

ASTRONOMICAL EPHEMERIS
of
Geocentric Places of Planets
for
1952

(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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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. Natrajan the Superintendent of the A. D. Press, 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,
December, 1951.

}

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

Mean Places of Principal Stars on 1st January 1951.

Names.	Stars.	Mag.	R.	A.	Decl.	Long.	Lat.
			H.	M.	°	°	°
♄ Andromeda	U. Bhadra	2.1	0	6	+ 28 47	13 33	+ 25 41
♄ Pegasi	U. Bhadra	2.8	0	10	+ 14 53	8 26	+ 12 36
♄ Piscium	Revati.	5.6	1	11	+ 7 17	19 9	- 0 13
♄ Eridani	Achernar.	0.6	1	36	- 57 31	344 35	- 59 23
♄ Polaris	Dhruva.	2.1	1	45	+ 89 0	87 51	+ 66 6
♄ Arietes	Ashvini.	2.7	1	52	+ 20 32	33 15	+ 8 29
♄ Arietes	Ashvini.	2.2	2	4	+ 23 12	36 57	+ 9 58
♄ Arietes	Bharani.	3.7	2	47	+ 27 2	47 29	+ 10 27
♄ Persei	Algol'	Var	3	5	+ 40 45	45 27	+ 22 25
♄ Tauri	Krittika.	3.0	3	44	+ 23 56	59 16	+ 4 3
♄ Tauri	Rohini.	1.1	4	33	+ 16 24	69 4	- 5 28
♄ Orionis	Rigel'	0.3	5	12	- 8 16	76 7	- 31 8
♄ Aurigee	Capella.	0.2	5	13	+ 45 57	81 8	+ 22 52
♄ Orionis	Bellatrix.	1.7	5	22	+ 6 18	80 14	- 16 92
♄ Orionis	Mrigashirsh	4.5	5	32	+ 9 27	82 53	- 13 0
♄ Orionis	Mrig Bana	1.7	5	33	- 1 14	82 45	- 24 99
♄ Orionis	Ardra.	0.9	5	52	+ 7 24	88 2	- 16 0
♄ Carinae	Agastya.	0.9	6	23	- 52 40	104 15	- 75 1
♄ Canis Majori	Vyadha	1.6	6	43	- 16 38	103 22	- 39 44
♄ Geminorum	Castor'	2.0	7	31	+ 32 1	109 31	+ 10 57
♄ Canis Minor	Prashva.	0.5	7	36	+ 5 22	115 5	- 16 54
♄ Geminorum	Punarvasu	1.2	7	42	+ 28 10	112 31	+ 6 51
♄ Cancrī	Pushya	4.1	8	42	+ 18 21	127 60	+ 0 3
♄ Cancrī	Ashle-ha.	4.3	8	55	+ 12 4	132 55	- 5 0
♄ Leonis	Magha.	1.3	10	5	+ 12 4	149 7	+ 0 23
♄ Leonis	Purva.	2.6	11	11	+ 20 49	160 36	+ 14 20
♄ Leonis	Uttara.	2.2	11	46	+ 14 53	170 54	+ 12 16
♄ Corvi	Hasta.	3.1	12	27	- 16 12	192 44	- 12 11
♄ Virginis	Chitra	1.2	13	22	- 10 52	203 7	- 2 3
♄ Bootes	Swati.	0.2	14	13	+ 19 28	203 31	+ 30 46
♄ Libra	Vishakha	2.9	14	48	- 15 49	224 22	+ 0 20
♄ Scorpii	Anuradha.	2.5	15	57	- 22 28	241 51	- 1 59
♄ Scorpii	Jyeshtha.	1.2	16	26	- 26 19	249 3	- 4 34
♄ Scorpii	Mool.	1.7	17	30	- 37 4	263 52	- 13 47
♄ Sagittarius	P. Shadha.	2.8	18	17	- 29 51	273 52	- 6 28
♄ Sagittarius	P. Shadha.	1.9	18	21	- 34 25	274 22	- 11 2
♄ Sagittarius	U. Shadha	2.1	18	52	- 26 22	281 40	- 3 26
♄ Lyrae	Abnijit.	0.1	18	35	+ 38 44	284 36	+ 61 44
♄ Aquillae	Shravana	0.9	19	48	+ 8 43	301 3	+ 29 18
♄ Delphini	Dhanistha	3.7	20	35	+ 14 24	315 37	+ 31 55
♄ Delphini	Dhanistha	3.8	20	37	+ 15 43	316 40	+ 33 2
♄ Cygni	Deneb.	1.3	20	40	+ 45 5	334 37	+ 59 55
♄ Aquarii	Shatabhij.	3.8	22	50	- 7 52	340 51	- 0 23
♄ Piscis Astr.	Fomalhaut	1.3	22	55	- 29 55	333 8	- 21 8
♄ Pegasi	P. Bhadra	2.6	23	1	+ 27 47	358 39	+ 31 8
♄ Pegasi	P. Bhadra	2.6	23	2	+ 14 55	352 46	+ 19 24

EPHEMERIS

OF

Planets' Places for 1952.

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 5½ hours in advance of Greenwich Mean Time but, for convenience, the *Sidereal Time* is given for the *Mean Noon, Ujjain Local Time*.

Nirayana places are obtained by subtracting the *Ayanamshas* 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°
♊ Rahu.	♓ Pisces.	♌ Opposition = 180°

Date	Day	Sidereal Time.	☉		☽		Midnight		ψ
			Long.	Decl.	Long.	Lat.	Decl.	ψ	
1	Tu.	18 39 29	9 47 39	23 S 5	2 34 0	N 4	10 S 29	9 42 21	Δ 35
2	W.	43 26 10	48 49	0 16 43	1 19 4	1 23 37	D 36		
3	Th.	47 22 11	49 58	22 55	0 25 2	28 2 N 6	7 7 36		
4	F.	51 19 12	51 9	49 13 43	3 26 8	36 20 14	37		
5	S.	55 15 13	52 18	43 26 40	4 12 14	13 38 2	38		
6	Su.	59 12 14	53 26	37 9 19	4 45 19	6 15 33	38		
7	M.	3 8 15	54 36	30 21 43	5 3 23	5 27 51	39		
8	Tu.	7 5 16	55 45	22 3 56	5 7 25	58 9 59	39		
9	W.	11 1 17	56 54	15 16 0	4 58 27	39 22 0	40		
10	Th.	14 58 18	58 0	6 27 58	4 35 28	2 38 51	40		
11	F.	18 55 19	59 8	21 57	9 51 4	127 N 6	15 47		
12	S.	22 51 21	0 15	48 21 42	3 16 24	6 27 37	41		
13	Su.	26 48 22	1 21	39 3 32	2 23 21	41 9 27	42		
14	M.	30 44 23	2 28	29 15 23	1 22 17	34 21 19	42		
15	Tu.	34 41 24	3 32	18 27 16	0 20 12	44 3 14	42		
16	W.	38 37 25	4 39	7 9 15	0 S 45	7 26 15	42		
17	Th.	42 34 26	5 45	20 56	21 23 1	49 1 45	42		
18	F.	46 30 27	6 50	44 3 44	2 50 4 S	5 10 1	42		
19	S.	50 27 28	7 55	32 16 22	3 43 9	52 22 49	43		
20	Su.	54 24 29	9 0	20 29 21	4 27 15	24 6 0	43		
21	M.	58 20 0	10 4	7 12 15	4 57 20	23 19 37	43		
22	Tu.	2 17 11	11 8	54 26 35	5 12 24	27 3 41	43		
23	W.	6 13 2	12 12	40 10 53	5 8 27	10 18 11	43		
24	Th.	10 10 3	13 14	27 25 35	4 44 28	7 3 4	43		
25	F.	14 6 4	14 15	12 10 36	4 0 26	59 18 11	43		
26	S.	18 3 5	15 18	18 58 25	48 2 59	23 56 3 25	43		
27	Su.	21 59 6	16 19	43 11 1	1 36 19	10 18 35	43		
28	M.	25 56 7	17 20	27 26 5	0 25 13	13 3 31	43		
29	Tu.	29 53 8	18 17	12 10 52	0 N 56	6 37 18	43		
30	W.	33 49 9	19 15	17 56 25	15 2 11	0 N 8 2 15	42		
31	Th.	37 46 10	20 11	39 9 8	3 17 6	40 15 57	42		

Date	ψ	☉		☽		☿		♂	
		Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.
1	1 N 39	6 S 54	0 N 23	23 N 17	2 N 24	3 S 30	1 S 18	1 N 11	1 N 48
3	39	54	23	17	24	31	18	16	48
5	39	54	23	18	25	33	17	22	49
7	39	55	23	18	26	34	17	28	49
9	39	55	23	19	26	34	16	34	50
11	39	55	23	19	27	35	16	41	51
13	39	56	23	20	27	36	15	48	51
15	39	56	23	20	28	36	15	55	52
17	40	56	23	21	28	36	14	2	52
19	40	56	23	21	29	36	14	9	53
21	40	56	23	22	30	36	13	17	53
23	40	56	23	22	30	36	13	25	53
25	40	55	23	22	31	35	12	33	54
27	40	55	23	23	31	34	12	41	54
29	40	55	23	23	31	34	12	49	55
31	40	55	23	23	32	33	11	58	55

Date	Longitudes.						Lunar Aspects.											
	☉	☽	☿	♂	♀	♂	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂
1	12 4	14 29	5 59	20 47	28 13	17 44	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂
2	12 4	14 30	5 59	20 47	28 13	17 44	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂
3	11 58	32	11	48 0	35 19	11	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂
4	55	35	18	22 19	1 47	20	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂
5	53	38	25	49 2	59	56	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂
6	51	40	32	23 19	4 10	21	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂
7	48	42	39	49 5	22 22	57	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂
8	45	44	46	24 19	6 34	24	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂
9	43	46	54	49 7	46 25	9	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂
10	40	48	7	125 19	8 58	26	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂
11	38	49	9	48 10	10 27	31	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂
12	35	50	17	26 17	11 22	28	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂
13	33	51	25	46 12	34 29	54	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂
14	30	52	33	27 15	13 47	17	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂
15	28	54	42	44 14	59 2	36	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂
16	25	55	50	23 12	16 11	3	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂
17	23	55	59	41 17	24 5	15	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂
18	20	56	8	8 29	9 18	36	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂
19	18	57	17	37 19	49 8	0	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂
20	15	57	26	0 51	2 9	24	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂
21	13	58	36	32 22	14 10	49	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂
22	10	58	45	1 0 23	27 12	14	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂
23	8	58	54	27 24	40 13	41	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂
24	5	58	4	54 25	53 15	8	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂
25	3	58	14	21 27	6 16	36	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂
26	0	58	24	47 23	19 18	4	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂
27	10	58	34	3 14	29 32	19	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂
28	56	58	44	40 0 45	21 4		☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂
29	54	57	54	6 1	58 22	35	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂
30	52	57	4	31 3	11 24	7	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂
31	50	56	15	57 4	24 25	39	☉	☽	☿	♂	♀	♂	♀	♂	♀	♂	♀	♂

Date	♀	♂	Mean.	Date	Time	Phenomena.
	Lat.	Decl.	♂		H. M.	
1	2 N 20	17 S 23	2 N 29	20 S 24	3 3 46	☉ on Equator.
3	17 18	2	13	48	20 5 10	☉ at First Quarter.
5	14	34	1 56	21 12	14 12 10	Full Mn., Decl. 24° N 53'
7	11 19	4	38	37	7 11 25	Moon at Apogee.
9	7	32	20 22	1	1 17 19	☉ on Equator.
11	2	58	2	23 2	55 18 21	☉ at ☿
13	1 58	20	22 0	45 42	48 20 11	☉ at Last Quarter.
15	53	43	27	59	42 21 8	☉ enters ♋
17	48 21	3	11 23	10	36 26 7	☉ at Perigee.
19	43	21	S 5	18	29 27 4	New Mn., Decl. 20° S 29'
21	38	36	21	21	23 29	Heli. setting of ♄ in E.
23	32	48	35	20	17 30 11	☉ on Equator.
25	26	58	49	14	10	
27	21 22	6	1 2	3	4	
29	15	11	13 22	47	1 58	
31	9	14	24	24	51	

FEBRUARY, 1952.										S. J. O. UJJAIN										
Date	Day	Sidereal Time.			☉		☽					Midnight		ψ						
					Long.	Decl.	Long.	Lat.	Decl.	☽										
1	F.	20	41	42	11	21	7	17 S	23	22	40	4	N	9	12 N	41	29	15	21	42
2	S.		45	39	12	22	1	6	5	43		46	17	57	12	8	7		R	42
3	Su.		49	35	13	22	54	16	49	18	26	5	8	22	16	24	38			41
4	M.		53	32	14	23	46		31	0	45		16	25	15	6	54			41
5	Tu.		57	28	15	24	36		13	12	57		8	27	30	18	57			40
6	W.	21	1	25	16	25	24	15	55	24	56	4	48	28	9	0	52			40
7	Th.		5	21	17	26	11		37	6	48		15	27	32	12	53			39
8	F.		9	18	18	26	57		18	18	38	3	32	25	39	24	32			39
9	S.		13	15	19	27	41	14	59	0	47	2	39	22	39	6	23			38
10	Su.		17	11	20	28	23		40	12	19	1	39	18	42	18	16			38
11	M.		21	8	21	29	6		21	24	14	0	34	14	6	0	14			37
12	Tu.		25	4	22	29	46		1	6	17		S 32	10	24	12	21			36
13	W.		29	0	23	30	25	13	41	18	27	1	38	3	4	24	33			35
14	Th.		32	57	24	31	2		21	0	47	2	40	2	S 46	7	2			35
15	F.		36	54	25	31	39		1	13	20	3	36	8	34	19	41			35
16	S.		40	51	26	32	15	12	40	26	6	4	22	14	9	2	36			34
17	Su.		44	47	27	32	49		20	9	19	5	55	19	13	15	48			33
18	M.		48	44	28	33	22	11	59	22	31	5	14	23	28	29	20			32
19	Tu.		52	40	29	33	53		38	6	13		16	26	31	13	12			31
20	W.		56	37	0	34	23		16	20	15	4	59	28	3	27	25			30
21	Th.	22	0	33	1	34	53	10	55	4	39		23	27	45	11	57			30
22	F.		4	30	2	35	20		33	19	19	3	29	25	31	26	43			29
23	S.		8	26	3	35	47		12	4	10	2	21	21	30	11	38			28
24	Su.		12	23	4	36	10	9	50	19	7	1	3	16	0	26	35			27
25	M.		16	20	5	36	35		27	4	1	0	N 19	9	45	11	24			26
26	Tu.		20	16	6	36	57		5	18	43	1	39	2	56	25	58			25
27	W.		24	13	7	37	17	8	43	3	9	2	51	3	N 53	10	13			24
28	Th.		28	9	8	37	34		20	17	11	3	56	10	49	24	3			23
29	F.		32	6	9	37	49	7	58	0	48	4	35	16	4	7	8			22

Date	ψ		♈		♉		♊		♋											
	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.										
2	1 N	40	6 S	54	0 N	23	23 N	24	2 N	33	3 S	31	1 S	11	3 N	7	1 N	56	11 S	38
4		41		54				24		33		30				10		56		54
6		41		53				24		34		29				10		56	12	9
8		41		53				25		35		27				10		57		24
10		41		53				25		35		25				9		57		38
12		41		52				25		36		24				9		52		52
14		41		51				25		36		21				9	4	2	57	13
16		41		51				26		37		19				8		12	57	18
18		41		50				26		37		17				8		21	58	30
20		41		49				26		38		14				8		31	58	42
22		42		49				26		38		12				7		41	58	53
24		42		48				26		38		9				7		51	58	14
26		42		47				27		39		6				7	5	1	58	14
28		42		46				27		39		3				6		12	58	23

Date	ψ		♈		♉		♊		♋		♌	
	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.
2	1 N 40	6 S 54	0 N 23	23 N 24	2 N 33	3 S 31	1 S 11	3 N 7	1 N 56	11 S 38		
4	41	54		24	33	30	10	15	56	54		
6	41	53		24	34	29	10	25	56	12	9	
8	41	53		25	35	27	10	34	57	24		
10	41	53		25	35	25	9	43	57	38		
12	41	52		25	36	24	9	52	57	52		
14	41	51		25	33	21	9	4	57	13	5	
16	41	51		26	37	19	8	12	57	18		
18	41	50		26	37	17	8	21	58	30		
20	41	49		23	38	14	8	31	58	42		
22	42	49		26	38	12	7	41	58	53		
24	42	48		26	38	9	7	51	58	14	4	
26	42	47		27	39	6	7	5	58	14		
28	42	46		27	39	3	6	12	58	23		

