0 N 25	23 N 1	2 N 46	6 S 15	0 S 41	19 N 5	0 N 28	20 N 37									
3		57			46	12	41	11	29	55									
5		56			46	9	40	17	30 21	13									
7		55		22	59	45	6	40	24	31	30								
9		54			59	45	3	40	30	32	46								
11		53			53	45	1	40	36	33 22									
13		52			53	45	5 58	40	42	34	1 6								
15		51			57	44	56	39	48	35	3 0								
17		50			57	44	54	39	53	36	4 4								
19		49			56	44	52	39	59	37	5 4								
21		48			56	43	50	39 20	5	38 23	6								
23		47			55	43	48	39	10	39	16								
25		46			54	42	46	39	16	40	26								
27		45			53	42	44	38	22	41	35								
29		44			53	42	43	38	27	42	43								
31		44			52	41	42	38	32	43	50								

EPHEMERIS										MAY, 1953										11
Date	Longitudes										Lunar Aspects									
	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	☉	☽	♂	♂	♂	♂	♂	♂	♂	♂
1	15	8	22	38	28	5	0	11	0	15	11	18	14	π	Δ	Δ	Δ	Δ	Δ	Δ
2		10	R	34		19		42	R		6	19	49	Δ	*	π	*		Δ	Δ
3		12		30		32	1	24			121	27	6	Δ				π	π	π
4		14		26		46	2	6			123	6				♂		π	π	π
5		16		21	29	0		48			0	24	47	Δ	□	□	□	Δ	Δ	□
6		18		18		14	3	30	D		4	26	29	□		π		*	*	♂
7		20		14		27	4	11			8	28	14	Δ	Δ	Δ	□	*	*	♂
8		22		10		41		53			16	0	1	Δ	Δ	Δ	□	*	*	♂
9		24		6		55	5	35			25	1	50	*	π		*	*	*	π
10		27		3	0	11	9	16			37	3	40	Δ	□	□	*	*	♂	♂
11		30	21	59		24		57			50	5	32	Δ	♂		♂	*	*	Δ
12		32		55		38	7	39	16		7	7	26		*		*	*	*	♂
13		35		51		52	8	20			25	9	23	♂	π		π	*	*	□
14		37		47	1	6	9	3			49	11	21	Δ	Δ	Δ	♂	*	*	π
15		40		43		20		45	17		13	13	20	*	Δ	Δ	*	*	*	*
16		42		40		34	10	26			36	15	22				*	*	*	Δ
17		45		37		48	11	6	17		59	17	25	Δ	□	♂	□	*	*	Δ
18		47		33	2	2		47	18		23	19	30	*		*	*	*	*	*
19		50		30		15	12	28			49	21	37	*	*	*	*	*	*	*
20		53		27		29	13	9	19		17	23	44	□	□	*	*	Δ	□	♂
21		56		24		44		50			47	25	53	Δ	Δ	Δ	□	□	□	Δ
22		58		21		58	14	31	20		20	28	4	Δ	*	*	*	□	π	*
23	16	1		18	3	13	15	12			53	0	15	Δ	Δ		Δ	Δ	Δ	Δ
24		4		15		27		53	21		28	2	26		□		Δ	Δ		Δ
25		7		12		42	16	34	22		4	4	37	□	♂	♂	□	♂	□	*
26		10		9		56	17	15			42	6	49	π			π	□	π	
27		13		7	4	10		56	23		20	9	1		*	Δ	Δ	π	π	□
28		16		5		24	18	37	24		0	11	12	♂	Δ	Δ	♂			
29		19		2		37	19	17			41	13	22		Δ	π	*	♂	□	Δ
30		22		0		51		58	25		23	15	32	*	*	*	*	Δ		
31		25	20	58	5	5	20	39	26		5	17	40	π		♂	π			□
Date	♀		♂		Mean		Date	Time		Phenomena										
	Lat.	Decl.	Lat.	Decl.	g			H.	M.											
1	3 N	5	8 N	50	2 S	40	4 N	41	7	42	6	Heli. setting of ♀ in E.								
3	2	37		20		33	6	0			36	6	1	10	D at g					
5		11	7	55		24	7	22			30	6	17	48	D at Last Quarter.					
7	1	45		33		13	8	47			23	9	3	0	D at Perigee.					
9		20		18	1	59	10	15			17		6	42	D on Equator.					
11	0	57		6		45	11	44			11	10			Heli. setting of ♀ in W.					
13		34	6	59		28	13	14			4	13	10	41	New Moon, D. 22° N55					
15		13		58		10	14	45	6		58	15			Heli. setting of ♂ in W.					
17	0 S	6		58	0	50	16	14			52	16	20	51	♂ at g					
19		25	7	1		30	17	42			45	19	0	22	D at g					
21		42		7		9	19	6			39	20	23	55	D at First Quarter.					
23		58		16	0	N	12	20	25		32	21	14	29	☉ enters II					
25	1	13		28		33	21	37			26	22	8	34	♀ at g					
27		26		44		53	22	41			20	22	19	0	D at Apogee.					
29		39	8	2	1	11	23	35			13	22	20	42	D on Equator.					
31		51		22		27	24	19			7	28	22	28	Full Moon, D. 25° S 13					

12		JUNE, 1953										S. J. O. UJJAIN									
Date	Day	Sidereal Time			☉		☽						Midnight		Ψ						
					Long.	Decl.	Long.	Lat.	Decl.	Long.	Lat.	Decl.									
		H.	M.	S.	°	'	°	'	°	'	°	'	°	'	°	'					
1	M.	4	37	47	10	27 50	22N	2	25	14	0	S	49	21	S	54	2=10	21	22		
2	Tu.		41	44	11	25 19		10	9=8	0	N	25	17	35	18	7		R	21		
3	W.		45	41	12	22 44		17	23	8	1	38	12	16	0	10			20		
4	Th.		49	37	13	20 17		25	7	14	2	46	6	7	14	18			19		
5	F.		53	34	14	17 42		32	21	24	3	44	0	N	1	28	0		18		
6	S.		57	30	15	15 7		38	5	36	4	29	6	21	12	42			17		
7	Su.	5	1	27	16	12 32		44	19	4	57	12	20	26	53				16		
8	M.		5	23	17	9 54		50	3	58	5	7	17	39	11	8			15		
9	Tu.		9	20	18	7 19		55	18	2	4	57	21	58	25	1			14		
10	W.		13	16	19	4 37	23	0	1	57		32	24	59	8	49			14		
11	Th.		17	13	20	2 2		5	15	37	3	50	26	29	22	20			13		
12	F.		21	10		59 20		9	28	59	2	56		23	5	33			13		
13	S.		25	6	21	56 42		12	12	56	3	1	55	24	48	18	27		12		
14	Su.		29	3	22	54 6		15	24	46	0	48	21	58	1	1			12		
15	M.		32	59	23	51 18		18	7	13	0	S	19	18	10	13	20		12		
16	Tu.		36	56	24	48 36		21	19	24	1	24	13	41	25	25			11		
17	W.		40	52	25	45 54		23	1	25	2	24	8	44	7	22			11		
18	Th.		44	49	26	43 12		25	13	18	3	18	3	31	19	14			10		
19	F.		48	46	27	40 30		26	25	10	4	3	1	S	48	1	7		10		
20	S.		52	42	28	37 44		27	7	4		38	7	4	13	2			10		
21	Su.		56	39	29	34 59		27	19	5	5		12	7	25	10			9		
22	M.	6	0	35	0	32 13		27	1	19		10	16	47	7	31			9		
23	Tu.		4	32	1	29 28		26	13	49		6	20	51	20	10			9		
24	W.		8	28	2	26 42		25	26	36	4	46	24	3	3	8			8		
25	Th.		12	25	3	23 56		24	9	44		11	26	3	16	25			8		
26	F.		16	21	4	21 7		23	23	12	3	21		37	0	2			7		
27	S.		20	18	5	18 18		21	6	57	2	19	25	35	13	55			7		
28	Su.		24	15	6	15 36		18	20	57	1	7	22	53	28	1			7		
29	M.		28	11	7	12 47		15	5	8	0	N	9	18	50	12=17			7		
30	Tu.		32	8	8	10 5		12	19	27	1	27	13	38	26	37			7		
Date		☿		☽		☿		☽		☿		☽		☿		☽		☿		☽	
		Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.
2	1N43	6S44	0N25	22N52	2N41	5S40	1S38	20N37	0N44	23N56											
4	43	43		51	40	39	38	42	44	24	1										
6	43	43		50	40	38	38	47	45		5										
8	43	42		49	39	38	38	52	46		8										
10	43	42		48	39	37	37	57	47		12										
12	43	42		47	38	37	37	21	2	48	14										
14	43	42		46	38	37	37		6	48	15										
16	43	42		45	37	37	37	10	49		15										
18	42	41		44	37	36	37	15	50		15										
20	42	41		44	36	36	37	19	51		14										
22	42	41		43	36	37	37	23	52		12										
24	42	41		43	35	37	37	27	52		8										
26	42	40		42	35	38	36	31	53		5										
28	42	40		42	34	38	36	34	54		1										
30	42	40		41	34	39	36	38	55	23	54										

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28	Tu.		22	31	4	52	55		3	29	0	2 17	7 41	6 23	16								
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6	2	59	59	33	16	58	13	5			☿ at Last Quarter.																		
8	57	17	27	2	2	20	6	11	8	6	☿ at Aphelion.																		
10	55	54	32	15	45		0	12	12	0	New Moon, D. 23° N 25'																		
12	52	18	20	3	2	15	3	54	13		☿ at ☿																		
14	49	48	30	14	52		47	16	12	0	Heli. setting of ♀ in W.																		
16	45	19	9	56	35		40	16	23	0	☿ on Equator.																		
18	41	31	4	19	25	34	19	10	16		☿ at Apogee.																		
20	36	52	39	22	28		23	9	28		☿ at First Quarter.																		
22	32	20	11	51	28		22	26	17	52	☿ ☿ enters ♌																		
24	27	28	57	41	15		26	18	0		Full Moon, D. 19° S 19'.																		
26	21	44	58	59	9		29	23	42		☿ at ☿																		
28	16	58	50	15	23	3	30	12	0		☿ on Equator.																		
30	10	21	10	36	51	2	56				☿ at Perigee.																		

16 AUGUST, 1953. S. J. O. UJJAIN															
Date	Day	Sidereal Time.			☉		☽		Midnight		☽		☽		ψ
		H.	M.	S.	Long.	Decl.	Long.	Lat.	Decl.	☽	☽	☽	☽	☽	
1 S.	8	38	18	8	42	25	18 N	6	27	21	5 N	14	15	N 24	21
2 Su.		42	14	9	39	50	17	50	11	22	12	18	15		21
3 M.		46	11	10	37	19		35	25	5	4	53	23	47	22
4 Tu.		50	7	11	34	52		19	8	30	3	18	25	59	23
5 W.		54	4	12	32	17		3	21	38	3	30	26	41	24
6 Th.		58	0	13	29	38	16	47	4	31	2	33	25	55	25
7 F.	9	1	57	14	27	7		30	17	9	1	23	23	29	26
8 S.		5	54	15	24	40		13	29	35	0	21	20	35	27
9 Su.		9	50	16	22	12	15	56	11	50	0	5	16	30	28
10 M.		13	47	17	19	44		39	23	57	1	51	11	48	29
11 Tu.		17	43	18	17	20		21	5	56	2	50	6	42	30
12 W.		21	40	19	14	53		3	17	50	3	41	1	25	32
13 Th.		25	36	20	12	29	14	45	29	41	4	22	3	S 52	33
14 F.		29	33	21	10	5		27	11	30	5	9	2	17	34
15 S.		33	29	22	7	44		8	23	23	5	9	13	53	35
16 Su.		37	26	23	5	24	13	50	5	m 25		13	18	16	36
17 M.		41	23	24	3	4		31	17	35		4	21	56	37
18 Tu.		45	19	25	0	47		11	0	7	4	40	24	43	39
19 W.		49	16		58	34	12	52	12	46		2	26	20	41
20 Th.		53	12	26	56	17		32	25	54	3	10		33	43
21 F.		57	9	27	54	4		13	9	28	2	6	25	12	45
22 S.	10	1	5	28	51	50	11	52	23	28	0	52	22	14	46
23 Su.		5	2	29	49	41		32	7	55	0	N 26	17	53	47
24 M.		8	58	0	47	31		12	22	42	1	45	12	18	49
25 Tu.		12	55	1	45	25	10	51	7	45	2	57	5	26	50
26 W.		16	52	2	43	19		31	22	53	3	58	0	N 49	52
27 Th.		20	48	3	41	20		10	7	58	4	41	7	28	54
28 F.		24	45	4	39	18	9	49	22	50	5	5	13	26	56
29 S.		28	41	5	37	16		27	7	24		9	18	51	57
30 Su.		32	38	6	35	17		6	21	33	4	53	22	52	58
31 M.		36	34	7	33	18	8	44	5	17		22	25	29	0
Date	ψ		♈		♉		♊		♋		♌		♍		☽
	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	
1	1N 40	6S 46	0N 26	22N 22	2N 26	6S 13	0S 35	22N 22	1N 4	20N 51					
3		47		21	25	16			24	4					34
5		48		20	25	19			26	5					17
7		49		19	24	23			28	5	19	59			
9		50		18	24	26			29	6					40
11		51		17	23	30			31	6					20
13		52		16	23	34			32	7					1
15		53		15	23	37			34	7	18	40			
17		54		14	22	41			35	7					19
19		55		13	22	45			36	8	17	57			
21	39	56		12	21	49			37	8					36
23		57		11	21	53			38	9					14
25		58		11	21	58			39	9	16	54			
27		59		10	20	7	2		40	9					27
29	7	0		9	20	7			41	10					4
31		1		8	20	11			42	10	15	40			

