ΑΤΛΑΣ ΟΥΡΑΝΙΟΣ,

The COELESTIAL ATLAS;

OR, A NEW

EPHEMERIS

For the YEAR of our LORD 1782.

Being the ſecond after

BISSEXTILE, or LEAP-YEAR.

Wherein are contained

The Heliocentrick and Geocentrick Places of the Planets, the ECLIPSES of the Luminaries, and other remarkable PHÆNOMENA that will happen this Year.

Carefully computed

From the genuine TABLES of Dr. EDMUND HALLEY, thoſe of Profeſſor MAYER, and other the lateſt and moſt correct ASTRONOMATICAL TABLES.

ALSO

A Compleat ALMANACK, containing the FEASTS and FASTS of the Church of ENGLAND; the Times of the LUNATIONS; the Riſing and Setting of the Sun, Moon, and Planets, &c.

Adapted to the

Meridian and Latitude of the ancient and honourable CITY of LONDON.

To which are added,

Several uſeful TABLES: As, a TABLE of the Sun's Declination; a TABLE by which the Times of the Sun's Riſing and Setting may be known by Inſpection, on every Day in the Year, and in any Part of GREAT-BRITAIN or IRELAND; a TIDE-TABLE, and a very correct one of the Eclipſes of JUPITER's firſt Satelles; and, laſtly, an exact TABLE of the Riſing, Southing, and Setting of Thirty of the moſt remarkable fixed Stars, taken from Mr. FLAMSTEED's Catalogue.

By ROBERT WHITE,

Teacher of the Mathematicks.

Οι ἀξιοι δινῶνται δοξαν Θεῦ.

The THIRTY-THIRD IMPRESSION.

LONDON:

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Chronological Notes for the Year 1782.

Golden Number - -	16	Septuagesima Sunday	Jan. 27
Cycle of the Sun - -	27	Shrove Sunday -	Feb 10
The Epact - - -	15	Faster Day -	Mar. 31
Dominical Letter - -	F	Whit-Sunday -	May 19
Number of Direction -	25	Trinity Sunday -	May 26
Roman Indiction - -	15	Advent Sunday -	Dec. 1

Astronomical Characters explained.

♈ Aries	♋ Cancer	♎ Libra	♑ Capricorn
♉ Taurus	♌ Leo	♏ Scorpio	♒ Aquarius
♊ Gemini	♍ Virgo	♐ Sagitary	♓ Pisces

♄ Saturn	☉ Sol (the Sun)	☽ Luna (the Moon)	⊖ Tellus,
♃ Jupiter	♀ Venus	☊ Moon's N. Node	Terra (or
♂ Mars	☿ Mercury	☋ her S. Node	the Earth)

☌ Conjunction when Planets are in the same Sign, Deg. Min. &c.
✱ Sextile when 2 Signs dist. | △ Trine when 4 Signs dist.
□ Quartile when 3 Signs dist. | ☍ Opposition when 6 Signs dist.

Of the Four Quarters of the Year 1782.

THE Spring Quarter begins on the 20th Day of March, at 10 Minutes past 11 in the Morning, apparent Time.

The Summer Quarter begins June the 21st, 21 Minutes past 9 in the Morning.

The Autumnal Quarter begins September the 22d, 59 Minutes past 10 afternoon.

The Winter Quarter begins December the 21st, 23 Minutes past 3 in the Afternoon.

THE beautiful Planet Venus will be an Evening Star to the 20th Day of March, at which Time she becomes a Morning Star, and so continues to the Year's End.

Jupiter will be a Morning Star until the 15th Day of June; and after that Time he will be an Evening Star to the Year's End.

The NAMES of the Learned JUDGES of the LAW.

I. The R. H. Edward Lord Thurlow, Lord High Chancellor of Great Britain.
Right Honourable Sir Thomas Sewell, Knt. Maſter of the Rolls.

II. In the } R. H. Wm. Earl Mansfield, L. C. J. Edward Willes, Eſq;
K. Bench. } Sir W. H. Aſhurſt, Knt. Francis Buller, Eſq;

III. In the } R. H. Alex. Lord Loughborough, L. C. J. Sir Henry Gould, Knt.
C. Pleas. } Sir George Nares, Knt. John Heath, Eſq;

IV. In the } Sir John Skynner, Knt. L. C. B. Sir James Eyre, Knt.
Exchequer } Sir Beaumont Hotham, Knt. Sir Richard Perryn, Knt.

James Wallace, Eſq; Att. Gen. James Mansfield, Eſq; Sol. Gen.

A TABLE of TERMS and their RETURNS.

Hilary Term begins Jan. 23, ends Feb. 12.

Returns or Eſſoign-days.	Exc.	Ret.	Ap.	W. D.
In eight Days of St. Hilary, - - Jan. 20	21	22	23	Wedn.
From the Day of St. Hilary in 15 Days - 27	28	29	30	Wedn.
On the Morrow of the Purif. Bleſſed Mary, Feb. 3	4	5	6	Wedn.
In eight Days of the Purif. of Bleſſed Mary, - 9	10	11	12	Tueſd.

Eaſter Term begins April 17, ends May 13.

From the Day of Eaſter in 15 Days, - April 14	15	16	17	Wedn.
From the Day of Eaſter in 3 Weeks, - - 21	22	23	24	Wedn.
From the Day of Eaſter in 1 Month, - - 28	29	30	M1	Wedn.
From the Day of Eaſter in 5 Weeks, - May 5	6	7	8	Wedn.
On the Morrow of the Aſcenſion, - - - 10	11	12	13	Monday

Trinity Term begins May 31, ends June 19.

On the Morrow of the Holy Trinity, - May 27	28	29	31	Friday.
In 8 Days of the Holy Trinity, - - June 2	3	4	5	Wedn.
In 15 Days of the Holy Trinity, - - - 9	10	11	12	Wedn.
In 3 Weeks of the Holy Trinity, - - 16	17	18	19	Wedn.

Michaelmas Term begins Nov. 6, ends Nov. 28.

On the Morrow of All Souls, - - - Nov. 3	4	5	6	Wedn.
On the Morrow of St. Martin, - - - 12	13	14	15	Friday.
In eight Days of St. Martin, - - - - 18	19	20	21	Thurſ.
In 15 Days of St. Martin, - - - - 25	26	27	28	Thurſ.

N. B. No Sittings in Weſtminſter-Hall on Aſcenſion-day, Midſummer-day, and the 2d of February.

The Exchequer opens eight Days before any Term begins, except Trinity, before which it opens but four Days.

Note, That the firſt and laſt Days of every Term, are the firſt and laſt Days of Appearance.

BIRTH-DAYS of the ROYAL FAMILY.

KING GEORGE III. June 4,	1738	Prince Adolph. Fred. Feb. 24,	1774
Prince of Wales, Aug. 12,	1762	Princeſs Mary, April 25, -	1776
Prince Frederick, Aug. 16,	1763	Princeſs Sophia, Nov. 3, -	1777
Prince Wm. Henry, Aug. 21,	1765	Prince Octavius, Feb. 23, -	1779
Prs. Cha. Aug. Mat. Sept. 29,	1766	Prince Alfred, Sept. 22, -	1780
Prince Edward, Nov. 2, -	1767	Queen Charlotte, May 19,	1744
Prs. Auguſta Sophia, Nov. 8,	1768	Prs. Amelia, June 10, -	1711
Prs. Elizabeth, May 22, -	1770	Prs. Auguſta of Brun. Aug. 11,	1737
Prince Erneſt Auguſtus, June 5,	1771	Duke of Glouceſter, Nov. 25,	1743
Prince Aug. Fred. Jan. 27,	1773	Duke of Cumberland, Nov. 7,	1745

SOVEREIGNS of EUROPE, their Acceſſion, &c.

Kingdoms, &c.	To whom ſubject.	When born.	Began to reign.
England, &c.	George III.	June 4, 1738	Oct. 25, 1760
France	Lewis XVI.	Aug. 23, 1754	May 10, 1774
Ruſſia	Catharine II.	May 2, 1729	July 9, 1762
Spain	Charles III.	Jan. 20, 1716	Aug. 10, 1759
Portugal	Mary	Dec. 7, 1734	Feb. 24, 1777
Pruſſia	Frederic III.	Jan. 24, 1712	May 20, 1740
Denmark & Norway	Chriſtian VII.	Jan. 29, 1749	Jan. 14, 1766
Sweden	Guſtavus III.	Jan. 24, 1746	Feb. 13, 1771
Germany	Joſeph	Mar. 13, 1741	Aug. 18, 1765
Poland	Stan ſlaus III.	Jan. 17, 1732	Nov. 25, 1764
Holland	William V.	March 8, 1748	Oct. 11, 1751
Popedom	Pius VI.	Dec. 27, 1717	Feb. 18, 1775
Sardinia	Victor	June 26, 1726	Mar. 20, 1773
Ottoman Empire	Achmet IV.	Nov. 5, 1719	Jan. 21, 1774

The FULL WEIGHT of the Coins, with the LEAST WEIGHT allowed to paſs of the Gold Coin.

GOLD.	Wt. allowed. dwt. gr.	Full Wt. dwt. gr.
Guinea, - -	5 8	5 9 $\frac{3}{89}$
Half Guinea, -	2 16	2 16 $\frac{64}{89}$
Quarter Guinea,	1 8	1 8 $\frac{32}{89}$

SILVER.	Full Wt. dwt. gr.
A Crown, - -	19 8 $\frac{16}{31}$
Half Crown, -	9 16 $\frac{8}{31}$
Shilling, - -	3 20 $\frac{28}{31}$
Six Pence, - -	1 22 $\frac{14}{31}$

According to the above proportions it appears, that the value of a *lb.* of ſilver is 62 s. or 3 l. 2 s. and of a *lb.* of gold is 44½ guineas, or 46 l. 14 s. 6 d. Alſo that the *oz.* of ſilver is 5 s 2 d. and the *oz.* of gold 3 l. 17 s. 10½ d. So that the value of the ſtandard gold is 15 times that of the ſilver, and 1-14th more.

A TABLE of the KINGS and QUEENS of ENGLAND since the CONQUEST.

Kings and Queens	Born A.D.	Began their Reign	Reigned Y.	M.	D.	Age	Rem. Deaths and Dethroned	Where buried
Will. Conq.	1027	1066 Oct. 14	20	10	26	60	Burst by Leap.	Caen, Norm
Will. Rufus	1057	1087 Sept. 9	12	10	24	43	Slain acciden-	Wincheſter
Henry I.	1068	1100 Aug. 2	35	3	29	77	tally.	Reading
Stephen	1105	1135 Dec. 1	18	10	24	49		Feverſham
Henry II.	1133	1154 Oct. 25	34	8	11	55		Fonteveraud
Richard I.	1156	1189 July 6	9	9	0	43	Slain with an	Fonteveraud
John	1165	1199 April 6	17	6	13	50	Arrow.	Worceſter
Henry III.	1207	1216 Oct. 19	56	0	28	65		Weſtminſter
Edward I.	1239	1272 Nov. 16	34	7	21	67		Weſtminſter
Edward II.	1284	1307 July 7	19	6	18	43		Glouceſter
Edward III.	1312	1327 Jan. 25	50	4	27	65		Weſtminſter
Richard II.	1366	1377 June 21	22	3	8	33	Dep. & murd.	Weſtminſter
Henry IV.	1367	1399 Sept. 29	13	5	20	46		Canterbury
Henry V.	1389	1413 Mar. 20	9	5	11	33		Weſtminſter
Henry VI.	1421	1422 Aug. 31	38	6	4	49	Dep. & murd.	Windſor
Edward IV.	1442	1461 Mar. 4	22	1	5	41		Windſor
Edward V.	1471	1483 April 9	0	2	15	12	Murder'd.	Not known
Richard III.	1443	1483 June 22	2	2	0	42	Slain in Battle.	Leiceſter
Henry VII.	1456	1485 Aug. 22	23	8	0	52		Weſtminſter
Henry VIII.	1492	1509 April 22	37	9	6	55		Windſor
Edward VI.	1537	1547 Jan. 28	6	5	8	15		Weſtminſter
Mary I.	1516	1553 July 6	5	4	11	42	Died of Grief.	Weſtminſter
Elizabeth	1533	1558 Nov. 17	44	4	7	69		Weſtminſter
James I.	1566	1603 Mar. 24	22	0	3	58		Weſtminſter
Charles I.	1600	1625 Mar. 27	23	10	3	48	Beheaded.	Windſor
Charles II.	1630	1649 Jan. 30	36	0	7	54		Weſtminſter
James II.	1633	1685 Feb. 6	4	0	7	67	Abdicated.	St. Germain
Mary II.	1662	1689 Feb. 13	5	10	15	32		Weſtminſter
William III.	1650	1689 Feb. 13	13	0	23	52	Kill'd by a Fall	Weſtminſter
Anne	1665	1702 Mar. 8	12	4	24	49	from his Horſe.	Weſtminſter
George I.	1660	1714 Aug. 1	12	10	10	67		Hanover
George II.	1683	1727 June 11	33	4	14	77		Weſtminſter
George III.	1738	1760 Oct. 25 Crowned Sept. 22, 1761.						

Above you view the Riſe and Fall of Kings,
Whoſe Fate ſometimes a uſeful Leſſon brings.
Well if all Men could profit from the paſt!
Each know his Duty, each excel the laſt,
And juſtly execute his ſtated Taſk.

A TABLE of the moſt Reverend, Right Reverend, and Reverend, the ARCHBISHOPS, BISHOPS and DEANS, exerciſing Eccleſiaſtical Juriſdiction, 1782.

BISHOPS.	Sees.	Date.	Succeeded.	DEANS.
H. Dr. F. Cornwallis Arch-Biſhop	*Litch & Cov.*	1749	Smallbroke de.	
	Canterb. A. B.	1768	Secker deceaſ.	Dr. Horne
Dr. Will. Markham Arch-Biſhop	*Cheſter*	1748	Keene tranſlat.	
	York A. B.	1777	Drummond de.	Dr. J. Fountayne
Dr. Robert Lowth	*St. David's*	1761	Squire deceaſ.	
	Oxford	1757	Hume tranſl.	Rt. Rev. Dr. Thomas Newton
	London	1777	Terrick dec.	
Dr. John Egerton	*Bangor*	1754	Willes tranſl.	
	Durham	1752	Trevor deceaſ.	Hon. W. Digby
Hon. Dr. B. North	*Litch & Cov.*	1768	Cornwallis tr.	
	Worceſter	1775	Johnſon deceaſ.	
	Wincheſter	1781	Thomas deceaſ.	Dr. Ogle
Lord J. Beauclerk	Hereford	1746	Egerton deceaſ.	Dr. Wetherell
Sir W. Aſhburnham	Chicheſter	1754	Mawſon tranſl.	Dr. Harward
Dr. John Hume	*Briſtol*	1756	Conybeare dec.	
	Oxford	1758	Secker tr.	
	Saliſbury	1766	Thomas tr.	Dr. Noel
Dr. Philip Yonge	*Briſtol*	1758	Hume tranſlat.	
	Norwich	1761	Hayter tranſl.	Dr. P. Lloyd
Dr. Thomas Newton	Briſtol	1761	Yonge tranſl.	Dr. Hallam
Dr. Charles Moſs	*St. David's*	1766	Clagget tranſl.	
	Bath & Wells	1774	Willes deceaſed	Ld. Fr. Seymour
Dr. J. Shipley	St. Aſaph	1769	Newcome dec.	Dr. W. D. Shipley
Dr. Edmund Law	Carliſle	1769	Lyttelton dec.	Dr. Percy
Dr. S. Barrington	Landaff	1769	Shipley tranſl.	Dr. Adams, A.D.
Dr. John Hinchliffe	Peterborough	1769	Lamb dec.	Dr. Ch. Tarrant
H. Dr. James Yorke	*Glouceſter*	1779	Warburton dec.	
	Ely	1781	Keene deceaſed	Dr. Cooke
Dr. John Thomas	Rocheſter	1774	Pearce dec.	Dr. Cuſt
Dr. Hurd	*Litch. & Cov.*	1775	B. North tr.	
	Worceſter	1781	B. North tr.	Dr. Foley
Dr. Moore	Bangor	1775	Ewer deceaſed	Dr. Tho. Lloyd
Dr. Beilby Porteus	Cheſter	1777	Markham tran.	Dr. Will. Smith
Dr. John Butler	Oxford	1777	Lowth tranſl.	Dr. Lewis Bagot.
Dr. John Roſs	Exeter	1778	Keppel dec.	Dr. Jer. Milles
Dr. Thurlow	Lincoln	1779	Green dec.	
Dr. John Warren	St. David's	1779	Yorke tranſl.	Mr. Wollaſton, P.
Dr. J. Cornwallis	Litch. & Cov.	1781	Hurd tranſl.	Dr. Proby
Dr. Samuel Halliſax	Glouceſter	1781	Yorke tranſl.	Dr. Joſiah Tucker
	Weſtminſter	1768		Biſhop Thomas
Dr. George Maſon	Sodor & Man	1779	Richmond dec	
	Windſor	1778	Hon. &	Rev. Dr. Harley

A General Interest Table,

by which the Intereſt of any Sum, at any Rate, and for any Time, may be readily found.