5		EPHEMERIS. FEBRUARY, 1952.																	
Date	Day	Longitudes										Lunar Aspects.							
		♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	☉	☽	♈	♉	♊	♋	♌	♍
1	10	48	14	55	10	25	5	22	5	37	27	10	8						
2	R	45	R	54	36	46	6	46	6	50	28	45	☐	*					
3		43		53	47	6	11	8	4	0	20	☐	π	☐	☐	☐	☐	☐	☐
4		41		52	58	36	9	17	1	59				☐	☐	☐	☐	☐	☐
5		39		51	11	9	7	0	10	30	3	31	☐	☐	☐	☐	☐	☐	☐
6		37		50	20	24	11	43	5	7			☐	☐	☐	☐	☐	☐	☐
7		35		49	31	43	12	57	6	45			☐	☐	☐	☐	☐	☐	☐
8		33		47	43	8	11	14	10	23			☐	☐	☐	☐	☐	☐	☐
9		31		45	54	34	15	23	10	2			☐	☐	☐	☐	☐	☐	☐
10		30		44	12	6	56	16	37	11	41		☐	☐	☐	☐	☐	☐	☐
11		28		42	17	9	19	17	50	13	22		☐	☐	☐	☐	☐	☐	☐
12		26		40	29	41	19	41	15	3			☐	☐	☐	☐	☐	☐	☐
13		24		38	41	10	220	17	16	45			☐	☐	☐	☐	☐	☐	☐
14		23		36	53	24	21	31	18	28			☐	☐	☐	☐	☐	☐	☐
15		21		34	13	4	45	22	44	20	12		☐	☐	☐	☐	☐	☐	☐
16		20		31	16	11	5	23	58	21	57		☐	☐	☐	☐	☐	☐	☐
17		18		29	23	26	25	11	23	45			☐	☐	☐	☐	☐	☐	☐
18		17		27	41	46	26	25	25	29			☐	☐	☐	☐	☐	☐	☐
19		15		24	53	12	6	27	39	27	16		☐	☐	☐	☐	☐	☐	☐
20		14		21	14	6	25	28	52	29	4		☐	☐	☐	☐	☐	☐	☐
21		12		18	18	44	0	6	0	54			☐	☐	☐	☐	☐	☐	☐
22		11		15	31	13	2	1	20	2	44		☐	☐	☐	☐	☐	☐	☐
23		10		12	43	20	2	33	4	35			☐	☐	☐	☐	☐	☐	☐
24		9		10	56	38	3	47	6	26			☐	☐	☐	☐	☐	☐	☐
25		8		7	15	9	55	5	1	8	19		☐	☐	☐	☐	☐	☐	☐
26		7		4	22	14	12	6	14	10	12		☐	☐	☐	☐	☐	☐	☐
27		6		0	34	28	7	28	12	5			☐	☐	☐	☐	☐	☐	☐
28		5	13	57	47	44	8	42	14	0			☐	☐	☐	☐	☐	☐	☐
29		4		54	16	0	59	9	56	15	54		☐	☐	☐	☐	☐	☐	☐

Date.	☾		☽		Mean.	Date	Time. H. M.	Phenomena.				
	Lat.	Decl.	Lat.	Decl.					Ω			
2	1 N	22 S	1 S	34	21 S	57	1	45	3	1	33	☾ at First Quarter.
4	0	56	11	43	24		38	9	0	45		☾ at Apogee.
6	50		6	50	20	46	32	11	7	5		Full Moon, D. 12° N 58'
8	44	21	58	56		3	26	14	0	37		☾ on Equator
10	37		48	2	1	19	19	18	23	42		☾ at Last quarter.
12	31		35		4	18	13	19	21	14		☉ enters ♈
14	25		19		6	17	7	22	12	0		☾ at ☿
16	18		1		6	16	0	22	19	0		☾ at Perigee.
18	12	20	41		4	14	54	25	14	3		New Moon Decl. 8° S 42'
20	6		18		0	13	48	26	20	44		☾ on Equator.
22	0 S	0	19	52	1	55	12	17				
24		6		25		47	10	48				
26		12	18	55		37	9	14				
28		18		23		24	7	38				

6		MARCH, 1952										S. J. O. UJJAIN		
Date	Day	Sidereal Time.			☉		☾			Midnight		ψ		
					Long.	Decl.	Long.	Lat.	Decl.	D				
		H.	M.	S.	°	'	"	°	'	"	°	'	"	
1	S.	22	36	2	10	38	3	7 S 35	14 8	0	5 N 4	20 N 53	20 8 27	21 20
2	Su.		39	59	11	38	16	12 26	47		16 24	34	3 11 3	R 18
3	M.		43	55	12	38	25	6 49	9 14		13 27	0	15 21	17
4	Tu.		47	52	13	38	33	26 21	25	4	56 28	6	27 25	16
5	W.		51	49	14	38	39	3 3	23		26 27	51	9 20	15
6	Th.		55	45	15	38	43	5 40	15 14	3	45 26	19	21 9	14
7	F.		59	41	16	38	43	16 27	3	2	55 23	37	2 2 57	13
8	S.	23	3	38	17	38	43	4 53	8 53	1	57 19	56	14 50	12
9	Su.		7	35	18	38	41	30 20	48	0	54 15	25	26 49	11
10	M.		11	31	19	38	36	6 2	52	S 12	10 16	8 57		10
11	Tu.		15	28	20	38	28	3 43	15 5	1	19 4	40	21 16	9
12	W.		19	24	21	38	20	19 27	31	2	23 1 S 12		3 56	7
13	Th.		23	21	22	38	10	2 55	10 10	3	21 7	6	16 34	5
14	F.		27	17	23	37	57	32 22	2	4	9 12	49	29 33	4
15	S.		31	14	24	37	43	8 6	8		46 18	4	12 46	2
16	Su.		35	11	25	37	28	1 44	19 27	5	8 22	32	26 12	1
17	M.		39	7	26	37	9	21 3	0		13 25	53	9 51	0
18	Tu.		43	4	27	36	49	0 57	16 45		127 47	23 42	20 58	
19	W.		47	0	28	36	28	33 0	42	4	30 27	58	7 35	57
20	Th.		50	57	29	36	5	10 14	51	3	43 26	20	21 59	55
21	F.		54	53	0	35	40	0 N 14	29 10	2	40 22	59	6 22	53
22	S.		58	50	1	35	23	38 13	36	1	30 18	12	20 51	52
23	Su.	0	2	46	2	34	45	1 2	28	6	0 12	12	5 21	51
24	M.		6	43	3	34	15	25 12	35	1 N 7	5	49	19 49	49
25	Tu.		10	40	4	33	43	49 26	59	2	20 0 N 57		4 7	47
26	W.		14	36	5	33	8	2 12	11 10	3	24 7	34	18 10	46
27	Th.		18	33	6	32	35	36 25	5	4	14 13	40	1 56	44
28	F.		22	29	7	31	54	59 8	40		49 18	58	15 19	43
29	S.		26	26	8	31	13	3 23	21 32	5	7 23	11	28 20	41
30	Su.		30	22	9	30	31	46 4	42		9 26	9	11 0	29
31	M.		34	19	10	29	37	4 9	17 12	4	56 27	45	23 21	28
Date	ψ		♈		♉		♊		♋		♌			
	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.		
1	1 N 42	6 S 45	0 N 23	23 N 27	2 N 40	3 S 0	1 S 6	5 N 22	1 N 57	14 S 32				
3	42	44			40	2 58	6	32	57	41				
5	42	43			40	54	6	42	57	49				
7	42	42			41	51	5	53	56	56				
9	42	41			41	48	5	6 3	56 15	3				
11	42	40			41	44	5	13	55	9				
13	42	39			42	41	5	24	55	15				
15	42	38			42	37	5	35	54	24				
17	43	37			42	34	4	46	53	24				
19	43	35			42	30	4	57	52	28				
21	43	34			43	26	4	7	51	31				
23	43	33			43	23	4	18	50	33				
25	43	32			43	19	4	29	48	35				
27	43	31			43	15	3	40	47	36				
29	43	29			43	11	3	51	45	37				
31	43	28			43	8	3	8	43	37				

EPHEMERIS. MARCH, 1952. 7

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

8		APRIL, 1952.										S. J. O. UJJAIN	
Date	Day	Sidereal Time.			⊙		☽			Midnight		ψ	
		H.	M.	S.	Long.	Decl.	Long.	Lat.	Decl.	ψ			
1	Tu.	0	38	15	11° 28' 48"	4N 33'	29° 25'	4N 30'	27° 57'	5° 26'	20	36	
2	W.	42	12	12	12 29 58	56	11 25 3	52 26 59	17 22			R 34	
3	Th.	46	9	13	27 6	5 19	23 17	5 24 28	29 4				33
4	F.	50	5	14	26 13	42	5 5	2 10 21	6 11 0				31
5	S.	54	2	15	25 17	6 4	16 56	1 9 16	51 22 54				30
6	Su.	57	58	16	24 3	27 28	55 0	5 11 56	4 58				28
7	M.	1	55	17	23 20	50 11	23 4	1 S 1 6	30 17 14				26
8	Tu.	5	51	18	22 20	7 12	23 28	2 4 0	41 29 46				25
9	W.	9	48	19	21 16	35 6	2 9	3 5 S	15 12 36				23
10	Th.	13	44	20	20 12	57 9	8	54 11	6 25 43				22
11	F.	17	41	21	19 6	8 19	2 23	4 33 16	34 9 7				20
12	S.	21	38	22	17 57	41 15	54	57 21	21 22 45				18
13	Su.	25	34	23	16 46	9 3	29 38	5 5 25	3 6 34				17
14	M.	29	31	24	15 33	25 13	32	4 56 27	20 20 32				15
15	Tu.	33	27	25	14 17	46 27	33	23 27	54 4 35				13
16	W.	37	24	26	13 0	10 7	11 38	3 45 26	40 28 41				11
17	Th.	41	20	27	11 41	29 25	45	2 47 23	44 2 49				10
18	F.	45	17	28	10 19	50 9	53	1 39 19	22 16 57				8
19	S.	49	13	29	8 55	11 10	24	1 0 26	13 55 1 5				7
20	Su.	53	10	0 8	7 30	31 8	7	N 50 7	29 15 9				5
21	M.	57	7	1	6 1	52 22	10	2 1 1	15 29 10				4
22	Tu.	2	1	3	2 4	29 12	12	6 7 8	3 5 5	N 16	13 7	3	2
23	W.	4	59	3	2 57	32 19	55	57 11	27 26 45				0
24	Th.	8	56	4	1 24	52 3	31	4 35 17	0 10 8	13	19	59	
25	F.	12	53	4	59 46	13 11	16 52	56 21	37 23 25				57
26	S.	16	49	5	58 6	31 29	54	5 2 24	3 6 19				56
27	Su.	20	46	6	56 28	50 12	39	4 52 27	9 18 55				54
28	M.	24	42	7	54 46	14 9	25 6	29 27	50 1 13				52
29	Tu.	28	39	8	53 2	28 7	17	3 53 27	8 13 18				51
30	W.	32	36	9	51 17	46 19	16	8 25	8 25 13				49
Date		ψ		♈		♉		♊		♋		♌	
		Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.
2	1N 43	6S 27	0N 23	23N 27	2N 43	2S 4	S 3	8N 12	1N 41	15S 36			
4		26		27		2	0	22	39	34			
6		25		26		1	57	33	36	32			
8		23		26			53	44	33	29			
10		22		26			50	54	30	25			
12		21		26			46	9	5	27			21
14		20		25			43	2	15	24			16
16		18		25			39		26	2			10
18		17		25			36		36	17			5
20		16	22	25			33		47	13	14		58
22		15		24			30		57	8			51
24		14		24	42		26	10	7	4			43
26		12		24			24		17	0	59		35
28		11		23			21		27	55			26
30		10		23			18		37	50			18

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

MAY, 1952.										S. J. O. UJJAIN										
Date	Day	Sidereal Time.		☉		☽		Midnight		ψ										
				Long.	Decl.	Long.	Lat.	Decl.	☽											
		H.	M.	S.	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
1	Th.	2	36	32	10	49	31	15N 5	1 1 8	2N 15	22 N 7	6 2	19 48							
2	F.		40	29	11	47	42	23 12	57	1 16	18 9	18 52	R 46							
3	S.		44	25	12	45	54	40 24	48	0 14	13 29	0 47	45							
4	Su.		48	22	13	43	59	58 6	48	S 49	8 16	12 53	43							
5	M.		52	18	14	42	9	16 15	19	1 51	2 24	25 14	42							
6	Tu.		56	15	15	40	18	32 1	32	2 50	3 S 12	7 54	40							
7	W.	3	0	11	16	38	16	49 14	23	3 51	9 4	20 51	39							
8	Th.		4	8	17	36	23	17 5	27	36 4	22 14	41 4	21	38						
9	F.		8	5	18	34	24	21 11	13	49 19	46 18	7 36								
10	S.		12	1	19	32	24	37 25	7	5 0	23 54	2 10	35							
11	Su.		15	58	20	30	24	53 9	17	4 53	26 41	16 26	34							
12	M.		19	54	21	23	19	18 8	23	37	27 27	45 0	49	32						
13	Tu.		23	51	22	26	15	23 8	1	3 45	26 57	15 13	31							
14	W.		27	47	23	24	9	38 22	24	2 48	24 21	29 33	29							
15	Th.		31	44	24	21	50	52 6	41	1 41	20 14	13 48	29							
16	F.		35	41	25	19	40	19 6	20	52	0 28	14 59	28							
17	S.		39	37	26	17	28	20 4	53	N 46	9 0	11 51	26							
18	Su.		43	33	27	15	14	33 18	46	1 56	2 39	25 39	24							
19	M.		47	30	28	12	59	46 2	29	2 59	3 N 44	9 17	23							
20	Tu.		51	27	29	10	44	59 16	3	3 51	9 52	22 46	22							
21	W.		55	23	0	8	29	20 11	29	26	4 29	15 29	21							
22	Th.		59	20	1	6	11	23 12	39		52 20	17 19	10	20						
23	F.	4	3	16	2	3	51	35 25	38	5	0 24	2 2	3	19						
24	S.		7	13	3	1	32	46 8	25	4	52 26	32 14	41	18						
25	Su.		11	9	3	59	10	57 20	56		30 27	38 27	7	17						
26	M.		15	6	4	56	48	21 8	3	56	27 19	9 19	16							
27	Tu.		19	2	5	54	24	18 15	21		12 25	44 21	15							
28	W.		22	59	6	51	59	28 27	17	2	19 22	59 3	12	14						
29	Th.		26	55	7	47	33	37 9	7	1	21 19	17 15	1	13						
30	F.		30	52	8	47	5	46 20	55	0	19 14	50 26	49	12						
31	S.		34	49	9	44	38	55 2	46	S 43	9 49	8 44	11							
Date	ψ		♈		♉		♊		♋		♌		♍		♎		♏		♐	
	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.
2	1 N 43	6 S 9	0 N 22	23 N 23	2 N 41	1 S 16	1 S 2	10 N 47	0 N 45	14 S 8										
4		8			22	41		57		39 13	59									
6		7			22	41		11		34	50									
8		6			21	40		9		28	41									
10		5			21	40		7		23	32									
12		4			20	40		5		36	18									
14		3			20	39		3		46	13									
16	42	2			20	39		1		55	7									
18		1			19	39		0												
20		0			18	38	0 58			12 4	S 2	1								
22		5 59			18	38		57		13	4 12	S 55								
24		59			18	37		56			9		45							
26		58			17	37		55					44							
28		57			16	36		55	1 3		19		40							
30		57			16	36		54			24		37							
											29		35							