EPHEMERIS																AUGUST, 1952																17
Date	Longitudes															Lunar Aspects																
	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	☉	☽	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	P					
1	20	21	43	18	11	33	1	2	35	26	11	53	28	11																		
2		5	46		44	2	14	28	0	27	52																					
3		9	50		55	3	53	29	7	R	39																					
4		13	54	19	6	3	32	0	15		32	*	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽					
5		16	58		17	4	10	1	23		31	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽					
6		20	22	3	28		49	2	30	D	37																					
7		23		8	39	5	27	3	38		48	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽					
8		27		11	50	6	6	4	46	28	8																					
9		30		15	20	0	44	5	55		34	☽																				
10		33		19	10	7	23	7	3	29	7		*	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽					
11		36		23	20	8	2	8	11		46	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽					
12		40		27	30		41	9	20	0	32	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽					
13		43		32	40	9	19	10	29	1	24	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽					
14		46		36	50		58	11	38	2	25																					
15		50		41	21	0	10	36	12	46	3	30	*	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽					
16		53		46	10	11	14	13	55	4	41																					
17		56		51	20		52	15	5	5	55		☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽					
18		59		56	30	12	31	16	14	7	19		☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽					
19	21	2	23	1	39	13	9	17	24	8	49	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽					
20		5		6	48		48	18	34	10	22	☽	*	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽					
21		9		11	57	14	26	19	43	11	59	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽					
22		12		17	6	15	5	20	52	13	38	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽					
23		15		23	15		43	22	2	15	25																					
24		18		28	24	16	22	23	12	17	12		☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽					
25		21		33	33	17	0	24	22	19	3	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽					
26		24		38	42		38	25	33	20	55		☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽					
27		27		43	50	18	16	26	43	22	49	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽					
28		30		48	58		54	27	54	24	45		☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽					
29		33		54	6	19	32	29	4	26	42		☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽					
30		35		59	14	20	10	0	14	28	3		☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽					
31		58	24	5	22		49	1	25	0	57	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽	☽					
Date	☽		☽		Mean.		Date	Time.		Phenomena.																						
	Lat.	Decl.	Lat.	Decl.	☽			H.	M.																							
1	2 S	4	21 N	21	4 S	16	16 N	21	2	8	53	☽ at Last Quarter.																				
3	1	58	29	3	51		52					Heli. rising of ☽ in E.																				
5		52	35	22	17	21			37	8	19	52	☽ at ☽																			
7		45	39	2	51	48			31	9	21	46	New Moon D. 14° N 33'																			
9		38		18	18	12			25	12	18	24	☽ on Equator.																			
11		32		40	1	45	30		18	13	19	0	☽ at Apogee.																			
13		25		38		10	42		12	18	1	32	☽ at First Quarter.																			
15		18		33	0	40	44		6	18	7	34	☽ at ☽																			
17		11		25		11	38	1	59	23	4	0	☽ at ☽																			
19		4		16	0	N 16	19		53	23	16	8	☉ centers ☽																			
21	0	57		4	40	17	51		47	25	1	47	Full Moon D. 8° S 38'.																			
23		50	20	50	1	0	11		40	26			Heli. setting of ☽ in W.																			
25		43		33	17	16	20		34		9	6	☽ on Equator.																			
27		36		14	30	15	19		27	27	2		☽ at Perigee.																			
29		29	19	53	49	14	10		21	29			Heli. rising of ☽ in E.																			
31		22		30	44	12	53		15	31	16	24	☽ at Last quarter.																			

18		SEPTEMBER, 1953										S. J. O. UJJAIN			
Date	Day	Sidereal Time		☉		☽			Midnight		ψ				
				Long.	Decl.	Long.	Lat.	Decl.	☽						
		H.	M.	S.	°	'	°	'	°	'	°	'			
1	Tu.	10	40	31	8	31	19	8 N 22	18 36	3 N 37	26 N 34	25 8	22 1		
2	W.		44	28	9	29	28	1	1 35	2 42	28 8	7 56	3		
3	Th.		48	24	10	27	36	7	39 14	13	1 39	24 20	5		
4	F.		52	21	11	25	41	17	26 37	0	34 21	24 20	8		
5	S.		56	17	12	23	53	6	55 8	49	0 S 32	17 33	10		
6	Su.	11	0	14	13	22	5	32	20 52	1	36 13	2 51	11		
7	M.		4	10	14	20	17	10	2 49	2	35 8	4 8	13		
8	Tu.		8	7	15	18	32	5	43 14	42	3 26	2 51	15		
9	W.		12	3	16	16	52	25	26 33	4	9 2 S 26	2 29	17		
10	Th.		16	0	17	15	11	2	8 24	40	7 37	14 20	19		
11	F.		19	57	18	13	34	4	39 20	16	5 0	12 33	21		
12	S.		23	53	19	11	56	17	2 12	6	17 1	8 12	22		
13	Su.		27	50	20	10	19	3	54 14	14	4 58	20 52	24		
14	M.		31	46	21	8	46	31	26 24	39	23 52	2 38	26		
15	Tu.		35	43	22	7	16	8	7 48	5	25 49	15 6	28		
16	W.		39	39	23	5	45	2	45 21	29	3 19	26 29	30		
17	Th.		43	36	24	4	16	1	4 59	2	21 25	43 11	32		
18	F.		47	32	25	2	52	1	58 17	54	1 14	23 29	34		
19	S.		51	29	26	1	26	35	1 47	0 N	0 19	46 8	36		
20	Su.		55	26	27	0	4	12	16 8	1	15 14	49 23	38		
21	M.		59	22	58	44	0	48	0 54	2	23 8	51 8	40		
22	Tu.	12	3	19	28	57	28	25	15 59	3	32 2	16 23	42		
23	W.		7	15	29	56	10	2	1 17	4	21 4 N 30	8 56	44		
24	Th.		11	12	0	54	54	0	22 16	34	52 11	0 24	46		
25	F.		15	8	1	53	9	45	1 41	5	2 16	47 9	48		
26	S.		19	5	2	52	36	1	9 16	29	4 52	21 25	50		
27	Su.		23	2	3	51	25	32	0 50	50	23 24	37 7	52		
28	M.		26	58	4	50	20	1	55 14	41	3 39	26 12	54		
29	Tu.		30	55	5	49	15	2	19 28	4	2 46	12 4	56		
30	W.		34	51	6	48	11	42	11 1	1	44 24	43 17	59		
Date	ψ		☽		☾		☿		♂						
	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.					
2	1 N 39	7 S 2	0 N 26	22 N 8	2 N 19	7 S 16	0 S 35	22 N 43	1 N 10	15 N 15					
4	39	4	26	7	19	20	..	44	11	14 52					
6	39	6	26	6	19	25	..	44	11	26					
8	39	8	26	5	18	30	..	45	11	0					
10	39	10	26	5	18	34	..	46	12	13 35					
12	39	12	26	5	18	39	..	46	12	9					
14	1 38	13	26	4	18	44	..	47	12	12 42					
16	38	15	26	4	17	49	..	47	12	16					
18	38	17	27	3	17	54	..	47	13	11 49					
20	38	18	27	2	17	59	..	47	13	22					
22	38	19	27	1	17	8	4	48	13	10 54					
24	38	21	27	1	16	9	..	48	13	27					
26	38	23	27	0	16	14	..	48	13	9 58					
28	38	24	27	21	16	19	..	48	14	31					
30	38	25	27	58	16	24	..	49	14	3					

EPHEMERIS

SEPTEMBER, 1953

19

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

Date	☽		☾		Mean	☽	Date	Time	Phenomena	
	Lat.	Decl.	Lat.	Decl.						
2	0 S 15	19 N 4	1 N 47	11 N 30	1 = 8	5	0	22	☽ at ☿	
4	8 13	37	46	10 3	2 7	1	43		☽ at ☽	
6	2	7	43	8 34	0 56	8	1	22	New Moon D. 2° N 32'	
8	0 N 51	37	38	6 59	49	9	0	54	☽ on Equator.	
10	11	1	31	5 25	43	10	1	..	☽ at Apogee.	
12	17 16	25	22	3 50	37	16	15	13	☽ at First Quarter.	
14	24 15	48	12	2 15	30	17	8	38	☽ on Equator.	
16	29	8	0	0 40	24	19	12	0	☽ at ☽	
18	35 14	27	0	48	0 S 53	18	23	9	44	Full Moon D. 3° N 56'
20	41 13	44	35	2 25	11	23	13	38	☉ enters in ♈	
22	46 12	59	22	3 56	0	5	23	17	..	☽ at Perigee.
24	51	14	8	5 27	29	5	23	20	18	☽ on Equator.
26	56 11	26	0 S 6	6 52	52	25	15	26	☽ at ☽	
28	1	0 10	37	21 8	46	30	3	31	☽ at Last Quarter.	
30	5	9 47	36	9 37	39					

20		OCTOBER, 1953										S. J. O. UJJAIN	
Date	Day	Sidereal Time			☉		☽			Midnight		Ψ	
					Long.	Decl.	Long.	Lat.	Decl.	☽			
1	Th.	H. 12	M. 38	S. 48	7 ^h 47 ^m 13 ^s	3 S 5	23 ^h 36 ^m 0 ^s	N 39	22 N 2	29 ^h 46 ^m 23 ^s	1		
2	F.		42	44	8 46 15	29	5 ^h 53 ^m 0 ^s	S 26	18 24	11 ^h 57 ^m 3 ^s	3		
3	S.		46	41	9 45 18	52	17 58	1 28	14 3	23 57	5		
4	Su.		50	37	10 44 24	4 15	29 54	2 27	9 13	5 ^h 50 ^m 7 ^s	7		
5	M.		54	34	11 43 34	38	11 ^h 46 ^m 3 ^s	17 4		17 41	9		
6	Tu.		58	31	12 42 43	5 1	23 36	4 0	1 S 7	29 31	12		
7	W.	13	2	27	13 41 52	24	5 ^h 26 ^m 32 ^s	6 19	11 ^h 23 ^m 14 ^s		14		
8	Th.		6	24	14 41 6	47	17 20	52	11 18	23 18	17		
9	F.		10	20	15 40 23	6 10	29 17	5 ^h 15 ^m 53 ^s	5 ^h 17 ^m 19 ^s		19		
10	S.		14	17	16 39 40	33	11 ^h 19 ^m 1 ^s	54 19	53 17	22	22		
11	Su.		18	13	17 39 0	56	23 28	34	23 4	29 35	24		
12	M.		22	10	18 38 24	7 18	5 ^h 45 ^m 2 ^s	25 14	11 ^h 57 ^m 27 ^s		27		
13	Tu.		26	6	19 37 48	41	18 13	3 18	26 13	24 31	29		
14	W.		30	3	20 37 15	8 3	0 ^h 54 ^m 2 ^s	23 27	50 7 ^h 21 ^m 31 ^s		31		
15	Th.		34	0	21 36 43	25	13 52	1 20	24 4	20 28	33		
16	F.		37	56	22 36 14	48	27 10	0 11	20 55	3 ^h 58 ^m 35 ^s	35		
17	S.		41	53	23 35 46	9 10	10 ^h 52 ^m 1 ^s	N 1	16 33	17 52	37		
18	Su.		45	49	24 35 20	32	24 59	2 11	11 9	7 ^h 11 ^m 3 ^s	39		
19	M.		49	46	25 34 58	54	9 ^h 30 ^m 3 ^s	3 14	5 1	16 54	41		
20	Tu.		53	42	26 34 33	10 15	24 23	4 6	1 N 32	1 ^h 55 ^m 43 ^s	43		
21	W.		57	39	27 34 16	37	9 ^h 30 ^m 4 ^s	8 5	17 7		45		
22	Th.	14	1	36	28 33 58	58	24 44	58	14 12	2 ^h 20 ^m 47 ^s	47		
23	F.		5	32	29 33 43	11 19	9 ^h 53 ^m 52 ^s	19 24	17 21		49		
24	S.		8	29	0 ^h 33 ^m 29 ^s	40	24 45	28	23 17	2 ^h 2 ^m 52 ^s	52		
25	Su.		13	25	1 33 18	1 9	13 3	46	25 34	16 17	55		
26	M.		17	22	2 33 7	22	23 12	2 51	26 8	0 ^h 1 ^m 58 ^s	58		
27	Tu.		21	18	3 33 8	42	6 ^h 42 ^m 1 ^s	49 25	5 13	16 24	0		
28	W.		25	15	4 32 56	13 3	19 43	0 41	22 40	26 5	2		
29	Th.		29	11	5 32 52	23	2 ^h 20 ^m 0 ^s	23 19	16 8	31 3	3		
30	F.		33	8	6 32 49	42	14 38	1 26	15 4	20 42	5		
31	S.		37	5	7 32 49	14 2	26 42	2 25	10 21	2 ^h 40 ^m 7 ^s	7		
Date	☽		♈		♉		♊		♋		♌		
	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.			
2	1 N 38	7 S 27	0 N 27	21 N 58	2 N 16	8 S 30	0 S 35	22 N 49	1 N 14	8 N 34	5		
4		29	27	58	16	34			14		7		
6		31	27	57	16	40			14		8		
8		32	27	57	15	45			15		6		
10		34	27	57	15	50			15		39		
12		35	27	57	15	55			15		10		
14		37	27	56	15	9 0			15		5		
16		38	27	56	15	5			15		11		
18		40	27	55	15	10			15		4		
20		41	28	55	15	16			15		4		
22		43	28	55	15	21			15		3		
24		45	28	55	15	26			15		3		
26		47	28	55	15	31			16		2		
28		48	28	55	15	36			16		14		
30		50	28	56	15	41			16		1		