Days	3 per Cent.			3½ per Cent.			4 per Cent.			4½ per Cent.			5 per Cent.		
	l.	s.	d. q.	l.	s.	d. q.	l.	s.	d. q	l.	s.	d. q.	l.	s.	d. q.
1			1 3			2 1			2 2			3 0			3 0
2			3 3			4 2			5 1			6 0			6 2
3			5 3			6 3			7 3			8 3			9 3
4			7 3			9 0			10 2			11 3		1	1 0
5			9 3			11 2		1	1 1		1	2 3		1	4 1
6			11 3		1	1 3		1	3 3		1	5 3		1	7 2
7		1	1 3		1	4 0		1	6 1		1	8 3		1	11 0
8		1	3 3		1	6 1		1	9 0		1	11 3		2	2 1
9		1	5 3		1	8 2		1	11 2		2	2 2		2	5 2
10		1	7 2		1	11 0		2	2 1		2	5 2		2	8 3
20		3	3 1		3	10 0		4	4 2		4	11 1		5	5 3
30		4	11 0		5	9 0		6	6 3		7	4 3		8	2 2
40		6	6 3		7	8 0		8	9 0		9	10 1		10	11 2
50		8	2 2		9	7 0		10	11 2		12	3 3		13	8 1
60		9	10 1		11	6 0		13	1 3		14	9 2		16	5 1
70		11	6 0		13	5 0		15	4 0		17	3 1		19	2 0
80		13	1 3		15	4 0		17	6 1		19	8 3	1	1	11 0
90		14	9 2		17	3 0		19	8 2	1	2	2 1	1	4	7 3
100		16	5 1		19	2 0	1	1	11 0	1	4	8 0	1	7	4 3
200	1	12	10 2	1	18	4 1	2	3	10 0	2	9	3 3	2	14	9 2
300	2	9	3 3	2	17	6 1	3	5	9 0	3	13	11 1	4	2	2 1

N. B. This Table contains the intereſt of 100l. for all the ſeveral days in the 1ſt column, and at the ſeveral rates of 3, 3½, 4, 4½, and 5 per cent. in the other 5 columns.

To find the intereſt of 100l. *for any other time*, as 1 year and 278 days, at 4½ per cent. Take the ſums for the ſeveral days here annexed.

The intereſt for 1 year	4	10	0	0
Againſt 200 days is -	2	9	3	3
——— 70 days -	0	17	3	1
——— 8 days -	0	1	11	3
Intereſt required -	7	18	6	3

For any other Sum than 100l. Firſt find for 100l. as above, and take it ſo many times or parts as the ſum is of 100l. Thus, to find for 355l. at 4½, for 1 year and 278 days,

Firſt, 3 times the above ſum, for 300l.) is -	23	15	8	1
½ (for 50l.) is -	3	19	3	1
1/10 of this (for 5l.) is	0	7	11	0
So for 355 it is -	28	2	10	2

When the intereſt is required for any other rate than thoſe in the table, it may eaſily be made out from them. So ½ of 5 is 2½, ½ of 4 is 2, ½ of 3 is 1½, ½ of 3 is 1, 1-6th of 3 is ½, and 1-12th of 3 is ¼. And ſo, by parts, or by adding or ſubtracting, any rate may be made out.

The Lunations.

Last quarter the 6 day, 39 minutes past 10 at night,
New Moon the 13th day, 40 minutes past 6 at night,
First quarter the 21st day, 45 minutes past noon,
Full Moon the 29th day, 46 minutes past 8 morning.

M D	Sundays & other remark. days	☉ rises	☉ sets	☉'s declin.	☽'s declin.	☽ rises & sets	☽ south	Clock bef. ☉
1	Circumcision	8 5	3 55	22 s 59	24 n 26	5 a 37	1 m 11	4 15
2		8 4	3 56	22 54	20 30	6 59	2 3	4 43
3		8 3	3 57	22 48	15 27	8 20	2 55	5 10
4		8 3	3 57	22 42	9 36	9 43	3 44	5 38
5	Old Christ. day	8 2	3 58	22 35	3 13	11 7	4 30	6 5
F	☩ S. a. Ch: Epiph.	8 1	3 59	22 28	2 s 22	morn.	5 17	6 31
7	Plow Monday	8 0	4 0	22 20	9 51	0 30	6 4	6 57
8	Lucian	7 59	4 1	22 12	15 54	1 57	6 54	7 22
9		7 58	4 2	22 3	21 8	3 24	7 46	7 47
10		7 57	4 3	21 54	25 9	4 54	8 43	8 12
11		7 56	4 4	21 45	27 35	6 22	9 45	8 35
12	O. N. Year's day	7 55	4 5	21 35	28 10	7 32	10 47	8 59
F	1 S. aft. Epiph.	Hilary.	4 6	21 25	26 56	☽ sets.	11 46	9 21
14	Ox. & Ca. T. beg	7 53	4 7	21 14	24 3	4 a 37	0 a 44	9 43
15		7 52	4 9	21 3	19 56	6 2	1 37	10 4
16		7 51	4 10	20 52	14 57	7 23	2 25	10 25
17	O. Twelfth day	7 49	4 11	20 40	9 27	8 38	3 8	10 45
18	Q. Char. b. d. k.	Prisca	4 13	20 27	3 42	9 51	3 49	11 4
19		7 47	4 14	20 15	2 n 3	11 1	4 29	11 22
F	2 S. aft. Epiph.	Fabian	4 15	20 2	7 38	morn.	5 9	11 40
21	Agnes	7 44	4 17	19 48	12 55	0 12	5 50	11 57
22	Vincent	7 42	4 18	19 35	17 44	1 23	6 32	12 13
23	Hil. Term beg.	7 41	4 20	19 21	21 53	2 35	7 17	12 28
24		7 39	4 21	19 6	25 11	3 49	8 6	12 42
25	Conv. St. Paul	7 38	4 23	18 51	27 24	5 0	8 59	12 56
26		7 36	4 24	18 36	28 16	6 4	9 54	13 8
F	Septuagesima	Pr. Aug. Fred. b		18 21	27 40	6 58	10 50	13 20
28		7 33	4 27	18 5	25 27	7 37	11 46	13 31
29		7 32	4 29	17 49	21 48	☽ rises.	morn.	13 41
30	K. Charl. I. beh.	7 30	4 31	17 32	16 55	5 54	0 39	13 51
31		7 28	4 32	17 15	11 5	7 20	1 29	13 59

Days	Day increas.	Length of Day.	Helioc. long. ♄	Helioc. long. ♃	Helioc. long. ♂	Helioc. long. ☿	Helioc long. ♀	Helioc. long. ☽	♄ rises.
1	0 6	7 50	23 ♐ 2	10 ♐ 55	7 ♉ 17	11 ♑ 19	23 ♉ 20	13 ♍ 3	6 m 48
7	0 16	8 0	23 13	11 24	10 43	17 26	2 ♊ 59	0 ♐ 9	6 24
13	0 28	8 12	23 23	11 53	14 6	23 33	12 38	16 40	6 1
19	0 43	8 27	23 34	12 21	17 27	29 40	22 19	3 ♑ 22	5 39
25	1 2	8 46	23 45	12 50	20 46	5 ♌ 46	2 ♋ 1	21 1	5 16

	Day lig. begins	Day lig. ends	Durat. twilig.	Pl. ☽'s node	♄'s latitude	♃'s latitude	♂'s latitude	♀'s latitude	☿'s latitude
1	5 59	6 1	2 6	21♈20	1 n 5	0 n 32	0 s 22	1 s 13	0 n 7
2	5 56	6 4	2 4	21 1	1 5	0 32	0 15	0 43	0 s 36
3	5 52	6 8	2 2	20 42	1 6	0 31	0 8	0 10	1 13
4	5 46	6 14	2 0	20 23	1 6	0 31	0 1	0 n 32	1 41
5	5 39	6 21	1 58	20 4	1 6	0 31	0 n 5	1 18	1 59

	☉'s longitude	☽'s long.	☽'s latitude	♄'s long.	♃'s long.	♂'s long.	♀'s long.	☿'s long.
1	♑11 19 15	2♌26	4 n 56	24♐38	15♐32	26♓26	28♒19	23♐54
2	12 20 25	15 46	4 35	24 45	15 45	27 8	29 23	25 21
3	13 21 35	29 17	3 58	24 52	15 58	27 49	0♓26	26 49
4	14 22 45	12♍56	3 8	24 59	16 10	28 31	1 29	28 17
5	15 23 55	26 44	2 6	25 6	16 23	29 12	2 32	29 46
6	16 25 5	10♎39	0 56	25 13	16 36	29 54	3 34	1♑15
7	17 26 16	24 41	0 s 18	25 19	16 48	0♈35	4 36	2 45
8	18 27 26	8♏50	1 32	25 26	17 1	1 17	5 36	4 5
9	19 28 36	23 5	2 40	25 33	17 14	1 58	6 36	5 36
10	20 29 47	7♐24	3 38	25 39	17 26	2 40	7 36	7 17
11	21 30 57	21 42	4 23	25 46	17 38	3 21	8 36	8 50
12	22 32 6	5♑56	4 50	25 53	17 50	4 3	9 36	10 23
13	23 33 15	19 59	5 0	25 59	18 2	4 44	10 36	11 55
14	24 34 24	3♒47	4 52	26 6	18 14	5 25	11 35	13 30
15	25 35 33	17 15	4 28	26 13	18 26	6 7	12 34	15 3
16	26 36 41	0♓21	3 50	26 19	18 38	6 48	13 31	16 37
17	27 37 47	13 5	3 1	26 26	18 50	7 29	14 28	18 12
18	28 38 52	25 29	2 5	26 33	19 2	8 10	15 24	19 47
19	29 39 57	7♈37	1 4	26 39	19 14	8 52	16 19	21 23
20	♒ 0 41 1	19 33	0 1	26 45	19 26	9 33	17 14	23 0
21	1 42 3	1♉22	1 n 1	26 51	19 38	10 15	18 9	24 37
22	2 43 4	13 10	2 1	26 57	19 49	10 56	19 3	26 15
23	3 44 4	25 2	2 56	27 3	20 1	11 38	19 56	27 54
24	4 45 2	7♊4	3 44	27 9	20 13	12 19	20 49	29 33
25	5 46 0	19 21	4 22	27 15	20 24	13 1	21 41	1♒13
26	6 46 56	1♋55	4 48	27 21	20 36	13 42	22 32	2 54
27	7 47 51	14 48	5 1	27 27	20 47	14 24	23 22	4 35
28	8 48 45	28 0	4 58	27 33	20 59	15 5	24 11	6 17
29	9 49 37	11♌31	4 39	27 39	21 10	15 46	24 59	8 0
30	10 50 29	25 17	4 3	27 45	21 22	16 27	25 47	9 43
31	11 51 19	9♍14	3 11	27 51	21 33	17 0	26 34	11 27

♅ rises	♂ sets	♀ sets	☿ rises	♄'s declin.	♅'s declin.	♂'s declin.	♀'s declin.	☿'s declin.
6 m 7	10 a 54	8 a 11	6 50	22 s 17	22 s 9	1 s 46	13 s 12	23 s 12
5 47	10 51	8 21	7 7	22 18	22 17	0 n 1	10 30	24 2
5 26	10 48	8 31	7 22	22 18	22 24	1 46	7 45	24 8
5 7	10 46	8 41	7 34	22 19	22 31	3 30	4 54	23 26
4 48	10 45	8 48	7 40	22 20	22 36	5 13	2 6	21 51

The Lunations.

Last quarter the 5th day at 38 minutes past 6 morning,
New Moon the 12th day at 48 minutes past 8 morning,
First quarter the 20th day at 18 minutes past 10 morning,
Full Moon the 27th day at 30 minutes past 9 at night.

M D	Sundays & other remark. days	☉ rises	☉ sets	☉ declin.	☽'s declin.	☽ rises & sets	☽ south	Clo bef.
1		7 27	4 34	16 s 58	4 n 38	8 a 45	2 m 18	14
2	Purif. Candl. d.	7 25	4 36	16 41	2 s 5	10 9	3 6	14
F	Sexages. Sunday	Blase 23	4 37	16 23	8 42	11 35	3 54	14
4		7 21	4 39	16 5	14 54	morn	4 43	14
5	Agatha	7 20	4 41	15 47	20 18	1 2	5 35	14
6		7 18	4 43	15 29	24 32	2 35	6 31	14
7		7 16	4 44	15 10	27 18	3 59	7 29	14
8		7 14	4 46	14 51	28 20	5 15	8 30	14
9		7 13	4 48	14 32	27 37	6 13	9 3	14
F	Quinqua. Sunday	7 11	4 50	14 12	25 14	6 54	10 28	14
11		7 9	4 52	13 52	21 31	7 21	11 22	14
12	Hil. Term ends.	Shro. T.	4 54	13 32	16 47	☽ sets	0 a 13	14
13	Ash-Wednesday	7 5	4 56	13 12	11 23	6 a 15	0 59	14
14	Valentine	7 3	4 57	12 52	5 28	7 29	1 41	14
15		7 1	4 59	12 31	0 n 23	8 41	2 21	14
16		7 0	5 1	12 10	5 56	9 52	3 1	14
F	Quad. 1 S. in Lt.	6 58	5 3	11 49	11 24	11 3	3 43	14
18		6 56	5 5	11 28	16 24	morn	4 23	14
19		6 54	5 7	11 7	20 48	0 16	5 7	14
20	Ember-week	6 52	5 9	10 46	24 23	1 28	5 54	14
21		6 50	5 11	10 23	26 58	2 41	6 46	13
22		6 48	5 13	10 2	28 18	3 50	7 40	13
23	Pr. Octavius bo.	6 46	5 15	9 40	28 13	4 48	8 36	13
F	2 Sun. in Lent.	St. Mat. Pr. Ad. Fred. bo.			26 36	5 34	9 32	13
25		6 42	5 18	8 55	23 31	6 5	10 26	13
26		6 40	5 20	8 33	19 2	6 31	11 19	13
27		6 38	5 22	8 10	13 25	☽ rises	morn	13
28		6 36	5 24	7 48	6 57	6 a 22	0 10	12

Days	Day increas.	Lengt. of day	Helioc. long. ♄	Helioc. long. ♃	Helioc long ♂	Helioc. long. ☿	Helioc. long. ♀	Helioc. long. ☉	♄ rises
1	1 23	9 7	23 ♐ 58	13 ♑ 25	24 ♉ 36	12 ♌ 52	13 ♓ 21	13 ♒ 58	4 m
7	1 44	9 28	24 9	13 54	27 50	18 57	23 5	6 ♓ 58	4 2
13	2 7	9 51	24 19	14 22	1 ♊ 3	25 1	2 ♌ 49	4 ♈ 20	4
19	2 29	10 13	24 30	14 51	4 14	1 ♍ 4	12 35	7 ♉ 1	3 4
25	2 52	10 36	24 41	15 20	7 22	7 5	22 20	13 ♊ 57	3 2