EPHEMERIS.										MAY, 1952.										11
Date	Longitudes.										Lunar Aspects.									
	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀
1	10	45	9	28	0	34	10	28	26	12	14	20								
2		48	R	25		49	R	5	27		25	15	14	□		♂	♀	♂	♀	♂
3		50		22	1	3	9	43	28		39	16	10		♂	♀	♂	♀	♂	
4		52		18		17		21	29		53	17	9		♂	♀	♂	♀	♂	
5		55		14		31	8	59	1	8	6	18	12	Δ		♂	♀	♂	♀	
6		57		11		46		37	2		20	19	17	□	π		♂	♀	♂	
7		59		8	2	0		15	3		34	20	25		♂	♀	♂	♀	♂	
8	11			5		14	7	53	4		48	21	36		♂	♀	♂	♀	♂	
9		4		2		28		31	6		1	22	49		Δ	♂	♀	♂	♀	
10		7	8	59		43		10	7		15	24	4	♂	♂	♀	♂	♀	♂	
11		9		56		57	6	49	8		29	25	23		♂	♀	♂	♀	♂	
12		12		53	3	11		28	9		42	26	43		♂	♀	♂	♀	♂	
13		14		50		25		8	10		56	28	6		♂	♀	♂	♀	♂	
14		17		47		39	5	48	12		10	29	31		♂	♀	♂	♀	♂	
15		20		44		53		29	13		23	0	8	58		♂	♀	♂	♀	
16		23		42	4	7		10	14		37	2	28		♂	♀	♂	♀	♂	
17		25		40		21	4	52	15		51	4	0		♂	♀	♂	♀	♂	
18		28		37		54		34	17		4	5	34		♂	♀	♂	♀	♂	
19		31		36		48		17	18		18	7	10		♂	♀	♂	♀	♂	
20		34		33	5	2		0	19		32	8	48		♂	♀	♂	♀	♂	
21		37		31		16	3	44	20		45	10	29		♂	♀	♂	♀	♂	
22		40		29		29		28	21		59	12	12		♂	♀	♂	♀	♂	
23		43		27		43		14	23		13	13	57		♂	♀	♂	♀	♂	
24		46		26		57		0	24		26	15	44		♂	♀	♂	♀	♂	
25		49		24	6	11	2	47	25		40	17	34		♂	♀	♂	♀	♂	
26		52		22		24		35	26		54	19	25		♂	♀	♂	♀	♂	
27		55		21		38		23	28		7	21	19		♂	♀	♂	♀	♂	
28		58		20		51		12	29		21	23	15		♂	♀	♂	♀	♂	
29	12			19	7	4		2	0	π	35	25	13	*		♂	♀	♂	♀	
30		5		17		17	1	53	1		48	27	13	*		♂	♀	♂	♀	
31		8		16		31		44	3		2	29	15		♂	♀	♂	♀	♂	
Date.	♀		♂		Mean.		Date.	Time.		Phenomena.										
	Lat.	Decl.	Lat.	Decl.	α		H.	M.												
2	1 S 23	9 N 16	2 S 53	3 N 21	26 = 59	1	16	16		♂ at Apogee.										
4		21 10		10	59		53	2 8	48	♂ at First Quarter.										
6		19 11		3 3	4 43		46	5 22	17	♂ on Equator.										
8		16		56	5 5 34		40	8		Heli. setting of ♀ in E.										
10		13 12		47	4 6 30		33			Heli. rising of ♀ in E.										
12		10 13		37	0 7 30		27	10 1	46	Full Moon D. 22° S 11'										
14		7 14		26	2 54 8 36		21	15 10	19	♂ at Perigee.										
16		3 15		13	45 9 44		14	16 21	8	♂ at Last Quarter.										
18		0		59	35 10 57		8	18 21	58	♂ on Equator.										
20	0	56 16		43	22 12 12		2	21 8	38	Centers π										
22		52 17		26	7 13 29	25	55	24 1	15	New Moon D. 25° N 18'.										
24		48 18		6	1 51 14 47		49			Heli. setting of ♀ in E.										
26		44		45	33 16 6		43	29 6	38	♂ at Apogee.										
28		40 19		22	13 17 24		36													
30		35		57	0 53 18 41		30													

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

Date	ψ		♂		♂		♂		♂	
	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.
1	1N 42	5 S 56	0N 22	23N 15	2N 36	0 S 54	1 S 3	13N 6	0 S 33	12 S 34
3	42	55		15	35	53	3	15	38	33
5	42	55		14	35	53	3	23	42	34
7	42	54		13	34	53	3	31	46	36
9	42	54		13	34	54	3	39	50	39
11	41	54		12	33	54	3	47	54	42
13	41	53		12	33	55	3	54	58	47
15	41	53		11	32	55	4	14 2	1	53
17	41	53		10	32	56	4	9	5	59
19	41	53		9	31	57	4	17	8 13	7
21	41	52		9	31	59	4	24	12	15
23	41	52		8	30	1	4	31	15	25
25	41	52		7	30	2	5	38	17	34
27	41	52		7	29	3	5	44	20	45
29	41	52		6	29	5	5	51	23	57

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

Date	♂		♂		Mean.	Date	Time.	Phenomena.
	Lat.	Decl.	Lat.	Decl.	♂	H. M.		
1	0 S 31	20N 30	0 S 32	19N 55	25 = 24	1 2 15		♂ at First Quarter.
3	26 21	0	10 21	4	17	2 5 51		♂ on Equator.
5	22	29	N 11 22	7	11	4 10 51		♂ at ♄
7	17	54	32 23	2	4	8 10 14		Full Moon D. 27° S 16'
9	12 22	18	51	48 24	= 58	11 21 47		♂ at Perigee.
11	7	39	1 9 24	24	52	14 16 48		♂ at ♄
13	3	57	24	49	45	15 2 33		♂ on Equator.
15	N 2 23	12	36 25	3	39	15 2 49		♂ at Last Quarter.
17	7	25	46	5	33	20		Heli. rising ♄
19	12	35	53 24	57	26	21 16 38		Centers ♄ W.
21	16	43	57	40	20	22 14 57		New Moon D. 27° N 10'
23	21	47	57	14	14	25 20 36		♂ at Apogee.
25	26	49	55 23	40	7 29	13 29		♂ on Equator.
27	30	48	51	0	1 30	17 54		♂ at First Quarter.
29	34	45	43 22	14 23	= 55			

14 JULY, 1952. S. J. O. UJJAIN													
Date	Day	Sidereal Time.			☉		☽			Midnight		ψ	
		H.	M.	S.	Long.	Decl.	Long.	Lat.	Decl.	D			
1	Tu.	6	37	2	9 ^m 21	4 ^h 23N	7 ^m 17 ^h 43	4 ^s 15	10S53	24 ^m 6	18 ^h 57		
2	W.		40	58	10 ^m 18	16	3 ^m 0 ^h 35	48	16 ^h 11	7 ^m 12	D 57		
3	Th.		44	55	11 ^m 15	29	22 ^m 58	13 ^h 57	5 ^s 7	20 ^m 54	20 ^h 44	57	
4	F.		48	52	12 ^m 12	40	53 ^m 27	40	9 ^s 24	39 ^m 4	4 ^h 44	57	
5	S.		52	48	13 ^m 9	53	48 ^m 11	56	4 ^s 52	27 ^m 3	19 ^h 13	57	
6	Su.		56	45	14 ^m 7	7	42 ^m 26	35	16 ^s 27	40 ^m 3	3 ^h 1	57	
7	M.	7	0	41	15	4	20 ^m 36	11 ^h 32	3 ^s 22	26 ^m 18	19 ^h 3	58	
8	Tu.		4	38	16	1	33 ^m 29	26 ^h 36	2 ^s 13	23 ^m 2	4 ^h 9	58	
9	W.		8	34	16	58	46 ^m 22	11 ^h 40	0 ^s 55	18 ^m 10	19 ^h 11	58	
10	Th.		12	31	17	56	0 ^m 15	26 ^h 37	N ⁶ 12	14 ^m 4	4 ^h 0	58	
11	F.		16	27	18	53	14 ^m 7	11 ^h 18	1 ^s 44	5 ^m 43	18 ^h 31	58	
12	S.		20	24	19	50	27 ^m 21	59 ^h 25	38 ^s 2	5 ^m 4	2 ^h 40	59	
13	Su.		24	20	20	47	43 ^m 50	9 ^h 36	3 ^s 52	7 ^m 22	16 ^h 27	19	0
14	M.		28	17	21	44	56 ^m 41	24 ^h 12	4 ^s 35	13 ^m 16	29 ^h 52	0	
15	Tu.		32	14	22	42	11 ^m 32	6 ^h 26	5 ^s 21	18 ^m 25	12 ^h 57	0	
16	W.		36	10	23	39	29 ^m 22	19 ^h 22	12 ^s 22	36 ^m 25	4 ^h 44	1	
17	Th.		40	7	24	36	40 ^m 12	2 ^h 2	8 ^s 25	36 ^m 8	11 ^h 16	1	
18	F.		44	3	25	33	54 ^m 2	14 ^h 27	4 ^s 49	27 ^m 20	20 ^h 35	2	
19	S.		48	0	26	31	10 ^m 20	20 ^h 26	41 ^s 51	17 ^m 27	2 ^h 44	3	
20	Su.		51	57	27	28	25 ^m 40	8 ^h 45	3 ^s 34	26 ^m 43	14 ^h 44	3	
21	M.		55	53	28	25	40 ^m 29	20 ^h 41	2 ^s 42	24 ^m 31	26 ^h 38	4	
22	Tu.		59	50	29	22	56 ^m 17	2 ^h 33	1 ^s 43	21 ^m 16	8 ^h 27	5	
23	W.	8	3	46	0 ^m 20	13	5 ^m 14	20 ^h 0	40 ^s 17	10 ^m 20	14 ^h 14	5	
24	Th.		7	43	1	17	29 ^m 53	26 ^h 7	S ²⁵ 12	25 ^m 2	2 ^h 1	6	
25	F.		11	39	2	14	47 ^m 40	7 ^h 55	1 ^s 29	7 ^m 13	3 ^h 51	7	
26	S.		15	36	3	12	4 ^m 27	19 ^h 48	2 ^s 30	1 ^m 44	25 ^h 47	8	
27	Su.		19	32	4	9	24 ^m 13	1 ^h 49	3 ^s 25	3S51	7 ^h 54	9	
28	M.		23	29	5	6	43 ^m 0	14 ^h 2	4 ^s 11	9 ^m 23	20 ^h 14	9	
29	Tu.		27	26	6	4	5 ^m 18	46 ^h 26	31 ^s 47	14 ^m 42	2 ^h 54	10	
30	W.		31	22	7	1	26 ^m 31	9 ^h 22	5 ^s 9	19 ^m 30	15 ^h 56	11	
31	Th.		35	19	7	58	48 ^m 17	22 ^h 35	16 ^s 23	31 ^m 29	21 ^h 12	12	
Date	ψ		♈		♉		♊		♋		♌		
	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	
1	1N40	5S52	0N22	23N5	2N28	1S7	1S5	14N57	1S25	14S9			
3	40	53	22	4	28	9	5	15	3	28			
5	40	53	22	4	27	11	6	9	30	35			
7	40	53	22	3	27	14	6	15	32	49			
9	40	53	22	2	26	16	6	21	34	15	4		
11	40	53	22	1	26	19	6	27	36	19			
13	40	54	22	1	26	22	6	32	38	34			
15	40	54	22	0	25	25	7	37	40	50			
17	40	55	22	22	25	28	7	42	41	16	6		
19	40	55	22	58	24	31	7	47	43	23			
21	39	56	22	57	24	34	8	52	45	40			
23	39	57	22	57	23	38	8	56	46	57			
25	39	57	23	56	23	41	8	13	47	17	14		
27	39	58	23	55	23	45	8	5	49	32			
29	39	59	23	54	22	52	9	9	50	50			
31	39	59	23	54	22	53	9	12	51	18	8		

EPHEMERIS. JULY, 1952. 15

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

Date	♀		♊		Mean. ♈	Date	Time.		Phenomena.									
	Lat.	Decl.	Lat.	Decl.			H.	M.										
1	0N39	23N38	1N33	21N23	23 ^m 48	8	17	22	Full Moon D. 21° S 34'									
3	43	28	21	20	42	9	11	5	☉ at Perigee.									
5	47	16	7	19	36	12	8	38	☉ on Equator.									
7	51	1	0	51	33	29	17	43	☉ at ☉									
9	55	22	43	33	17	33	23	14	7	☉ at Last Quarter.								
11	58	23	13	16	32	16	23	3	35	☉ enters ♈								
13	1	2	59	0S	8	15	32	10	6	1 Full Moon D. 17° N 38'.								
15	5	34	31	14	32	4	9	51		☉ at Apogee.								
17	8	6	55	13	34	22	57	26	19	☉ on Equator.								
19	11	20	35	1	20	12	38	51	30	6	☉ at First Quarter.							
21	14	2	46	11	46	45												
23	16	19	27	2	12	10	58	38										
25	18	18	50	39	15	32												
27	20	11	3	5	9	39	26											
29	22	17	29	31	10	19												
31	24	16	46	54	8	49	13											

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AUGUST, 1952.

S. J. O. UJJAIN

Date	Day	Sidereal Time.		☉		♂			♂		Midnight		ψ		
				Long.	Decl.	Long.	Lat.	Decl.							
1	F.	8	39	15	84 56	12	18 N	2	6 15	5 S	6	26 S	23	13 16	19 13
2	S.		43	12	9 53	38	17	46	20 23	4	37	27	43	27 36	14
3	Su.		47	8	10 51	4		31	4 55	3	50	27	12	12 20	15
4	M.		51	5	11 48	31		15	19 49	2	47	24	45	27 22	16
5	Tu.		55	1	12 46	0	16	59	4 57	1	30	20	30	12 33	17
6	W.		58	58	13 43	29		43	20 10	0	18	14	53	27 45	19
7	Th.	9	2	54	14 41	0		26	5 18	1 N	15	8	24	12 47	20
8	F.		6	51	15 38	32		9	20 13	2	32	1	32	27 33	21
9	S.		10	48	16 36	6	15	52	4 47	3	38	5 N	14	11 55	22
10	Su.		14	44	17 33	39		34	18 57	4	29	11	33	25 52	23
11	M.		18	41	18 31	14		17	2 41	5	0	17	7	9 23	25
12	Tu.		22	37	19 28	50	14	59	15 59		16	21	39	22 29	26
13	W.		26	34	20 26	17		41	28 53		15	25	2	5 13	27
14	Th.		30	30	21 23	54		22	11 27	4	58	27	6	17 38	29
15	F.		34	27	22 21	33		4	23 45		29	27	47	29 49	30
16	S.		38	23	23 19	14	13	45	5 50	3	48	27	7	11 49	31
17	Su.		42	19	24 16	55		26	17 46	2	57	25	11	23 41	33
18	M.		46	16	25 14	38		7	29 36	1	59	22	11	5 30	34
19	Tu.		50	13	26 12	23	12	47	11 23	0	56	18	16	17 17	36
20	W.		54	10	27 10	9		27	23 10	S	9	13	39	29 5	37
21	Th.		58	6	28 7	57		8	4 59	1	14	8	32	10 56	39
22	F.	10	2	3	29 5	47	11	47	16 53	2	16	3	5	22 53	40
23	S.		5	59	0 3	37		27	28 54	3	13	2 S	30	4 57	42
24	Su.		9	56	1 1	30		7	11 3	4	1	8	4	17 12	44
25	M.		13	52	1 59	25	10	46	23 24		39	13	25	29 39	45
26	Tu.		17	49	2 57	20		25	5 58	5	5	18	19	12 22	47
27	W.		21	46	3 55	16		4	18 50		16	22	30	25 22	49
28	Th.		25	42	4 53	15	9	43	2 0		11	25	38	8 45	50
29	F.		29	39	5 51	16		22	15 33	4	48	27	27	22 28	52
30	S.		33	35	6 49	15		1	29 28	3	46	27	36	6 35	54
31	Su.		37	32	7 47	18	8	39	13 46		14	25	57	21 5	55

Date	ψ	♂		♂		♂		♂		
		Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	
2	1°N	39	6°S	0	0°N	23	22°N	53	2°N	21
4										
6										
8										
10										
12	38									
14										
16										
18										
20										
22										
24										
26										
28										
30										

EPHEMERIS. AUGUST, 1952. 17

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

Date	♀		♊		Mean.	Date	Time.	Phenomena.
	Lat.	Decl.	Lat.	Decl.	Ω		H. M.	
2	1°N	25	16°N	1	4	2		Heli. rising of ♀ in W.
4		26	15	13	32	46	0	Full Moon D. 14° S 28'.
6		27	14	25	45	46	21	♂ at Perigee.
8		27	13	35	52	9	6	♂ on Equator.
10		28	12	43	51	36	41	♂ at Last Quarter.
12		28	11	50	44	10	13	♂ at Apogee.
14		27	10	56	29	57	28	New Moon D. 11° N 32'
16		27		1	7	11	44	Heli. rising of ♀ in E.
18		26	9	4	3	40	12	♂ on Equator.
20		25	8	7	8	13	16	☉ enters ♀
22		23	7	8	2	33	56	♂ at First Quarter.
24		22	6	9	1	57	14	♀ at ♀
26		20	5	10		21	51	
28		18	4	9	0	46	15	
30		15	3	9		14	2	

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

Date.	ψ		ϒ		ζ		γ		δ	
	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.
1	1N 38	6 S 18	0 N 23	22N 42	2 N 17	3 S 8	1 S 14	16 N 47	2 S 0	22 S 40
3	38	19	23	42	17	13	15	47	1	55
5	38	20	23	41	16	13	15	48	1	23 8
7	38	22	23	41	16	24	15	48	1	22
9	37	24	23	40	16	29	16	48	1	35
11	37	25	23	39	16	34	16	47	1	47
13	37	27	24	39	16	40	16	47	1	59
15	37	28	24	38	16	45	17	46	0	24 10
17	37	30	24	38	15	52	17	45	0	20
19	37	31	24	38	15	56	17	44	0	30
21	37	33	24	37	15	4	2	17	42	0
23	37	34	24	37	15	7	18	40	1	59
25	37	36	24	36	15	13	18	39	59	54
27	37	38	24	36	15	18	18	37	59	25 0
29	37	39	24	36	15	24	18	35	58	6

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

Date.	♀		♂		Mean	Date.	Time. H. M.	Phenomena.
	Lat.	Decl.	Lat.	Decl.	Ω			
1	1 N 13	2 N 7	0 N 16	14 N 48	20 = 1	2 18 3	♂ at Perigee.	
3	10 1	6	41	22	25 4	8 2	Full Moon D. 5° S 11'	
5	6 0 S	4	3 13	43	19 5	4 4	♂ on Equator.	
7	3 57		20 12	51	12	15 6	♀ at ♄	
9	0 59	1 59	33 11	49	6	15 12	♀ on Equator.	
11	56 3	1	42 10	38	19 59	10 ..	Heli. setting of ♄ in E.	
13	52 4	3	47 9	19	53 11	7 42	♂ at Last Quarter.	
15	47 5	4	49 7	55	47 16	10 29	♂ at Apogee.	
17	43 6	5	48 6	26	40 19	7 28	♂ on Equator.	
19	38 7	5	45 4	54	34	13 52	New Moon D. 1° S 31'	
21	33 8	5	39 3	20	28 23	7 56	Heli. setting of ♄ in W.	
23	29 9	4	31 1	46	21 25	2 48	☾ enters in ♍	
25	23 10	2	22 0 S	11	15	7 27	♀ at ♄	
27	18 11	0	12 1	23	9 27	2 26	♀ on Equator.	
29	13	56	0 2	56	2 30	8 56	♂ at First Quarter. ♂ at Perigee.	