EPHEMERIS.										OCTOBER, 1953.										21
Date	Longitudes.										Lunar Aspects.									
	☉	☽	♈	♉	♊	♋	♌	♍	♎	♏	☉	☽	♈	♉	♊	♋	♌	♍	♎	♏
1	22	46	27	24	26	10	10	25	8	39	24	56								
2		47		31		13	11		2	9	52	26	26	*						
3		48		38		16		40	11		52	27	55		*					
4		50	17	46		18	12	18	12	19	29	23		☉	*	*	*	*	*	☉
5		51		53		20		55	13	32	0	50		☉	☉	☉	☉	☉	☉	
6		52	28	0		22	13	33	14	46	2	16		☉	*	☉	☉			☉
7		53		7		24	14	10	15	59	3	42		☉	*	☉	☉			☉
8		55		15		25		48	17	13	5	6	☉	☉	☉		☉	☉		☉
9		56		22		26	15	26	18	26	6	30		☉		☉	☉	☉		*
10		57		29		27	16	4	19	40	7	52		☉		☉	☉	*		☉
11		58		36		28		41	20	54	9	14		☉	☉	☉	☉	*		☉
12		59		43		29	17	19	22	8	10	34	☉	☉	☉	☉	☉			☉
13	23	0		50		29		56	23	22	11	53	*	*	☉	☉	☉	☉		☉
14		1		58		29	18	34	24	36	13	11			*	☉	☉	☉	☉	☉
15		1	29	5	R	29	19	11	25	50	14	23				*	☉	☉	*	☉
16		2		12		29		49	27	4	15	43	☉	☉	☉	☉	☉	☉	☉	☉
17		3		19		28	20	26	28	18	16	57		☉	☉	☉	☉	☉	☉	☉
18		4		27		28	21	4	29	32	18	9	☉	☉	☉	☉	☉	☉	☉	☉
19		4		34		27		41	0	46	19	20	☉	☉	☉	☉	☉	☉	☉	☉
20		5		41		27	22	19	2	1	20	29	☉	☉	☉	☉	☉	☉	☉	☉
21		6		48		26		56	3	15	21	35		☉	☉	☉	☉	☉	☉	☉
22		6		56		24	23	34	4	30	22	40	☉	☉	☉	☉	☉	☉	☉	☉
23		6	0	3		23	24	11	5	44	23	42		☉	☉	☉	☉	☉	☉	☉
24		6		10		21		49	6	53	24	41	☉	☉	☉	☉	☉	☉	☉	☉
25		7		17		19	25	26	8	12	25	37	☉	☉	☉	☉	☉	☉	☉	☉
26		7		25		17	26	3	9	27	26	30	☉	☉	☉	☉	☉	☉	☉	☉
27		7		32		15		40	10	42	27	19	☉	☉	☉	☉	☉	☉	☉	☉
28		7		39		12	27	18	11	56	28	5		☉	☉	☉	☉	☉	☉	☉
29	R	7		46		9		55	13	10		45	☉	☉	☉	☉	☉	☉	☉	☉
30		7		53		6	28	33	14	25	29	20		☉	☉	☉	☉	☉	☉	☉
31		7	1	0		3	29	10	15	40		50		*	*	*	*	*	☉	☉

Date.	☉		☽		Mean.	Date.	Time.	Phenomena.
	Lat.	Decl.	Lat.	Decl.				
2	1 N 9	8 N 56	0 S 50	10 S 59	29 33	2	2 24	☉ at ☉
4	12 3	1 51	12 16			27	6 54	☉ on Equator.
6	16 7 10	19 13	30			20	7 14	☉ at Perigee.
18	19 6 13	33 14	41			14	8 6	New Moon D. 10° S 3'
0	22 5 20	46 15	49			8	10	Heli. rising of ☽ in W.
13	25 4 25	2 0	16 53			16	3 6	☉ at First Quarter.
14	27 3 29	12 17	54 28			55	15 37	☉ at ☉
16	29 2 32	22 18	49			49	20 6	☉ on Equator
18	31 1 35	33 19	41			42	21 9	☉ at Perigee.
20	32 0 37	42 20	28			36	18 38	☉ on Equator.
22	34 0 S 21	49 21	10			30	22 18	Full Moon D. 15° N 36'
24	34 1 19	55 46				23	23 22	☉ enters ♍
26	35 2 17	58 22	16			17	29 3	☉ at ☉
28	35 3 15	59 39				10	18 50	☉ at Last Quarter.
30	34 4 14	57 53				4		

22

NOVEMBER, 1953

S. J. O. UJJAIN

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

Date	ψ		♈		♉		♊		♋	
	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.
1	1 N 38	7 S 51	0 N 21	56	2 N 5	9 S 46	0 S 34	22 N 49	1 N 16	1 N 16
3	38	54	28	56	15	51	34	49	16	0
5	38	55	28	56	15	56	34	49	16	15
7	38	56	28	56	15	10	34	48	16	0 S 14
9	39	57	28	56	15		34	48	16	4
11	39	58	28	56	15	10	34	48	16	1
13	39	8	28	57	15	15	34	48	15	43
15	39	2	28	57	15	20	34	47	15	2
17	39	3	28	57	16	24	34	47	15	42
19	39	5	28	58	16	29	34	47	15	3
21	39	8	29	58	16	33	33	46	15	0
23	39	9	29	59	16	37	33	46	15	4
25	39	9	29	59	17	42	33	45	15	37
27	39	10	29	59	17	46	33	45	15	5
29	39	11	29	59	17	50	33	44	15	34

23		NOVEMBER, 1953										EPHEMERIS			
Date	Day	Longitudes							Lunar Aspects						
		☉	☽	♈	♉	♊	♋	♌	☉	☽	♈	♉	♊	♋	♌
1	23	7	1m	8	26	0	29	47	16	55	0	7	14	2	1
2	R	6	15	25	56	0	24	18	10	31	2	11	2	2	1
3		6	23	R	53	1	2	19	24	40	3	12	3	3	1
4		6	30		49		39	20	39	41	4	13	4	4	1
5		6	37		45	2	16	21	54	R	34	5	14	5	1
6		5	44		40		53	23	8	17	6	15	6	6	1
7		5	51		36	3	31	24	23	29m	50	7	16	7	1
8		4	58		31	4	8	25	38	10		8	17	8	1
9		4	2	6	27		45	26	53	28	22	9	18	9	1
10		3	13		22	5	22	28	8	27	22	10	19	10	1
11		3	20		17	6	0	29	23	26	28	11	20	11	1
12		2	27		12		37	0m	38	25	17	12	21	12	1
13		1	34		6	7	14	1	53	23	59	13	22	13	1
14		0	41		0		51	3	8	22	39	14	23	14	1
15	22	59	48	24	55	8	28	4	24	21	19	15	24	15	1
16		58	55		49	9	5	5	39	20	0	16	25	16	1
17		57	3		43		42	6	54	18	46	17	26	17	1
18		57	9		37	10	19	8	9	17	39	18	27	18	1
19		56	16		30		56	9	24	16	41	19	28	19	1
20		55	23		23	11	33	10	39	15	53	20	29	20	1
21		53	30		17	12	10	11	54	16		21	30	21	1
22		52	36		10		47	13	9	14	43	22	31	22	1
23		51	43		3	13	24	14	25	36		23	32	23	1
24		49	50	23	56	14	1	15	40	D	36	24	33	24	1
25		48	57		49		38	16	55	45		25	34	25	1
26		46	4	3	42	15	15	18	10	15	3	26	35	26	1
27		45	10		35		51	19	26	31		27	36	27	1
28		44	16		28	16	28	20	41	16	7	28	37	28	1
29		42	22		20	17	5	21	57	50		29	38	29	1
30		40	29		12		42	23	12	17	39	30	39	30	1

Date	☉		☽		Mean.		Date	Time.	Phenomena.	
	Lat.	Decl.	Lat.	Decl.	☉	☽				
1	1 N 35	5 S 11	2 S 51	22 S 59	27	58	1	22	0	☉ at Apogee.
3	34	8	8	40	54	51	3	36		☉ on Equator.
5	33	7	5	23	36	45	5	50		Heli. setting of ♀ in W.
7	32	8	1	0	5	39	7	50		☉ on Equator.
9	31	57	1	29	21	15	9	26		New Moon D. 20° S 29'
11	29	9	52	0	55	20	11	7		Heli. rising of ♀ in E.
13	27	10	46	15	19	1	13	36		☉ at ♈
15	25	11	39	0	N 26	17	15	20		☉ at First Quarter.
17	23	12	31	1	5	16	17	18		☉ on Equator.
19	20	13	21	38	15	16	19	18		☉ at Perigee.
21	17	14	11	2	3	14	21	50		Heli. rising of ♀ in E.
23	14	59	20	0	48	21	23	50		Full Moon D. 23° N 49'
25	11	15	46	29	13	54	25	52		☉ enters ♉
27	7	16	31	32	14	3	27	28		☉ at ♊
29	4	17	14	30	28		29	50		☉ at Last Quarter.
							29	0		☉ on Equator.

24		DECEMBER, 1953										S. J. O. UJJAIN	
Date	Day	Sidereal Time			☉		☽			Midnight		Ψ	
		H.	M.	S.	Long.	Decl.	Long.	Lat.	Decl.	☽			
1	Tu.	16	39	18	8 46	48	21 S 47	10 34	4 S 57	8 S 44	16 31	25 12	
2	W.		43	14	9 47	38	56 22	29 5	6 13	29 28	30	13	
3	Th.		47	11	10 48	36	22 5	4 32	2 17	47 10	37	14	
4	F.		51	8	11 49	26	13 16	44 4	45 21	23 22	55	15	
5	S.		55	4	12 50	20	21 29	18 14	24 6	5 26		16	
6	Su.		59	1	13 51	14	28 11	4 3	29 25	40 18	9	17	
7	M.	17	2	57	14 52	12	36 24	35 2	34 54	1 5	4	18	
8	Tu.		6	54	15 53	6	42 7	3 3	1 29	24 43	11	20	
9	W.		10	50	16 54	6	48 20	49 0	20 22	10 27	30	22	
10	Th.		14	47	17 55	4	54 4	13 0	N 53	18 19	10 59	24	
11	F.		18	44	18 56	2	59 17	48 2	4 13	33 24	40	26	
12	S.		22	40	19 57	4	23 4	1 35	3 8	7 59	8 32	27	
13	Su.		26	37	20 58	5	9 15	32 4	2 1	59 22	34	28	
14	M.		30	33	21 59	6	12 29	39 43	4 N 11	6 46		29	
15	Tu.		34	30	23 0	7	16 13	54 5	6 10	11 21	5	31	
16	W.		38	26	24 1	2	19 28	1 10	15 41	5 28		32	
17	Th.		42	23	25 2	13	21 12	41 4	55 20	20 19	51	34	
18	F.		46	19	26 3	18	23 27	1 22	23 45	4 8		35	
19	S.		50	16	27 4	23	25 11	14 3	33 25	38 18	16	37	
20	Su.		54	12	28 5	31	26 25	15 2	31 53	2 10		38	
21	M.		58	9	29 6	36	27 8	59 1	22 24	30 15	43	40	
22	Tu.	18	2	6	0 7	41	27 22	22 0	10 21	45 28	56	41	
23	W.		6	2	1 8	49	27 5	25 1	S 21	17 56	11 48	43	
24	Th.		9	59	2 9	54	26 18	7 2	8 13	22 24	21	44	
25	F.		13	55	3 11	2	25 0	32 3	7 8	22 6	38	45	
26	S.		17	52	4 12	11	23 12	42 56	3 10	18 42		46	
27	Su.		21	48	5 13	19	21 24	41 4	34 2	5 0	38	47	
28	M.		25	45	6 14	30	18 6	35 5	0 7	12 12	31	48	
29	Tu.		29	42	7 15	36	15 18	27 13	12 4	24 24		49	
30	W.		33	38	8 16	48	11 0	24 11	16 29	6 25		50	
31	Th.		37	35	9 17	56	7 12	28 4	53 20	19 18	34	51	

Date	ψ		♈		♉		♊		♋	
	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.
1	1N 39	8 S 12	0 N 29	22 N 0	2 N 17	10 S 54	0 S 32	22 N 44	1 N 14	6 S 2
3	39	13		1	17	58	32	43	14	30
5	39	15		2	18	11	2	42	14	57
7	39	16		3	18		32	41	14	7
9	39	17		4	18	10	32	41	13	52
11	40	18		5	18	14	32	40	13	8
13	40	19		6	19	17	32	39	13	47
15	40	20		7	19	21	32	38	13	9
17	40	21		8	19	24	31	37	12	39
19	40	21		9	19	27	30	36	12	10
21	40	22		9	20	31	30	36	12	31
23	40	23		10	20	34	29	35	11	56
25	40	24		11	21	37	29	34	11	11
27	41	24		11	21	40	29	33	10	46
29	41	24		12	21	42	29	32	10	12
31	41	25		12	22	45	29	31	10	35

EPHEMERIS										DECEMBER, 1953										25	
Date	Longitudes										Lunar Aspects										
	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	☉	☽	♈	♉	♊	♋	♌	♍	♎	♏	♐
1	22	39	4	36	23	11	4	18	18	24	11	27	18	34	*					♌	♌
2	R	37		43	12	5		55	25	42	19	34	♌	♏	☐		♌	♏	♐	♐	*
3		35		49	R	49		19	32	26	58	20	39			♏	☐			♏	
4		34		55		41		20	9	28	13	21	48			♐	♌			♏	
5		32	5	1		33		45	29	29	22	59				♐	♌			♏	☐
6		30		7		25	21	22	0	44	24	13			♏	♌	☐		♌		
7		28		14		17		59	1	59	25	30			♌	*	♐		♏		
8		26		20		9	22	36	3	14	26	48			♌	*			♏		♌
9		24		26		1	23	12	4	30	28	9			♌	♌	☐		♏		♐
10		22		32	21	53		48	5	45	29	31			♌	♌	☐		♏	*	*
11		20		38		45	24	25	7	1	0	55	*			♐		♌			
12		18		44		37	25	1	8	17	2	19			♌	☐	♌		♏		
13		16		49		28		38	9	32	3	45			☐	☐	♌		♏		
14		14		55		20	26	14	10	48	5	11				♐	♌		♏		
15		12	6	1		12		50	12	3	6	38				♐	♌		♏		☐
16		10		6		4	27	26	13	19	8	6			♌	♏	☐		*	♏	♌
17		8		12	20	56	28	3	14	34	9	34			♌	☐	♌		♏	♌	♌
18		6		17		48		39	15	50	11	4				♐	*	♌		♏	☐
19		3		23		39	29	16	17	5	12	33				♌	♌		♏	♌	
20		1		29		31		52	18	21	14	3			♏	♌	♌		♏	♌	*
21	21	58		35		23	0	m 28	19	36	15	33				☐	♏		♐		♌
22		56		40		15	1	5	20	52	17	3				☐	♏		♐		♌
23		54		45		7		41	22	7	18	34				♐	♌		♏	♌	
24		52		50	19	2		17	23	22	20	5				♐	♌		♏	♌	
25		49		55		52		53	24	38	21	37			♌	*			*		♏
26		47	7	0		44	3	29	25	53	23	8			♌	♌	*		♏		♌
27		44		5		36	4	5	27	8	24	40				♌	*		♏		♌
28		41		9		28		41	28	24	26	13			☐				♏		♌
29		39		14		21	5	17	29	40	27	45				☐			♏		♌
30		37		19		13		52	0	55	29	18				♏			*	*	*
31		34		24		6	6	28	2	11	0	52	*			♏			♌	♌	*