Days	Day lig. begins	Day lig. ends	Durat. twilig.	Pl. ☽'s node	♄'s latitude	♃'s latitude	♂'s latitude	♀'s latitude	☿'s latitude
1	5 31	6 20	1 55	19♈42	1 n 6	0 n 31	0 n 12	2 n 19	2 s 4
7	5 22	6 38	1 54	19 23	1 6	0 31	0 17	3 16	1 49
13	5 12	6 48	1 52	19 3	1 6	0 30	0 22	4 17	1 16
19	5 1	6 59	1 52	18 44	1 6	0 30	0 27	5 20	0 18
25	4 50	7 10	1 52	18 25	1 7	0 30	0 31	6 25	1 n 1

Days	☉'s longitude	☽'s long.	☽'s latitude	♄'s long.	♃'s long.	♂'s long.	♀'s long.	☿'s long.
1	♒12 52 8	23♏19	2 n 9	27♐56	21♐44	17♈50	27♓20	13♒12
2	13 52 56	7♎27	0 57	28 2	21 55	18 31	28 5	14 57
F	14 53 44	21 36	0 s 18	28 8	22 5	19 12	28 49	16 43
4	15 54 31	5♑45	1 32	28 13	22 16	19 53	29 31	18 30
5	16 55 16	19 51	2 40	28 19	22 26	20 34	0♈12	20 18
6	17 56 1	3♐54	3 39	28 24	22 37	21 16	0 52	22 6
7	18 56 45	17 53	4 24	28 29	22 47	21 57	1 31	23 55
8	19 57 27	1♑46	4 53	28 35	22 57	22 38	2 9	25 44
9	20 58 8	15 31	5 5	28 40	23 7	23 19	2 45	27 34
F	21 58 49	29 7	4 59	28 45	23 17	24 0	3 20	29 24
11	22 59 28	12♒29	4 37	28 50	23 27	24 41	3 53	1♓13
12	24 0 5	25 36	4 1	28 55	23 37	25 22	4 24	3 3
13	25 0 41	8♓28	3 13	29 0	23 46	26 3	4 54	4 53
14	26 1 16	21 2	2 16	29 5	23 56	26 44	5 24	6 43
15	27 1 48	3♈1	1 14	29 9	24 6	27 25	5 52	8 32
16	28 2 18	15 2	0 9	29 14	24 15	28 6	6 18	10 20
F	29 2 47	27 21	0 n 55	29 19	24 24	28 47	6 42	12 8
18	♓ 0 3 14	9♉10	1 56	29 23	24 33	29 28	7 4	13 54
19	1 3 39	20 58	2 53	29 27	24 42	0♉9	7 23	15 38
20	2 4 2	2♊50	3 42	29 32	24 51	0 50	7 41	17 20
21	3 4 22	14 52	4 22	29 36	24 59	1 31	7 57	18 58
22	4 4 41	27 8	4 51	29 41	25 8	2 12	8 11	20 32
23	5 4 57	9♋44	5 8	29 45	25 16	2 53	8 23	22 2
F	6 5 12	22 41	5 9	29 49	25 25	3 34	8 32	23 27
25	7 5 24	6♌1	4 53	29 53	25 33	4 15	8 39	24 48
26	8 5 35	19 45	4 21	29 57	25 41	4 55	8 43	26 3
27	9 5 44	3♍50	3 32	0♑1	25 48	5 36	8 44	27 11
28	10 5 51	18 11	2 29	0 5	25 55	6 16	8℞44	28 14

Days	♃ rises	♂ sets	♀ sets	☿ sets	♄'s declin.	♃'s decl n.	♂'s declin.	♀'s declin.	☿'s declin.
1	4 m 28	10 s 44	8 s 54	4 s 26	22 s 22	22 s 41	7 n 11	1 n 3	18 s 51
7	4 7	10 44	8 56	5 5	22 22	22 46	8 49	3 37	15 17
13	3 48	10 44	8 54	5 45	22 22	22 49	10 25	5 54	10 54
19	3 31	10 43	8 49	6 21	22 22	22 51	11 58	7 51	5 57
25	3 15	10 40	8 46	7 2	22 21	22 53	13 28	9 20	1 8

The Lunations.

Last quarter the 6th day at 31 minutes past 2 afternoon,
New Moon the 14th day at 21 minutes before 1 morning,
First quarter the 22d day at 25 minutes past 5 morning,
Full Moon the 29th day at 11 minutes past 8 morning.

M D	Sundays & other remark. days	☉ rises	☉ sets	☉'s declin.	☽'s declin.	☽ rises & sets	☽ South.	Clock bef. ☉
1	David	6 34	5 26	7 s 25	0 n 4	7 a 50	1 m 0	12 3
2	Chad	6 33	5 28	7 2	6 s 52	9 20	1 49	12 2
F 3	Sun. in Lent	6 31	5 30	6 39	13 26	10 51	2 40	12 1
4		6 29	5 32	6 16	19 14	morn	3 33	11 5
5		6 27	5 34	5 53	23 52	0 21	4 28	11 4
6		6 25	5 36	5 29	27 0	1 53	5 27	11 3
7	Perpetua	6 23	5 38	5 6	28 26	3 13	6 28	11 1
8		6 21	5 40	4 43	28 5	4 15	7 28	11 0
9		6 19	5 42	4 19	26 6	5 1	8 27	10 4
F 4	or Midlent S.	6 17	5 44	3 56	22 44	5 29	9 21	10 2
11		6 15	5 46	3 32	18 17	5 51	10 11	10 1
12	Gregory.	6 13	5 48	3 9	13 6	6 8	10 59	9 5
13		6 11	5 50	2 45	7 28	6 20	11 42	9 3
14		6 9	5 52	2 21	1 38	☽ sets	0 a 22	9 2
15		6 7	5 54	1 58	4 n 11	7 a 42	1 3	9 5
16		6 5	5 56	1 34	9 46	8 54	1 43	8 4
F 5	Sun. in Lent	St. Patr.	5 58	1 10	14 58	10 7	2 25	8 3
18	Edw. K. W. S.	6 1	6 0	0 47	19 36	11 20	3 8	8 1
19		5 59	6 2	0 23	23 28	morn	3 55	7 5
20		5 57	6 4	0 n 1	26 22	0 33	4 43	7 3
21	Benedict	5 55	6 6	0 24	28 7	1 42	5 35	7 1
22	Camb. T. ends	5 53	6 8	0 48	28 33	2 43	6 30	6 5
23	Oxf. Term ends	5 51	6 10	1 12	27 32	3 34	7 24	6 4
F	Palm Sunday	5 49	6 12	1 35	25 4	4 11	8 19	6 2
25	Annunc. Lady d.	5 47	6 14	1 59	21 11	4 40	9 12	6 3
26		5 45	6 16	2 22	16 3	5 0	10 2	5 4
27		5 43	6 18	2 46	9 56	5 15	10 53	5 2
28	Maundy Thurs.	5 41	6 20	3 9	3 8	5 30	11 44	5 6
29	Good Friday	5 39	6 22	3 33	3 s 59	☽ rises	morn	4 4
30		5 37	6 24	3 56	10 57	8 29	0 35	4 2
F	Easter day	5 35	6 26	4 19	17 18	10 4	1 28	4 1

Days	Day increas.	Length of day	Helioc. long. ♄	Helioc long. ♃	Helioc. long. ♂	Helioc. long ☉	Helioc. long. ♀	Helioc. long. ☿	♄ rises
1	3 8	10 52	24 ♐ 48	15 ♐ 36	9 ♊ 28	11 ♓ 6	28 ♌ 51	9 ♉ 2	3 m 10
7	3 31	11 15	24 59	16 5	12 34	17 6	8 ♓ 37	13 ♌ 48	2 50
13	3 55	11 39	25 10	16 34	15 37	23 5	18 21	13 ♓ 6	2 30
19	4 19	12 3	25 21	17 3	18 39	29 3	28 5	7 ♎ 19	2 9
25	4 43	12 27	25 31	17 32	21 39	4 ♎ 59	7 ♎ 47	27 51	1 47

Days	Day lig. begins	Day lig. ends	Durat. twilig.	Pl. ☾'s node	♄'s latitude	♅'s latitude	♂'s latitude	♀'s latitude	☿'s latitude
1	4 43	7 17	1 51	18♈13	1 n 6	0 n 30	0 n 34	7 n 6	1 n 58
7	4 30	7 30	1 52	17 54	1 7	0 30	0 37	7 57	3 10
13	4 17	7 43	1 53	17 35	1 7	0 30	0 40	8 27	3 36
19	4 14	7 56	1 54	17 16	1 7	0 30	0 44	8 27	2 55
25	3 50	8 10	1 56	16 57	1 7	0 30	0 47	7 55	1 30

Days	☉'s longitude	☾'s long.	☾'s latitude	♄'s long.	♅'s long.	♂'s long.	♀'s long.	☿'s long.
1	♓11 5 56	2♎43	1 n 15	0♑ 9	26♐ 2	6♉57	8♈43	29♓ 5
2	12 5 59	17 19	0 s 4	0 13	26 10	7 38	8 39	25 50
F	13 6 0	1♏53	1 23	0 16	26 17	8 19	8 32	0♈27
4	14 6 0	16 21	2 36	0 20	26 24	9 0	8 22	0 56
5	15 5 59	0♐39	3 38	0 24	26 31	9 41	8 9	1 16
6	16 5 56	14 44	4 27	0 27	26 38	10 22	7 53	1♑37
7	17 5 51	28 37	4 58	0 30	26 45	11 3	7 34	1 27
8	18 5 44	12♑16	5 13	0 33	26 52	11 43	7 13	1 19
9	19 5 36	25 40	5 10	0 36	26 58	12 24	6 50	1 4
F	20 5 26	8♒52	4 50	0 39	27 4	13 4	6 26	1 40
11	21 5 15	21 49	4 16	0 42	27 10	13 44	6 0	0 9
12	22 5 2	4♓33	3 30	0 45	27 16	14 25	5 32	29♓32
13	23 4 47	17 5	2 34	0 47	27 22	15 5	5 3	28 49
14	24 4 30	29 24	1 32	0 49	27 27	15 46	4 32	28 2
15	25 4 11	11♈33	0 26	0 52	27 33	16 26	3 59	27 10
16	26 3 50	23 32	0 n 40	0 54	27 39	17 7	3 24	26 15
F	27 3 27	5♉24	1 44	0 56	27 44	17 47	2 47	25 20
18	28 3 1	17 12	2 43	0 59	27 49	18 28	2 10	24 25
19	29 2 33	29 0	3 35	1 1	27 54	19 8	1 32	23 32
20	♈ 0 2 2	10♊53	4 19	1 3	27 58	19 48	0 53	22 41
21	1 1 29	22 53	4 51	1 5	28 3	20 28	0 14	21 53
22	2 0 54	5♋ 7	5 11	1 7	28 7	21 9	29♓36	21 8
23	3 0 17	17 39	5 17	1 9	28 11	21 49	28 59	20 28
F	3 59 37	0♌32	5 7	1 11	28 15	22 29	28 23	19 53
25	4 58 55	13 51	4 41	1 12	28 19	23 9	27 49	19 23
26	5 58 10	27 35	3 59	1 13	28 22	23 49	27 15	18 59
27	6 57 23	11♍46	3 0	1 14	28 26	24 29	26 42	18 41
28	7 56 34	26 19	1 48	1 15	28 29	25 9	26 10	18 28
29	8 55 43	11♎ 8	0 28	1 17	28 33	25 49	25 39	18 21
30	9 54 50	26 7	0 s 55	18	28 36	26 29	25 11	18 D 18
F	10 53 55	11♏ 7	2 14	1 16	28 39	27 9	24 45	18 23

Days	♃ rise	♂ sets	♀ sets	☿ sets	♄'s declin.	♅'s declin.	♂'s declin.	♀'s declin.	☿'s declin.
1	2 m58	10 a 46	8 a 26	7 a 15	22 s 21	22 54	14 n 23	9 n 58	1 n 26
7	2 39	10 48	8 0	7 9	22 21	22 55	15 45	10 18	3 30
13	2 20	10 50	7 24	6 34	22 21	22 56	17 2	9 45	2 49
19	2 0	10 51	rises	rises	22 20	22 57	18 14	8 22	0 7
25	1 40	10 53	4 m52	4 m43	22 20	22 57	19 21	6 23	2 s 50

The LUNATIONS.

Laſt quarter the 4th day at 8 minutes paſt 11 at night,
New Moon the 12th day at 32 minutes paſt 5 afternoon,
First quarter the 20th day at 54 minutes paſt 8 evening,
Full Moon the 27th day at 2 minutes paſt 5 afternoon.

M D	Sundays & other remark. days	☉ riſes	☉ ſets	☉'s declin.	☾'s declin.	☽ riſes & ſets	☾ South	Clock bef. ☉
1	Eaſter Monday	5 33	6 28	4 n 42	22 s 34	11 a 40	2 m24	3 5
2	Eaſter Tueſday	5 31	6 30	5 5	26 20	morn	3 25	3 3
3	Richard.	5 29	6 32	5 28	28 18	1 S	4 27	3 1
4	St. Ambroſe.	5 27	6 34	5 51	28 25	2 18	5 29	2 57
5	Old Lady day.	5 25	6 36	6 14	26 46	3 9	6 30	2 55
6		5 23	6 38	6 37	23 41	3 44	7 26	2 22
F	1 S. aft. Eaſter	Low S.	6 40	6 59	19 28	4 6	8 17	2 4
8		5 19	6 42	7 22	14 28	4 25	9 5	1 47
9		5 18	6 43	7 44	8 58	4 35	9 48	1 30
10	Ox. & Ca. T. beg.	5 16	6 45	8 6	3 13	4 44	10 28	1 14
11		5 14	6 47	8 28	2 n 34	4 56	11 9	0 57
12		5 12	6 49	8 50	8 13	☽ ſets	11 50	0 41
13		5 10	6 51	9 12	13 33	8 a 1	0 a 31	0 26
F	2 S. aft. Eaſter.	5 8	6 53	9 33	18 21	9 14	1 13	0 10
15		5 6	6 55	9 55	22 28	10 29	1 59	0 aft. 5
16		5 4	6 57	10 16	25 39	11 37	2 46	0 20
17	Eaſter T. begins	5 2	6 59	10 37	27 44	morn	3 38	0 34
18		5 0	7 1	10 58	28 34	0 41	4 30	0 48
19	Alphege	4 59	7 3	11 19	28 1	1 39	5 24	1 2
20		4 57	7 5	11 39	26 3	2 20	6 16	1 15
F	3 S. aft. Eaſter	4 55	7 6	12 0	22 45	2 48	7 8	1 28
22		4 53	7 8	12 20	18 11	3 11	7 58	1 40
23	St. George	4 51	7 10	12 40	12 36	3 29	8 48	1 52
24		4 49	7 12	13 0	6 11	3 42	9 37	2 4
25	St. Mark	Prs. Mary born		13 19	0 s 42	3 56	10 27	2 14
26		4 46	7 16	13 39	7 46	4 9	11 18	2 25
27		4 44	7 17	13 58	14 31	☽ riſes	morn	2 35
F	4 S. aft. Eaſter	4 42	7 19	14 17	20 25	9 a 10	0 14	2 44
29		4 40	7 21	14 35	24 59	10 44	1 13	2 54
30		4 39	7 23	14 54	27 45	morn	2 16	3 2

Days	Day increaſ.	Length of day	Helioc. long. ♄	Helioc. long. ♃	Helioc. long. ♂	Heliоc long ♁	Heliоc. long. ♀	Heliоc. long. ☿	♄ riſes
1	5 11	12 55	25 ♑ 44	18 ♐ 6	25 ♊ 7	11 ♎ 53	19 ♎ 5	18 ♍ 57	1 m25
7	5 35	13 19	25 5	18 34	28 44	17 47	28 44	5 ♐ 46	1 2
13	5 57	13 41	26 6	19 3	0 ♋ 59	23 39	8 ♍ 21	22 15	0 40
19	6 21	14 5	26 16	19 32	3 52	29 31	17 57	9 ♑ 11	0 17
25	6 42	14 26	26 27	20 1	6 44	5 ♍ 21	27 31	27 10	11 a 54