20		OCTOBER, 1952.										S. J. O. UJJAIN	
Date	Day	Sidereal Time.		☉		☽		Midnight		ψ			
		H.	M.	S.	Long.	Decl.	Long.	Lat.	Decl.	☽	ψ		
1	W.	12	39	45	8 1	12	3S 11	7 9	1N 28	7S 32	14 33	20 58	
2	Th.		43	42	9 0	13	34	21 57	2 40	0 44	29 21	21 0	
3	F.		47	38	59	11	57	6 42	3 42	6 N 4	14 1	2	
4	S.		51	35	10 58	26	4	21 16	4 28	12 27	28 26	4	
5	Su.		55	31	11 57	36	44	5 32	5 56	18 2	12 32	6	
6	M.		59	28	12 56	48	5	7 19	25 5	6 22	30 26	12	
7	Tu.	13	3	24	13 56	1	30	2 53	4 58	25 37	9 27	10	
8	W.		7	21	14 55	18	53	14 55	35 27	16 22	17 12		
9	Th.		11	17	15 54	36	6	16 28	33 3	59 26	4 44	15	
10	F.		15	14	16 53	55	38	10 51	13 26	13 16	54 18		
11	S.		19	11	17 53	17	7	1 22	53 2	19 23	46 28	51	
12	Su.		23	7	18 52	40	24	4 46	1 20	20 22	10 40	20	
13	M.		27	4	19 52	12	46	16 33	0 18	16 8	22 27	25	
14	Tu.		31	0	20 51	34	8	9 28	21 S 45	11 20	4 17	27	
15	W.		34	57	21 51	3	31	10 14	47 6	5 16	14 29		
16	Th.		38	53	22 50	33	53	22 17	2 44	0 33	28 22	31	
17	F.		42	50	23 50	6	9	15 4 31	3 34	5 S 4	10 42	33	
18	S.		46	46	24 49	41	37	16 58	4 15	10 36	23 17	36	
19	Su.		50	53	25 49	16	59	29 40	45 15	47 6	m 6	38	
20	M.		54	40	26 48	55	10	20 12	m 36	5 0	20 22	19	9
21	Tu.		58	36	27 48	35	42	25 45	4 59	24 3	2 24	42	
22	W.	14	2	33	28 48	16	11	3 9 7	6 43	26 29	15 51	45	
23	Th.		6	29	29 47	59	24	22 38	10 27	25 27	27 27	47	
24	F.		10	26	0 47	45	45	6 19	3 23	26 41	13 13	49	
25	S.		14	22	1 47	32	12	6 20	9 2	24 18	27 7	51	
26	Su.		18	19	2 47	23	27	4 7	0 15	20 27	11 9	53	
27	M.		22	15	3 47	16	47	18 14	1 15	23 25	20 56		
28	Tu.		26	12	4 47	9	13	7 2 28	1 N 14	9 27	9 37	58	
29	W.		30	9	5 47	6	27	16 47	2 24	3 0	23 58	22	0
30	Th.		34	5	6 47	4	47	1 9	3 25	3 N 36	8 20	2	
31	F.		38	2	7 47	4	14	7 15	30 4	13 10	0 22	37	4
Date.		ψ		☽		☾		☿					
		Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.		
1	1N37	6S41	0N24	22N35	2N15	4S30	1S19	16N32	1S58	25S11			
3	37	43	24	35	15	35	19	30	57	15			
5	37	44	24	35	15	41	19	27	57	17			
7	37	46	24	35	15	47	19	24	56	20			
9	37	48	24	35	15	52	19	21	55	21			
11	37	49	24	34	15	58	20	18	55	21			
13	37	51	24	34	15	3	20	14	54	20			
15	37	53	25	34	15	9	20	11	53	19			
17	37	54	25	34	15	14	20	7	52	16			
19	37	56	25	34	15	20	20	3	51	12			
21	37	58	25	34	15	25	20	15	59	51			8
23	37	59	25	34	15	31	20	55	50	2			
25	37	7	25	34	15	36	20	51	49	24	55		
27	37	2	25	34	15	41	20	47	48	47			
29	37	4	25	34	16	47	20	43	47	39			
31	37	6	25	35	16	52	20	38	46	29			

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

22		NOVEMBER, 1952.										S. J. O. UJJAIN									
Date	Day	Sidereal Time.		☉		☽		Midnight		ψ		Lat.		Decl.		Long.		Lat.		Decl.	
				Long.	Decl.	Long.	Lat.	Decl.	ψ												
1	Su.	14	41	58	8m 47	6	14 S 26	29 45	4 N 45	15 N 50	6 46	22	4	7	15	14	41	58	8m 47	6	14 S 26
2	Su.	45	55	9	47	13	45	13 44	59 20	44	20	38	9	11	11	15	49	51	10	47	13
3	M.	49	51	10	47	19	15	42 27	56 24	44	4	11	11	11	11	15	49	51	10	47	13
4	Tu.	53	48	11	47	29	23	10 11	38 26	38	17	21	13	13	13	15	49	51	10	47	13
5	W.	57	44	12	47	39	41	23 48	2 27	19	0	9	15	15	15	15	49	51	10	47	13
6	Th.	15	1	41	13	47	52	59 6	25 3	17	6	34	12	37	17	15	49	51	10	47	13
7	F.	5	38	14	48	8	16	17 18	44 2	23	24	30	24	47	19	15	49	51	10	47	13
8	S.	9	34	15	48	23	35	0 47	1 25	21	22	6	44	21	21	15	49	51	10	47	13
9	Su.	13	31	16	48	41	52	12 39	0 23	17	23	18	33	24	24	15	49	51	10	47	13
10	M.	17	27	17	49	0	17	24 27	S 40	12	44	0	21	26	26	15	49	51	10	47	13
11	Tu.	21	24	18	49	13	26	6 16	1 40	7	40	12	12	28	28	15	49	51	10	47	13
12	W.	25	20	19	49	34	42	17 11	2 37	2	15	24	12	30	30	15	49	51	10	47	13
13	Th.	29	17	20	49	58	58	0 17	3 28	3 S 17	6 25	32	32	32	32	15	49	51	10	47	13
14	F.	33	13	21	50	23	18	14 12	4 9	8	18	55	34	34	34	15	49	51	10	47	13
15	S.	37	10	22	50	49	29	25 17	40	14	8	1	43	36	36	15	49	51	10	47	13
16	Su.	41	7	23	51	1	44	8 14	57	18	57	14	51	38	38	15	49	51	10	47	13
17	M.	45	3	24	51	49	59	21 32	59	22	57	28	17	40	40	15	49	51	10	47	13
18	Tu.	49	0	25	52	22	19	14 4	43	25	48	11	57	42	42	15	49	51	10	47	13
19	W.	52	56	26	52	56	28	18 52	12	27	10	25	50	44	44	15	49	51	10	47	13
20	Th.	56	53	27	53	33	42	2 49	3 25	26	50	9	50	48	48	15	49	51	10	47	13
21	F.	16	0	49	28	54	9	55 16	2 25	24	47	23	55	47	47	15	49	51	10	47	13
22	S.	4	46	29	54	49	20	8 0	1 16	21	11	8	1	49	49	15	49	51	10	47	13
23	Su.	8	42	0	55	30	21	15 4	0 21	6	21	22	8	51	51	15	49	51	10	47	13
24	M.	12	39	1	56	11	33	29 10	1 N 12	10	38	6	13	53	53	15	49	51	10	47	13
25	Tu.	16	36	2	56	54	45	13 15	2 22	4	23	20	16	55	55	15	49	51	10	47	13
26	W.	20	32	3	57	37	57	26 17	3 23	2 N 1	4 17	57	57	57	57	15	49	51	10	47	13
27	Th.	24	29	4	58	24	21	8 11	4 11	8	19	18	14	58	58	15	49	51	10	47	13
28	F.	28	25	5	59	9	19	25 10	44	14	9	2	4	0	0	15	49	51	10	47	13
29	S.	32	22	6	59	56	29	8 56	5	1	19	15	45	2	2	15	49	51	10	47	13
30	Su.	36	18	8	0	44	39	22 31	4 59	23	14	29	15	4	4	15	49	51	10	47	13

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

24		DECEMBER, 1952.										S. J. O. UJJAIN			
Date	Day	Sidereal Time.			O		D			Midnight		Ψ			
					Long.	Decl.	Long.	Lat.	Decl.	D					
1 M.	16	H. 40	M. 15	S. 9	1 34	21 S 49	5 53	4 N 42	25 N 55	12 28	23 5	5			
2 Tu.		44	11	10	2 23	58 18	58	10 27	8	25 35		7			
3 W.		48	8	11	3 14	22 6	1 46	3 25	2 52	8 4		9			
4 Th.		52	5	12	4 7	15 14	17	2 32	25 13	20 26		10			
5 F.		56	1	13	4 59	22 26	32	1 32	22 22	2 34		12			
6 S.		59	56	14	5 53	30 8	34	0 29	18 36	14 31		13			
7 Su.	17	3	54	15	6 47	37 20	26	S 34	14 8	26 20		15			
8 M.		7	51	16	7 44	43 2	14	1 36	9 11	8 8		16			
9 Tu.		11	47	17	8 38	49 14	2	2 34	3 55	19 58		18			
10 W.		15	44	18	9 37	55 25	57	3 25	1 S 32	1 58		19			
11 Th.		19	40	19	10 37	23 0	8 3	4 9	7 1	14 12		21			
12 F.		23	37	20	11 36	5 20	25	4 12	19	26 44		22			
13 S.		27	34	21	12 38	9 3	8	5 17	16	9 38		24			
14 Su.		31	30	22	13 40	13 16	13	6 21	35	22 54		26			
15 M.		35	27	23	14 43	16 29	43	4 54	24 53	6 36		27			
16 Tu.		39	23	24	15 46	19 13	35	25 26	50	20 38		28			
17 W.		43	20	25	16 52	22 27	45	3 40	27 5	4 5		29			
18 Th.		47	16	26	17 57	24 12	38	2 39	25 32	19 23		30			
19 F.		51	13	27	19 1	25 26	49	1 28	22 16	3 55		31			
20 S.		55	9	28	20 9	26 11	21	0 11	17 36	18 26		33			
21 Su.		59	6	29	21 17	27 25	39	1 N 7	11 55	2 50		34			
22 M.	18	3	3	0	22 26	27 9	59	2 20	5 39	17 6		35			
23 Tu.		6	59	1	23 35	26 24	9	3 24	0 N 48	1 10		36			
24 W.		10	56	2	24 44	25 8	8	4 15	7 7	15 3		37			
25 Th.		14	52	3	25 52	24 21	55	49 13	0	28 18		38			
26 F.		18	44	4	26 51	22 5	29	5 7	18 11	12 8		39			
27 S.		22	45	5	28 0	20 18	50	9 22	23	25 28		40			
28 Su.		26	42	6	29 10	17 2	1	4 53	25 21	8 31		41			
29 M.		30	38	7	30 18	14 14	58	23 26	57	21 22		42			
30 Tu.		34	35	8	31 26	10 27	42	3 40	27 6	3 59		43			
31 W.		38	32	9	32 36	6 10	13	2 47	25 50	16 23		44			
Date	Ψ		ϑ		ζ		η		θ		ι				
	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.	Lat.	Decl.			
2	1 N 38	7 S 28	0 N 26	22 N 40	2 N 20	7 S	1 S 15	14 N 31	1 S 25	19 S	39				
4	38	29		41	20	10	15	28	24		14				
6	38	30		42	20	13	14	24	22 18		47				
8	39	31		42	21	17	14	21	21		20				
10	39	32		43	21	21	13	19	19 17		52				
12	39	33		43	22	24	13	16	18		24				
14	39	34		44	22	27	12	14	16 16		54				
16	39	35		45	22	31	12	12	14		24				
18	39	36		45	23	34	11	10	13 15		54				
20	39	36		46	23	37	11	8	11		22				
22	39	37		47	24	39	10	7	10 14		51				
24	39	38		47	24	42	10	6	8		18				
26	40	39		48	25	45	9	5	6 13		45				
28	40	39		49	25	47	8	4	5		9				
30	40	39		49	26	49	8	4	3 12		38				

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

26		SUNRISE IN 1952.												
Months and Dates.		Latitudes.												
		+5°	+8°	+11°	+14°	+17°	+20°	+23°	+26°	+29°	+32°	+35°		
Jan.	4 6	10 6	15 6	20 6	25 6	30 6	36 6	42 6	48 6	5 7	2 7	9		
	11	12	17	22	27	32	37	43	49	55	2	9		
	18	14	19	24	28	33	38	44	49	55	1	7		
	25	16	20	25	29	34	38	43	48	53 6	59	4		
Feb.	1	17	20	24	28	32	36	41	45	50	55	0		
	8	17	20	23	27	30	34	38	42	46	50	6 54		
	15	16	18	21	24	27	30	33	37	40	44	48		
	22	14	16	19	21	24	26	29	31	34	37	40		
	29	12	14	16	17	19	21	23	25	27	29	31		
Mar.	7	10	11	12	13	14	15	16	18	19	21	22		
	14	7	8	9	9	10	11	11	12	12	13			
	21	4	5	4	4	4	4	3	3	3	3			
	28	1	1	0 5	59 5	58 5	57 5	56 5	55 5	55 5	54 5	53		
Apr.	4 5	58 5	57 5	56	54	53	51	49	48	47	45	43		
	11	55	53	51	49	48	46	44	42	40	37	34		
	18	52	50	47	45	43	40	37	34	31	28	25		
	25	50	47	44	41	38	35	31	28	24	20	16		
May	2	48	44	41	37	33	30	26	22	18	14	9		
	9	47	42	39	35	31	27	22	17	12	8	3		
	16	46	42	37	33	28	24	18	12	7	2	4 56		
	23	46	41	36	31	26	21	15	9	3 4	58	51		
	30	46	41	35	30	25	20	14	8	2	55	48		
June	6	47	41	35	30	25	20	13	6	0	53	46		
	13	47	42	36	31	26	20	13	6	0	53	45		
	20	48	43	38	32	27	21	14	7	1	54	46		
	27	50	45	40	34	28	23	16	9	2	56	48		
July	4	52	47	42	36	31	25	18	11	4	58	51		
	11	54	49	44	38	33	2	21	15	9 5	2	54		
	18	55	50	45	40	35	30	24	18	12	6	59		
	25	55	51	46	42	37	32	27	22	16	10	5 4		
Aug.	1	55	51	47	43	39	35	30	25	20	14	5		
	8	55	52	49	45	41	37	33	29	25	19	14		
	15	55	53	50	47	44	40	36	32	28	24	19		
	22	54	53	50	47	44	42	39	36	32	29	25		
	29	53	52	50	47	45	43	41	38	36	33	30		
Sep.	5	52	51	49	48	46	45	43	41	40	38	35		
	12	51	51	50	49	48	47	46	45	43	42	40		
	19	50	50	49	49	48	48	47	46	45	44	45		
	26	49	49	49	49	50	50	50	50	50	50	50		
Oct.	3	48	48	49	49	50	51	52	53	54	55	56		
	10	46	47	48	50	51	53	54	56	58	59	6 1		
	17	45	48	50	51	53	55	57 6	0 6	2 6	5	7		
	24	45	48	50	53	55	58 6	1	4	7	10	13		
	31	45	48	51	54	57 6	0	5	8	12	16	20		
Nov.	7	46	50	53	57 6	0	4	8	13	18	22	26		
	14	48	51	55 6	0	4	8	13	18	22	26	30		
	21	50	54	59	3	8	13	18	22	26	30	34		
	28	52	57 6	1	7	12	17	23	28	34	40	47		
Dec.	5	55 6	1	5	11	16	21	27	33	39	46	53		
	12	59	4	9	14	20	25	31	38	46	51	58		
	19 6	2	7	13	18	24	29	36	42	49	56	7 3		
	26	6	11	16	22	27	33	39	46	52	59	6		