Date	♈		♉		Mean		Date	Time		Phenomena
	Lat.	Decl.	Lat.	Decl.	♈	H. M.				
1	1° N	0° 17' S	56° 2' N	24° 15' S	3° 26'	11° 22'	16	0	☾ at Apogee.	
3	0	56° 18'	35° 15'	45° 15'		16° 6'	16	14	New Moon. D. 25° S 44'	
5	52	19° 13'		4° 16'	31°	10° 9'	18	35	☾ at ♈	
7	47	48°	1	51° 17'	20°	3° 13'	19	42	☾ on Equator.	
9	43	20° 20'		37° 18'	20° 25'	57° 13'	21	58	☾ at First Quarter.	
11	38	52°		23° 19'	0°	51° 15'	12	..	☾ at Perigee.	
13	34	21° 20'		8° 48'		44° 20'	17	23	Full Moon. D. 25° N 35'	
15	29	46°	0	53° 20'	34°	38° 22'	8	51	☉ enters ♈	
17	24	22° 9'		38° 21'	16°	32° 22'	13	36	☽ at ♈	
19	20	30°		22° 56'		25° 22'	15	20	☽ at ♈	
21	15	48°		8° 22'	32°	19° 23'	..		Heli. setting of ♈ in E.	
23	10	23° 3'	0	5° 7'	23° 4'	12° 27'	2	29	☾ on Equator.	
25	5	15°		20° 31'		6° 28'	11	16	☾ at Last Quarter.	
27	0	25°		34° 54'	25°	0° 29'	6	0	☾ at Apogee.	
29	0° S	5° 32'		47° 24'	12° 24'	53° 12'	0	0	☽ at ♈	
31	10	35°		59° 25'		47°				

SUNRISE IN 1953

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

SUNSET IN 1953

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

28 Geocentric position of Pluto and Mean Longitudes of the Sun and the Moon in 1953.

Month and Date.	Pluto.			Sun.			Moon.			
	Long.	Lat.	Decl.	Mean Long.	Mean Long.	Hor. Par.	Semi Dia.			
Jan.	1 22 53 11 R 42 21 29 31 16	9N 31 33 36 37	22N 52 58 23 4 10	280 37 3 290 28 29 300 21 50 310 11 13	109 16 53 241 2 43 12 48 33 144 34 24	54.7 57.7 58.5 54.0	14.9 15.7 15.9 14.7			
Feb.	10 1 20 21 46	38 39	16 21	320 2 37 329 54 0	276 20 14 48 6 4	59.5 57.1	16.2 15.5			
March	2 32 12 19 22 8	39 38 37	26 30 33	339 45 23 349 36 46 359 28 10	179 51 54 311 37 45 83 23 35	54.2 60.6 55.7	14.7 16.5 15.2			
April	1 20 53 11 51 21 47	36 34 33	35 36 36	9 19 33 19 10 56 29 2 20	215 9 25 346 55 16 118 41 6	55.1 60.7 54.6	15.0 16.5 14.9			
May	1 45 11 D 46 21 49 31 56	31 29 27 25	35 32 30 25	38 53 43 48 45 6 58 36 29 68 27 53	250 26 56 22 12 46 153 58 37 285 44 27	56.6 59.6 54.2 58.4	15.6 16.3 14.8 15.9			
June	10 21 5 20 17 30 30	23 22 21	21 15 10	78 19 16 88 10 39 98 2 3	57 30 17 189 16 8 321 1 58	57.9 54.5 59.7	15.8 14.9 16.3			
July	10 46 20 22 3 30 21	20 19 19	4 22 51	107 53 26 117 44 50 127 36 13	92 47 48 224 33 38 356 19 29	56.1 55.5 60.0	15.3 15.1 16.3			
August	9 39 19 58 29 23 17	19 20 21	45 40 34	137 27 36 147 18 59 157 10 23	128 5 19 259 51 9 31 37 0	54.7 57.1 58.6	14.9 15.5 16.1			
Sep.	8 35 18 52 28 24 8	22 24 26	29 25 22	167 1 46 176 53 10 186 54 32	163 22 50 295 8 40 66 54 30	57.1 58.3 57.7	15.6 16.0 15.7			
Oct.	8 24 18 35 28 44	29 32 35	19 18 17	196 35 56 206 27 19 216 18 43	198 40 21 330 26 11 102 12 1	54.1 60.8 56.1	14.7 16.3 15.3			
Nov.	7 52 17 53 27 57	38 42 45	18 20 23	226 10 5 236 1 29 245 52 52	223 57 51 5 43 42 137 29 32	55.1 60.3 54.9	15.0 16.4 15.0			
Dec.	7 R 56 17 51 27 43 31 34	49 52 55 58	26 31 37 43	255 44 15 265 35 39 275 27 2 279 23 35	269 15 22 41 1 13 172 47 3 238 39 58	56.7 59.5 54.3 55.1	15.4 16.2 4.8 15.0			

Ending Moments of Tithis for each date in 1953
(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	16	12 11	17	10 25	15	0 30	17	21 45	17	10 46	19	18 0
2	17	14 7	18	13 6	16	3 8	18	22 54	18	10 40	20	16 31
3	18	16 30	19	15 40	17	5 29	19	23 36	19	10 14	21	14 17
4	19	19 7	20	17 58	18	7 40	20	23 51	20	9 24	22	12 11
5	2	21 50	21	19 50	19	9 30	21	23 38	21	8 12	23	10 0
6	21	..	22	21 8	20	10 54	22	22 57	22	6 41	24	7 45
7	21	0 25	23	21 44	21	11 46	23	21 45	23	4 50	25	5 30
8	22	2 38	24	21 35	22	12 2	24	19 55	24	2 38	26	3 17
9	23	4 19	25	20 33	23	11 37	25	17 38	25	0 9	27	3 24
10	24	5 16	26	18 54	24	10 37	26	14 54	26	21 28	28	23 17
11	25	5 25	27	16 33	25	8 41	27	11 50	27	18 40	29	21 41
12	26	4 45	28	13 40	26	6 15	28	8 57	28	13 6	1	19 55
13	27	3 19	29	10 17	27	3 17	29	5 3	29	10 41	2	19 56
14	28	1 14	30	6 39	28	23 56	30	1 45	1	8 42	3	20 38
15	30	19 36	1	2 59	30	16 37	1	22 41	2	7 15	4	21 55
16	1	16 22	2	23 22	1	12 57	3	17 30	3	6 30	5	23 45
17	2	13 2	4	16 58	2	9 32	4	16 32	4	6 30	6	..
18	3	9 47	5	14 30	3	6 33	5	16 1	5	7 15	6	1 56
19	4	6 45	6	12 40	4	4 10	6	16 18	6	8 46	7	4 20
20	5	4 4	7	11 35	5	2 29	7	17 27	7	10 46	8	6 40
21	6	1 48	8	11 48	6	1 37	8	19 16	8	13 6	9	8 45
22	7	0 2	9	11 44	7	1 35	9	21 34	9	15 35	10	10 20
23	8	22 51	10	12 52	8	2 22	10	..	10	17 52	11	11 18
24	9	22 13	11	14 37	9	3 53	11	0 7	11	19 51	12	11 42
25	10	2 11	12	16 48	10	5 59	12	2 40	12	21 21	13	11 21
26	11	22 40	13	19 15	11	8 27	13	5 4	13	22 17	14	10 9
27	12	23 41	14	21 52	12	11 7	14	7 4	14	22 38	15	8 54
28	13	1 11	15	..	13	13 42	15	8 40	15	22 28	16	7 3
29	14	3 4	1	..	14	16 13	16	9 50	16	21 51	17	4 54
30	15	5 18	..	..	15	18 23	16	10 32	17	20 51	18	2 31
31	16	7 46	..	..	16	20 8	18	19 27	18	19 27		

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

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	52	♈	3	5	44	♈	2	17	10	♈	1	10	47	♈	1	0
♈	4	15	♈	5	22	46	♈	5	4	59	♈	3	20	25	♈	3	23
♈	7	4	♈	8	7	44	♈	7	14	4	♈	6	3	53	♈	6	2
♈	9	15	♈	10	12	57	♈	9	21	32	♈	8	8	54	♈	8	5
♈	11	22	♈	12	14	44	♈	12	0	59	♈	10	11	17	♈	10	8
♈	14	2	♈	14	14	29	♈	14	1	43	♈	12	11	4	♈	12	13
♈	16	3	♈	16	14	14	♈	16	1	12	♈	14	12	5	♈	14	22
♈	18	3	♈	18	15	29	♈	18	1	24	♈	16	14	4	♈	16	9
♈	20	4	♈	20	20	7	♈	20	4	17	♈	18	19	34	♈	18	21
♈	22	7	♈	22	23	4	♈	22	11	6	♈	20	1	4	♈	20	9
♈	24	13	♈	24	25	15	♈	24	21	48	♈	22	17	25	♈	22	18
♈	26	22	♈	26	28	4	♈	26	10	35	♈	24	6	10	♈	24	0
♈	29	9	♈	29	23	20	♈	29	23	20	♈	28	17	20	♈	29	3
♈	31	22	♈	31	7												

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

Date.	Aspect	Time.	Distance.	Date.	Aspect	Time.	Distance.	Date.	Aspect.	Time.	Distance.
January.				February.				March.			
1	δ ϵ ψ	0 52 1	33	1	δ ϵ ψ	0 30 2	19	1	δ ϵ ψ	0 30 2	19
4	δ ϵ ψ	0 47 12	54	2	δ ϵ ψ	23 7 5	58	2	δ ϵ ψ	23 48 3	27
7	δ ϵ ψ	12 29 2	47	3	δ ϵ ψ	13 30 2	51	3	δ ϵ ψ	5 13 4	24
10	δ ϵ ψ	22 46 2	44	4	δ ϵ ψ	10 47 6	18	4	δ ϵ ψ	10 37 6	18
13	δ ϵ ψ	7 48 7	40	5	δ ϵ ψ	17 26 6	8	5	δ ϵ ψ	16 5 6	5
16	δ ϵ ψ	8 15 0	26	6	δ ϵ ψ	23 21 5	51	6	δ ϵ ψ	9 13 1	31
19	δ ϵ ψ	3 5 6	0	7	δ ϵ ψ	14 23 1	54	7	δ ϵ ψ	11 14 9	54
22	δ ϵ ψ	8 40 7	0	8	δ ϵ ψ	22 18 3	20	8	δ ϵ ψ	4 58 6	18
25	δ ϵ ψ	12 2 6	0	9	δ ϵ ψ	6 39 0	30	9	δ ϵ ψ	10 37 6	18
28	δ ϵ ψ	22 42 1	12	10	δ ϵ ψ	22 18 3	20	10	δ ϵ ψ	10 37 6	18
31	δ ϵ ψ	22 42 1	12	11	δ ϵ ψ	14 23 1	54	11	δ ϵ ψ	11 14 9	54
April.				May.				June.			
1	δ ϵ ψ	0 50 7	2	1	δ ϵ ψ	1 46 3	55	1	δ ϵ ψ	15 26 10	23
4	δ ϵ ψ	10 11 13	55	2	δ ϵ ψ	19 43 0	45	2	δ ϵ ψ	6 55 0	47
7	δ ϵ ψ	4 41 4	36	3	δ ϵ ψ	23 43 10	9	3	δ ϵ ψ	7 33 0	3
10	δ ϵ ψ	4 55 5	24	4	δ ϵ ψ	23 43 10	9	4	δ ϵ ψ	8 54 2	22
13	δ ϵ ψ	5 59 1	35	5	δ ϵ ψ	23 43 10	9	5	δ ϵ ψ	15 11 24	24
16	δ ϵ ψ	2 56 2	46	6	δ ϵ ψ	23 43 10	9	6	δ ϵ ψ	15 11 24	24
19	δ ϵ ψ	5 44 9	6	7	δ ϵ ψ	23 43 10	9	7	δ ϵ ψ	15 11 24	24
22	δ ϵ ψ	4 41 3	39	8	δ ϵ ψ	23 43 10	9	8	δ ϵ ψ	15 11 24	24
25	δ ϵ ψ	23 58 5	59	9	δ ϵ ψ	23 43 10	9	9	δ ϵ ψ	15 11 24	24
28	δ ϵ ψ	0 32 2	2	10	δ ϵ ψ	23 43 10	9	10	δ ϵ ψ	15 11 24	24
31	δ ϵ ψ	1 45 4	21	11	δ ϵ ψ	23 43 10	9	11	δ ϵ ψ	15 11 24	24
May.				June.				July.			
1	δ ϵ ψ	19 23 4	19	1	δ ϵ ψ	19 23 4	19	1	δ ϵ ψ	18 54 6	18
4	δ ϵ ψ	4 56 5	14	2	δ ϵ ψ	19 23 4	19	2	δ ϵ ψ	18 54 6	18
7	δ ϵ ψ	23 11 1	25	3	δ ϵ ψ	19 23 4	19	3	δ ϵ ψ	18 54 6	18
10	δ ϵ ψ	22 43 10	9	4	δ ϵ ψ	19 23 4	19	4	δ ϵ ψ	18 54 6	18
13	δ ϵ ψ	5 44 6	41	5	δ ϵ ψ	19 23 4	19	5	δ ϵ ψ	18 54 6	18
16	δ ϵ ψ	9 50 8	19	6	δ ϵ ψ	19 23 4	19	6	δ ϵ ψ	18 54 6	18
19	δ ϵ ψ	17 36 5	47	7	δ ϵ ψ	19 23 4	19	7	δ ϵ ψ	18 54 6	18
22	δ ϵ ψ	17 36 5	47	8	δ ϵ ψ	19 23 4	19	8	δ ϵ ψ	18 54 6	18
25	δ ϵ ψ	17 36 5	47	9	δ ϵ ψ	19 23 4	19	9	δ ϵ ψ	18 54 6	18
28	δ ϵ ψ	17 36 5	47	10	δ ϵ ψ	19 23 4	19	10	δ ϵ ψ	18 54 6	18
31	δ ϵ ψ	17 36 5	47	11	δ ϵ ψ	19 23 4	19	11	δ ϵ ψ	18 54 6	18