	Day lig. begins	Day lig. ends	Durat. twilig.	Pl. ☾'s node	♄'s latitude	♅'s latitude	♂'s latitude	♀'s latitude	☿'s latitude
1	3 32	8 2[illegible]	2 0	16♈34	1 n 8	0 n 3[illegible]	0 n 50	6 n 42	0 s 15
7	3 16	8 4[illegible]	2 4	16 15	1 8	0 3[illegible]	0 53	5 23	1 27
13	3 0	9 0	2 9	15 56	1 8	0 3[illegible]	0 55	4 4	2 16
19	2 43	9 17	2 14	15 37	1 8	0 29	0 57	2 49	2 42
25	2 26	9 34	2 2[illegible]	15 18	1 8	0 29	0 59	1 41	2 47

	☉'s longitude	☾'s long.	☾'s latitude	♄'s long.	♅'s long.	♂'s long.	♀'s long.	☿'s long.
1	♈11 52 58	25♍59	3 s 24	1♑20	28♐42	27♉49	24♓22	18♓32
2	12 51 59	10♐37	4 19	1 21	28 44	28 28	23 59	18 44
3	13 50 58	24 57	4 56	1 22	28 47	29 8	23 38	19 4
4	14 49 57	♑56	5 15	1 22	28 49	29 48	23 20	19 33
5	15 48 53	22 33	5 16	1 23	28 51	0♊28	23 5	20 5
6	16 47 47	5♒49	5 0	1 23	28 53	1 8	22 53	20 38
F	17 46 40	18 46	4 28	1 24	28 55	1 48	22 45	21 13
8	18 45 31	1♓27	3 44	1 24	28 57	2 27	22 39	21 52
9	19 44 20	13 53	2 51	1 24	28 58	3 7	22 36	22 36
10	20 43 8	26 7	1 50	1 ℞24	28 59	3 47	22 35	23 27
11	21 41 54	8♈12	0 45	1 24	28 59	4 27	22 D 35	24 18
12	22 40 38	20 10	0 n 22	1 24	29 0	5 7	22 36	25 13
13	23 39 20	2♉2	1 26	1 23	29 0	5 47	22 38	26 11
F	24 38 0	13 51	2 27	1 23	29 0	6 26	22 44	27 12
15	25 36 38	25 40	3 22	1 22	29 ℞ 0	7 6	22 53	28 16
16	26 35 14	7♊29	4 8	1 22	29 0	7 45	23 4	29 21
17	27 33 48	19 23	4 43	1 21	29 0	8 2	23 17	0♈30
18	28 32 19	1♋25	5 6	1 20	29 0	9 4	23 3[illegible]	1 41
19	29 30 48	13 39	5 16	1 19	28 59	9 44	23 51	2 54
20	♉ 0 29 15	26 8	5 12	1 19	28 59	10 2[illegible]	24 11	4 9
F	1 27 40	8♌57	4 52	1 18	28 58	11 3	24 33	5 27
22	2 26 2	22 8	4 17	1 17	28 56	11 42	24 56	6 47
23	3 24 22	5♍45	3 26	1 16	28 54	12 22	25 20	8 9
24	4 22 41	19 49	2 21	1 14	28 52	13 1	25 45	9 33
25	5 20 58	4♎19	1 5	1 12	28 50	13 41	26 12	10 59
26	6 19 13	19 10	0 s 16	1 10	28 48	14 20	26 41	12 27
27	7 17 25	4♏18	1 38	1 9	28 47	14 59	27 12	13 57
F	8 15 36	19 32	2 54	1 7	28 45	15 39	27 44	15 28
29	9 13 45	4♐42	3 56	1 5	28 43	16 18	28 18	17 2
30	10 11 53	19 40	4 42	1 4	28 41	16 57	28 53	18 38

Day	♅ rises	♂ sets	♀ rises	☿ rises	♄'s declin.	♅'s declin.	♂'s declin.	♀'s declin.	☿'s declin.
1	1 m 18	10 a 55	4 m 26	4 m 43	22 s 20	22 s 58	20 n 31	3 n 55	4 s 46
7	0 57	10 56	4 8	4 46	22 20	22 58	21 25	2 4	4 49
13	0 36	10 55	3 53	4 38	22 19	22 58	22 12	0 49	3 36
19	0 13	10 55	3 40	4 29	22 19	22 59	22 54	0 8	1 19
25	11 a 48	10 54	3 27	4 21	22 19	22 59	23 27	0 2	1 n 48

The Lunations.

Laſt quarter the 4th day at 12 minutes paſt 9 morning,
New Moon the 12th day at 11 minutes paſt 10 morning,
Firſt quarter the 20th day at 7 minutes paſt 9 morning,
Full Moon the 27th day at 29 minutes before 1 morning.

M D	Sundays & other remark. days	☉ riſes	☉ ſets	☉'s declin.	☾'s declin.	☽ riſes & ſets	☾ South	Clock aft. ☉
1	St. Phil. & Jam.	4 37	7 24	15 n 12	28 s 32	o m 10	3 m 22	3 10
2		4 35	7 26	15 30	27 23	1 11	4 26	3 17
3	Inv. of the Croſs	4 33	7 28	15 47	24 35	1 50	5 25	3 24
4		4 32	7 30	16 5	20 34	2 17	6 19	3 30
F	Rogat. Sunday	4 30	7 32	16 22	15 41	2 37	7 8	3 36
6	St. John a. p. Lat.	4 28	7 33	16 39	10 16	2 51	7 53	3 41
7		4 27	7 35	16 56	4 34	3 2	8 35	3 46
8		4 25	7 36	17 12	1 n 12	3 11	9 15	3 50
9	Aſcenſion	4 23	7 38	17 28	6 51	3 21	9 54	3 53
10		4 22	7 40	17 44	12 14	3 32	10 34	3 56
11		4 20	7 41	17 59	17 10	3 44	11 16	3 58
F	S. aft. Aſcenſion	4 19	7 43	18 14	21 27	☽ ſets	o a 1	3 59
13	Eaſter T. ends	4 17	7 44	18 29	24 53	9 a 33	0 47	4 0
14		4 15	7 46	18 44	27 15	10 40	1 37	4 0
15		4 14	7 47	18 58	28 23	11 37	2 29	4 0
16	Oxf. Term ends	4 12	7 49	19 12	28 10	morn	3 21	3 59
17		4 11	7 50	19 25	26 34	0 21	4 14	3 58
18		4 10	7 52	19 39	23 39	0 54	5 5	3 56
F	Whit-Sunday	Q. Charl. born		Dunſt.	19 32	1 17	5 54	3 54
20	Whit-Monday	4 7	7 54	20 4	14 24	1 35	6 42	3 51
21	Whit-Tueſday	4 6	7 56	20 16	8 27	1 50	7 29	3 48
22	Ember Week	Prs. Eliz. born		20 28	1 55	2 3	8 16	3 44
23		4 3	7 58	20 40	4 s 55	2 15	9 5	3 39
24		4 2	7 59	20 51	11 40	2 27	9 58	3 35
25		4 0	8 1	21 2	17 53	2 44	10 54	3 29
F	Trinity Sunday	Auguſtin	8 2	21 12	23 5	3 3	11 56	3 23
27	Venerable Bede	3 58	8 3	21 22	26 42	☽ riſes	morn	3 17
28		3 57	8 4	21 32	28 21	10 a 54	1 1	3 10
29	K. Ch. II. reſt.	Ox. T. b.	8 5	21 41	27 56	10 45	2 7	3 3
30	Corpus Chriſti.	3 55	8 6	21 50	25 38	morn	3 10	2 55
31	Trin. Term beg.	3 54	8 7	21 59	21 52	o 17	4 8	2 46

Days	Day increaſ.	Length of day	Helioc. long. ♄	Helioc. long. ♃	Helioc. long. ♂	Helioc. long. ☿	Helioc. long. ♀	Helioc. long. ☽	♄ riſes
1	7 4	14 48	26 ♐ 58	20 ♐ 33	9 ♎ 36	11 ♍ 10	7 ♐ 4	17 ♏ 38	11 a 29
7	7 24	15 8	26 49	21 2	12 24	16 58	16 35	11 ♑ 16	11 6
13	7 43	15 27	27 0	21 31	15 13	22 46	26 6	9 ♈ 31	10 41
19	8 1	15 45	27 10	22 1	18 c	28 32	5 ♉ 36	13 ♉ 4	10 16
25	8 17	16 1	27 29	22 30	20 45	4 ♐ 18	15 5	20 ♊ 24	9 50

Days	Day lig. begins	Day lig. ends	Durat. twilig.	Pl. ☾'s node	♄'s latitude	♅'s latitude	♂'s latitude	♀'s latitude	☿'s latitude
1	2 7	9 55	2 31	14♈59	1 n 9	0 n 20	1 n 1	0 n 41	2 s 31
7	1 45	10 18	2 43	14 40	1 9	0 28	1 2	0 s 9	1 57
13	1 20	10 45	3 1	14 21	1 9	0 28	1 4	0 51	1 6
19	0 48	11 20	3 27	14 2	1 9	0 28	1 5	1 26	0 5
25	0	All day-light		13 43	1 0	0 27	1 6	1 54	0 n 36

Days	☉'s longitude	☾'s long.	☽'s latitude	♄'s long.	♅'s long.	♂'s long.	♀'s long.	☿'s long.
1	♉11 10 0	4♑16	5 s 8	1♑ 2	28♐39	17♊37	29♓29	20♈16
2	12 8 4	18 28	5 14	1 0	28 36	18 16	0♈ 7	21 56
3	13 6 8	2♒12	4 2	0 58	28 32	18 55	0 46	23 37
4	14 4 10	15 29	4 34	0 56	28 29	19 34	1 26	25 20
F	15 2 11	28 22	3 52	0 53	28 25	20 13	2 7	27 5
6	16 0 11	10♓55	3 1	0 51	28 21	20 52	2 49	28 53
7	16 58 9	23 12	2 2	0 48	28 17	21 31	3 32	0♉42
8	17 56 6	5♈16	0 59	0 45	28 13	22 10	4 15	2 33
9	18 54 2	17 11	0 n 6	0 43	28 8	22 49	4 59	4 26
10	19 51 57	29 2	1 10	0 40	28 4	23 28	5 44	6 20
11	20 49 50	10♉50	2 11	0 37	28 0	24 7	6 30	8 16
F	21 47 42	22 38	3 6	0 34	27 56	24 46	7 17	10 15
13	22 45 33	4♊29	3 53	0 31	27 51	25 25	8 5	12 17
14	23 43 21	16 23	4 31	0 28	27 46	26 4	8 54	14 19
15	24 41 9	28 24	4 56	0 25	27 41	26 43	9 44	16 25
16	25 38 55	10♋32	5 9	0 22	27 36	27 22	10 34	18 28
17	26 36 38	22 50	5 7	0 18	27 31	28 1	11 24	20 34
18	27 34 21	5♌22	4 51	0 15	27 25	28 40	12 15	22 42
F	28 32 2	18 9	4 21	0 12	27 20	29 19	13 6	24 53
20	29 29 41	1♍16	3 36	0 8	27 14	29 58	13 58	27 3
21	♊ 0 27 19	14 43	2 38	0 5	27 8	0♋37	14 51	29 14
22	1 24 56	28 38	1 29	0 1	27 1	1 16	15 45	1♊26
23	2 22 30	12♎55	0 13	29♐58	26 55	1 54	16 40	3 38
24	3 20 4	27 36	1 s 6	29 54	26 49	2 33	17 35	5 51
25	4 17 36	12♏36	2 22	29 5	26 42	3 12	18 31	8 2
F	5 15 6	27 48	3 29	29 46	26 35	3 51	19 27	10 12
27	6 12 36	13♐ 1	4 20	29 43	26 28	4 30	20 23	12 22
28	7 10 5	28 6	4 54	29 39	26 20	5 8	21 20	14 31
29	8 7 32	12♑58	5 7	29 35	26 13	5 46	22 17	16 39
30	9 4 58	27 14	4 50	29 31	26 6	6 25	23 15	18 45
31	10 2 24	11♒ 6	4 35	29 27	25 58	7 3	24 13	20 50

Days	♃ rises	♂ sets	♀ rises	☿ rises	♄'s declin.	♅'s declin.	♂'s declin.	♀'s declin.	☿'s declin.
1	11 a 23	10 a 51	3 m 16	4 m 15	22 s 19	22 s 59	23 n 54	0 n 5	5 n 35
7	10 58	10 48	3 5	4 9	22 19	22 56	24 14	1 17	9 54
13	10 33	10 42	2 54	4 3	22 19	22 59	24 27	2 26	14 29
19	10 7	10 36	2 43	sets	22 19	23 0	24 32	3 53	18 56
25	9 40	10 30	2 32	8 a 17	22 19	23 58	24 31	5 30	23 55

The Lunations.

Last quarter the 2d day at 19 minutes past 9 at night,
New Moon the 11th day at 25 minutes past 1 morning,
First quarter the 18th day at 52 minutes past 4 afternoon,
Full Moon the 25th day at 32 minutes past 7 morning.

M D	Sundays & other remark. days	☉ rises	☉ sets	☉'s declin.	☾'s declin.	☽ rises & sets	☾ South	Clock aft. ☉
1	Nicomede	3 53	8 8	22 n 7	17 s 4	0 m 40	5 m 1	2 38
F	1 Sun. aft. Trin	3 52	8 9	22 15	11 40	0 55	5 48	2 29
3		3 51	8 10	22 23	5 57	1 7	6 31	2 19
4	K. Geo. III born	3 50	8 10	22 30	0 8	1 17	7 12	2 9
5	Fr. Ern. Aug. bor.	Bonifa.	8 11	22 36	5 n 34	1 27	7 53	1 59
6		3 49	8 12	22 43	11 2	1 37	8 3	1 48
7		3 49	8 12	22 48	16 3	1 49	9 12	1 37
8		3 48	8 13	22 54	20 29	2 2	9 55	1 26
F	2 Sun. aft. Trin	3 47	8 14	22 59	24 7	2 22	10 42	1 14
10	Prs. Amelia bor	3 47	8 14	23 4	26 45	2 47	11 30	1 3
11	St. Barnabas	3 46	8 15	23 8	28 10	☽ sets	0 a 21	0 51
12		3 46	8 15	23 12	28 15	10 a 18	1 15	0 38
13		3 45	8 16	23 15	26 56	10 53	2 8	0 26
14		3 45	8 16	23 18	24 16	11 20	2 59	0 13
15		3 44	8 16	23 21	20 24	11 38	3 48	0 1
F	3 Sun. aft. Trin.	3 44	8 16	23 23	15 31	11 53	4 37	bef. 12
17	St. Alban	3 43	8 17	23 25	9 50	morn.	5 21	0 25
18		3 43	8 17	23 26	3 36	0 5	6 6	0 38
19	Trin. Term ends	3 43	8 17	23 27	2 s 58	0 17	6 52	0 51
20	Tr. Edw. K. WS.	3 43	8 17	23 28	9 33	0 28	7 41	1 4
21	Longest day	3 43	8 17	23 28	15 47	0 42	8 33	1 17
22		3 43	8 17	23 28	21 14	0 58	9 31	1 30
F	4 Sun. aft. Trin.	3 43	8 17	23 27	25 25	1 23	10 34	1 42
24	St. John Bapt.	3 43	8 17	23 26	27 52	2 2	11 40	1 55
25		3 43	8 17	23 ☽	28 17	☽ rises	morn	2 8
26		3 43	8 16	23 23	26 41	10 a 9	0 46	2 20
27		3 44	8 16	23 21	23 22	10 36	1 47	2 33
28		3 44	8 16	23 18	18 48	10 54	2 43	2 45
29	St. Peter.	3 44	8 15	23 15	13 25	11 8	3 34	2 57
F	5 Sun. aft. Trin	3 45	8 15	23 11	7 38	11 19	4 20	3 9