SUNSET IN 1952.														27
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	34 17	28 17	21 17	15 17	8 17	1 17	1	
	11	3	58	53	48	43	38	32	26	20	14	7	7	
	18	6 18	2	57	53	48	43	37	32	26	20	13	13	
	25	9	5 18	0	56	51	47	42	37	32	26	20	20	
Feb.	1	11	7	3	59	55	51	46	42	37	33	28	28	
	8	13	9	6 18	2	59	55	51	47	43	39	35	35	
	15	14	11	8	5 18	2	59	56	52	49	46	42	42	
	22	14	11	9	7	4 18	2	59	57	54	51	48	48	
	29	14	12	10	9	7	5 18	3 18	1	59	57	55	55	
Mar.	7	13	12	10	9	8	7	6	5 18	3 18	2 18	1	1	
	14	12	11	11	10	9	9	8	8	8	7	7	7	
	21	11	11	11	11	11	11	12	12	12	12	12	12	
	28	10	10	11	12	12	13	14	15	16	17	18	18	
Apr.	4	9	10	11	13	14	15	16	18	19	21	23	23	
	11	8	9	11	14	15	17	19	22	24	25	29	29	
	18	7	9	12	13	17	19	22	25	28	31	35	35	
	25	5	8	12	15	18	21	25	28	32	36	40	40	
May	2	6	10	13	17	20	24	28	32	37	41	46	46	
	9	7	10	14	18	22	26	31	36	40	46	52	52	
	16	7	11	15	20	25	29	34	40	45	51	57	57	
	23	8	13	17	22	27	32	38	43	49	55	19 2	19 2	
	30	9	14	19	24	30	35	41	47	53	19 0	7	7	
June	6	10	16	21	26	32	37	44	50	57	4	11	11	
	13	12	18	23	29	34	40	47	53	19 0	7	14	14	
	20	14	19	25	31	36	42	49	55	2	9	17	17	
	27	15	20	26	32	37	43	50	56	3	10	18	18	
July	4	16	21	27	32	38	43	50	56	3	10	17	17	
	11	17	22	27	32	38	43	49	55	2	9	16	16	
	18	18	22	27	32	37	42	48	53	18 59	6	13	13	
	25	17	21	26	31	35	40	46	51	56	2	9	9	
Aug.	1	16	20	24	29	33	37	41	45	50	18 57	3	3	
	8	15	19	22	26	29	33	37	42	47	51 18	56	56	
	15	13	16	19	22	26	29	33	36	40	44	49	49	
	22	10	12	15	18	21	24	27	30	33	36	40	40	
	29	7	9	12	14	16	18	20	23	25	28	31	31	
Sep.	5	4	6	8	9	11	12	14	16	17	20	22	22	
	12	0	1	2	4	5	6	7	8	9	10	12	12	
	19	17 57	17 57	17 58	17 58	17 59	17 59	17 59	0	1	2	3	3	
	26	55	54	54	54	53	53	53	17 52	17 52	17 52	17 52	17 52	
Oct.	3	50	50	49	48	48	47	46	45	44	43	42	42	
	10	48	47	45	44	42	41	39	37	36	34	32	32	
	17	45	43	41	39	37	35	33	30	28	25	23	23	
	24	43	41	38	35	33	30	27	24	21	18	15	15	
	31	42	39	36	33	30	26	23	19	15	11	7	7	
Nov.	7	41	37	34	30	27	23	19	15	10	6	1	1	
	14	41	38	34	29	25	21	16	11	7	1 16	55	55	
	21	42	38	34	29	24	19	14	9	4 16	58	52	52	
	28	44	39	34	29	24	19	13	8	2	56	49	49	
Dec.	5	46	41	36	31	25	20	14	8	2	55	48	48	
	12	49	44	38	33	27	22	16	9	3	56	49	49	
	19	52	47	41	36	30	25	19	12	6	59	51	51	
	26	55	50	45	40	35	29	22	16	9 17	2	55	55	

28 Geocentric position of Pluto and Mean Longitudes
of the Sun and the Moon in 1952.

Month and Date.	Pluto.			Sun.			Moon.		
	Long.	Lat.	Decl.	Mean Long.	Mean Long.	Hor. Par.	Semi- Dia.		
Jan.	1 21 11 11 R 0 21 20 48 31 34	9N 6 8 10 12	23N 2 8 14 20	279 52 15 289 43 18 299 35 1 309 26 24	326 43 12 98 29 3 14 53 2 0 43	59.8 54.0 58.0 58.4	16.3 14.7 15.8 15.9		
Feb.	10 19 20 4	13 13	26 31	319 17 48 329 9 11	133 46 34 265 32 24	54.1 59.3	14.7 16.2		
March	1 19 50 11 37 21 25 31 17	13 13 12 11	35 39 42 44	339 0 35 348 51 58 358 43 21 8 34 44	37 18 14 169 4 4 300 49 55 72 35 45	56.7 55.1 59.7 55.3	15.5 15.0 16.3 15.0		
April	10 10 20 5 30 4	9 8 6	45 45 44	18 26 8 28 17 31 38 8 54	204 21 35 336 7 26 107 53 16	58.8 59.1 54.4	15.5 16.1 14.8		
May	10 D 5 20 10 30 17	4 2 0	42 39 35	48 0 18 57 51 41 67 43 4	239 39 6 11 24 57 143 10 47	58.7 57.7 54.2	16.0 15.7 14.8		
June	9 25 8 19 37 57 29 44 56	59 57 56	31 25 20	77 34 27 87 25 51 97 17 14	274 56 37 46 42 27 178 28 18	60.4 56.0 54.8	16.4 15.3 14.9		
July	9 20 5 19 22 54 29 39 54	55 54 54	14 8 2	107 8 37 117 0 1 126 51 24	310 14 8 81 59 58 213 45 49	60.0 54.7 56.0	16.6 14.9 15.3		
August	8 58 18 17 28 35	54 22 55 56	56 50 45	136 42 47 146 34 11 156 25 34	345 31 38 117 17 29 249 3 19	60.5 54.0 57.5	16.5 14.7 15.7		
Sep.	7 21 53 17 22 9 27 25 9	58 59 1	41 37 33	166 16 57 176 8 20 185 59 44	20 49 9 152 35 0 284 20 50	59.0 54.2 58.8	16.1 14.7 16.0		
Oct.	7 39 17 50 27 23	4 7 0	31 30 30	195 51 7 205 42 30 215 33 54	56 6 41 187 52 31 319 38 21	57.2 55.1 59.4	15.6 15.0 16.2		
Nov.	6 6 16 8 26 10	13 16 20	31 32 35	225 25 17 235 16 40 245 8 6	91 24 11 223 10 1 354 55 52	55.6 56.7 58.9	15.2 15.5 16.0		
Dec.	6 R 9 16 23 3 26 22 53 31 51	24 27 29 31	39 44 50 52	254 59 27 264 50 50 274 42 14 279 37 55	126 41 42 258 27 32 30 13 22 96 6 18	54.5 58.7 57.7 55.3	14.8 16.0 15.7 15.1		

Ending Moments of Tithis for each date in 1952
(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	4	H. M. 3 36	6	H. M. 13 22	5	H. M. 5 23		H. M.	7	H. M. 20 11	8	H. M. 16 10
2	5	1 54	7	13 20	6	5 35	7	1 13	8	22 41	9	17 36
3	6	23 28	8	14 1	7	6 33	8	3 33			10	18 17
4	7	22 32	9	15 32	8	8 12	9	6 8	9	0 59	11	18 10
5	8	22 16	10	17 23	9	10 24	10	8 39	10	2 48	12	17 14
6	9	22 41	11	19 42	10	12 55	11	10 52	11	3 58	13	15 34
7	10	23 33	12	22 17	11	15 33	12	12 39	12	4 26	14	13 20
8	11	1 13			12	18 5	13	13 51	13	4 10	15	10 35
9	12	3 10	13	1 0	13	20 21	14	14 24	14	3 11	16	7 32
10	13	5 4	14	3 31	14	22 13	15	14 21	15	1 38	17	4 22
11	14	7 55	15	6 1	15	23 39	16	13 47	16	23 40	18	1 12
12	15	10 27	16	8 10			17	12 45	18	18 53	19	22 10
13	16	13 7	17	9 59	16	0 36	18	11 21	19	16 19	20	19 24
14	17	15 41	18	11 27	17	1 5	19	9 39	20	13 48	21	16 57
15	18	18 11	19	12 25	18	1 6	20	7 44	21	12 34	22	13 14
16	19	20 18	20	12 52	19	0 39	21	5 44	22	9 14	23	12 6
17	20	22 2	21	12 46	20	0 12	22	3 41	23	7 14	25	11 23
18	21	23 12	22	12 4	21	22 34	22	21 1	23	1 35	24	5 28
19	22	22 19	23	11 11	22	21 1	23	1 35	24	5 28	26	11 4
20	23	23 22	24	8 59	23	19 7	24	23 28	25	3 58	27	11 14
21	24	22 16	25	6 37	24	16 57	25	21 24	26	2 44	28	11 50
22	25	20 23	26	3 47	25	12 46	26	19 22	27	17 25	29	12 51
23	26	17 53	27	0 42	26	11 48	27	17 25	28	15 37	30	14 17
24	27	14 50	28	21 20	27	9 11	28	15 37	29	1 8	31	16 7
25	28	11 24	29	18 1	28	6 38	29	14 9	30	0 53		
26	29	7 43	30	14 48	29	4 5	30	12 58	31	1 4	2	18 22
27	30	4 1	1	11 50	30	1 48	1	12 16	2	1 44	3	20 49
28	1	0 21	2	9 16	2	22 25	3	12 8	4	2 54	5	23 23
29	2	20 59	3	7 18	3	21 31	4	12 35	5	4 34	6	4 12
30	3	18 9	4	5 58	4	21 22	5	13 45	6	6 43	7	5 57
31	4	15 51			5	22 5	6	17 42	7	11 42		
	5	14 17			6	23 24			8	14 6		

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

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

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

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

December.

November.

(For the latitude $23^{\circ}11' N$).

Mercury.

Sets.

Rises.

20th January, in East.

28th March, in West.

24th May, in East.

30th July, in West.

10th September, in East.

23rd November, in West.

Venus.

8th May, in East.

2nd August, in West.

Jupiter.

'3rd Apri', in West.

8th May in, East.

Saturn.

19th September. in West.

28th October, in East.

Moonrise.

28th January.

26th February

27th March.

25th April.

25th May.

23rd June.

23rd July.

22nd August.

21st September.

20th October,

19th November.

18th December.

Elements of the Planetary orbits for 12 O'clock noon (I. S. T.) on 1st January 1952.

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.
	° ' "	° ' "	Days.	° ' "				° ' "
Mercury	143 45 29	4 5 32	87·9993	47 45 44	76 42 31	0·205625	0·3870984	7 0 14
Venus	172 23 25	1 36 8	224·701	76 14 51	130 53 46	0·006789	0·7233302	3 23 29
Earth	93 52 14	0 59 8	365·256	..	286 6 54	0·016729	1·0000000	..
Mars	157 17 55	0 31 26	686·980	49 11 15	335 10 32	0·093356	1·523678	1 51 0
Jupiter	16 51 13	0 4 59	4332·59	99 58 7	13 33 29	0·048117	5·202561	1 18 21
Saturn	182 46 49	0 2 0	10759·2	113 14 40	93 7 0	0·055720	9·554747	2 23 26
Uranus	107 43 24	0 0 42	30688·5	73 44 11	172 19 13	0·046331	19·21824	0 46 22
Neptune	198 47 49	0 0 21·5	60181·3	131 15 10	47 28 5	0·009900	30·10957	1 46 28
Moon	326 43 14	13 10 35	..	333 26 31	290 11 56	0·05490	..	5 8 13

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

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

February.

1 ☽ 21 19

2 ☽ 12 6

3 ☽ 14 19

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

40 Timings of Lunar Aspects in 1952.—(contd.)

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

April.

May.

June.

Timings of Lunar Aspects in 1952.—(contd.).

41

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

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

July.

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

Timings of Lunar Aspects in 1952.—(contd.).