Date.	Aspect	Time.	Dis- tance.	Date.	Aspect	Time.	Dis- tance.	Date.	Aspect.	Time.	Dis- tance.
July.				September.				November.			
4	δ ϵ ψ	18 54 6	18	1	δ ϵ ψ	21 9 4	27	3	δ ϵ ψ	9 19 3	46
7	δ ϵ ψ	15 11 7	23	4	δ ϵ ψ	2 41 0	21	5	δ ϵ ψ	2 31 5	56
8	δ ϵ ψ	15 49 4	27	5	δ ϵ ψ	8 46 0	12	6	δ ϵ ψ	8 23 6	8
9	δ ϵ ψ	2 40 0	56	6	δ ϵ ψ	17 20 10	31	7	δ ϵ ψ	22 59 6	37
11	δ ϵ ψ	6 44 0	19	7	δ ϵ ψ	19 5 2	45	8	δ ϵ ψ	23 26 4	29
	δ ϵ ψ	8 1 15	15	8	δ ϵ ψ	15 0 1	33	9	δ ϵ ψ	12 20 0	6
	δ ϵ ψ	8 58 0	47		δ ϵ ψ	13 22 3	13	10	δ ϵ ψ	5 18 2	12
	δ ϵ ψ	16 0 0	25		δ ϵ ψ	15 24 4	53	12	δ ϵ ψ	10 10 13	13
12	δ ϵ ψ	22 23 0	33	11	δ ϵ ψ	16 12 6	8	14	δ ϵ ψ	2 28 0	49
	δ ϵ ψ	23 13 2	21		δ ϵ ψ	21 59 5	47		δ ϵ ψ	18 55 9	24
14	δ ϵ ψ	0 48 10	29	16	δ ϵ ψ	18 49 3	29	17	δ ϵ ψ	12 19 3	5
18	δ ϵ ψ	23 49 7	14	18	δ ϵ ψ	19 44 0	15	18	δ ϵ ψ	22 20 5	45
19	δ ϵ ψ	9 20 1	55	21	δ ϵ ψ	4 13 2	43	19	δ ϵ ψ	12 2 6	49
23	δ ϵ ψ	10 11 4	20		δ ϵ ψ	17 20 3	37	20	δ ϵ ψ	20 52 5	24
	δ ϵ ψ	10 15 6	12	23	δ ϵ ψ	9 44 3	45	21	δ ϵ ψ	8 37 6	32
	δ ϵ ψ	20 0 0	42	24	δ ϵ ψ	7 35 4	30	23	δ ϵ ψ	4 50 4	12
25	δ ϵ ψ	15 9 4	50		δ ϵ ψ	21 52 5	29	25	δ ϵ ψ	0 1 2	58
	δ ϵ ψ	19 8 0	40	25	δ ϵ ψ	4 5 6	44	27	δ ϵ ψ	15 31 0	22
26	δ ϵ ψ	8 31 0	36	29	δ ϵ ψ	8 17 3	24		δ ϵ ψ	3 0 0	22
	δ ϵ ψ	14 56 4	54	30	δ ϵ ψ	4 55 2	2	27	δ ϵ ψ	16 18 11	36
	δ ϵ ψ	17 52 0	10								
28	δ ϵ ψ	1 13 11	33	October.				December.			
29	δ ϵ ψ	11 2 5	39								
August.											
1	δ ϵ ψ	2 31 6	53	1	δ ϵ ψ	10 24 0	14	2	δ ϵ ψ	4 25 5	50
5	δ ϵ ψ	7 39 4	6	3	δ ϵ ψ	7 1 2	58	3	δ ϵ ψ	19 27 6	40
6	δ ϵ ψ	7 48 4	27	4	δ ϵ ψ	0 46 22	19	4	δ ϵ ψ	12 34 6	53
7	δ ϵ ψ	7 17 0	4		δ ϵ ψ	11 20 0	2	5	δ ϵ ψ	22 41 6	18
8	δ ϵ ψ	9 8 3	10	5	δ ϵ ψ	14 28 4	14	6	δ ϵ ψ	12 24 4	54
9	δ ϵ ψ	1 28 1	33	8	δ ϵ ψ	16 0 4	15	7	δ ϵ ψ	16 14 1	35
	δ ϵ ψ	21 46 1	19		δ ϵ ψ	6 10 4	19	8	δ ϵ ψ	7 44 3	14
10	δ ϵ ψ	9 29 10	28	9	δ ϵ ψ	23 59 6	3	9	δ ϵ ψ	14 50 0	24
15	δ ϵ ψ	8 22 5	48	10	δ ϵ ψ	10 9 6	42	12	δ ϵ ψ	0 24 11	49
	δ ϵ ψ	10 35 6	58	14	δ ϵ ψ	4 11 2	44	13	δ ϵ ψ	5 20 0	25
20	δ ϵ ψ	4 25 3	33	17	δ ϵ ψ	12 50 1	32	16	δ ϵ ψ	7 26 6	19
22	δ ϵ ψ	7 9 1	50	20	δ ϵ ψ	3 39 3	9	17	δ ϵ ψ	10 33 5	56
	δ ϵ ψ	8 6 0	46	21	δ ϵ ψ	10 30 6	7	19	δ ϵ ψ	1 8 6	56
23	δ ϵ ψ	17 10 1	17	22	δ ϵ ψ	18 30 4	32	20	δ ϵ ψ	14 31 3	42
24	δ ϵ ψ	1 51 2	19		δ ϵ ψ	22 22 7	0	21	δ ϵ ψ	23 1 2	40
	δ ϵ ψ	6 37 3	32	24	δ ϵ ψ	1 35 2	4	22	δ ϵ ψ	3 58 3	9
	δ ϵ ψ	12 42 10	31		δ ϵ ψ	11 53 1	31	23	δ ϵ ψ	17 23 2	7
25	δ ϵ ψ	1 47 2	20	26	δ ϵ ψ	17 29 3	4	24	δ ϵ ψ	1 26 0	16
25	δ ϵ ψ	10 33 6	5	28	δ ϵ ψ	18 28 0	1	25	δ ϵ ψ	11 17 0	20
	δ ϵ ψ	13 36 6	40	31	δ ϵ ψ	8 11 11	9	31	δ ϵ ψ	10 33 0	42

Mutual Aspects of Planets in 1953.

Date.	Aspect	Time.	Date.	Aspect	Time.	Date.	Aspect	Time.	Date.	Aspect	Time.
January.			15	♂ ♀	0 0	June.			July.		
1	♂ ♀	22 24	16	♂ ♀	8 31	13	♂ ♀	12 0	3	♂ ♀	9 14
2	♂ ♀	9 10	17	♂ ♀	0 13	14	♂ ♀	23 48	4	♂ ♀	16 0
3	♂ ♀	10 11	18	♂ ♀	10 22	15	♂ ♀	14 11	5	♂ ♀	16 48
4	♂ ♀	10 52	19	♂ ♀	20 48	16	♂ ♀	9 36	6	♂ ♀	15 14
5	♂ ♀	18 0	20	♂ ♀	8 51	17	♂ ♀	14 24	7	♂ ♀	12 19
6	♂ ♀	7 26	21	♂ ♀	3 11	18	♂ ♀	19 28	8	♂ ♀	10 51
7	♂ ♀	1 11	22	♂ ♀	10 0	19	♂ ♀	22 17	9	♂ ♀	6 6
8	♂ ♀	8 15	23	♂ ♀	4 53	20	♂ ♀	18 38	10	♂ ♀	14 23
9	♂ ♀	4 42	24	♂ ♀	19 5	21	♂ ♀	0 0	11	♂ ♀	15 26
10	♂ ♀	13 3	25	♂ ♀	4 48	22	♂ ♀	10 17	12	♂ ♀	18 21
11	♂ ♀	12 43	26	♂ ♀	17 7	23	♂ ♀	11 20	13	♂ ♀	5 49
12	♂ ♀	18 8	27	♂ ♀	18 24	24	♂ ♀	10 37	14	♂ ♀	14 52
13	♂ ♀	3 34	28	♂ ♀	5 24	25	♂ ♀	17 36	15	♂ ♀	3 3
14	♂ ♀	11 36	March.			26	♂ ♀	18 6	16	♂ ♀	18 6
15	♂ ♀	15 28	1	♂ ♀	2 24	27	♂ ♀	19 48	17	♂ ♀	15 54
16	♂ ♀	4 45	2	♂ ♀	23 7	28	♂ ♀	15 54	18	♂ ♀	21 36
17	♂ ♀	8 30	3	♂ ♀	19 45	29	♂ ♀	8 34	19	♂ ♀	9 41
18	♂ ♀	14 26	4	♂ ♀	12 0	30	♂ ♀	13 45	20	♂ ♀	8 16
19	♂ ♀	1 12	5	♂ ♀	7 40	31	♂ ♀	22 24	21	♂ ♀	22 24
20	♂ ♀	20 20	6	♂ ♀	22 17	April.			22	♂ ♀	16 48
21	♂ ♀	6 18	7	♂ ♀	21 7	4	♂ ♀	19 36	23	♂ ♀	13 0
22	♂ ♀	0 0	8	♂ ♀	11 28	5	♂ ♀	23 0	24	♂ ♀	13 0
23	♂ ♀	6 33	9	♂ ♀	9 41	6	♂ ♀	13 49	25	♂ ♀	5 44
24	♂ ♀	12 23	10	♂ ♀	2 48	7	♂ ♀	11 34	26	♂ ♀	1 24
25	♂ ♀	13 13	11	♂ ♀	19 30	8	♂ ♀	21 36	27	♂ ♀	1 24
26	♂ ♀	18 18	12	♂ ♀	1 30	9	♂ ♀	13 49	28	♂ ♀	1 24
27	♂ ♀	5 54	13	♂ ♀	3 26	10	♂ ♀	11 34	29	♂ ♀	1 24
28	♂ ♀	9 26	14	♂ ♀	7 48	11	♂ ♀	21 36	30	♂ ♀	1 24
29	♂ ♀	7 9	15	♂ ♀	11 34	12	♂ ♀	23 0	31	♂ ♀	1 24
30	♂ ♀	1 41	16	♂ ♀	21 36	13	♂ ♀	13 49			
31	♂ ♀	16 10	17	♂ ♀	23 0	14	♂ ♀	11 34			
			18	♂ ♀	13 49	15	♂ ♀	21 36			
			19	♂ ♀	11 34	16	♂ ♀	23 0			
			20	♂ ♀	9 41	17	♂ ♀	13 49			
			21	♂ ♀	7 48	18	♂ ♀	11 34			
			22	♂ ♀	5 44	19	♂ ♀	9 41			
			23	♂ ♀	1 24	20	♂ ♀	7 48			
			24	♂ ♀	1 24	21	♂ ♀	5 44			
			25	♂ ♀	1 24	22	♂ ♀	1 24			
			26	♂ ♀	1 24	23	♂ ♀	1 24			
			27	♂ ♀	1 24	24	♂ ♀	1 24			
			28	♂ ♀	1 24	25	♂ ♀	1 24			
			29	♂ ♀	1 24	26	♂ ♀	1 24			
			30	♂ ♀	1 24	27	♂ ♀	1 24			
			31	♂ ♀	1 24	28	♂ ♀	1 24			
						29	♂ ♀	1 24			
						30	♂ ♀	1 24			
						31	♂ ♀	1 24			

Mutual Aspects of Planets in 1953.—(concl.).

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

36 Heliacal Risings and Settings of the Planets in 1953.

(For the latitude 23°11' N).

Mercury.

Sets.

12th January, in East.
11th March, in West.
5th May, in East.
13th July, in West.
26th August, in East.
6th November, in West.
23rd December, in East.

Rises.

8th February, in West.
28th March, in East.
3rd June, in West.
3rd August, in East.
5th October, in West.
20th November, in East.

Venus.

8th April, in West.
27th December, in East.

16th April, in East.

Jupiter.

10th May, in West.

11th June, in East

Mars.

15th May, in West.

29th August, in East

Saturn.

9th November, in East

Moonrise.

17th January.
15th February
16th March.
15th April.
14th May.
13th June.
12th July.
11th August.
10th September.
9th October,
8th November.
8th December.

Elements of the Planetary orbits for 12 O'clock noon (I. S. T.) on 1st January, 1953.