Days	Day increas.	Length of day	Helioc. long. ♄	Helioc. long. ♅	Helioc. long. ♂	Helioc. long. ☉	Helioc. long. ♀	Helioc. long. ☿	♄ rises
1	8 31	16 15	27 ♐ 34	23 ♐ 1	23 ♋ 58	11 ♐ 0	26 ♑ 8	2 ♌ 54	9 a 18
7	8 41	16 25	27 44	23 30	26 42	16 44	5 ♒ 37	4 ♍ 4	8 52
13	8 47	16 31	27 55	23 59	29 24	22 28	15 6	29 50	8 25
19	8 50	16 34	28 6	24 28	2 ♌ 6	28 12	24 36	21 ♎ 20	sets
25	odec. 1	16 33	28 17	24 57	4 47	3 ♑ 55	4 ♓ 6	10 ♍ 16	3 m 29

Days	Day lig. begins	Day lig. ends	Durat. twilig.	Pl. ☾'s node	☿'s latitude	♃'s latitude	♂'s latitude	♀'s latitude	☿'s latitude
1				13♈21	1 n 7	0 n 26	1 n 7	2 s 16	1 n 47
7				13 1	1 7	0 26	1 8	2 29	2 4
13	All	day-	light.	12 42	1 7	0 25	1 8	2 38	1 53
19				12 23	1 7	0 24	1 9	2 41	1 19
25				12 4	1 7	0 23	1 9	2 40	0 22

Days	☉'s longitude	☾'s long.	☾'s latitude	☿'s long.	♃'s long.	♂'s long.	♀'s long.	☿'s long.
1	♊10 59 50	24♒29	3 s 56	29♐23	25♐50	7♑42	25♈12	22♊51
F	11 57 15	7♓25	3 6	29 19	25 43	8 21	26 11	24 51
3	12 54 40	19 57	2 8	29 15	25 36	9 0	27 10	26 49
4	13 52 4	2♈11	1 56	29 10	25 28	9 38	28 10	28 46
5	14 49 27	14 12	0 2	29 6	25 21	10 17	29 10	0♑41
6	15 46 50	26 4	1 n 1	29 2	25 14	10 56	0♉10	2 31
7	16 44 12	7♉52	2 1	28 57	25 6	11 34	1 10	4 19
8	17 41 34	19 39	2 56	28 53	24 59	12 13	2 11	6 5
F	18 38 56	1♊30	3 43	28 49	24 51	12 51	3 12	7 49
10	19 36 17	13 26	4 21	28 45	24 44	13 29	4 13	9 31
11	20 33 37	25 28	4 47	28 40	24 36	14 8	5 15	11 10
12	21 30 56	7♋39	5 0	28 36	24 29	14 46	6 16	12 46
13	22 28 15	19 59	5 0	28 31	24 21	15 25	7 18	14 19
14	23 25 33	2♌29	4 46	28 27	24 13	16 3	8 20	15 50
15	24 22 51	15 10	4 17	28 22	24 6	16 41	9 23	17 19
F	25 20 7	28 4	3 35	28 18	23 58	17 20	10 26	18 45
17	26 17 23	11♍14	2 41	28 13	23 50	17 58	11 29	20 8
18	27 14 38	24 40	1 36	28 9	23 43	18 36	12 32	21 28
19	28 11 52	8♎26	0 25	28 4	23 35	19 15	13 35	22 46
20	29 9 5	22 31	0 50	28 0	23 27	19 53	14 38	24 1
21	♋ 0 6 18	6♏56	2 3	27 56	23 20	20 31	15 42	25 12
22	1 3 30	21 39	3 9	27 51	23 13	21 10	16 46	26 21
F	2 0 42	6♐35	4 3	27 47	23 5	21 48	17 51	27 27
24	2 57 53	21 55	4 41	27 42	22 58	22 26	18 56	28 30
25	3 55 4	6♑31	4 59	27 38	22 51	23 5	20 1	29 30
26	4 52 15	21 13	4 57	27 34	22 44	23 43	21 6	0♌27
27	5 49 26	5♒33	4 37	27 30	22 37	24 21	22 11	1 20
28	6 46 37	19 27	4 0	27 26	22 30	25 0	23 17	2 10
29	7 43 48	2♓53	3 11	27 21	22 23	25 38	24 22	2 56
F	8 46 59	15 52	2 13	27 17	22 16	26 16	25 28	3 39

Days	♃ rises	♂ sets	♀ rises	☿ sets	☿'s declin.	♃'s declin.	♂'s declin.	♀'s declin.	☿'s declin.
1	9 a 8	10 a 18	2 m16	9 a 22	22 s 20	22 s 58	24 n 21	7 n 39	25 n 4
7	8 40	10 9	2 5	9 51	22 20	22 57	24 5	9 34	25 28
13	sets	9 58	1 53	10 1	22 20	22 56	23 43	11 28	24 35
19	3 m33	9 46	1 43	10 1	22 20	22 54	23 14	13 22	22 50
25	3 5	9 33	1 32	9 47	22 20	22 43	22 36	15 12	20 38

The Lunations.

Last quarter the 2d day at 46 minutes past 11 morning,
New Moon the 10th day at 59 minutes past 2 afternoon,
First quarter the 17th day at 55 minutes past 10 at night,
Full Moon the 24th day at 21 minutes past 3 afternoon.

M D	Sundays & other remark. days	☉ rises	☉ sets	☉'s declin.	☾'s declin	☽ rises & sets	☾ South	Clock bef. ☉
1		3 45	8 14	23 n 7	1 s 42	11 a 30	5 m 2	3 20
2	Visit. Cam. Com.	3 46	8 14	23 3	4 n 9	11 40	5 44	3 32
3	Dog days begin	3 46	8 13	22 58	9 44	11 51	6 24	3 43
4	Transf. St. Mart.	3 47	8 13	22 53	14 54	morn.	7 5	3 54
5	Old Midf. day	Camb. T. ends		22 47	19 30	0 4	7 47	4 4
6	Oxford Act	3 48	8 11	22 41	23 21	0 19	8 31	4 15
F	6 Sun. aft. Trin.	Th. a Becket		22 35	26 14	0 42	9 20	4 24
8		3 50	8 10	22 28	27 57	1 14	10 11	4 34
9		3 51	8 9	22 21	28 22	1 57	11 4	4 43
10		3 51	8 8	22 14	27 21	☽ sets	11 57	4 52
11		3 52	8 7	22 6	24 57	9 a 17	0 a 49	5 0
12		3 53	8 6	21 58	21 16	9 38	1 4	5 8
13	Oxf. Term ends	3 54	8 5	21 49	16 31	9 57	2 28	5 16
F	7 Sun. aft. Trin.	3 55	8 4	21 40	10 57	10 18	3 15	5 23
15	Swithin	3 56	8 3	21 31	4 48	10 40	4 0	5 29
16		3 57	8 2	21 21	1 s 46	10 32	4 46	5 35
17		3 58	8 1	21 11	8 9	10 45	5 33	5 40
18		4 0	7 59	21 0	14 21	10 59	6 22	5 44
19		4 1	7 58	20 49	19 54	11 19	7 16	5 49
20	Margaret	4 2	7 57	20 38	24 22	11 40	8 15	5 53
F	8 Sun. aft. Trin.	4 3	7 56	20 27	27 20	morn.	9 17	5 56
22	Mary Magd.	4 5	7 54	20 15	28 26	0 32	10 23	5 59
23		4 6	7 53	20 3	27 34	1 38	11 25	6 1
24		4 7	7 52	19 50	24 51	☽ rises	morn.	6 2
25	St. James	4 9	7 50	19 37	20 41	8 a 55	0 24	6 3
26	St. Anne, M. V.	M. 10	7 49	19 24	15 29	9 9	1 18	6 3
27		4 12	7 48	19 10	9 41	9 22	2 7	6 3
F	9 Sun. aft. Trin.	4 13	7 46	18 57	3 39	9 32	2 52	6 2
29		4 15	7 44	18 42	2 n 22	9 44	3 34	6 0
30		4 16	7 43	18 28	8 0	9 54	4 17	5 58
31		4 18	7 41	18 13	13 32	10 7	4 58	5 55

Days	Day decreas.	Length of day	Helioc. long. ♄	Helioc. long. ♅	Helioc. long. ♂	Helioc. long. ☉	Helioc. long. ♀	Helioc. long. ☿	♄ sets
1	0 5	16 29	28 ♐ 28	25 ♐ 29	7 ♌ 26	9 ♑ 38	13 ♓ 37	27 ♍ 32	3 m 3
7	0 12	16 22	28 38	25 59	10 8	15 21	13 8	14 ♐ 6	2 36
13	0 23	16 11	28 49	26 28	12 47	21 5	29 ♈ 41	0 ♑ 43	2 10
19	0 37	15 57	29 0	26 58	15 26	26 49	12 13	18 9	1 45
25	0 53	15 41	29 11	27 27	18 4	2 ♒ 32	11 45	7 ♒ 16	1 20

Days	Day lig. begins	Day lig. ends	Durat. twilig.	Pl. ☾'s node	♄'s latitude	♃'s latitude	♂'s latitude	♀'s latitude	☿'s latitude
1				11 ♈ 45	1 n 6	0 n 22	1 n 9	2 s 35	0 s 54
7	All	day-	light	11 26	1 5	0 21	1 9	2 26	2 20
13				11 7	1 5	0 20	1 9	2 14	3 46
19				10 48	1 4	0 19	1 9	2 0	4 45
25	0 45	11 10	3 20	10 29	1 3	0 18	1 9	1 44	4 52

Days	☉'s longitude	☾'s long.	☾'s latitude	♄'s long.	♃'s long.	♂'s long.	♀'s long.	☿'s long.
1	♋ 9 38 10	28 ♌ 27	1 s 11	27 ♐ 13	22 ♐ 9	26 ♋ 55	26 ♉ 34	4 ♌ 17
2	10 35 21	10 ♈ 42	0 6	27 9	22 3	27 33	27 40	4 54
3	11 32 34	22 43	0 n 57	27 5	21 56	28 11	28 46	5 24
4	12 29 47	4 ♎ 35	1 57	27 0	21 49	28 50	29 52	5 49
5	13 26 59	16 24	2 52	26 56	21 42	29 28	0 ♊ 58	6 10
6	14 24 13	28 14	3 39	26 52	21 36	0 ♌ 6	2 5	6 28
7	15 21 27	10 ♊ 8	4 17	26 48	21 29	0 44	3 12	6 42
8	16 18 41	22 11	4 44	26 44	21 23	1 22	4 19	6 52
9	17 15 56	4 ♋ 23	4 58	26 40	21 17	2 0	5 26	6 ℞ 57
10	18 13 11	16 47	4 59	26 36	21 11	2 38	6 33	6 54
11	19 10 26	29 22	4 45	26 32	21 5	3 16	7 40	6 48
12	20 7 41	12 ♌ 9	4 16	26 28	20 59	3 55	8 48	6 38
13	21 4 57	25 8	3 35	26 25	20 53	4 33	9 56	6 23
F	22 2 13	8 ♍ 17	2 41	26 21	20 48	5 1	11 4	6 4
15	22 59 28	21 39	1 37	26 17	20 43	5 49	12 12	5 40
16	23 56 45	5 ♎ 12	0 27	26 14	20 37	6 27	13 20	5 11
17	24 54 1	18 59	0 s 46	26 10	20 32	7 5	14 28	4 38
18	25 51 17	2 ♍ 59	1 57	26 6	20 27	7 43	15 36	4 3
19	26 48 34	17 12	3 3	26 3	20 22	8 21	16 44	3 25
20	27 45 50	1 ♐ 37	3 57	26 0	20 18	8 59	17 53	2 45
F	28 43 7	16 10	4 37	25 56	20 13	9 37	19 1	2 3
22	29 40 25	0 ♑ 47	4 59	25 53	20 9	10 15	20 10	1 20
23	♌ 0 37 43	15 21	5 1	25 49	20 4	10 54	21 18	0 37
24	1 35 1	29 44	4 44	25 46	20 0	11 32	22 27	29 ♋ 55
25	2 32 20	13 ♒ 51	4 10	25 43	19 55	12 10	23 36	29 13
26	3 29 40	27 36	3 22	25 40	19 51	12 48	24 45	28 34
27	4 27 1	10 ♓ 57	2 24	25 37	19 48	13 26	25 54	27 59
F	5 24 23	23 54	1 20	25 34	19 45	14 5	27 4	27 26
29	6 21 47	6 ♈ 29	0 14	25 31	19 42	14 43	28 13	26 57
30	7 19 16	18 46	0 n 51	25 28	19 39	15 21	29 22	26 34
31	8 16 35	0 ♉ 48	1 53	25 25	19 36	16 0	0 ♋ 32	26 17

Days	♃ sets	♂ sets	♀ rises	☿ sets	♄'s declin.	♃'s declin.	♂'s declin.	♀'s declin.	☿'s declin.
1	2 m 37	9 a 20	1 m 24	9 26	22 s 20	22 52	21 n 57	16 n 54	18 n 20
7	2 11	9 6	1 17	8 57	22 20	22 50	21 9	18 26	16 20
13	1 44	8 52	1 11	8 21	22 21	22 49	20 17	19 45	15 3
19	1 17	8 38	1 9	rises	22 21	22 48	19 20	20 49	14 47
25	0 51	8 23	1 9	4 m 22	22 21	22 47	18 17	21 35	15 35

The Lunations.

Laſt quarter the 1ſt day at 22 minutes paſt 4 morning,
New Moon the 9th day at 9 minutes paſt 3 morning,
Firſt quarter the 16th day at 58 minutes paſt 3 morning,
Full Moon the 23d day at 16 minutes paſt 1 morning,
Laſt quarter the 30th day at 28 minutes paſt 10 at night.