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

Date.	Aspect	Time.	Date.	Aspect	Time.	Date.	Aspect	Time.	Date.	Aspect	Time.																							
		H. M.			H. M.			H. M.			H. M.																							
27	ψ ϕ Pl ⊙ λ ψ Pl h μ σ λ ψ Pl ϕ σ ⊙ ⊙ h μ λ ψ ⊙ Pl ψ	3 21 4 4 55 6 21 2 0 2 5 8 5 39 8 38 23 41 3 2 6 6 9 6 44 7 27 10 20 1 10 8 37 8 46 16 13 0 40 5 11 8 30 9 32 10 37 11 19 12 15 19 30	5	ψ Pl σ ϕ ⊙ ⊙ h μ σ λ ψ Pl ϕ σ ⊙ ⊙ h μ λ ψ ⊙ Pl ψ	11 40 14 17 17 29 20 12 23 53 8 19 10 13 12 44 15 2 16 17 17 49 23 52 4 21 11 3 12 59 18 1 23 2 5 54 9 59 15 10 16 45 19 8 22 2 0 54 8 1 10 40 13 20 20 2 23 35 5 58 22 0 1 4 1 59 3 9 3 33 5 0 8 53 11 52 1 46 10 13 15 21 15 58 17 17 17 43 19 22 21 56 0 47 18 40 22 8 22 25	6	ψ Pl σ ϕ ⊙ ⊙ h μ σ λ ψ Pl ϕ σ ⊙ ⊙ h μ λ ψ ⊙ Pl ψ	11 40 14 17 17 29 20 12 23 53 8 19 10 13 12 44 15 2 16 17 17 49 23 52 4 21 11 3 12 59 18 1 23 2 5 54 9 59 15 10 16 45 19 8 22 2 0 54 8 1 10 40 13 20 20 2 23 35 5 58 22 0 1 4 1 59 3 9 3 33 5 0 8 53 11 52 1 46 10 13 15 21 15 58 17 17 17 43 19 22 21 56 0 47 18 40 22 8 22 25	7	ψ Pl σ ϕ ⊙ ⊙ h μ σ λ ψ Pl ϕ σ ⊙ ⊙ h μ λ ψ ⊙ Pl ψ	11 40 14 17 17 29 20 12 23 53 8 19 10 13 12 44 15 2 16 17 17 49 23 52 4 21 11 3 12 59 18 1 23 2 5 54 9 59 15 10 16 45 19 8 22 2 0 54 8 1 10 40 13 20 20 2 23 35 5 58 22 0 1 4 1 59 3 9 3 33 5 0 8 53 11 52 1 46 10 13 15 21 15 58 17 17 17 43 19 22 21 56 0 47 18 40 22 8 22 25	8	ψ Pl σ ϕ ⊙ ⊙ h μ σ λ ψ Pl ϕ σ ⊙ ⊙ h μ λ ψ ⊙ Pl ψ	11 40 14 17 17 29 20 12 23 53 8 19 10 13 12 44 15 2 16 17 17 49 23 52 4 21 11 3 12 59 18 1 23 2 5 54 9 59 15 10 16 45 19 8 22 2 0 54 8 1 10 40 13 20 20 2 23 35 5 58 22 0 1 4 1 59 3 9 3 33 5 0 8 53 11 52 1 46 10 13 15 21 15 58 17 17 17 43 19 22 21 56 0 47 18 40 22 8 22 25	9	ψ Pl σ ϕ ⊙ ⊙ h μ σ λ ψ Pl ϕ σ ⊙ ⊙ h μ λ ψ ⊙ Pl ψ	11 40 14 17 17 29 20 12 23 53 8 19 10 13 12 44 15 2 16 17 17 49 23 52 4 21 11 3 12 59 18 1 23 2 5 54 9 59 15 10 16 45 19 8 22 2 0 54 8 1 10 40 13 20 20 2 23 35 5 58 22 0 1 4 1 59 3 9 3 33 5 0 8 53 11 52 1 46 10 13 15 21 15 58 17 17 17 43 19 22 21 56 0 47 18 40 22 8 22 25	10	ψ Pl σ ϕ ⊙ ⊙ h μ σ λ ψ Pl ϕ σ ⊙ ⊙ h μ λ ψ ⊙ Pl ψ	11 40 14 17 17 29 20 12 23 53 8 19 10 13 12 44 15 2 16 17 17 49 23 52 4 21 11 3 12 59 18 1 23 2 5 54 9 59 15 10 16 45 19 8 22 2 0 54 8 1 10 40 13 20 20 2 23 35 5 58 22 0 1 4 1 59 3 9 3 33 5 0 8 53 11 52 1 46 10 13 15 21 15 58 17 17 17 43 19 22 21 56 0 47 18 40 22 8 22 25	11	ψ Pl σ ϕ ⊙ ⊙ h μ σ λ ψ Pl ϕ σ ⊙ ⊙ h μ λ ψ ⊙ Pl ψ	11 40 14 17 17 29 20 12 23 53 8 19 10 13 12 44 15 2 16 17 17 49 23 52 4 21 11 3 12 59 18 1 23 2 5 54 9 59 15 10 16 45 19 8 22 2 0 54 8 1 10 40 13 20 20 2 23 35 5 58 22 0 1 4 1 59 3 9 3 33 5 0 8 53 11 52 1 46 10 13 15 21 15 58 17 17 17 43 19 22 21 56 0 47 18 40 22 8 22 25	12	ψ Pl σ ϕ ⊙ ⊙ h μ σ λ ψ Pl ϕ σ ⊙ ⊙ h μ λ ψ ⊙ Pl ψ	11 40 14 17 17 29 20 12 23 53 8 19 10 13 12 44 15 2 16 17 17 49 23 52 4 21 11 3 12 59 18 1 23 2 5 54 9 59 15 10 16 45 19 8 22 2 0 54 8 1 10 40 13 20 20 2 23 35 5 58 22 0 1 4 1 59 3 9 3 33 5 0 8 53 11 52 1 46 10 13 15 21 15 58 17 17 17 43 19 22 21 56 0 47 18 40 22 8 22 25	13	ψ Pl σ ϕ ⊙ ⊙ h μ σ λ ψ Pl ϕ σ ⊙ ⊙ h μ λ ψ ⊙ Pl ψ	11 40 14 17 17 29 20 12 23 53 8 19 10 13 12 44 15 2 16 17 17 49 23 52 4 21 11 3 12 59 18 1 23 2 5 54 9 59 15 10 16 45 19 8 22 2 0 54 8 1 10 40 13 20 20 2 23 35 5 58 22 0 1 4 1 59 3 9 3 33 5 0 8 53 11 52 1 46 10 13 15 21 15 58 17 17 17 43 19 22 21 56 0 47 18 40 22 8 22 25	14	ψ Pl σ ϕ ⊙ ⊙ h μ σ λ ψ Pl ϕ σ ⊙ ⊙ h μ λ ψ ⊙ Pl ψ	11 40 14 17 17 29 20 12 23 53 8 19 10 13 12 44 15 2 16 17 17 49 23 52 4 21 11 3 12 59 18 1 23 2 5 54 9 59 15 10 16 45 19 8 22 2 0 54 8 1 10 40 13 20 20 2 23 35 5 58 22 0 1 4 1 59 3 9 3 33 5 0 8 53 11 52 1 46 10 13 15 21 15 58 17 17 17 43 19 22 21 56 0 47 18 40 22 8 22 25	15	ψ ϕ ⊙ ⊙ λ ψ ⊙

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

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

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

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

September.

1	D	10 43	2	D	10 56	3	D	18 24	4	D	14 56
5	D	0 0	6	D	0 0	7	D	0 0	8	D	0 0
9	D	0 0	10	D	0 0	11	D	0 0	12	D	0 0
13	D	0 0	14	D	0 0	15	D	0 0	16	D	0 0
17	D	0 0	18	D	0 0	19	D	0 0	20	D	0 0
21	D	0 0	22	D	0 0	23	D	0 0	24	D	0 0
25	D	0 0	26	D	0 0	27	D	0 0	28	D	0 0
29	D	0 0	30	D	0 0	31	D	0 0			

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

Daily Motion of Planets in 1952.

51

JANUARY.

FEBRUARY.

MARCH.

Date.

D	h	m	s	°	′	″	D	h	m	s	°	′	″	D	h	m	s	°	′	″
1	14	9		D	41	71	61	31	61		D	24	61	24	61	25	61	25	61	25
2	13	42		61	46	71	61	30	61		35	25	61	25	61	25	61	25	61	25
3	18	41		61	41	72	61	31	61		35	25	61	25	61	25	61	25	61	25
4	12	57		61	54	72	61	30	61		36	25	61	24	61	24	61	24	61	24
5	5	39		61	59	71	61	30	61		36	24	61	24	61	24	61	24	61	24
6	2	24		61	2	72	61	30	61		38	23	61	23	61	23	61	23	61	23
7	13	13		61	5	72	61	30	61		38	23	61	23	61	23	61	23	61	23
8	4			61	7	72	61	30	61		39	23	61	22	61	22	61	22	61	22
9	11	58		61	10	72	61	30	61		39	23	61	22	61	22	61	22	61	22
10	53			61	12	72	61	30	61		41	22	61	22	61	22	61	22	61	22
11	51			61	13	72	61	29	61		41	22	61	22	61	22	61	22	61	22
12	50			61	15	72	61	29	61		42	22	61	22	61	22	61	22	61	22
13	51			61	18	73	61	29	61		42	22	61	22	61	22	61	22	61	22
14	53			61	19	72	61	29	61		43	22	61	22	61	22	61	22	61	22
15	59			61	19	72	61	28	61		44	21	61	21	61	21	61	21	61	21
16	12	8		61	20	73	61	28	61		45	21	61	21	61	21	61	21	61	21
17	21			61	22	72	61	28	61		46	20	61	20	61	20	61	20	61	20
18	38			61	23	73	61	28	61		46	20	61	20	61	20	61	20	61	20
19	59			61	24	73	61	28	61		47	20	61	20	61	20	61	20	61	20
20	13	24		61	25	72	61	28	61		48	20	61	19	61	19	61	19	61	19
21	50			61	25	73	61	27	61		50	19	61	19	61	19	61	19	61	19
22	14	18		61	26	73	61	28	61		50	18	61	18	61	18	61	18	61	18
23	42			61	27	73	61	27	61		51	18	61	18	61	18	61	18	61	18
24	15	1		61	28	73	61	27	61		51	18	61	18	61	18	61	18	61	18
25	12	29		61	29	73	61	26	61		53	17	61	17	61	17	61	17	61	17
26	13			61	30	73	61	26	61		53	17	61	17	61	17	61	17	61	17
27	4	30		61	30	73	61	26	61		53	16	61	16	61	16	61	16	61	16
28	14	47		61	31	73	61	26	61		55	16	61	15	61	15	61	15	61	15
29	23			61	32	73	61	25	61		54	15	61	15	61	15	61	15	61	15
30	13	53		61	32	73	61	26	61		55	15	61	15	61	15	61	15	61	15
31	32			61	31	73	61	26	61		..	..	..	..	..	..	..	..	..	..

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Date.	APRIL.				MAY.				JUNE.			
	D	W	F	S	D	W	F	S	D	W	F	S
1	12	0	0	R	6	59	74	58	23	12	13	58
2	11	52	42	6	59	74	58	22	22	31	7	74
3	10	48	45	8	59	74	58	22	22	55	9	74
4	9	51	46	9	59	74	58	22	22	13	20	74
5	8	59	48	9	59	74	58	22	22	47	11	74
6	7	12	47	9	59	74	58	22	22	14	11	74
7	6	24	47	11	59	74	58	22	22	30	12	74
8	5	41	45	11	59	74	58	22	22	43	12	74
9	4	59	42	11	59	74	58	22	22	46	12	74
10	3	15	40	13	59	74	58	21	21	36	11	74
11	2	31	35	13	59	74	58	20	20	23	10	74
12	1	44	32	14	59	74	58	20	20	7	9	74
13	13	54	27	14	59	74	58	19	19	13	51	74
14	14	1	22	15	58	74	58	19	19	34	6	74
15	15	6	17	16	59	74	58	18	18	19	5	74
16	16	7	11	17	59	74	58	18	18	16	3	74
17	17	8	7	18	58	74	58	17	17	12	52	74
18	18	8	2	18	59	74	58	17	17	40	59	74
19	19	6	4	19	58	74	58	16	16	28	57	74
20	20	3	8	20	59	74	58	16	16	17	55	74
21	21	13	14	21	59	74	58	14	14	7	53	74
22	22	47	18	21	58	74	58	14	14	11	58	74
23	23	36	23	22	59	74	58	13	13	52	48	74
24	24	21	27	22	59	74	58	12	12	48	46	74
25	25	2	31	21	58	74	58	12	12	46	44	74
26	26	12	35	21	58	74	58	11	11	50	42	74
27	27	27	40	22	59	74	58	10	10	59	39	74
28	28	11	43	21	58	74	58	9	9	12	12	74
29	29	11	45	22	58	74	58	9	9	29	29	74
30	30	59	45	22	58	74	58	9	9	29	29	74
31	31	52	50	22	59	74	58	7	7	..	..	..

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

Daily Motion of Planets in 1952.

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

Table of Ascendents for Latitudes 7° to 20°.																
Sid. Time.	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°	20°		
H. M.	°	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'
0	0 92	48 93	12 93	34 94	0 94	25 94	50 95	15 95	40 96	5 96	30 96	56 97	22 97	47 98	14 98	36 98
1	0 15	96 13	37 97	1 97	25 97	50 98	14 98	39 99	3 99	28 99	53 100	18 100	44 101	10 101	31 101	59 101
2	0 30	99 39	100 30	3 100	50 101	14 101	38 102	2 102	27 102	51 103	15 103	40 104	5 104	31 104	59 104	36 104
3	0 45	102 3	103 28	10 32	15 104	39 105	3 105	27 105	50 106	15 106	38 107	3 107	27 107	52 108	17 108	36 108
4	0 10	106 31	106 54	107 40	108 3	3 108	26 108	49 109	13 109	36 110	0 110	23 110	47 111	11 111	36 111	36 111
5	0 15	109 58	110 20	110 42	111 5	111 23	111 51	13 112	36 112	59 113	21 113	45 114	8 114	31 114	54 114	36 114
6	0 30	113 24	113 47	114 9	114 31	114 53	115 15	37 115	59 116	21 116	43 117	6 117	28 117	51 118	14 118	36 118
7	0 45	116 54	117 14	117 36	117 58	118 19	118 40	119 2	21 119	53 119	45 120	6 120	27 120	49 121	11 121	32 121
8	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	53 124	33 124
9	0 15	123 53	124 14	124 34	124 55	125 14	125 34	126 53	13 126	33 126	53 127	13 127	33 127	53 128	13 128	53 128
10	0 30	127 26	127 45	128 4	128 24	128 42	129 1	129 24	39 129	58 130	17 130	37 130	56 131	15 131	36 131	56 131
11	0 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 56	134 74
12	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	17 138	17 138
13	0 15	138 14	138 31	138 47	139 3	19 139	35 139	51 140	6 140	22 140	38 140	54 141	10 141	25 141	41 141	41 141
14	0 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 6	145 21
15	0 45	145 36	145 50	146 4	146 19	146 31	146 45	146 59	147 12	147 27	147 39	148 5	148 19	148 33	148 47	148 61
16	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	58 151	70 151
17	0 15	153 6	153 17	153 29	153 45	154 0	154 15	154 30	154 45	154 60	154 75	154 90	154 105	154 120	154 135	154 150
18	0 30	156 54	157 3	157 12	157 22	157 32	157 41	157 51	158 0	158 9	158 18	158 27	158 36	158 45	158 54	158 63
19	0 45	160 41	160 51	161 1	161 12	161 21	161 31	161 40	161 50	161 59	162 8	162 17	162 26	162 35	162 44	162

Table of Ascendants for Latitudes 7° to 20°

Sid. Time.	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°	20°
H. M.	°	°	°	°	°	°	°	°	°	°	°	°	°	°
6	0 180	0 180	0 180	0 180	0 180	0 180	0 180	0 180	0 180	0 180	0 180	0 180	0 180	0 180
15	183	53 183	51 183	49 183	48 183	46 183	45 183	42 183	41 183	40 183	38 183	37 183	36 183	33 183
30	187	45 187	41 187	39 187	36 187	32 187	29 187	25 187	23 187	20 187	16 187	13 187	9 187	6 187
45	191	36 191	32 191	27 191	22 191	17 191	13 191	8 191	3 190	58 190	53 190	49 190	44 190	40 190
7	0 195	27 195	22 195	15 195	9 195	2 194	56 194	49 194	43 194	37 194	30 194	24 194	18 194	11 194
15	199	19 199	10 199	2 198	52 198	46 198	37 198	25 198	18 198	14 198	6 198	0 197	51 197	44 197
30	203	7 202	57 202	48 202	38 202	28 202	19 202	9 202	0 201	51 201	41 201	32 201	23 201	14 201
45	206	55 206	43 206	31 206	20 206	10 205	59 205	49 205	38 205	27 205	17 205	5 204	55 204	45 204
8	0 210	40 210	27 210	15 210	1 209	50 209	38 209	25 209	13 209	1 208	49 208	37 208	25 208	14 208
15	214	24 214	10 213	56 213	41 213	29 213	15 213	1 212	48 212	33 212	21 212	8 211	55 211	41 211
30	218	4 217	50 217	35 217	20 217	5 216	50 216	35 216	21 216	6 215	52 215	37 215	23 215	8 214
45	221	46 221	30 221	13 220	56 220	41 220	25 220	9 219	54 219	38 219	22 219	6 218	50 218	35 218
9	0 225	22 225	6 224	49 224	31 224	15 223	58 223	41 223	24 223	7 222	50 222	34 222	17 222	0 221
15	229	0 228	42 228	23 228	4 227	47 227	29 227	11 226	53 226	35 226	17 225	59 225	40 225	22 225
30	232	34 232	16 231	56 231	36 231	18 230	59 230	42 230	21 230	2 229	43 229	23 229	4 228	45 228
45	236	6 235	46 235	26 235	5 234	46 234	26 234	7 233	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	51 236	31 236	10 235	49 235	29 235
15	243	7 242	46 242	24 242	2 241	41 241	20 240	58 240	37 240	15 239	54 239	32 239	11 238	49 238
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
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
11	0 253	29 253	7 252	44 252	20 251	57 251	34 251	11 250	47 250	24 250	0 249	57 249	33 249	49 248
15	256	56 256	32 256	8 255	45 255	21 254	52 254	33 254	10 253	45 253	22 252	57 252	33 252	8 251
30	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	3 254
45	263	47 263	23 262	59 262	35 262	10 261	46 261	21 260	57 260	32 260	7 259	42 259	16 258	50 258
12	0 267	13 266	48 266	23 266	0 265	35 265	10 264	45 264	20 263	55 263	30 263	4 262	38 262	13 261

Table of Ascendants for Latitudes 7° to 20°.