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	201 34 5	4 5 32	87.9693	47 46 27	76 43 27	0.205625	0.3870984	7 0 14
Venus	38 47 2	1 36 8	224.701	76 15 24	130 54 37	0.006789	0.7233302	3 23 29
Earth	103 16 53	0 59 8	365.256	..	282 7 55	0.016729	1.0000000	..
Mars	359 6 31	0 31 26	686.980	49 12 42	335 11 38	0.093356	1.523678	1 51 0
Jupiter	47 19 58	0 4 59	4332.59	99 58 44	13 34 27	0.048117	5.202561	1 18 21
Saturn	195 2 32	0 2 0	10759.2	113 15 11	92 8 12	0.055720	9.554747	2 2 26
Uranus	112 1 52	0 0 42	30688.5	73 44 29	172 20 7	0.046331	19.21824	0 46 22
Neptune	201 3 0	0 0 21.5	60181.3	131 15 50	47 27 57	0.00900	30.10957	1 46 28
Moon	109 16 53	13 10 35	..	314 3 40	330 58 22	0.05490	..	5 8 13

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

38 Timings of Lunar Aspects in 1953.											
Date.	Aspect	Time.	Date.	Aspect	Time.	Date.	Aspect	Time.	Date.	Aspect	Time.
January.											
		H. M.			H. M.			H. M.			H. M.
1	♂	0 52	12	♂	7 52	20	♂	16 23	30	♂	22 47
	♂	11 42		♂	9 31		♂	18 33		♂	1 40
	♂	12 47		♂	11 30		♂	22 40		♂	5 18
	♂	14 25		♂	16 48		♂	23 58		♂	9 28
	♂	17 56		♂	0 55		♂	17 20		♂	9 48
	♂	19 25		♂	10 32		♂	23 56		♂	16 50
2	♂	6 5		♂	12 25	21	♂	1 1	31	♂	6 27
	♂	21 28		♂	14 2		♂	7 35		♂	9 43
	♂	0 47		♂	14 9		♂	8 16		♂	9 59
	♂	3 18		♂	15 37		♂	10 12		♂	13 32
	♂	12 12		♂	18 4		♂	18 53		♂	18 30
	♂	2 29		♂	19 1		♂	20 7		♂	23 6
	♂	7 54		♂	3 37		♂	21 18			
	♂	12 26		♂	9 56	22	♂	2 17			
	♂	12 29		♂	14 25		♂	11 18			
	♂	18 32		♂	15 55		♂	14 47			
	♂	22 46		♂	19 45		♂	14 29			
	♂	8 59		♂	21 2	23	♂	11 2			
	♂	13 31		♂	8 57		♂	12 2			
	♂	14 29		♂	19 15		♂	16 12			
	♂	21 50		♂	20 45		♂	19 41			
	♂	13 31		♂	1 7	24	♂	0 4			
	♂	15 26		♂	4 59		♂	2 45			
	♂	19 58		♂	15 31		♂	8 41			
	♂	21 1		♂	17 26		♂	8 59			
	♂	5 22		♂	19 36		♂	15 24			
	♂	7 48		♂	21 39		♂	22 11			
	♂	15 41		♂	22 26		♂	6 32			
	♂	18 19		♂	22 52		♂	12 21			
	♂	2 0		♂	23 44		♂	17 2			
	♂	12 53		♂	0 20	26	♂	3 30			
	♂	15 34		♂	4 54		♂	4 52			
	♂	16 39		♂	5 17		♂	8 9			
	♂	23 16		♂	15 45		♂	8 37			
	♂	1 6		♂	17 45		♂	10 55			
	♂	3 5		♂	22 48		♂	16 23			
	♂	8 40		♂	23 24		♂	17 15			
	♂	0 25		♂	5 21	27	♂	2 6			
	♂	5 55		♂	7 52		♂	12 19			
	♂	12 2		♂	17 59		♂	13 7			
	♂	21 50		♂	21 57		♂	21 44			
	♂	5 25		♂	23 9		♂	5 10			
	♂	12 2		♂	1 30		♂	17 43			
	♂	21 50		♂	3 24		♂	18 25			
	♂	5 25		♂	4 4		♂	21 30			
	♂	11 11		♂	5 38		♂	29 29			
	♂	11 11		♂	11 11		♂	4 9			

Timings of Lunar Aspects in 1953.—(contd.).											
Date.	Aspect	Time.	Date.	Aspect	Time.	Date.	Aspect	Time.	Date.	Aspect	Time.
February.											
		H. M.			H. M.			H. M.			H. M.
1	♂	16 10	1	♂	0 21	11	♂	0 30	11	♂	17 43
	♂	21 42		♂	3 2		♂	4 16		♂	23 50
	♂	23 1		♂	11 17		♂	10 2		♂	22 8
	♂	23 2		♂	12 2		♂	12 21		♂	6 12
	♂	23 46		♂	14 23		♂	12 52		♂	6 49
	♂	23 1		♂	1 38		♂	10 1		♂	9 4
	♂	23 8		♂	3 8		♂	4 7		♂	15 8
	♂	23 39		♂	3 39		♂	4 26		♂	17 55
	♂	20 16		♂	4 39		♂	10 33		♂	0 2
	♂	7 23		♂	10 13		♂	19 4		♂	2 45
	♂	12 21		♂	16 1		♂	23 48		♂	8 54
	♂	10 51		♂	20 16		♂	6 17		♂	22 50
	♂	4 40		♂	12 21		♂	18 36		♂	3 42
	♂	6 39		♂	22 18		♂	22 28		♂	8 41
	♂	8 39		♂	22 18		♂	16 8		♂	10 31
	♂	10 3		♂	22 18		♂	23 48		♂	13 54
	♂	14 30		♂	22 18		♂	22 28		♂	14 46
	♂	21 45		♂	22 18		♂	16 8		♂	23 10
	♂	22 18		♂	22 18		♂	23 48		♂	5 5
	♂	4 21		♂	22 18		♂	22 28		♂	11 3
	♂	9 43		♂	22 18		♂	16 8		♂	0 47
	♂	9 48		♂	22 18		♂	23 48		♂	4 48
	♂	12 10		♂	22 18		♂	22 28		♂	6 3
	♂	14 9		♂	22 18		♂	18 36		♂	11 50
	♂	1 7		♂	22 18		♂	22 28		♂	13 41
	♂	4 7		♂	22 18		♂	16 8		♂	15 10
	♂	9 32		♂	22 18		♂	23 48		♂	17 48
	♂	9 5		♂	22 18		♂	22 28		♂	19 32
	♂	12 15		♂	22 18		♂	16 8		♂	0 53
	♂	0 48		♂	22 18		♂	23 48		♂	1 11
	♂	1 11		♂	22 18		♂	22 28		♂	3 5
	♂	4 50		♂	22 18		♂	16 8		♂	4 53
	♂	4 50		♂	22 18		♂	23 48		♂	18 53
	♂	4 50		♂	22 18		♂	22 28		♂	19 17
	♂	4 50		♂	22 18		♂	16 8		♂	0 40
	♂	4 50		♂	22 18		♂	23 48		♂	1 3
	♂	4 50		♂	22 18		♂	22 28		♂	6 2
	♂	4 50		♂	22 18		♂	16 8		♂	11 23
	♂	4 50		♂	22 18		♂	23 48		♂	14 33
	♂	4 50		♂	22 18		♂	22 28		♂	16 3
	♂	4 50		♂	22 18		♂	16 8		♂	18 53
	♂	4 50		♂	22 18		♂	23 48		♂	19 46
	♂	4 50		♂	22 18		♂	22 28		♂	1 17
	♂	4 50		♂	22 18		♂	16 8		♂	1 4
	♂	4 50		♂	22 18		♂	23 48		♂	6 23
	♂	4 50		♂	22 18		♂	22 28		♂	11 8
	♂	4 50		♂	22 18		♂	16 8		♂	0 13
	♂	4 50		♂	22 18		♂	23 48		♂	6 37

Date.	Aspect	Time.	Date.	Aspect	Time.	Date.	Aspect	Time.	Date.	Aspect	Time.
		H. M.			H. M.			H. M.			H. M.
18	Pl	11 4	27	ψ	20 17	5	φ	21 4	14	δ	15 45
	Δ	14 17		**	1 9		π	23 32		π	21 17
	δ	18 48		∠	9 28		Δ	23 51		Δ	21 17
	δ	20 2		Δ	12 34		Δ	10 41		δ	23 5
	δ	22 18		Δ	21 32		Δ	11 25		δ	0 32
	δ	22 50		π	0 25		π	13 56		δ	1 19
	δ	22 43		∠	2 44		**	14 39		δ	2 45
	∠	22 16		∠	7 29		**	18 3		δ	2 39
	∠	22 43		**	15 59		∠	22 12		δ	6 8
19	⊙	1 29		∠	18 35		∠	23 44		δ	2 20
	⊙	8 41		∠	3 48		∠	14 35		δ	12 12
	Pl	12 54		δ	5 15		∠	17 31		δ	19 23
	ψ	16 20		δ	57		Δ	2 43		δ	22 30
	ψ	21 1		ψ	9 4		Δ	5 59		δ	23 53
	⊙	22 22		ψ	13 42		⊙	10 28		δ	1 16
20	⊙	9 29		ψ	19 13		⊙	17 7		δ	3 32
	δ	3 19		Δ	23 44		Pl	18 14		δ	4 56
	δ	3 49		∠	1 29		ψ	20 10		δ	6 51
	∠	6 17		∠	11 22		ψ	20 14		δ	11 23
	∠	18 45		∠	14 1		Δ	20 26		δ	13 32
	∠	21 43		∠	18 23		Δ	23 14		δ	2 58
21	⊙	6 12		⊙	4 14		∠	2 47		δ	5 12
	∠	8 17		⊙	4 44		∠	9 9		δ	10 29
	∠	9 29		Pl	11 6		∠	9 19		δ	10 45
	∠	15 4		ψ	14 43		∠	9 41		δ	15 49
	Pl	18 32		ψ	20 43		**	17 38		δ	1 58
	ψ	22 12					Δ	20 9		δ	2 21
22	ψ	1 12					Δ	23 2		δ	2 45
	δ	5 59					Δ	23 30		δ	7 49
	∠	13 38					Δ	0 22		δ	9 13
	∠	13 49					Δ	1 45		δ	10 30
	∠	13 59					Δ	3 27		δ	16 1
	∠	19 48					∠	10 27		δ	21 3
	Pl	22 53					∠	20 8		δ	6 21
23	⊙	14 59					∠	23 39		δ	7 33
	∠	1 27					∠	2 14		δ	14 58
24	∠	4 7					∠	3 1		δ	23 11
	Pl	7 35					Δ	11 5		δ	7 44
	ψ	7 55					**	12 54		δ	10 55
25	ψ	12 50					Pl	21 7		δ	13 58
	∠	0 23					**	22 8		δ	13 59
	∠	5 59					Δ	23 53		δ	16 11
	∠	11 58					∠	1 44		δ	20 29
	∠	19 21					∠	2 17		δ	6 18
26	∠	2 58					∠	2 21		δ	13 25
	∠	14 49					Δ	2 56		δ	10 40
	∠	15 6					∠	14 30		δ	16 53
	Pl	16 24					∠	21 12		δ	22 43
	ψ	16 51					∠	2 8		δ	23 10
							∠	11 18		δ	1 41
									</		

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

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

July

1	♂ ♀	10 58	1	♂ ♀	10 58
	♂ ♀	12 51		♂ ♀	12 51
	♂ ♀	14 59		♂ ♀	14 59
	♂ ♀	15 51		♂ ♀	15 51
	♂ ♀	21 32		♂ ♀	21 32
	♂ ♀	1 16		♂ ♀	1 16
	♂ ♀	2 15		♂ ♀	2 15
	♂ ♀	3 17		♂ ♀	3 17
	♂ ♀	12 10		♂ ♀	12 10
	♂ ♀	16 7		♂ ♀	16 7
	♂ ♀	16 59		♂ ♀	16 59
	♂ ♀	23 53		♂ ♀	23 53
	♂ ♀	17 43		♂ ♀	17 43
	♂ ♀	19 4		♂ ♀	19 4
	♂ ♀	0 51		♂ ♀	0 51
	♂ ♀	3 39		♂ ♀	3 39
	♂ ♀	5 36		♂ ♀	5 36
	♂ ♀	6 14		♂ ♀	6 14
	♂ ♀	15 2		♂ ♀	15 2
	♂ ♀	18 54		♂ ♀	18 54
	♂ ♀	19 43		♂ ♀	19 43
	♂ ♀	20 39		♂ ♀	20 39
	♂ ♀	6 43		♂ ♀	6 43
	♂ ♀	7 36		♂ ♀	7 36
	♂ ♀	21 13		♂ ♀	21 13
	♂ ♀	9 52		♂ ♀	9 52
	♂ ♀	10 52		♂ ♀	10 52
	♂ ♀	12 17		♂ ♀	12 17
	♂ ♀	0		♂ ♀	0

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

August

1	♂ ♀	31 31	11	♂ ♀	3 43
	♂ ♀	3 43		♂ ♀	3 43
	♂ ♀	11 8		♂ ♀	13 24
	♂ ♀	13 24		♂ ♀	19 36
	♂ ♀	22 46		♂ ♀	22 46
	♂ ♀	8 53		♂ ♀	15 7
	♂ ♀	1 4		♂ ♀	1 4
	♂ ♀	3 20		♂ ♀	3 20
	♂ ♀	5 29		♂ ♀	5 29
	♂ ♀	5 53		♂ ♀	5 53

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

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

Timings of Lunar Aspects in 1953.—(contd.)