M. D	Sundays & other remark. days	☉ riſes	☉ ſets	☉'s declin	☽'s declin.	☾ riſes & ſets	☾ South	Clock bef. ☉
1	Lammas	4 19	7 40	17 n 58	18 n 22	10 a 20	5 m 40	5 52
2		4 21	7 38	17 43	22 27	10 41	6 23	5 48
3		4 22	7 37	17 27	25 38	11 9	7 11	5 44
F	10 S. aft. Trin.	4 24	7 35	17 11	27 42	11 47	8 1	5 39
5		4 25	7 34	16 56	28 30	morn	8 53	5 33
6	Transfiguration	4 27	7 32	16 38	27 54	0 38	9 46	5 27
7	Name of Jeſus	4 29	7 30	16 22	25 52	1 45	10 40	5 20
8		4 30	7 29	16 5	22 29	3 2	11 33	5 13
9		4 32	7 27	15 47	17 55	☾ ſets	0 a 24	5 5
10	St. Laurence.	4 34	7 25	15 30	12 24	8 a 16	1 12	4 56
F	11 S. aft. Trin.	Prs. Brunſw. bo.		Dog-days end		8 29	1 58	4 47
12	Pr. Wales born	O. Lammas day		14 54	0 s 17	8 40	2 44	4 38
13		4 39	7 20	14 36	6 53	8 52	3 31	4 27
14		4 41	7 18	14 17	13 13	9 6	4 20	4 17
15		4 43	7 16	13 58	18 55	9 24	5 12	4 5
16	Pr. Fred. born	4 44	7 15	13 40	23 36	9 50	6 9	3 53
17		4 46	7 13	13 20	26 54	10 27	7 9	3 41
F	12 S. aft. Trin.	4 48	7 11	13 1	28 29	11 24	8 13	3 28
19		4 50	7 9	12 41	28 11	morn	9 15	3 15
20		4 52	7 7	12 22	26 2	0 37	10 15	3 1
21	Pr. Wm. Hen. b.	4 54	7 6	12 2	22 21	2 4	11 11	2 46
22		4 55	7 4	11 42	17 30	3 33	morn.	2 31
23		4 57	7 2	11 21	11 53	☽ riſes	0 1	2 16
24	St. Bartholomew	4 59	7 0	11 1	5 52	7 a 42	0 48	2 0
F	13 S. aft. Trin.	5 1	6 58	10 40	0 n 16	7 55	1 32	1 44
26		5 3	6 56	10 19	6 15	8 6	2 15	1 27
27		5 5	6 54	9 58	11 52	8 16	2 57	1 10
28	St. Auguſtine	5 7	6 52	9 37	16 57	8 30	3 39	0 53
29	Behead. J. Bap.	5 9	6 51	9 15	21 21	8 49	4 23	0 36
30		5 10	6 49	8 54	24 51	9 12	5 9	0 18
31		5 12	6 47	8 32	27 18	9 45	5 57	oaft. 1

Days	Day decreaſ.	Length of day	Helioc. long. ♄	Helioc. long. ♃	Helioc. long. ♂	Helioc. long. ☿	Helioc. long. ♀	Helioc. long. ☽	♄ ſets
1	1 13	15 21	29 ♐ 24	28 ♐ 1	21 ♌ 9	9 ♍ 14	2 ♉ 55	3 ♓ 5	0 m 51
7	1 33	15 1	29 34	28 31	23 46	14 59	12 36	29 42	0 27
13	1 53	14 41	29 45	29 0	26 24	20 45	22 13	1 ♉ 32	0 3
19	2 15	14 19	29 56	29 30	29 1	26 31	1 ♊ 51	7 ♊ 59	11 a 40
25	2 37	13 57	0 ♑ 7	29 59	1 ♍ 38	2 ♓ 10	11 21	14 ♋ 26	11 18

Days	Day lig. begins	Day lig. ends	Durat. twilig.	Pl. ☾'s node	♄'s latitude	♅'s latitude	♂'s latitude	♀'s latitude	☿'s latitude
1	1 23	10 36	2 56	10 ♈ 7	1 n 2	0 n 17	1 n 9	1 s 23	3 s 46
7	1 46	10 13	2 43	9 48	1 1	0 16	1 5	1 3	2 12
13	2 7	9 52	2 32	9 29	1 0	0 15	1 9	0 44	0 35
19	2 27	9 32	2 23	9 10	0 59	0 14	1 8	0 25	0 n 44
25	2 46	9 13	2 15	8 50	0 58	0 13	1 7	0 6	1 32

Days	☉'s longitude	☾'s long.	☾'s latitude	♄'s long.	♅'s long.	♂'s long.	♀'s long.	☿'s long.
1	♌ 9 14 1	12 ♉ 42	2 n 50	25 ♐ 23	19 ♐ 33	16 ♌ 38	1 ♍ 42	26 ♍ 5
2	10 11 29	24 32	3 38	25 20	19 31	17 16	2 52	25 D 58
3	11 8 58	6 ♊ 24	4 18	25 18	19 28	17 54	4 2	25 59
4	12 6 29	18 22	4 46	25 15	19 26	18 32	5 12	26 6
5	13 4 1	0 ♋ 30	5 2	25 13	19 24	19 11	6 22	26 20
6	14 1 34	12 51	5 5	25 11	19 22	19 49	7 32	26 40
7	14 59 9	25 27	4 53	25 9	19 20	20 27	8 43	27 7
8	15 56 45	8 ♌ 19	4 25	25 7	19 18	21 5	9 53	27 41
9	16 54 22	21 25	3 44	25 5	19 17	21 43	11 3	28 22
10	17 51 59	4 ♍ 45	2 50	25 4	19 16	22 22	12 14	29 10
F	18 49 38	18 17	1 45	25 2	19 15	23 0	13 24	0 ♌ 4
12	19 47 18	2 ♎ 0	0 33	25 0	19 14	23 38	14 34	1 4
13	20 44 59	15 51	0 s 42	24 59	19 14	24 16	15 45	2 12
14	21 42 42	29 49	1 55	24 58	19 14	24 54	16 56	3 26
15	22 40 25	13 ♍ 54	3 1	24 56	19 D 14	25 32	18 7	4 45
16	23 38 9	28 3	3 57	24 55	19 14	26 10	19 18	6 9
17	24 35 54	12 ♐ 16	4 39	24 54	19 14	26 49	20 29	7 38
F	25 33 40	26 31	5 3	24 53	19 14	27 27	21 40	9 11
19	26 31 27	10 ♑ 43	5 9	24 52	19 15	28 5	22 51	10 49
20	27 29 15	24 49	4 56	24 51	19 15	28 43	24 2	12 31
21	28 27 5	8 ♒ 40	4 26	24 50	19 16	29 21	25 13	14 16
22	29 24 56	22 29	3 40	24 49	19 17	29 59	26 24	16 5
23	♍ 0 22 48	5 ♓ 55	2 43	24 49	19 18	0 ♍ 37	27 36	17 56
24	1 20 42	19 3	1 39	24 48	19 20	1 15	28 48	19 49
F	2 18 38	1 ♈ 51	0 31	24 48	19 22	1 53	0 ♌ 0	21 44
26	3 16 35	14 22	0 n 37	24 47	19 24	2 31	1 12	23 40
27	4 14 34	26 36	1 43	24 47	19 27	3 9	2 24	25 36
28	5 12 35	8 ♉ 39	2 42	24 47	19 29	3 48	3 36	27 33
29	6 10 38	20 33	3 34	24 D 47	19 31	4 26	4 48	29 30
30	7 8 42	2 ♊ 24	4 17	24 47	19 34	5 5	6 0	1 ♍ 28
31	8 6 50	14 17	4 48	24 47	19 36	5 43	7 12	3 26

Days	♅ sets	♂ sets	♀ rises.	☿ rises.	♄'s declin.	♅'s declin.	♂'s declin.	♀'s declin.	☿'s declin.
1	0 m 22	8 a 5	1 m 13	3 m 7	22 s 27	22 s 46	6 n 58	22 n 4	17 n 55
7	11 a 59	7 50	1 20	3 1	22 22	22 46	15 48	22 7	18 36
13	11 36	7 35	1 30	2 57	22 22	22 47	14 32	21 48	19 7
19	11 14	7 20	1 42	3 16	22 23	22 48	13 14	21 7	18 15
25	10 52	7 5	1 57	3 53	22 24	22 49	11 51	20 5	15 43

The Lunations.

New Moon the 7th day at 22 minutes past 2 afternoon,
First quarter the 14th day at 19 minutes past 9 morning,
Full Moon the 21st day at 13 minutes past 2 afternoon,
Last Quarter the 29th day at 1 minute past 5 afternoon.

M D	Sundays & other remark. days	☉ rises	☉ sets	☉'s declin.	☾'s declin.	☽ rises & sets	☾ South	Clock aft. ☉
F	14 S. aft. Trin.	Giles	6 45	8 n 10	28 n 32	10 a 32	6 m 48	0 19
2	Cond. our. 1666.	5 16	6 43	7 49	28 25	11 33	7 42	0 38
3		5 18	6 41	7 26	26 53	morn.	8 36	0 57
4		5 20	6 39	7 4	23 57	0 43	9 29	1 17
5		5 22	6 37	6 42	19 45	2 6	10 20	1 36
6		5 24	6 35	6 20	14 29	3 29	11 10	1 56
7	Enurchus	5 26	6 33	5 56	8 23	☽ sets	11 59	2 16
F	15 S. aft. Trin.	Nativ.	6 31	5 34	1 46	6 a 55	0 a 46	2 36
9		5 30	6 29	5 12	5 s 2	7 6	1 33	2 56
10		5 32	6 27	4 49	11 39	7 19	2 24	3 17
11		5 34	6 25	4 26	17 41	7 36	3 16	3 37
12		5 36	6 23	4 3	22 44	8 0	4 13	3 58
13		5 37	6 22	3 40	26 25	8 35	5 13	4 19
14	Holy Cross	5 39	6 20	3 17	28 24	9 25	6 15	4 40
F	16 S. aft. Trin.	5 41	6 18	2 54	28 32	10 33	7 17	5 1
16		5 43	6 16	2 31	26 51	11 55	8 17	5 22
17	Lambert	5 45	6 14	2 7	23 36	morn.	9 13	5 43
18	Ember Week	5 47	6 12	1 44	19 7	1 22	10 4	6 4
19		5 49	6 10	1 21	13 46	2 47	10 52	6 25
20		5 51	6 8	0 57	7 54	4 9	11 36	6 46
21	St. Matthew	5 53	6 6	0 34	1 49	☽ rises	morn.	7 7
F	17 S. aft. Trin.	K. Geo. III. cor.		Pr. Alfred born		6 a 20	0 18	7 28
23		5 57	6 2	0 s 13	10 n 1	6 31	1 0	7 48
24		5 59	6 0	0 36	15 21	6 46	1 42	8 9
25		6 1	5 58	1 0	20 2	7 1	2 26	8 29
26	St. Cyprian	6 3	5 56	1 23	23 52	7 22	3 11	8 50
27		6 5	5 54	1 46	26 41	7 53	3 59	9 10
28		6 7	5 52	2 10	28 20	8 33	4 50	9 30
F	18 S. aft. Trin.	St. Michael.		Prs. Ch. Aug. b		9 27	5 42	9 49
30	St. Jerome	6 11	5 48	2 57	27 40	10 35	6 35	10 8

Days	Day decreas.	Length of day	Helioc. long. ♄	Helioc. long. ♃	Helioc. long. ♂	Helioc. long. ☉	Helioc. long. ♀	Helioc. long. ☿	♄ sets
1	3 3	13 31	0♑19	0♑34	4♍42	9♓ 5	22♊48	24♌29	10 a 53
7	3 27	13 7	0 30	1 3	7 19	14 55	2♋30	21♍54	10 31
13	3 49	12 45	0 41	1 33	9 56	20 45	12 13	14♎41	10 10
19	4 13	12 21	0 52	2 2	12 34	26 37	21 57	4♍18	9 49
25	4 37	11 57	1 2	2 32	15 12	2♈30	1♌41	21 58	9 29

	Day lig. begins	Day lig. ends	Durat. twilig.	Pl. ☾'s node	♄'s latitude	♅'s latitude	♂'s latitude	♀'s latitude	☿'s latitude
	3 ♌	8 53	2 8	♑ 28	0 n 57	0 n 12	1 n 6	0 n 15	1 n 53
	3 22	8 37	2 4	8 9	0 56	0 11	1 5	0 32	1 33
	3 37	8 23	2 0	7 50	0 55	0 10	1 5	0 47	1 4
	3 51	8 8	1 58	7 31	0 54	0 9	1 3	1 0	0 27
	4 4	7 4	1 56	7 12	0 53	0 9	1 2	1 12	0 s 16

	☉'s longitude	☾'s long.	☾'s latitude	♄'s long	♅'s long.	♂'s long.	♀'s long	☿'s long.
	♍ 9 4 59	26 ♏ 16	5 n 8	24 ♐ 47	19 ♐ 39	6 ♍ 21	8 ♌ 25	5 ♍ 11
2	10 3 10	8 ♎ 26	5 14	24 48	19 42	6 59	7 37	7 10
3	11 1 23	20 50	5 5	24 48	19 46	7 37	10 50	9 10
4	11 59 38	3 ♌ 33	4 42	24 49	19 50	8 15	12 2	11 10
5	12 57 55	16 36	4 3	24 49	19 53	8 53	13 15	13 5
6	13 56 13	29 58	3 11	24 50	19 57	9 32	14 27	14 58
7	14 54 34	13 ♍ 38	2 6	24 51	20 1	10 10	15 40	16 49
8	15 52 52	27 35	0 53	24 52	20 5	10 48	16 52	18 40
9	16 51 21	11 ♎ 45	0 s 25	24 53	20 9	11 26	18 5	20 30
10	17 49 48	26 1	1 42	24 54	20 14	12 5	19 18	22 19
11	18 48 15	10 ♏ 22	2 53	24 56	20 18	12 43	20 31	24 7
12	19 46 44	24 43	3 53	24 57	20 23	13 21	21 44	25 54
13	20 45 16	9 ♐ 0	4 59	24 58	20 28	14 0	22 57	27 39
14	21 43 48	23 12	5 7	25 0	20 33	14 38	24 10	29 24
15	22 42 22	7 ♑ 16	5 16	25 2	20 39	15 17	25 23	1 ♎ 8
16	23 40 58	21 9	5 7	25 3	20 44	15 55	26 36	2 50
17	24 39 35	4 ♒ 52	4 40	25 5	20 50	16 34	27 49	4 32
18	25 38 14	18 22	3 59	25 7	20 55	17 12	29 2	6 12
19	26 36 55	1 ♓ 39	3 4	25 9	21 1	17 51	0 ♍ 16	7 52
20	27 35 37	14 41	2 7	25 11	21 7	18 29	1 29	9 31
21	28 34 21	27 29	2 53	25 14	21 13	19 7	2 43	11 9
22	29 33 7	10 ♈ 3	0 n 16	25 16	21 20	19 46	3 56	12 46
23	0 31 55	22 24	1 24	25 18	21 27	20 24	5 10	14 21
24	1 30 46	4 ♉ 33	2 26	25 21	21 34	21 2	6 24	15 56
25	2 29 38	16 33	3 22	25 24	21 41	21 41	7 38	17 30
26	3 28 33	28 27	4 8	25 26	21 49	22 19	8 52	19 2
27	4 27 30	10 ♊ 18	4 43	25 29	21 56	22 58	10 6	20 34
28	5 26 30	22 9	5 7	25 32	22 3	23 36	11 20	22 5
29	6 25 32	4 ♋ 7	5 17	25 35	22 10	24 15	12 34	23 36
30	7 24 37	16 15	5 14	25 38	22 17	24 53	13 48	25 6

Day	♃ sets	♂ rises	♀ rises	☿ rises	♄'s declin.	♅'s declin.	♂'s declin.	♀'s declin.	☿'s declin.
1	10 a 26	4 m 55	2 m 18	4 m 45	22 s 25	22 s 52	10 n 13	18 n 25	11 n 22
7	10 6	4 56	2 36	fets.	22 26	22 55	8 47	16 40	6 39
3	9 47	4 56	2 56	6 a 38	22 28	22 57	7 18	14 38	1 55
9	9 27	4 56	3 15	6 30	22 29	23 1	5 47	12 20	2 s 43
5	9 8	4 56	3 36	6 20	22 30	23 4	4 16	9 50	7 7

The Lunations.

New Moon the 7th day at 1 in the morning,
First quarter the 13th day at 21 minutes past 4 afternoon,
Full Moon the 21st day at 17 minutes past 6 morning,
Last quarter the 29th day at 51 minutes past 10 Morning.