Sid. Time.	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°	20°
H. M.	°	°	°	°	°	°	°	°	°	°	°	°	°	°
12	0 267	13 266	48 266	23 266	0 265	35 265	10 264	45 264	20 263	55 263	30 263	4 262	38 262	13 261
15	270	38 270	14 269	49 269	25 269	0 268	35 268	10 267	44 267	19 266	53 266	27 266	1 265	34 265
30	274	4 273	41 273	17 272	51 272	27 272	2 271	36 271	11 270	21 269	55 269	27 269	0 268	34 268
45	277	34 277	9 276	44 276	20 275	55 275	30 275	4 274	39 274	13 273	47 273	21 272	54 272	27 271
13	0 281	3 280	38 280	14 279	50 279	25 279	0 278	35 278	9 277	43 277	17 276	51 276	24 275	57 275
15	284	34 284	10 283	45 283	21 282	56 282	31 282	6 281	41 281	15 280	48 280	22 279	55 279	28 279
30	288	8 287	44 287	19 286	55 286	30 286	6 285	41 285	15 284	50 284	24 283	58 283	30 283	3 282
45	291	41 291	19 290	55 290	32 290	7 289	43 289	18 288	53 288	27 288	0 287	35 287	8 286	41 286
14	0 295	19 294	56 294	33 294	11 293	46 293	22 292	58 292	34 292	8 291	42 291	17 290	50 290	23 289
15	299	0 298	38 298	15 297	52 297	28 297	5 296	41 296	16 295	52 295	27 295	2 294	35 294	9 293
30	302	43 302	21 301	59 301	37 301	14 300	51 300	28 300	4 299	40 299	15 298	50 298	25 297	59 297
45	306	29 306	8 305	46 305	27 305	3 304	41 304	18 303	55 303	32 303	8 302	44 302	19 301	54 301
15	310	17 309	59 309	38 309	17 308	56 308	35 308	13 307	51 307	28 307	5 306	41 306	17 305	52 305
30	314	11 313	52 313	32 313	12 312	52 312	32 312	12 311	51 311	30 311	6 310	45 310	22 309	58 309
45	318	7 317	50 317	32 317	12 316	55 316	34 316	15 315	55 315	33 315	14 314	53 314	31 314	9 313
16	0 322	6 321	50 321	32 321	18 320	58 320	41 320	23 320	3 319	45 319	25 319	5 318	45 318	24 318
15	326	11 325	55 325	39 325	24 325	7 324	51 324	34 324	17 324	0 323	42 323	23 323	5 322	45 322
30	330	14 330	2 329	48 329	33 329	20 329	5 328	49 328	34 328	18 328	2 327	46 327	29 327	10 326
45	334	25 334	11 334	0 333	47 333	35 333	22 333	9 332	56 332	41 332	28 332	13 331	58 331	42 331
17	0 338	37 338	25 338	15 338	5 337	54 337	42 337	31 337	19 337	8 336	56 336	43 336	30 336	17 336
15	342	37 342	41 342	33 342	25 342	15 342	6 341	58 341	48 341	38 341	28 341	17 341	7 340	56 340
30	347	5 346	58 346	52 346	47 346	39 346	33 346	25 346	18 346	11 346	3 345	55 345	47 345	39 345
45	351	22 351	18 351	15 351	11 351	6 351	1 350	56 350	51 350	46 350	41 350	36 350	30 350	25 350
18	0 355	42 355	40 355	38 355	34 355	33 355	31 355	29 355	26 355	23 355	20 355	17 355	15 355	13 355

Table of Ascendants for Latitudes 7° to 20°.

Sid. Time.	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°	20°
H. M.	°	°	°	°	°	°	°	°	°	°	°	°	°	°
18 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15 15	4	19	4	26	4	27	4	34	4	37	4	43	4	47
30 30	8	37	8	49	8	54	9	9	9	14	9	24	9	35
45 45	12	56	13	13	13	21	13	27	13	35	13	42	13	49
19 0	17	14	17	27	17	35	17	54	18	2	18	12	14	19
15 15	21	27	21	35	21	55	22	18	22	29	22	41	23	19
30 30	25	35	25	48	26	0	26	13	26	51	27	47	28	23
45 45	29	46	29	5	30	12	30	40	35	31	42	53	32	30
20 0	33	51	34	5	34	21	34	27	30	40	55	31	37	35
15 15	37	54	38	10	38	27	38	52	39	2	39	19	39	37
30 30	41	53	42	10	42	28	42	48	43	5	43	26	43	41
45 45	47	48	46	9	46	28	46	47	8	47	28	47	48	46
21 0	49	42	50	2	50	22	50	43	51	4	51	25	51	49
15 15	53	30	53	52	54	14	54	33	54	57	55	19	55	52
30 30	57	17	57	39	58	1	58	23	58	46	59	9	59	56
45 45	61	0	61	22	61	4	62	32	62	6	62	38	67	62
22 0	64	41	65	4	65	27	65	49	66	14	66	38	70	64
15 15	68	19	68	41	69	5	69	28	69	53	70	17	70	64
30 30	71	53	72	17	72	15	73	5	73	30	73	54	74	71
45 45	75	27	75	50	76	15	76	39	77	4	77	29	77	74
23 0	78	58	79	21	79	46	80	10	80	35	81	0	81	78
15 15	82	28	82	51	83	16	83	40	84	5	84	30	84	81
30 30	85	45	86	19	86	43	87	9	87	33	87	58	88	84
45 45	89	21	89	46	90	11	90	35	91	0	91	25	91	88
24 0	92	48	93	12	93	34	94	0	94	25	94	50	95	92

Table of Ascendants for Latitudes 21° to 34°.

Sid. Time.	21°	22°	23°	24°	25°	26°	27°	28°	29°	30°	31°	32°	33°	34°
H. M.	°	°	°	°	°	°	°	°	°	°	°	°	°	°
0 0	98	41	99	35	100	31	100	59	101	27	101	56	102	34
15 15	102	2102	28	102	55	103	22	103	49	104	17	104	45	105
30 30	105	22	105	48	106	14	106	33	108	2	108	29	108	58
45 45	108	42	109	7	109	32	109	49	111	16	111	43	112	38
1 0	112	0	112	24	112	49	113	39	114	5	114	56	115	49
15 15	115	18	115	42	116	16	116	30	116	19	117	41	118	16
30 30	118	39	119	0	119	23	119	46	120	10	120	33	121	0
45 45	121	54	122	17	122	38	123	2	123	47	124	9	124	46
2 0	125	14	125	35	125	57	126	18	126	39	127	32	127	56
15 15	128	31	128	53	129	14	129	34	129	54	130	15	130	8
30 30	131	54	132	13	132	35	132	51	133	10	133	30	133	19
45 45	135	15	135	32	135	50	136	7	136	26	136	44	137	3
3 0	138	34	138	52	139	9	139	26	139	43	140	0	140	17
15 15	141	57	142	29	142	51	143	17	143	33	143	49	144	5
30 30	145	20	145	35	145	50	146	5	146	19	146	33	147	18
45 45	148	45	148	59	149	12	149	26	149	38	149	51	150	3
4 0	152	10	152	22	152	32	152	46	152	58	153	10	153	37
15 15	155	36	155	47	155	58	156	8	156	19	156	30	156	2
30 30	159	4	159	13	159	22	159	31	159	40	159	50	159	18
45 45	162	35	162	44	162	50	162	58	163	3	163	10	163	5
5 0	166	2	166	16	166	26	166	33	166	38	166	44	166	50
15 15	169	30	169	35	169	40	169	44	169	48	169	53	169	58
30 30	173	0	173	6	173	9	173	15	173	17	173	21	173	24
45 45	176	29	176	32	176	33	176	34	176	36	176	38	176	40
6 0	180	0	180	0	180	0	180	0	180	0	180	0	180	0

Table of Ascendants for Latitudes 21° to 34°.

Sid. Time.	21°	22°	23°	24°	25°	26°	27°	28°	29°	30°	31°	32°	33°	34°
H. M.	°	'	°	'	°	'	°	'	°	'	°	'	°	'
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	28 183	27 183	26 183	24 183	22 183	20 183	19 183	17 183	16 183	15 183	13 183	10 183	10 183
30	187	0 186	57 186	54 186	51 186	46 186	41 186	39 186	38 186	37 186	29 186	26 186	23 186	20 186
45	190	30 190	25 190	20 190	16 189	12 190	7 190	2 189	58 189	53 189	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	44 192	40 192
15	197	29 197	20 197	14 197	1 196	57 196	50 196	42 196	35 196	27 196	19 196	11 196	3 195	54 195
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	5 214	48 214	33 214
9	0 221	26 221	8 220	51 220	34 220	17 220	0 219	43 219	26 219	19 218	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	4 223
45	231	29 231	7 230	46 230	26 230	6 229	45 229	27 229	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	34 232	15 231	52 231	29 231	6 230	43 230	23 229
15	238	6 237	43 237	21 236	58 236	36 236	13 235	51 235	28 235	4 234	39 234	16 233	53 233	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	33 236
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	29 250	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	29 259	1 258	31 258	4 257	34 257	3 256	34 256	3 255	31 254	5 253

Table of Ascendants for Latitudes 21° to 34°.

Sid. Time.	21°	22°	23°	24°	25°	26°	27°	28°	29°	30°	31°	32°	33°	34°
H. M.	°	'	°	'	°	'	°	'	°	'	°	'	°	'
12 0	261	19 260	52 260	25 259	57 259	29 259	0 258	31 258	4 257	34 257	3 256	34 256	3 255	31 254
15 0	264	41 264	14 263	45 263	18 262	49 262	20 261	51 261	2 260	51 260	19 259	49 259	18 258	45 258
30 0	268	6 267	38 267	8 266	41 266	12 265	42 265	12 264	42 264	11 263	39 263	8 262	36 262	2 261
45 0	271	32 271	4 270	35 270	6 269	38 269	7 268	37 268	6 267	34 267	1 266	29 265	56 265	22 264
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 0	278	32 278	3 277	35 277	5 276	36 276	4 275	34 275	2 274	29 273	55 273	22 272	48 272	12 271
30 0	282	7 281	38 281	9 280	39 280	10 279	38 279	8 278	35 278	2 277	28 276	54 276	19 275	43 275
45 0	285	46 285	17 284	48 284	18 283	49 283	17 282	47 282	13 281	40 281	5 280	32 279	57 279	20 278
14 0	289	28 288	59 288	30 288	0 287	31 286	59 286	29 285	55 285	22 284	48 284	14 283	36 283	1 282
15 0	293	14 292	46 292	17 291	48 291	18 290	46 290	16 289	43 289	10 288	35 288	1 287	25 286	49 286
30 0	297	5 296	38 296	9 295	40 295	11 294	11 294	11 293	38 293	5 292	30 291	57 291	20 290	43 290
45 0	301	2 300	34 300	7 299	38 299	9 298	39 298	10 297	38 297	5 296	31 295	57 295	22 294	45 294
15 0	305	2 304	36 304	8 303	41 303	13 302	44 302	14 301	42 301	10 300	36 300	3 299	28 298	52 298
30 0	309	9 308	44 308	18 307	51 307	24 306	55 306	26 305	56 305	24 304	52 304	20 303	46 303	10 302
45 0	313	22 312	59 312	54 312	8 311	42 311	15 310	47 310	18 309	48 309	17 308	45 308	13 307	38 307
16 0	317	41 317	18 316	56 316	31 316	6 315	40 315	14 314	47 314	18 313	48 313	19 312	48 312	15 311
30 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
45 0	326	33 326	15 325	56 325	35 325	14 324	52 324	30 324	6 323	42 323	16 322	51 322	24 321	55 321
17 0	331	9 330	53 330	35 330	16 329	57 329	38 329	18 328	57 328	35 328	12 327	50 327	25 326	59 326
30 0	335	49 335	53 335	19 335	3 334	48 334	31 334	14 333	55 333	36 333	17 332	57 332	36 332	13 331
45 0	340	34 340	22 340	9 339	56 339	43 339	30 339	16 339	0 338	44 638	29 338	12 337	58 337	35 337
15 0	345	22 345	13 345	3 344	54 344	44 344	33 344	22 344	11 343	59 343	46 343	33 343	19 343	4 342
30 0	350	14 350	7 350	1 349	54 349	47 349	41 349	34 349	25 349	17 349	8 348	59 348	49 348	40 348
45 0	355	7 355	4 354	59 354	56 354	53 354	49 354	46 354	42 354	38 354	33 354	29 354	24 354	19 354
18 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table of Ascendants for Latitudes 21° to 34°.

Sid. Time.	21°	22°	23°	24°	25°	26°	27°	28°	29°	30°	31°	32°	33°	34°
H. M.	°	°	°	°	°	°	°	°	°	°	°	°	°	°
18 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15 4	53	4	56	5	7	5	11	14	18	22	27	31	36	41
30 9	46	9	53	10	13	10	19	26	35	43	52	61	71	81
45 14	38	14	47	15	16	15	27	38	49	61	74	87	100	113
19 0	19	26	38	19	20	20	30	44	61	78	96	114	132	150
15 15	24	31	44	24	25	25	35	50	68	87	106	125	144	163
30 28	51	29	43	34	36	36	46	62	81	101	121	141	161	181
45 33	27	33	45	34	37	37	48	65	85	106	127	148	169	190
20 0	37	55	38	17	39	43	54	72	93	115	138	161	184	207
15 42	42	42	42	43	43	44	55	76	99	123	148	173	198	223
30 46	38	47	1	47	48	48	60	83	108	134	160	186	212	238
45 50	51	16	51	52	52	53	66	91	118	146	174	202	230	258
21 0	54	58	55	24	59	63	78	105	134	164	194	224	254	284
15 58	58	59	26	59	63	67	83	111	141	172	203	234	265	296
30 62	55	63	22	63	71	75	92	121	152	184	216	248	280	312
45 66	46	67	14	67	77	82	100	130	162	195	228	261	294	327
22 0	70	32	71	1	71	80	100	131	164	198	232	266	300	334
15 74	14	74	43	75	12	75	105	137	171	206	241	276	311	346
30 77	53	78	22	78	91	99	118	148	180	214	249	284	319	354
45 81	28	81	57	82	95	103	124	157	191	226	261	296	331	366
23 0	84	59	85	27	85	96	118	152	187	222	257	292	327	362
15 88	28	88	56	89	103	111	134	169	204	239	274	309	344	379
30 91	54	92	22	92	106	115	140	176	212	248	284	320	356	392
45 95	19	95	46	96	111	120	146	183	220	257	294	331	368	405
24 0	98	41	99	8	100	109	136	174	212	250	288	326	364	402

LOGARITHMIC TABLE.

Hours or Degrees.