[illegible][illegible]

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

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

Date.	Aspect	Time.	Date.	Aspect	Time.	Date.	Aspect	Time.	Date.	Aspect	Time.
		H. M.			H. M.	December.					
28	D	22 23	25	♂	2 24						
29	♂	13 15	28	♂	10 31						
30	♂	20 18	29	♂	17 18						
	♂	14 56	30	♂	22 17						
				♂	18 30						
October.			November.								
1	D	12 26									
2	♂	18 0									
3	♂	11 54									
4	♂	8 18									
	♂	10 36									
	♂	15 2									
	♂	16 0									
	♂	16 53									
5	♂	17 20									
6	♂	22 17									
7	♂	7 26									
	♂	13 37									
	♂	16 53									
	♂	17 47									
	♂	13 41									
9	♂	0 29									
10	♂	3 13									
	♂	3 35									
	♂	15 54									
11	♂	10 7									
13	♂	6 47									
15	♂	21 31									
16	♂	4 15									
17	♂	8 24									
18	♂	15 49									
19	♂	1 20									
	♂	15 0									
20	♂	8 52									
	♂	21 25									
21	♂	1 27									
	♂	10 36									
	♂	16 53									
	♂	22 53									
24	♂	1 51									
	♂	3 33									
	♂	9 7									

Date.	JANUARY.	FEBRUARY.	MARCH.
1	12 8	1 44	1 4
2	11 57	1 44	0 55
3	4 8	45	48
4	48	46	11 39
5	49	47	20
6	54	48	22
7	12 5	48	12
8	19	48	13
9	40	49	4
10	3	49	5
11	29	49	14
12	56	50	23
13	19	50	30
14	40	50	37
15	52	50	42
16	57	51	17
17	54	49	14
18	44	47	13
19	28	46	9
20	9	46	5
21	48	46	5
22	29	42	4
23	9	39	1
24	53	36	46
25	38	30	41
26	25	27	37
27	13	22	10
28	5	17	15
29	57	9	20
30	53	..	10
31	49	..	20

Daily Motion of Planets in 1953.—(contd.)

JUNE.

MAY.

APRIL.

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

Daily Motion of Planets in 1953.—(contd.)

JULY.

AUGUST.

SEPTEMBER.

53

Date.	δ	α	β	γ	δ	α	β	γ	δ	α	β	γ	δ	α	β	γ	δ	α	β	γ
1	14 20	43	61	57	39	14 1	0 R 19	67	57	39	12 59	1 D 58	71	58	58	38	38	38	38	38
2	17	39	61	58	40	13 43	13	67	57	39	38	57	71	58	58	38	38	38	38	38
3	10	36	61	57	39	25	7	68	58	39	24	57	71	58	58	38	38	38	38	38
4	2	31	61	57	40	8	1	68	57	38	12	56	71	58	58	38	38	38	38	38
5	13 53	18	62	57	39	12 53	D	67	58	39	3	56	71	58	58	38	38	38	38	38
6	40	22	62	57	40	38	11	67	57	38	11	57	54	71	58	38	38	38	38	38
7	28	19	63	58	40	26	20	68	58	39	53	54	72	58	58	38	38	38	38	38
8	14	14	62	57	39	15	16	69	57	38	51	52	71	58	58	38	38	38	38	38
9	12 58	9	63	57	38	7	33	68	55	39	51	52	72	58	58	38	38	38	38	38
10	44	4	63	57	40	11	39	68	57	39	52	51	71	58	58	38	38	38	38	38
11	28	0	64	57	40	51	52	69	57	39	56	49	72	58	58	38	38	38	38	38
12	17	5	63	58	40	54	46	69	58	39	12	2	49	72	58	38	38	38	38	38
13	6	10	64	57	39	49	1	69	58	39	10	47	72	58	58	38	38	38	38	38
14	58	14	64	57	39	33	5	68	58	38	24	46	72	58	58	38	38	38	38	38
15	53	19	64	58	39	12	2	69	58	38	13	0	44	72	58	38	38	38	38	38
16	51	23	64	57	39	10	14	70	58	38	41	45	72	58	58	38	38	38	38	38
17	53	28	65	57	39	26	24	69	58	38	25	43	73	58	58	38	38	38	38	38
18	12 1	31	65	57	39	45	30	70	58	38	14	40	72	58	58	38	38	38	38	38
19	13	34	65	57	39	13	8	69	58	38	15	5	73	58	58	38	38	38	38	38
20	29	38	66	58	39	34	37	69	58	38	17	7	74	58	58	38	38	38	38	38
21	50	40	65	57	39	14	0	69	58	38	18	38	73	58	58	38	38	38	38	38
22	13 11	41	66	57	39	27	47	70	58	38	19	17	71	58	58	38	38	38	38	38
23	36	43	65	58	39	47	47	70	58	38	20	37	71	58	58	38	38	38	38	38
24	59	42	66	57	39	15	3	70	58	38	21	35	74	58	58	38	38	38	38	38
25	18	42	66	57	39	8	52	71	58	38	22	35	74	58	58	38	38	38	38	38
26	25	41	67	58	39	5	54	70	58	38	23	33	73	58	58	38	38	38	38	38
27	54	39	66	57	39	14	52	56	58	38	24	33	73	58	58	38	38	38	38	38
28	47	36	67	57	39	34	34	57	58	38	25	31	73	58	58	38	38	38	38	38
29	42	33	67	58	39	9	9	57	58	38	26	31	73	58	58	38	38	38	38	38
30	33	29	67	57	39	13	44	58	58	38	27	31	73	58	58	38	38	38	38	38
31	19	23	67	58	39	19	58	58	58	38	28	31	73	58	58	38	38	38	38	38

Date.	OCTOBER.					NOVEMBER.					DECEMBER.					
	D	h	m	s	°	D	h	m	s	°	D	h	m	s	°	
1	12	17	1	30	73	59	37	59	37	59	11	55	1	0	75	61
2	12	5	29	73	59	38	59	38	59	12	3	5	9	75	76	61
3	11	56	28	74	59	38	59	38	59	12	12	3	9	75	76	61
4	52	27	73	59	37	58	59	37	58	13	34	11	14	75	76	61
5	50	26	74	59	38	12	5	17	74	60	28	49	17	75	75	61
6	50	26	73	59	37	13	27	75	60	98	13	1	18	75	75	61
7	54	24	74	59	38	22	40	75	61	37	13	21	21	76	76	61
8	57	24	73	59	38	30	48	75	61	37	24	22	22	75	75	61
9	58	22	74	59	38	41	54	75	61	37	35	24	24	76	76	61
10	12	9	22	74	59	37	52	1	0	75	38	35	24	76	76	61
11	17	20	74	59	38	13	5	11	75	61	37	47	24	76	76	61
12	28	19	74	59	37	20	18	75	61	37	57	26	26	75	75	61
13	41	28	74	59	38	37	20	76	61	37	14	7	27	76	76	61
14	58	17	74	59	37	56	10	76	61	37	15	15	27	75	75	61
15	13	18	15	74	59	38	14	15	19	75	22	22	28	76	76	61
16	42	14	74	60	37	33	14	75	61	37	25	25	28	75	75	61
17	14	7	12	74	59	38	46	7	75	61	37	20	30	76	76	61
18	31	11	74	59	37	52	52	42	75	61	37	13	29	75	75	61
19	53	9	75	59	38	50	42	75	61	37	1	30	30	76	76	61
20	15	7	6	74	59	37	39	37	75	61	37	13	30	76	76	61
21	14	5	75	59	38	23	33	75	61	37	44	30	30	76	76	61
22	9	2	74	59	37	13	58	7	76	61	23	23	30	76	76	61
23	52	0	59	37	38	32	0	75	61	37	3	31	31	75	75	61
24	28	26	74	59	37	6	11	75	61	37	12	42	31	75	75	61
25	13	59	53	75	59	37	12	18	75	61	25	32	32	76	76	61
26	30	49	75	59	37	22	28	76	61	37	10	31	31	75	75	61
27	1	46	74	59	38	7	36	75	61	36	11	59	59	76	76	61
28	12	37	40	74	59	37	43	76	61	37	54	52	52	76	76	61
29	18	35	75	59	38	52	49	75	61	37	57	32	32	76	76	61
30	4	30	75	59	38	52	55	75	61	37	4	33	33	76	76	61
31	11	55	24	75	59	38	..	..	..	..	17	4	33	75	75	61

Table of Ascendants for Latitudes 7° to 20°. — (contd.)

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	51 112	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	3 129	53 130	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	1 139	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	55 155	5 155	15 155
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	51 161	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

Table of Ascendants for Latitudes 7° to 20°—(contd.)

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	32 183
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	3 187
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	35 190
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	5 194
15	199 19 199	16 199	2 198	52 198	46 198	37 198	25 198	18 198	14 198	6 198	0 197	51 197	44 197	32 197
30	203 7 202	7 202	48 202	38 202	28 202	19 202	9 202	0 201	51 201	41 201	32 201	23 201	14 201	5 201
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	34 204
8	0 210 4 210	27 210	15 210	1 209	50 209	38 209	25 209	13 209	1 208	49 208	37 208	25 208	14 208	2 208
15	214 24 214	20 214	10 213	56 213	41 213	29 213	12 212	48 212	33 212	21 212	8 211	55 211	41 211	28 211
30	218 4 217	50 217	35 217	20 217	5 216	50 216	35 216	21 216	6 215	52 215	37 215	23 215	8 214	54 214
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	19 218
9	0 225 22 225	6 224	49 224	31 224	15 223	58 223	41 223	24 223	7 222	50 222	34 222	17 222	0 221	43 221
15	229 0 228	42 228	23 228	4 227	47 227	29 227	11 226	53 226	35 226	17 225	59 225	40 225	22 225	4 225
30	232 34 232	34 232	15 231	56 231	36 231	18 230	59 230	46 230	21 230	2 229	43 229	23 229	4 228	26 228
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	47 231
10	0 239 37 239	17 238	56 238	35 238	15 237	53 237	33 237	13 236	5 236	31 236	10 235	49 235	29 235	7 235
15	243 7 242	46 242	24 242	2 241	41 241	20 240	58 240	37 240	15 239	54 239	33 239	11 238	49 238	28 238
30	246 36 246	13 245	51 245	29 245	7 244	45 244	23 244	1 243	39 243	17 242	54 242	32 242	9 241	46 241
45	250 2 249	40 249	18 248	55 248	32 248	9 247	47 247	25 247	1 246	39 246	15 245	52 245	29 245	6 245
11	0 253 29 253	7 252	44 252	20 251	57 251	34 251	11 250	47 250	24 250	0 249	37 249	13 248	49 248	24 248
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	43 251
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	3 255
45	263 47 263	23 262	59 262	35 262	10 261	46 261	21 260	57 260	32 260	7 259	42 259	1 258	50 258	24 258
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	1 262	13 261	46 261

Table of Ascendants for Latitudes 7° to 20°.—(could)

[illegible]

Table of Ascendants for Latitudes 7° to 20°,—(could)

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

Sid. Time.	21°	22°	23°	24°	25°	26°	27°	28°	29°	30°	31°	32°	33°	34°
H. M.	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	0 98	41 99	8 99	35 100	3 100	31 100	59 101	27 101	56 102	34 102	57 103	26 103	57 104	29 105
1	15 102	2 102	28 102	55 103	22 103	49 104	17 104	45 105	18 105	43 106	12 106	41 107	11 107	42 108
2	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
3	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
4	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	10 117
5	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
6	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
7	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
8	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
9	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
10	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
11	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
12	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	31 142
13	15 141	57 142	13 142	29 142	45 143	1 143	17 143	33 143	49 144	5 144	23 144	39 144	55 145	12 145
14	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
15	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
16	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	36 154
17	15 155	36 155	47 155	58 156	8 156	19 156	30 156	40 156	51 157	2 157	13 157	23 157	34 157	45 157
18	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
19	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
20	0 166	2 166	8 166	14 166	20 166	26 166	32 166	38 166	44 166	50 166	57 167	3 167	9 167	16 167
21	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
22	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
23	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
24	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 21° to 34°.—(contd.)

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

Table of Ascendants for Latitudes 21° to 34° — (contd.)

Sid. Time.	21°	22°	23°	24°	25°	26°	27°	28°	29°	30°	31°	32°	33°	34°
H. M.														
2 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
15 264	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	1 257
30 268	6 267	38 267	8 266	41 266	12 265	42 265	12 264	42 264	6 263	39 263	8 262	36 262	2 261	2 260
45 271	32 271	4 270	35 270	6 269	38 269	7 268	37 268	6 267	34 267	1 266	23 265	5 265	2 264	4 263
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
15 278	32 278	3 277	35 277	5 276	36 276	4 275	34 275	2 274	23 273	55 273	22 272	48 272	12 271	3 270
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	2 274
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	4 277
14 0	289	28 288	59 288	30 288	0 287	31 286	59 286	29 285	55 285	22 284	48 284	14 283	36 283	1 282
15 293	14 292	46 292	17 291	48 291	18 290	46 290	16 289	43 289	10 288	35 288	1 287	25 286	45 286	1 285
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	1 289
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	1 293
15 305	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	1 297
15 309	9 308	44 308	18 307	51 307	24 306	55 306	26 305	56 305	24 304	52 304	20 303	46 303	13 302	2 301
30 313	22 312	59 312	54 312	8 311	42 311	23 311	15 310	47 310	18 309	48 309	17 308	19 312	48 312	15 311
45 317	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	4 310
16 0	322	5 321	43 321	21 320	59 320	36 320	12 319	48 319	23 318	55 318	27 317	59 317	30 316	59 316
15 326	33 326	15 325	56 325	35 325	14 324	52 324	18 323	57 323	35 323	12 322	50 322	51 322	24 321	59 321
30 331	9 330	53 330	35 330	16 329	57 329	38 329	30 328	6 327	42 327	16 326	51 326	33 326	59 326	3 325
45 335	49 335	35 335	19 335	56 335	3 334	48 334	31 334	14 333	55 333	36 333	17 332	57 333	36 332	13 331
17 0	340	34 340	22 340	9 339	56 339	43 339	30 339	16 338	0 338	44 338	29 338	12 337	58 337	35 337
15 345	22 345	13 344	33 344	54 344	44 344	33 344	22 344	11 343	59 343	46 343	33 343	19 343	43 342	5 341
30 350	14 350	7 350	1 349	54 349	47 349	41 349	34 349	25 349	17 349	8 348	59 348	49 348	40 348	2 347
45 355	7 355	4 354	59 354	56 354	53 354	49 354	46 354	42 354	38 354	33 354	29 354	24 354	19 354	1 353
18 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table of Ascendants for Latitudes 21° to 34°.—(cont'd.)

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

LOGARITHMIC TABLE.—(cont'd.)

Hours or Degrees.