M D	Sundays & other remark. days	☉ rises	☉ sets	☉'s declin	☾'s declin.	☽ rises & sets	☾ South	Clock aft. ☉
1	Remigius	6 13	5 46	3 s 20	25 n 11	11 a 50	7 m 28	10 27
2		6 15	5 44	3 43	21 37	morn.	8 18	10 46
3		6 17	5 42	4 7	16 47	1 11	9 8	11 4
4		6 19	5 40	4 30	11 2	2 35	9 57	11 22
5		6 21	5 38	4 53	4 34	3 58	10 44	11 40
F	19 S. aft. Trin.	Faith	5 36	5 16	2 s 17	5 23	11 32	11 57
7		6 25	5 34	5 39	9 10	☽ sets	0 a 22	12 14
8		6 26	5 33	6 2	15 39	5 a 52	1 15	12 32
9	St. Denys	6 28	5 31	6 25	21 16	6 13	2 12	12 46
10	Ox. & Ca. T. beg.	6 30	5 29	6 48	25 32	6 44	3 13	13 2
11		6 32	5 27	7 11	28 4	7 27	4 15	13 17
12		6 34	5 25	7 33	28 41	8 37	5 19	13 31
F	20 S. aft. Trin.	Tr. K. Edward		7 56	27 24	9 52	6 21	13 45
14		6 38	5 21	8 18	24 29	11 17	7 18	13 59
15		6 40	5 19	8 40	20 17	morn.	8 10	14 12
16		6 42	5 17	9 3	15 10	0 42	8 57	14 24
17	Ethelfred	6 44	5 15	9 25	9 29	2 3	9 41	14 36
18	St. Luke	6 46	5 13	9 47	3 32	3 20	10 24	14 48
19		6 48	5 11	10 8	2 n 29	4 36	11 5	14 58
F	21 S. aft. Trin.	6 50	5 9	10 30	8 19	5 49	11 46	15 9
21		6 52	5 7	10 51	13 46	☽ rises	morn.	15 18
22		6 54	5 5	11 13	18 39	5 a 11	0 29	15 27
23		6 55	5 4	11 34	22 45	5 34	1 13	15 35
24		6 57	5 2	11 55	25 54	6 0	2 0	15 42
25	K. G. III. Acc.	Crispin	5 0	12 15	27 55	6 36	2 50	15 49
26	K. Geo. III. Pro.	7 1	4 58	12 36	28 40	7 24	3 41	15 55
F	22 S. aft. Trin.	7 3	4 56	12 56	28 4	8 23	4 33	16 0
28	St. Simon & Jude	7 5	4 54	13 16	26 9	9 36	5 24	16 5
29		7 7	4 52	13 36	22 50	10 53	6 14	16 8
30		7 8	4 51	13 56	18 41	morn.	7 3	16 11
31		7 10	4 49	14 16	13 25	0 12	7 50	16 13

Aug.	Day increas.	Length of day	Helioc. long. ♄	Helioc. long. ♅	Helioc. long. ♂	Helioc. long. ♁	Helioc. long. ♀	Helioc. long. ☿	♄ sets
1	5 1	11 33	1♑13	3♉ 1	17♏35	8♈24	11♌26	8 ♐ 40	9 a 8
7	5 25	11 9	1 24	3 31	20 20	14 19	21 12	25 11	8 47
13	5 47	10 47	1 35	4 1	23 8	20 16	0♎57	12♑15	8 26
19	6 11	10 23	1 46	4 32	25 47	26 14	10 42	0♒42	8 6
25	6 33	10 1	1 56	5 0	28 27	2 ♓13	20 26	21 30	7 45

ay lig. egins	Day lig. ends	Durat. twilig.	Pl. ☾'s node	♄'s latitude	♃'s latitude	♂'s latitude	♀'s latitude	☿'s latitude
4 18	7 42	1 56	6♈53	o n 52	o n 8	1 n 1	1 n 20	o s 59
4 31	7 29	1 55	6 34	o 51	o 7	1 o	1 26	1 41
4 43	7 17	1 54	6 15	o 50	o 6	o 58	1 31	2 18
4 55	7 5	1 54	5 56	o 49	o 6	o 57	1 32	2 46
5 4	6 55	1 55	5 37	o 48	o 5	o 55	1 31	2 58

☉'s longitude	☽'s long.	☾'s latitude	♄'s long.	♃'s long.	♂'s long.	♀'s long.	☿'s long.
♎ 8 23 43	28♋39	4 n 56	25♐41	22♐25	25♍32	15♍ 2	26♎35
9 22 53	11♌21	4 23	25 44	22 33	26 10	16 16	28 3
10 22 4	24 25	3 36	25 47	22 42	26 49	17 30	29 30
11 21 18	7♍53	2 36	25 50	22 50	27 28	18 44	o♍56
12 20 34	21 46	1 25	25 53	22 58	28 7	19 58	2 21
13 19 52	6♎ 1	o 7	25 56	23 7	28 45	21 12	3 45
14 19 13	20 34	1 s 13	26 0	23 15	29 24	22 26	5 8
15 18 35	5♏18	2 30	26 3	23 24	o♎ 2	23 40	6 30
16 17 59	20 7	3 36	26 7	23 32	o 41	24 55	7 51
17 17 26	4♐53	4 28	26 11	23 41	1 20	26 9	9 12
18 16 54	19 29	5 2	26 15	23 50	1 58	27 24	10 32
19 16 24	3♑51	5 16	26 19	23 59	2 37	28 38	11 50
20 15 55	17 56	5 11	26 23	24 9	3 16	29 53	13 6
21 15 28	1♒42	4 48	26 27	24 18	3 55	1♎ 7	14 21
22 15 3	15 10	4 10	26 31	24 28	4 34	2 22	15 35
23 14 40	28 20	3 19	26 36	24 37	5 12	3 36	16 47
24 14 18	11♓15	2 19	26 40	24 47	5 51	4 51	17 57
25 13 58	23 56	1 13	26 44	24 57	6 30	6 6	19 5
26 13 40	6♈25	o n 5	26 49	25 7	7 9	7 21	20 12
27 13 24	18 43	1 3	26 54	25 18	7 48	8 35	21 16
28 13 9	0♉52	2 7	26 59	25 28	8 27	9 50	22 17
29 12 57	12 54	3 4	27 3	25 38	9 5	11 5	23 16
♏ 0 12 47	24 50	3 53	27 8	25 49	9 44	12 20	24 13
1 12 39	6♊42	4 31	27 13	25 59	10 23	13 35	25 5
2 12 33	18 32	4 58	27 18	26 9	11 2	14 50	25 52
3 12 29	0♋24	5 11	27 23	26 20	11 41	16 5	26 37
4 12 27	12 21	5 12	27 28	26 30	12 20	17 20	27 17
5 12 28	24 26	4 59	27 34	26 41	12 59	18 35	27 51
6 12 31	6♌45	4 32	27 39	26 51	13 38	19 50	28 19
7 12 37	19 22	3 51	27 44	27 2	14 17	21 5	28 40
8 12 44	2♍20	2 58	27 50	27 12	14 56	22 20	28 56

♃ sets	♂ rises	♀ rises	☿ sets	♄'s declin.	♃'s declin.	♂'s declin.	♀'s declin.	☿ s declin.
8 a 49	4 m 56	3 m 56	6 a 12	22 s 32	23 s 7	2 n 42	7 n 8	11 s 11
8 31	4 56	4 17	6 2	22 34	23 12	1 c	4 20	14 50
8 13	4 56	4 37	5 53	22 35	23 17	o s 26	1 26	17 59
7 54	4 56	4 56	5 42	22 37	23 1	1 55	1 s 31	20 29
7 35	4 56	5 16	5 32	22 38	23 26	2 22	4 27	22 8

The Lunations.

New Moon the 5th day at 15 minutes past 11 morning,
First quarter the 12th day at 20 minutes past 2 morning,
Full Moon the 20th day at 26 minutes before 1 morning,
Last quarter the 28th day at 57 minutes past 2 morning.

M D	Sundays & other remark. days	☉ rises	☉ sets	☉'s declin.	☾'s declin.	☽ rises & sets	☾ South	Clo art
1	All Saints	7 12	4 47	14 s 35	7 n 18	1 m 34	8 m 37	16
2	Pr. Edw. born	All Soul	4 45	14 54	0 46	2 56	9 23	16
F	23 S. aft. Trin.	Prs. Sophia born		15 13	6 s 5	4 22	10 12	16
4		7 18	4 42	15 32	12 49	5 52	11 3	16
5	Powder Plot	7 19	4 40	15 50	18 56	☽ sets	11 58	16
6	Mich. Term beg.	Leonard	4 38	16 8	23 55	4 a 42	0 a 58	16
7	D. Cum. born	7 23	4 36	16 26	27 15	5 22	2 2	16
8	Prs. Aug. Sop. b.	7 24	4 35	16 43	28 35	6 18	3 7	15
9	Ld. Mayor's day	7 26	4 33	17 0	27 51	7 35	4 12	15
F	24 S. aftr. Trin.	7 28	4 31	17 17	25 18	9 2	5 12	15
11	St. Martin	7 29	4 30	17 34	21 19	10 29	6 7	15
12		7 31	4 28	17 50	16 20	11 52	6 58	15
13	Britius	7 33	4 27	18 6	10 44	morn.	7 41	15
14		7 34	4 25	18 22	4 50	1 10	8 23	15
15	Machutus	7 36	4 23	18 37	1 n 7	2 25	9 4	15
16		7 37	4 22	18 52	6 57	3 38	9 45	14
F	25 S. aft. Trin.	Hugh	4 20	19 7	12 26	4 51	10 26	14
18		7 40	4 19	19 22	17 26	6 3	11 8	14
19		7 42	4 17	19 36	21 43	7 13	11 55	14
20	Edmund	7 43	4 16	19 49	25 6	☽ rises	morn.	14
21		7 44	4 15	20 2	27 24	4 a 33	0 4	13
22	Cecil. O. Mart. d.	7 46	4 13	20 15	28 28	5 17	1 33	13
23	St. Clement	7 47	4 12	20 28	28 12	6 13	2 25	13
F	26 S. after Trin.	7 49	4 11	20 40	26 38	7 20	3 15	12
25	D. Glouc. born	7 50	4 9	20 52	23 49	8 33	4 5	12
26		7 51	4 8	21 3	19 53	9 52	4 53	12
27		7 52	4 7	21 14	15 1	11 8	5 40	11
28	Mic. Term ends	7 54	4 7	21 25	9 23	morn.	6 24	11
29		7 55	4 5	21 35	3 11	0 27	7 9	11
30	St. Andrew	7 56	4 4	21 45	3 s 22	1 48	7 54	10

Days	Day decreas.	Length of day	Heliocentric long. ♄	Heliocentric long. ♅	Heliocentric long. ♂	Heliocentric long. ♁	Heliocentric long. ♀	Heliocentric long. ☿	♄ sets
1	6 59	9 35	2♑ 9	5♑32	1♎35	9♉13	1♎47	20♐22	7 a 20
7	7 21	9 13	2 20	6 2	4 17	15 15	11 29	20♑55	6 59
13	7 43	8 51	2 31	6 32	7 0	21 17	21 9	25♉33	6 37
19	7 59	8 35	2 41	7 2	9 43	27 21	0♏48	3♎18	6 14
25	8 15	8 19	2 52	7 31	12 27	3♊25	10 26	8♌47	5 52

Day lig. begins	Day lig. ends	Durat. twilig.	Pl. ☾'s node	♄'s latitude	♅'s latitude	♂'s latitude	♀'s latitude	☿'s latitude
5 17	6 43	1 50	5 ♈ 14	0 n 48	0 n 4	0 n 53	1 n 27	2 s 36
5 26	6 34	1 58	4 55	0 47	0 3	0 51	1 20	1 25
5 33	6 27	2 0	4 36	0 46	0 2	0 49	1 11	0 n 33
5 41	6 19	2 2	4 17	0 45	0 2	0 47	1 1	2 7
5 47	6 13	2 4	3 58	0 45	0 1	0 45	0 49	2 33

☉'s longitude.	☽'s long.	☾'s latitude	♄'s long.	♅'s long.	♂'s long.	♀'s long.	☿'s long.
♏ 9 12 54	15 ♏ 44	1 n 53	27 ♐ 55	27 ♐ 23	15 ♎ 35	23 ♎ 35	29 ♏ 3
10 13 7	29 36	0 40	28 0	27 34	16 14	24 56	29 ℞ 3
11 13 21	13 ♎ 55	0 s 38	28 6	27 47	16 52	26 5	28 53
12 13 36	28 38	1 56	28 11	27 57	17 31	27 20	28 31
13 13 53	13 ♏ 40	3 7	28 17	28 0	18 11	28 36	28 2
14 14 13	28 52	4 5	28 22	28 2	18 53	29 50	27 24
15 14 35	14 ♐ 2	4 47	28 28	28 3	19 36	♏ 6	26 36
16 14 58	29 1	5 7	28 34	28 4	20 0	2 21	25 39
17 15 22	13 ♑ 42	5 8	28 40	28 5	20 48	3 36	24 32
18 15 47	27 59	4 48	28 46	29 8	21 21	4 52	23 19
19 16 14	11 ♒ 49	4 13	28 52	29 20	22 6	6 7	22 2
20 16 42	25 14	3 24	28 58	29 32	22 46	7 22	20 41
21 17 12	8 ♓ 17	2 26	29 4	29 46	23 25	8 38	19 19
22 17 43	20 59	1 22	29 10	29 57	24 4	9 53	18 2
23 18 15	3 ♈ 26	0 16	29 16	0 ♑ 10	24 44	11 8	16 51
24 18 49	15 40	0 n 50	29 22	0 22	25 22	12 24	15 44
25 19 24	27 45	1 53	29 28	0 35	26 1	13 39	14 46
26 20 0	9 ♉ 44	2 50	29 34	0 47	26 41	14 54	14 1
27 20 38	21 39	3 39	29 41	1 0	27 20	16 10	13 30
28 21 17	3 ♊ 32	4 18	29 47	1 12	27 59	17 25	13 10
29 21 57	15 23	4 46	29 54	1 25	28 39	18 41	12 ♑ 50
♐ 0 22 39	27 16	5 1	0 ♑ 1	1 38	29 18	19 56	12 59
1 23 22	9 ♋ 11	5 4	0 7	1 51	29 57	21 12	13 9
2 24 7	21 10	4 53	0 13	2 4	0 ♏ 37	22 27	13 30
3 24 53	3 ♌ 15	4 20	0 20	2 17	1 17	23 43	14 1
4 25 41	15 34	3 52	0 27	2 29	1 56	24 58	14 37
5 26 31	28 7	3 4	0 33	2 4	2 36	26 14	15 22
6 27 22	10 ♍ 58	2 5	0 40	2 52	3 16	27 29	16 15
7 28 15	24 13	0 58	0 47	3 8	3 55	28 45	17 11
8 29 9	7 ♎ 54	0 s 15	0 53	3 21	4 34	0 ♐ 0	18 12

♅ fers	♂ rises.	♀ rises	☿ sets	♄'s declin.	♅'s declin.	♂'s declin.	♀'s declin.	☿'s declin.
7 a 13	4 m 55	5 m 37	5 a 16	22 s 39	23 s 22	5 s 20	7 s 49	22 s 31
6 54	4 54	5 57	4 54	22 40	23 24	6 51	10 37	20 47
6 35	4 52	6 16	rises	22 41	23 25	8 21	13 16	17 3
6 16	4 50	6 34	6 m 11	22 42	23 25	9 49	15 43	13 54
5 56	4 47	6 52	5 48	22 43	23 25	11 15	17 55	13 38

The Lunations.

New Moon the 4th day at 20 minutes past 9 at night,
First quarter the 11th day at 1 minute past 4 evening,
Full Moon the 19th day at 30 minutes past 7 evening,
Last quarter the 27th day at 24 minutes past 4 evening.