Min.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
0	3.1584	1.3802	1.0792	.9031	.7781	.6812	.6021	.5351	.4771	.4260	.3802	.3388	.3011	.2671	.2366	.2094	.1854	.1644	.1454	.1292	.1157	.1047	.0959	.0891	.0841	.0804	.0777	.0758	.0744	.0734
1	3.1584	1.3730	1.0756	.9007	.7763	.6798	.6009	.5341	.4762	.4252	.3797	.3382	.3005	.2665	.2360	.2088	.1848	.1638	.1448	.1286	.1151	.1041	.0953	.0885	.0835	.0800	.0773	.0754	.0740	.0730
2	2.8573	1.3660	1.0720	.8983	.7745	.6784	.5997	.5330	.4753	.4244	.3788	.3373	.2996	.2656	.2351	.2079	.1839	.1629	.1439	.1277	.1142	.1032	.0944	.0876	.0826	.0791	.0764	.0745	.0731	.0721
3	2.6812	1.3590	1.0685	.8959	.7728	.6769	.5985	.5320	.4744	.4236	.3780	.3365	.2988	.2648	.2343	.2071	.1831	.1621	.1431	.1269	.1134	.1024	.0936	.0868	.0818	.0783	.0756	.0737	.0723	.0713
4	2.5563	1.3522	1.0649	.8935	.7710	.6753	.5973	.5310	.4735	.4228	.3773	.3358	.2981	.2641	.2336	.2064	.1824	.1614	.1424	.1262	.1127	.1017	.0929	.0861	.0811	.0776	.0749	.0730	.0716	.0706
5	2.4594	1.3454	1.0614	.8912	.7692	.6741	.5961	.5300	.4726	.4220	.3766	.3351	.2974	.2634	.2329	.2057	.1817	.1607	.1417	.1255	.1120	.1010	.0922	.0854	.0804	.0769	.0742	.0723	.0709	.0700
6	2.3802	1.3388	1.0580	.8888	.7674	.6726	.5949	.5289	.4717	.4212	.3759	.3344	.2967	.2627	.2322	.2050	.1810	.1600	.1410	.1248	.1113	.1003	.0915	.0847	.0797	.0762	.0735	.0716	.0702	.0693
7	2.3133	1.3323	1.0546	.8855	.7657	.6712	.5937	.5279	.4708	.4204	.3752	.3337	.2960	.2620	.2315	.2043	.1803	.1593	.1403	.1241	.1106	.0996	.0908	.0840	.0790	.0755	.0728	.0709	.0695	.0686
8	2.2553	1.3258	1.0511	.8842	.7639	.6698	.5925	.5269	.4669	.4166	.3716	.3301	.2924	.2584	.2279	.2007	.1767	.1557	.1367	.1205	.1070	.0960	.0872	.0804	.0754	.0719	.0692	.0673	.0659	.0650
9	2.2041	1.3195	1.0478	.8819	.7622	.6684	.5913	.5259	.4629	.4128	.3678	.3263	.2886	.2546	.2241	.1969	.1729	.1519	.1329	.1167	.1032	.0922	.0834	.0766	.0716	.0681	.0654	.0635	.0621	.0612
10	2.1584	1.3133	1.0444	.8796	.7604	.6670	.5902	.5249	.4582	.4082	.3632	.3217	.2840	.2500	.2195	.1923	.1683	.1473	.1283	.1121	.0986	.0876	.0788	.0719	.0669	.0634	.0607	.0588	.0574	.0565
11	2.1170	1.3071	1.0411	.8773	.7587	.6656	.5890	.5239	.4563	.4064	.3614	.3200	.2823	.2483	.2178	.1906	.1666	.1456	.1266	.1104	.0969	.0859	.0771	.0702	.0652	.0617	.0590	.0571	.0557	.0548
12	2.0792	1.3010	1.0378	.8751	.7570	.6642	.5878	.5229	.4543	.4044	.3594	.3180	.2803	.2463	.2158	.1886	.1646	.1436	.1246	.1084	.0949	.0839	.0751	.0682	.0632	.0597	.0570	.0551	.0537	.0528
13	2.0444	1.2950	1.0345	.8728	.7552	.6628	.5866	.5219	.4517	.4018	.3568	.3154	.2777	.2437	.2132	.1860	.1620	.1410	.1220	.1058	.0923	.0813	.0725	.0656	.0606	.0571	.0544	.0525	.0511	.0502
14	2.0122	1.2891	1.0313	.8706	.7535	.6614	.5855	.5209	.4493	.3994	.3544	.3130	.2753	.2413	.2108	.1836	.1596	.1386	.1196	.1034	.0899	.0789	.0691	.0622	.0572	.0537	.0510	.0491	.0477	.0468
15	1.9823	1.2833	1.0280	.8683	.7518	.6600	.5843	.5199	.4463	.3964	.3514	.3100	.2723	.2383	.2078	.1806	.1566	.1356	.1166	.1004	.0869	.0759	.0661	.0592	.0542	.0507	.0480	.0461	.0447	.0438
16	1.9542	1.2775	1.0248	.8661	.7501	.6587	.5832	.5189	.4433	.3934	.3484	.3070	.2693	.2353	.2048	.1776	.1536	.1326	.1136	.0974	.0839	.0729	.0631	.0562	.0512	.0477	.0450	.0431	.0417	.0408
17	1.9279	1.2719	1.0216	.8639	.7484	.6573	.5820	.5179	.4413	.3914	.3464	.3050	.2673	.2333	.2028	.1756	.1516	.1306	.1116	.0954	.0819	.0709	.0611	.0542	.0492	.0457	.0430	.0411	.0397	.0388
18	1.9031	1.2663	1.0185	.8617	.7467	.6560	.5809	.5169	.4393	.3894	.3444	.3030	.2653	.2313	.2008	.1736	.1496	.1286	.1096	.0934	.0799	.0689	.0591	.0522	.0472	.0437	.0410	.0391	.0377	.0368
19	1.8796	1.2607	1.0153	.8595	.7451	.6546	.5797	.5159	.4373	.3874	.3424	.3010	.2633	.2293	.1988	.1716	.1476	.1266	.1076	.0914	.0779	.0669	.0571	.0502	.0452	.0417	.0390	.0371	.0357	.0348
20	1.8573	1.2553	1.0122	.8573	.7434	.6532	.5786	.5149	.4353	.3854	.3404	.2990	.2613	.2273	.1968	.1696	.1456	.1246	.1056	.0894	.0759	.0649	.0551	.0482	.0432	.0397	.0370	.0351	.0337	.0328
21	1.8361	1.2499	1.0091	.8552	.7417	.6519	.5774	.5139	.4343	.3844	.3394	.2980	.2603	.2263	.1958	.1686	.1446	.1236	.1046	.0884	.0749	.0639	.0541	.0472	.0422	.0387	.0360	.0341	.0327	.0318
22	1.8159	1.2445	1.0061	.8530	.7401	.6505	.5761	.5127	.4331	.3832	.3382	.2968	.2591	.2251	.1946	.1674	.1434	.1224	.1034	.0872	.0737	.0627	.0529	.0460	.0410	.0375	.0348	.0329	.0315	.0306
23	1.7966	1.2393	1.0030	.8509	.7384	.6492	.5752	.5119	.4323	.3824	.3374	.2960	.2583	.2243	.1938	.1666	.1426	.1216	.1026	.0864	.0729	.0619	.0521	.0452	.0402	.0367	.0340	.0321	.0307	.0298
24	1.7781	1.2341	1.0000	.8487	.7368	.6478	.5740	.5109	.4313	.3814	.3364	.2950	.2573	.2233	.1928	.1656	.1416	.1206	.1016	.0854	.0719	.0609	.0511	.0442	.0392	.0357	.0330	.0311	.0297	.0288
25	1.7604	1.2289	.9970	.8466	.7351	.6465	.5729	.5099	.4303	.3804	.3354	.2940	.2563	.2223	.1918	.1646	.1406	.1196	.1006	.0844	.0709	.0599	.0501	.0432	.0382	.0347	.0320	.0301	.0287	.0278
26	1.7434	1.2239	.9940	.8445	.7335	.6451	.5718	.5089	.4293	.3794	.3344	.2930	.2553	.2213	.1908	.1636	.1396	.1186	.0996	.0834	.0699	.0589	.0491	.0422	.0372	.0337	.0310	.0291	.0277	.0268
27	1.7270	1.2188	.9910	.8424	.7318	.6438	.5706	.5078	.4283	.3784	.3334	.2920	.2543	.2203	.1898	.1626	.1386	.1176	.0986	.0824	.0689	.0579	.0481	.0412	.0362	.0327	.0300	.0281	.0267	.0258
28	1.7112	1.2139	.9881	.8403	.7302	.6425	.5695	.5068	.4273	.3774	.3324	.2910	.2533	.2193	.1888	.1616	.1376	.1166	.0976	.0814	.0679	.0569	.0471	.0402	.0352	.0317	.0290	.0271	.0257	.0248
29	1.6960	1.2090	.9852	.8382	.7286	.6412	.5684	.5058	.4263	.3764	.3314	.2900	.2523	.2183	.1878	.1606	.1366	.1156	.0966	.0804	.0669	.0559	.0461	.0392	.0342	.0307	.0280	.0261	.0247	.0238

LOGARITHMIC TABLE.

Hours or Degrees.

Min.	0	1	2	3	4	5	6	7	8	9	10	11	Min.
30	1.6812	1.2041	.9823	.8361	.7270	.6398	.5673	.5051	.4508	.4025	.3590	.3195	30
31	1.6670	1.1993	.9794	.8341	.7254	.6385	.5662	.5042	.4499	.4017	.3583	.3189	31
32	1.6532	1.1946	.9755	.8327	.7238	.6372	.5651	.5032	.4491	.4010	.3576	.3183	32
33	1.6398	1.1899	.9737	.8300	.7222	.6359	.5640	.5023	.4482	.4002	.3570	.3176	33
34	1.6269	1.1852	.9708	.8279	.7206	.6346	.5629	.5013	.4474	.3994	.3563	.3170	34
35	1.6143	1.1806	.9680	.8259	.7190	.6333	.5618	.5003	.4466	.3987	.3556	.3164	35
36	1.6021	1.1761	.9652	.8239	.7174	.6320	.5607	.4994	.4457	.3979	.3549	.3157	36
37	1.5902	1.1716	.9625	.8219	.7159	.6307	.5596	.4984	.4449	.3972	.3542	.3151	37
38	1.5786	1.1671	.9597	.8199	.7143	.6294	.5585	.4975	.4440	.3964	.3535	.3145	38
39	1.5673	1.1627	.9570	.8179	.7128	.6282	.5573	.4965	.4432	.3957	.3529	.3139	39
40	1.5563	1.1584	.9542	.8159	.7112	.6269	.5563	.4956	.4424	.3949	.3522	.3133	40
41	1.5456	1.1540	.9515	.8140	.7097	.6256	.5552	.4947	.4415	.3942	.3515	.3126	41
42	1.5351	1.1498	.9488	.8120	.7081	.6243	.5541	.4937	.4407	.3934	.3508	.3120	42
43	1.5249	1.1455	.9462	.8101	.7066	.6231	.5531	.4928	.4399	.3927	.3501	.3114	43
44	1.5149	1.1413	.9435	.8081	.7050	.6218	.5520	.4918	.4390	.3919	.3495	.3108	44
45	1.5051	1.1372	.9409	.8062	.7035	.6205	.5509	.4909	.4382	.3912	.3488	.3102	45
46	1.4956	1.1331	.9383	.8042	.7020	.6193	.5498	.4900	.4374	.3905	.3481	.3096	46
47	1.4863	1.1290	.9356	.8023	.7005	.6180	.5488	.4890	.4365	.3897	.3475	.3089	47
48	1.4771	1.1249	.9330	.8004	.6990	.6168	.5477	.4881	.4357	.3890	.3468	.3083	48
49	1.4682	1.1209	.9305	.7985	.6975	.6155	.5466	.4872	.4349	.3882	.3461	.3077	49
50	1.4594	1.1170	.9279	.7966	.6960	.6143	.5456	.4863	.4341	.3875	.3454	.3071	50
51	1.4508	1.1130	.9254	.7947	.6945	.6131	.5445	.4853	.4333	.3868	.3448	.3065	51
52	1.4424	1.1091	.9228	.7929	.6930	.6118	.5435	.4844	.4324	.3860	.3441	.3059	52
53	1.4341	1.1053	.9203	.7910	.6915	.6101	.5424	.4835	.4316	.3853	.3434	.3053	53
54	1.4260	1.1015	.9178	.7891	.6900	.6094	.5414	.4826	.4308	.3846	.3428	.3047	54
55	1.4180	1.0977	.9153	.7873	.6885	.6081	.5403	.4817	.4300	.3838	.3421	.3041	55
56	1.4102	1.0939	.9128	.7854	.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.

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	.9999	.0778	.0566	.0363	.0172	4
5	.2980	.2635	.2315	.2017	.1738	.1476	.1229	.9996	.0774	.0563	.0361	.0169	5
6	.2974	.2629	.2310	.2012	.1734	.1472	.1225	.9992	.0770	.0559	.0358	.0166	6
7	.2968	.2624	.2305	.2008	.1729	.1468	.1221	.9988	.0766	.0556	.0355	.0163	7
8	.2962	.2618	.2300	.2003	.1725	.1464	.1217	.9984	.0763	.0552	.0352	.0160	8
9	.2956	.2613	.2295	.1998	.1720	.1459	.1213	.9980	.0759	.0549	.0348	.0157	9
10	.2950	.2607	.2289	.1993	.1716	.1455	.1209	.9977	.0756	.0546	.0345	.0154	10
11	.2944	.2602	.2284	.1988	.1711	.1451	.1205	.9973	.0752	.0542	.0342	.0150	11
12	.2938	.2596	.2279	.1984	.1707	.1447	.1201	.9969	.0749	.0539	.0339	.0147	12
13	.2933	.2591	.2274	.1979	.1702	.1443	.1197	.9965	.0745	.0535	.0335	.0144	13
14	.2927	.2585	.2269	.1974	.1698	.1438	.1193	.9962	.0741	.0532	.0332	.0141	14
15	.2921	.2580	.2264	.1969	.1694	.1434	.1190	.9958	.0738	.0529	.0329	.0138	15
16	.2915	.2574	.2259	.1965	.1689	.1430	.1186	.9954	.0734	.0525	.0326	.0135	16
17	.2909	.2569	.2253	.1960	.1685	.1426	.1182	.9950	.0731	.0522	.0322	.0132	17
18	.2903	.2564	.2249	.1955	.1680	.1422	.1178	.9947	.0727	.0518	.0319	.0129	18
19	.2897	.2558	.2244	.1950	.1676	.1417	.1174	.9943	.0724	.0515	.0316	.0125	19
20	.2891	.2553	.2239	.1946	.1671	.1413	.1170	.9939	.0720	.0512	.0313	.0122	20
21	.2885	.2547	.2234	.1941	.1667	.1409	.1166	.9935	.0716	.0508	.0309	.0119	21
22	.2880	.2542	.2229	.1936	.1662	.1405	.1162	.9932	.0713	.0505	.0306	.0116	22
23	.2874	.2536	.2223	.1932	.1658	.1401	.1158	.9928	.0709	.0501	.0303	.0113	23
24	.2868	.2531	.2218	.1927	.1654	.1397	.1154	.9924	.0706	.0498	.0300	.0110	24
25	.2862	.2526	.2213	.1922	.1649	.1392	.1150	.9920	.0702	.0495	.0296	.0107	25
26	.2856	.2520	.2208	.1917	.1645	.1388	.1146	.9917	.0699	.0491	.0293	.0104	26
27	.2850	.2515	.2203	.1913	.1640	.1384	.1142	.9913	.0695	.0488	.0290	.0101	27
28	.2845	.2509	.2198	.1908	.1636	.1380	.1138	.9909	.0692	.0484	.0287	.0098	28
29	.2839	.2504	.2193	.1903	.1632	.1376	.1134	.9906	.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	.1347	.1107	.0880	.0663	.0458	.0261	.0073	36
37	.2793	.2461	.2154	.1866	.1597	.1343	.1103	.0876	.0660	.0454	.0258	.0070	37
38	.2787	.2456	.2149	.1862	.1592	.1339	.1099	.0872	.0656	.0451	.0255	.0067	38
39	.2781	.2451	.2144	.1857	.1588	.1335	.1095	.0869	.0652	.0448	.0251	.0064	39
40	.2775	.2445	.2139	.1852	.1584	.1331	.1091	.0865	.0649	.0444	.0248	.0061	40
41	.2770	.2440	.2134	.1848	.1579	.1326	.1088	.0861	.0646	.0441	.0245	.0058	41
42	.2764	.2435	.2129	.1843	.1575	.1322	.1084	.0857	.0642	.0438	.0242	.0055	42
43	.2758	.2430	.2124	.1838	.1571	.1318	.1080	.0854	.0639	.0434	.0239	.0052	43
44	.2753	.2424	.2119	.1834	.1566	.1314	.1076	.0850	.0635	.0431	.0236	.0049	44
45	.2747	.2419	.2114	.1829	.1561	.1310	.1072	.0846	.0632	.0428	.0232	.0046	45
46	.2741	.2414	.2109	.1825	.1558	.1306	.1068	.0843	.0628	.0424	.0229	.0042	46
47	.2736	.2409	.2104	.1820	.1553	.1302	.1064	.0839	.0625	.0421	.0226	.0039	47
48	.2730	.2403	.2099	.1816	.1549	.1298	.1061	.0835	.0622	.0418	.0223	.0036	48
49	.2724	.2398	.2095	.1811	.1545	.1294	.1057	.0832	.0618	.0414	.0220	.0033	49
50	.2719	.2393	.2090	.1806	.1540	.1290	.1053	.0828	.0615	.0411	.0216	.0030	50
51	.2713	.2388	.2085	.1802	.1536	.1286	.1049	.0825	.0611	.0408	.0213	.0027	51
52	.2707	.2382	.2080	.1797	.1532	.1282	.1045	.0821	.0608	.0404	.0210	.0024	52
53	.2702	.2377	.2075	.1793	.1528	.1278	.1041	.0817	.0604	.0401	.0207	.0021	53
54	.2696	.2372	.2070	.1788	.1523	.1274	.1038	.0814	.0601	.0398	.0204	.0018	54
55	.2691	.2367	.2065	.1784	.1519	.1270	.1034	.0810	.0597	.0394	.0201	.0015	55
56	.2685	.2362	.2061	.1779	.1515	.1266	.1030	.0806	.0594	.0391	.0197	.0012	56
57	.2679	.2356	.2056	.1774	.1510	.1261	.1026	.0803	.0590	.0388	.0194	.0009	57
58	.2674	.2351	.2051	.1770	.1506	.1257	.1022	.0799	.0587	.0384	.0191	.0006	58
59	.2668	.2346	.2046	.1765	.1502	.1253	.1018	.0795	.0583	.0381	.0188	.0003	59



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