LOGARITHMIC TABLE. — (contd.)														
Hours or Degrees.														
Min.	0	1	2	3	4	5	6	7	8	9	10	11	12	Min
0	3-1584	1-3802	1-0792	9-0311	7-7811	6-8112	6-0211	5-5351	4-7711	4-2660	3-8021	3-3881	0	
1	3-1584	1-3730	1-0756	9-0071	7-7631	6-7981	6-0091	5-5341	4-7621	4-2521	3-7971	3-3871	1	
2	2-8573	1-3660	1-0720	8-9983	7-7451	6-7841	5-9971	5-5301	4-7531	4-2441	3-7881	3-3751	2	
3	2-6812	1-3590	1-0685	8-9591	7-7281	6-7691	5-9851	5-5201	4-7441	4-2361	3-7801	3-3681	3	
4	2-5563	1-3522	1-0649	8-9351	7-7101	6-7551	5-9731	5-5101	4-7351	4-2281	3-7731	3-3621	4	
5	2-4594	1-3454	1-0614	8-9121	7-6921	6-7411	5-9611	5-5001	4-7261	4-2201	3-7661	3-3551	5	
6	2-3802	1-3388	1-0580	8-8881	7-6741	6-7261	5-9491	5-5291	4-7171	4-2121	3-7591	3-3491	6	
7	2-3133	1-3323	1-0546	8-8651	7-6571	6-7121	5-9371	5-5291	4-7081	4-2041	3-7521	3-3421	7	
8	2-2553	1-3258	1-0511	8-8421	7-6391	6-6981	5-9251	5-5291	4-6991	4-1961	3-7451	3-3361	8	
9	2-2041	1-3195	1-0478	8-8191	7-6221	6-6841	5-9131	5-5291	4-6901	4-1881	3-7371	3-3291	9	
10	2-1584	1-3133	1-0444	8-7961	7-6041	6-6701	5-9021	5-5491	4-6821	4-1801	3-7301	3-3231	10	
11	2-1170	1-3071	1-0411	8-7731	7-5871	6-6561	5-8901	5-5391	4-6731	4-1721	3-7231	3-3161	11	
12	2-0792	1-3010	1-0378	8-7511	7-5701	6-6421	5-8781	5-5291	4-6641	4-1641	3-7161	3-3101	12	
13	2-0444	1-2950	1-0345	8-7281	7-5521	6-6281	5-8661	5-5291	4-6551	4-1561	3-7091	3-3031	13	
14	2-0122	1-2891	1-0313	8-7061	7-5351	6-6141	5-8551	5-5291	4-6461	4-1481	3-7021	3-2971	14	
15	1-9823	1-2833	1-0280	8-6831	7-5181	6-6001	5-8431	5-5191	4-6381	4-1411	3-6951	3-2911	15	
16	1-9542	1-2775	1-0248	8-6611	7-5011	6-5871	5-8321	5-5191	4-6291	4-1331	3-6881	3-2841	16	
17	1-9279	1-2719	1-0216	8-6391	7-4841	6-5731	5-8201	5-5191	4-6201	4-1251	3-6811	3-2781	17	
18	1-9031	1-2663	1-0185	8-6171	7-4671	6-5591	5-8091	5-5191	4-6111	4-1171	3-6741	3-2711	18	
19	1-8796	1-2607	1-0153	8-5951	7-4511	6-5461	5-7971	5-5191	4-6031	4-1091	3-6671	3-2651	19	
20	1-8573	1-2553	1-0122	8-5731	7-4341	6-5321	5-7861	5-5191	4-5941	4-1021	3-6601	3-2581	20	
21	1-8361	1-2499	1-0091	8-5521	7-4171	6-5191	5-7741	5-5191	4-5851	4-0941	3-6531	3-2521	21	
22	1-8159	1-2445	1-0061	8-5301	7-4011	6-5051	5-7611	5-5191	4-5771	4-0861	3-6461	3-2461	22	
23	1-7966	1-2393	1-0030	8-5091	7-3841	6-4921	5-7521	5-5191	4-5681	4-0791	3-6391	3-2391	23	
24	1-7781	1-2341	1-0000	8-4871	7-3681	6-4781	5-7401	5-5191	4-5591	4-0711	3-6321	3-2331	24	
25	1-7604	1-2289	9-9701	8-4661	7-3511	6-4651	5-7291	5-5100	4-5511	4-0631	3-6251	3-2271	25	
26	1-7434	1-2239	9-9401	8-4451	7-3351	6-4511	5-7181	5-5090	4-5421	4-0551	3-6181	3-2201	26	
27	1-7270	1-2188	9-9101	8-4241	7-3181	6-4381	5-7061	5-5081	4-5341	4-0481	3-6111	3-2141	27	
28	1-7112	1-2139	9-8811	8-4031	7-3021	6-4251	5-6951	5-5071	4-5251	4-0401	3-6041	3-2081	28	
29	1-6960	1-2090	9-8521	8-3821	7-2861	6-4121	5-6841	5-5061	4-5161	4-0321	3-5971	3-2011	29	

LOGARITHMIC TABLE (cont'd.)

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	.6378	.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	.8259	.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	.6929	.6118	.5435	.4844	.4324	.3860	.3441	.3059	52
53	1.4341	1.1053	.9203	.7910	.6915	.6101	.5424	.4835	.4316	.3853	.3434	.3053	53
54	1.4260	1.1015	.9178	.7891	.6900	.6094	.5414	.4826	.4308	.3846	.3428	.3047	54
55	1.4180	1.0977	.9153	.7873	.6885	.6081	.5403	.4817	.4300	.3838	.3421	.3041	55
56	1.4102	1.0939	.9128	.7854	.6871	.6069	.5393	.4808	.4292	.3831	.3415	.3034	56
57	1.4025	1.0902	.9104	.7836	.6856	.6057	.5382	.4798	.4284	.3824	.3408	.3028	57
58	1.3949	1.0865	.9079	.7818	.6841	.6045	.5372	.4789	.4276	.3817	.3401	.3022	58
59	1.3875	1.0828	.9055	.7800	.6827	.6033	.5361	.4780	.4268	.3809	.3395	.3016	59

LOGARITHMIC TABLE. — (cont'd.)

Hours or Degrees.

Min.	12	13	14	15	16	17	18	19	20	21	22	23	Min.
0	.3010	.2663	.2341	.2041	.1761	.1498	.1249	.1015	.0792	.0580	.0378	.0185	0
1	.3004	.2657	.2336	.2036	.1756	.1493	.1245	.1011	.0788	.0576	.0375	.0182	1
2	.2998	.2652	.2330	.2032	.1752	.1489	.1241	.1007	.0785	.0573	.0371	.0179	2
3	.2992	.2646	.2325	.2027	.1747	.1485	.1237	.1003	.0781	.0570	.0368	.0175	3
4	.2986	.2640	.2320	.2022	.1743	.1481	.1233	.0999	.0778	.0566	.0363	.0172	4
5	.2980	.2635	.2315	.2017	.1738	.1476	.1229	.0996	.0774	.0563	.0361	.0169	5
6	.2974	.2629	.2310	.2012	.1734	.1472	.1225	.0992	.0770	.0559	.0358	.0166	6
7	.2968	.2624	.2305	.2008	.1729	.1468	.1221	.0988	.0766	.0556	.0355	.0163	7
8	.2962	.2618	.2300	.2003	.1725	.1464	.1217	.0984	.0763	.0552	.0352	.0160	8
9	.2956	.2613	.2295	.1998	.1720	.1459	.1213	.0980	.0759	.0549	.0348	.0157	9
10	.2950	.2607	.2289	.1993	.1716	.1455	.1209	.0977	.0756	.0546	.0345	.0154	10
11	.2944	.2602	.2284	.1988	.1711	.1451	.1205	.0973	.0752	.0542	.0342	.0150	11
12	.2938	.2596	.2279	.1984	.1707	.1447	.1201	.0969	.0749	.0539	.0339	.0147	12
13	.2933	.2591	.2274	.1979	.1702	.1443	.1197	.0965	.0745	.0535	.0335	.0144	13
14	.2927	.2585	.2269	.1974	.1698	.1438	.1193	.0962	.0741	.0532	.0332	.0141	14
15	.2921	.2580	.2264	.1969	.1694	.1434	.1190	.0958	.0738	.0529	.0329	.0138	15
16	.2915	.2574	.2259	.1965	.1689	.1430	.1186	.0954	.0734	.0525	.0325	.0135	16
17	.2909	.2569	.2253	.1960	.1685	.1426	.1182	.0950	.0731	.0522	.0322	.0132	17
18	.2903	.2564	.2249	.1955	.1680	.1422	.1178	.0947	.0727	.0518	.0319	.0129	18
19	.2897	.2558	.2244	.1950	.1676	.1417	.1174	.0943	.0724	.0515	.0316	.0125	19
20	.2891	.2553	.2239	.1946	.1671	.1413	.1170	.0939	.0720	.0512	.0313	.0122	20
21	.2885	.2547	.2234	.1941	.1667	.1409	.1166	.0935	.0716	.0508	.0309	.0119	21
22	.2880	.2542	.2229	.1936	.1662	.1405	.1162	.0932	.0713	.0505	.0306	.0116	22
23	.2874	.2536	.2223	.1932	.1658	.1401	.1158	.0928	.0709	.0501	.0303	.0113	23
24	.2868	.2531	.2218	.1927	.1654	.1397	.1154	.0924	.0706	.0498	.0300	.0110	24
25	.2862	.2526	.2213	.1922	.1649	.1392	.1150	.0920	.0702	.0495	.0296	.0107	25
26	.2856	.2520	.2208	.1917	.1645	.1388	.1146	.0917	.0699	.0491	.0293	.0104	26
27	.2850	.2515	.2203	.1913	.1640	.1384	.1142	.0913	.0695	.0488	.0290	.0101	27
28	.2845	.2509	.2198	.1908	.1636	.1380	.1138	.0909	.0692	.0484	.0287	.0098	28
29	.2839	.2504	.2193	.1903	.1632	.1376	.1134	.0906	.0688	.0481	.0284	.0095	29

Hours or Degrees.

Min.	12	13	14	15	16	17	18	19	20	21	22	23	Min.
30	.2833	.2499	.2188	.1899	.1627	.1372	.1130	.0902	.0685	.0478	.0280	.0091	30
31	.2827	.2493	.2183	.1894	.1623	.1368	.1127	.0898	.0681	.0474	.0277	.0088	31
32	.2821	.2488	.2178	.1889	.1618	.1363	.1123	.0894	.0678	.0471	.0274	.0085	32
33	.2816	.2483	.2173	.1885	.1614	.1359	.1119	.0891	.0674	.0468	.0271	.0082	33
34	.2810	.2477	.2168	.1880	.1610	.1355	.1115	.0887	.0670	.0464	.0267	.0079	34
35	.2804	.2472	.2164	.1875	.1605	.1351	.1111	.0883	.0667	.0461	.0264	.0076	35
36	.2798	.2467	.2159	.1871	.1601	.1357	.1107	.0880	.0663	.0458	.0261	.0073	36
37	.2793	.2461	.2154	.1866	.1597	.1343	.1103	.0876	.0660	.0454	.0258	.0070	37
38	.2787	.2456	.2149	.1862	.1592	.1339	.1099	.0872	.0656	.0451	.0255	.0067	38
39	.2781	.2451	.2144	.1857	.1588	.1335	.1095	.0869	.0652	.0448	.0251	.0064	39
40	.2775	.2445	.2139	.1852	.1584	.1331	.1091	.0865	.0649	.0444	.0248	.0061	40
41	.2770	.2440	.2134	.1848	.1579	.1326	.1088	.0861	.0646	.0441	.0245	.0058	41
42	.2764	.2435	.2129	.1843	.1575	.1322	.1084	.0857	.0642	.0438	.0242	.0055	42
43	.2758	.2430	.2124	.1838	.1571	.1318	.1080	.0854	.0639	.0434	.0239	.0052	43
44	.2753	.2424	.2119	.1834	.1566	.1314	.1076	.0850	.0635	.0431	.0236	.0049	44
45	.2747	.2419	.2114	.1829	.1561	.1310	.1072	.0846	.0632	.0428	.0232	.0046	45
46	.2741	.2414	.2109	.1825	.1558	.1306	.1068	.0843	.0628	.0424	.0229	.0042	46
47	.2736	.2409	.2104	.1820	.1553	.1302	.1064	.0839	.0625	.0421	.0226	.0039	47
48	.2730	.2403	.2099	.1816	.1549	.1298	.1061	.0835	.0622	.0418	.0223	.0036	48
49	.2724	.2398	.2095	.1811	.1545	.1294	.1057	.0832	.0618	.0414	.0220	.0033	49
50	.2719	.2393	.2090	.1806	.1540	.1290	.1053	.0828	.0615	.0411	.0216	.0030	50
51	.2713	.2388	.2085	.1802	.1536	.1286	.1049	.0825	.0611	.0408	.0213	.0027	51
52	.2707	.2382	.2080	.1797	.1532	.1282	.1045	.0821	.0608	.0404	.0210	.0024	52
53	.2702	.2377	.2075	.1793	.1528	.1278	.1041	.0817	.0604	.0401	.0207	.0021	53
54	.2696	.2372	.2070	.1788	.1523	.1274	.1038	.0814	.0601	.0398	.0204	.0018	54
55	.2691	.2367	.2065	.1784	.1519	.1270	.1034	.0810	.0597	.0394	.0201	.0015	55
56	.2685	.2362	.2061	.1779	.1515	.1266	.1030	.0806	.0594	.0391	.0197	.0012	56
57	.2679	.2356	.2056	.1774	.1510	.1261	.1026	.0803	.0590	.0388	.0194	.0009	57
58	.2674	.2351	.2051	.1770	.1506	.1257	.1022	.0799	.0587	.0384	.0191	.0006	58
59	.2668	.2346	.2046	.1765	.1502	.1253	.1018	.0795	.0583	.0381	.0188	.0003	59



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