M D	Sundays & other remark. days	☉ rises	☉ sets	☉'s declin.	☾'s declin.	☽ rises & sets	☾ South	Cl aft
F	Advent Sunday	7 57	4 3	21 s 54	9 s 59	3 m 12	8 m 42	10
2		7 58	4 2	22 3	16 16	4 40	9 33	10
3		7 59	4 1	22 12	21 46	6 15	10 30	9
4		8 0	4 0	22 20	25 54	☽ sets	11 31	9
5		8 1	3 59	22 27	28 0	3 a 52	0 a 38	8
6	Nicholas	8 2	3 58	22 35	28 16	5 5	1 46	8
7		8 2	3 57	22 41	26 18	6 30	2 51	8
F	2 S. in Advent.	Concep	3 57	22 48	22 37	7 59	3 49	7
9		8 4	3 56	22 54	17 44	9 26	4 42	7
10		8 5	3 55	22 59	12 8	10 49	5 29	6
11		8 5	3 55	23 4	6 10	morn.	6 12	6
12		8 6	3 54	23 9	0 8	0 4	6 53	5
13	Lucy	8 6	3 54	23 13	5 n 45	1 17	7 34	5
14		8 6	3 54	23 16	11 19	2 30	8 15	4
F	3 S. in Advent.	8 7	3 53	23 19	16 24	3 41	8 57	4
16	O Sapientia	Camb. T. ends		23 22	20 50	4 55	9 41	3
17	Oxf. Term ends	8 7	3 53	23 24	24 24	6 8	10 29	3
18	Ember Week	8 8	3 52	23 26	26 56	7 17	11 19	2
19		8 8	3 52	23 27	28 16	☽ rises	morn.	2
20		8 8	3 52	23 28	28 18	3 a 55	0 10	1
21	St. Thomas	Shortest day	52	23 28	26 58	5 0	1 c	1
F	4 S. in Advent	8 8	3 52	23 28	24 23	6 13	1 50	0
23		8 8	3 52	23 27	20 41	7 29	2 39	0
24		8 8	3 52	23 26	16 1	8 45	3 25	ob
25	Christmas day	8 8	3 52	23 25	10 37	10 1	4 10	0
26	St. Stephen	8 7	3 53	23 23	4 41	11 17	4 53	1
27	St. John	8 7	3 53	23 20	1 s 36	morn.	5 36	1
28	Innocents	8 7	3 53	23 17	8 0	0 38	6 21	2
F	1 S. aft. Christ.	8 6	3 54	23 14	14 12	2 c	7 8	2
30		8 6	3 54	23 10	19 49	3 29	8 c	3
31	Silvester	8 5	3 55	23 5	24 24	5 1	8 57	3

D	Day decreas.	Length of day	Heliac. long. ♄	Heliac. long. ♃	Heliac. long. ♂	Heliac. long. ☉	Heliac. long. ♀	Heliac. long. ☿	☽ se
1	8 28	8 6	3♑ 3	8♑ 0	15♎13	9♑30	20♏ 1	8♐58	5
7	8 39	7 55	3 14	8 30	18 0	15 36	29 35	3♎53	5
13	8 46	7 48	3 25	9 0	20 47	21 42	9♐ 8	24 55	4
19	8 50	7 47	3 35	9 30	23 36	27 49	18 46	13♏25	4
25	cinc. 1	7 54	3 46	10 0	26 26	3♒56	28 10	0♐30	3

Days	Day lig. begins	Day lig. ends	Durat twil g.	Pl. ☾'s node	☿'s latitude	♃'s latitude	♂'s latitude	♀'s latitude	☿ s latitude
1	5 54	6 6	2 5	3♈39	0 n 42	0 n 1	0 n 42	0 n 37	2 n 14
7	5 57	6 3	2 6	3 20	0 42	0 0	0 39	0 23	1 35
13	5 59	6 1	2 7	3 1	0 42	0 0	0 36	0 8	0 51
19	6 1	5 59	2 7	2 42	0 42	0 s 1	0 33	0 s 6	0 6
25	6 1	5 59	2 7	2 23	0 42	0 1	0 30	0 20	0 s 36

Days	☉'s longitude	☾'s long.	☾'s latitude	♄'s long.	♃'s long	♂'s long.	♀ s long.	☿ s long.
1	♐ 9 30 5	♐♎ 3	1 s 29	1♑ 0	3♑36	5♏14	1 ♐ 16	19♏18
2	10 31 2	6♏41	2 40	1 7	3 47	5 54	2 31	20 27
3	11 32 0	21 41	3 41	1 14	4 1	6 33	3 47	21 39
4	12 33 0	6 ♐ 58	4 28	1 21	4 14	7 13	5 2	22 54
5	13 34 1	22 20	4 55	1 28	4 28	7 51	6 18	24 11
6	14 35 2	7♑35	5 2	1 35	4 41	8 30	7 33	25 30
7	15 36 5	22 32	4 47	1 41	4 55	9 12	8 49	26 51
F	16 37 8	7♒ 4	4 14	1 48	5 8	9 52	10 4	28 13
9	17 38 11	21 6	3 27	1 55	5 22	10 32	11 20	29 37
10	18 39 15	4♓38	2 29	2 2	5 35	11 12	12 35	1 ♐ 1
11	19 40 19	17 42	1 25	2 9	5 49	11 52	13 51	2 26
12	20 41 24	0♈23	0 19	2 15	6 2	12 31	15 6	3 52
13	21 42 29	12 43	0 n 46	2 22	6 16	13 11	16 22	5 20
14	22 43 34	24 55	1 48	2 29	6 30	13 51	17 38	6 48
F	23 44 40	6♉51	2 45	2 36	6 43	14 31	18 53	8 17
16	24 45 47	18 44	3 33	2 43	6 57	15 11	20 9	9 46
17	25 46 53	0♊35	4 12	2 50	7 11	15 51	21 25	11 15
18	26 48 0	12 27	4 40	2 57	7 25	16 30	22 40	12 45
19	27 49 7	24 20	4 56	3 5	7 39	17 10	23 57	14 15
20	28 50 14	6♋18	4 59	3 12	7 52	17 50	25 13	15 45
21	29 51 22	18 19	4 48	3 1	8 6	18 30	26 27	17 16
F	♐ 0 52 31	0♌27	4 25	3 26	8 20	19 10	27 42	18 47
23	1 53 40	12 41	3 49	3 33	8 34	19 49	28 58	20 16
24	2 54 50	25 5	3 2	3 40	8 48	20 29	0♑12	21 51
25	3 56 0	7♍41	2 5	3 47	9 2	21 9	1 29	23 23
26	4 57 11	20 32	1 0	3 54	9 16	21 4	2 45	24 55
27	5 58 22	3♎42	0 s 9	4 1	9 30	22 29	4 0	26 28
28	6 59 33	17 14	1 19	4 8	9 44	23 9	5 16	28 1
F	8 0 45	1♍ 9	2 27	4 15	9 58	23 49	6 31	29 34
30	9 1 57	15 30	3 28	4 22	10 2	24 29	7 47	1♑ 8
31	10 3 10	0 ♐ 15	4 17	4 29	10 26	25 10	9 2	2 42

Days	♃ sets	♂ rises	♀ rises	☿ rises	♄'s declin.	♃'s declin.	♂'s declin.	♀'s declin.	☿'s declin.
1	5 a 36	4 m 44	7 m 9	5 m 56	22 s 42	23 s 24	12 s 38	19 s 50	15 s 25
7	5 16	4 40	7 25	6 14	22 42	23 22	13 57	21 25	17 55
13	4 56	4 36	7 39	6 36	22 42	23 19	15 14	22 38	20 23
19	4 36	4 32	7 51	6 59	22 42	23 14	16 27	23 25	22 26
25	4 15	4 29	7 58	7 21	22 42	23 9	17 35	23 47	23 53

Time of High-Water at LONDON in the morning and afternoon of every day in the year.

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

This Table may serve the following Places, by adding

	h	m
For Tinmouth Haven, Hartle-pool, *and* Amsterdam	0	30
Breſt — — — — — — — —	1	0
Scilly — — — — — — — —	1	45
Mount's Bay — — — — — — —	1	55
Bridlington Pier *and* Humber — — —	2	0

Time of High Water at LONDON in the morning and afternoon of every day in the year.

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

Adding	h	m
For Fowey, Loo *and* Plymouth — — — —	3	10
Dartmouth, Harborough *and* Hull — —	3	30
Torbay *and* Tinmouth — — — — —	3	40
Exmouth, Topsham *and* Lime — — —	3	50
Weymouth — — — — — — —	4	20
Bridgewater *and* Texel — — — — —	4	40
Portland and Hartflew — — — — —	5	50

Time of High-Water at LONDON in the morning and afternoon of every day in the year.

Mo. Days	SEPTEMBER morn. h	m	aftern. h	m	OCTOBER morn. h	m	aftern. h	m	NOVEMBER morn. h	m	aftern. h	m	DECEMBER morn. h	m	aftern. h	m	Mo. Days
1	8	13	8	48	9	5	9	39	10	37	11	6	10	43	11	15	1
2	9	24	10	1	10	12	10	44	11	35			11	48			2
3	10	35	11	10	11	16	11	48	0	6	0	33	0	21	0	53	3
4	11	44					0	16	1	0	1	27	1	24	1	55	4
5	0	14	0	42	0	42	1	7	1	54	2	23	2	29	2	55	5
6	1	8	1	34	1	32	1	56	2	48	3	9	3	19	3	41	6
7	1	54	2	24	2	22	2	44	3	30	3	50	4	1	4	23	7
8	2	44	3	1	2	55	3	21	4	9	4	36	4	45	5	8	8
9	3	17	3	32	3	38	3	56	5	1	5	26	5	30	5	53	9
10	3	48	4	3	4	16	4	40	5	53	6	24	6	10	6	42	10
11	4	22	4	43	5	4	5	28	6	53	7	23	7	7	7	28	11
12	5	4	5	26	5	58	6	31	7	54	8	23	7	55	8	19	12
13	5	54	6	25	7	4	7	39	8	54	9	22	8	48	9	14	13
14	6	58	7	32	8	15	8	52	9	52	10	19	9	42	10	8	14
15	8	10	8	51	9	28	10	2	10	46	11	11	10	35	11	2	15
16	9	31	10	11	10	34	11	1	11	38			11	31	11	58	16
17	10	48	11	23	11	32	11	58	0	3	0	26			0	24	17
18	11	57					0	24	0	48	1	10	0	52	1	17	18
19	0	24	0	52	0	46	1	9	1	32	1	55	1	43	2	9	19
20	1	16	1	39	1	20	1	50	2	20	2	41	2	34	2	53	20
21	2	1	2	23	2	11	2	32	2	59	3	16	3	10	3	27	21
22	2	40	2	56	2	49	3	5	3	32	3	49	3	43	3	58	22
23	3	10	3	25	3	19	3	34	4	4	4	22	4	13	4	32	23
24	3	38	3	51	3	49	4	4	4	42	5	1	4	49	5	7	24
25	4	5	4	20	4	22	4	42	5	20	5	41	5	24	5	44	25
26	4	39	4	56	5	2	5	22	6	4	6	29	6	4	6	27	26
27	5	15	5	36	5	44	6	10	6	53	7	18	6	49	7	13	27
28	6	1	6	27	6	36	7	3	7	43	8	11	7	39	8	8	28
29	6	56	7	24	7	31	8	2	8	40	9	10	8	38	9	14	29
30	7	57	8	30	8	32	9	5	9	41	10	12	9	49	10	25	30
31					9	35	10	7					11	2	11	41	31

Subtracting	h	m
For Leigh, Maes, *and* Gouries Gut — — — —	0	5
Gravesend Rochester, *and* Rammekins — — —	1	20
Buoy of the Nore *and* Flushing — — — — —	1	30
Portsmouth, Ostend, Shoe-Becon, *and* Red-Sand —	2	0
Harwich, Dover, Spithead, *and* Calais — — —	3	0
Gunfleet, Hastings, Shoreham, Orfordness, *and* Diep —	4	0
Yarmouth Pier *and* Needle — — — — — —	4	40
St. Helen's *and* Havre-de-Grace — — — — —	5	30

In this year will happen 4 eclipses of the two great luminaries, viz. 2 of the moon, and 2 of the sun; but only a part of one of them visible in these parts of the world. As also a transit of Mercury over the Sun.

I. The first is an invisible eclipse of the Moon, on March 29, about our 8 o'clock in the morning. The greatest defect near 8 digits; and will be visible to all North and South America, and the West India islands.

II. The 2d is an eclipse of the Sun on the 12th of April, the beginning of which will be visible in England if the air prove clear, but the Sun sets before the middle. In North America the whole eclipse will be visible, and to the northern parts it will be a great eclipse, but no where total though central, for along the track of central appearance the ambit of the Moon will be encompassed with a splendid ring of light. At London the eclipse begins on the right-hand side of the Sun's lower limb at 6h. 13m. afternoon, apparent time; and the Sun will set in 36m. after, viz. at 6h. 49m. then upwards of 4 digits eclipsed.

N. B. The farther north, the Sun will set later, therefore the quantity of obscuration at sun-setting will be various at different places; but the annexed type, which is adapted for London at sun-set, will serve the whole kingdom. Here V V is a vertical circle, and B the point in the Sun's limb where the eclipse begins.

III. The 3d is a partial eclipse of the Moon, the 21st of Sept. begins at 1h. 20m. in the morning, and ends at 3h. 28m. which is long before the Moon rises to these kingdoms. The greatest defect is about 3 deg. 42 min. and the eclipse will be visible to all Asia and most of the South Sea islands.

IV. The 4th and last is a solar defect, on the 7th of October, about our 1 o'clock in the morning, therefore invisible both to us and all Europe. But in the great South Sea it will be a large eclipse, and between New Zealand and Van Diemen's land, in about 49 deg. and a half south lat. and 158 deg. east long. from London, the Sun will be totally and centrally eclipsed on the meridian.

Besides these eclipses, there will happen a small transit of Mercury Nov. 12, which planet will, if our calculations and tables are right, pass over the upper limb of the Sun from east to west in form of a round black spot, and visible to all places where the Sun is up, the air being clear; and is a phenomenon never seen before the year 1639. From the smallness of Mercury's diameter, some sort of telescope will be necessary for observing him transit, using a dark glass between the telescope and eye, to guard it from the Sun's rays. The annexed fig. is the type for London, where ☿ ☿ is the planet's path, I the ingress or begignning, which is at 2h. 51m. afternoon, and E the end at 4h. 15m. app. time. And according as places are situated to the east or west of the meridian of London in time, just so much later or sooner will the times of the transit happen at those places.—The ecliptic varying its position, in respect to the vertical circle, will make the transit appear to be performed in a curve concave towards the Sun's center. Mercury's lat. at ingress is 15m. at the egress 16m north; the Sun's diam. 16m. 14 sec. Mercury's about 4 sec.

H. ANDREWS.

Speculum Phænomenorum

January

1	☌ ♄ ☿ 8h.
2	☿ in ♉
7	♀ elong. max. a ☉
8	☾ in perigeo
10	☌ ♃ ☾ 17h.
11	☌ ♄ ☾ 3h.
12	☿ in aphelio
12	☌ ♄ ☾ 8h.
13	♀ in ♉
13	☌ ☉ ☾ 7h.
17	☌ ♀ ☾ 3h.
19	☌ ♂ ☾ 3h.
19	☉ in ♒ 7h. 52m.
20	♂ in ♉
21	☾ in apogeo
31	☌ ☉ ☿ 13h.

February

2	☾ in perigeo
7	☌ ♃ ☾ 8h.
7	☌ ♄ ☾ 18h.
11	☌ ☉ ☾ 21h.
12	☌ ☿ ☾ 20h.
15	☌ ♀ ☾ 6h.
17	☌ ♂ ☾ 3h.
17	☉ in ♓ 22h. 43m.
18	☾ in apogeo
20	☿ in ♉
25	☿ in perihelio
28	♀ ſtationary
28	☿ elong. max. a ☉

March

1	☾ in perigeo
5	♀ in aphelio
6	☿ ſtationary
6	☌ ♃ ☾ 21h.
7	☌ ♄ ☾ 3h.
13	☌ ☉ ☾ 13h.
13	☌ ☿ ☾ 22h.
14	☌ ♀ ☾ 10h.
16	☌ ☉ ☿ 2h.
17	□ ☉ ♃ 18h.
18	☾ in apogeo
18	☌ ♂ ☾ 2h.
19	☉ in ♈ 23h. 10m.
20	☌ ☉ ♀ 13h.
21	□ ☉ ♄ 1h.
28	☾ eclipſ. inviſ.
30	☿ ſtationary
30	☾ in perigeo
31	☿ in ♉

April

3	☌ ♃ ☾ 7h.
3	☌ ♄ ☾ 11h.
9	☌ ♀ ☿ oh.
9	☌ ♀ ☾ 17h.
9	☌ ☿ ☾ 18h.
10	♄ ſtationary
10	♅ ſtationary
10	☿ in aphelio
12	☌ ☉ ☾ 6h.
12	☉ eclipſ. viſible
13	☿ elong. max. a ☉
14	☾ in apogeo
15	♃ ſtationary
16	☌ ♂ ☾ 1h.
19	☉ in ♉ 11h. 59m.
27	☾ in perigeo
30	☌ ♃ ☾ 15h.
30	☌ ♄ ☾ 19h.

May

6	♀ in ♉
7	☌ ♀ ☾ 22h.
10	☌ ☿ ☾ 18h.
11	☾ in apogeo
11	☌ ☉ ☾ 22h.
14	☌ ♂ ☾ 19h.
19	☿ in ♉
20	☉ in ♊ 12h. 37m.
21	☌ ☉ ☿ 22h.
24	☿ in perihelio
26	☾ in perigeo
27	♀ elong. max. a ☉
27	☌ ♃ ☾ 21h.
28	☌ ♄ ☾ 3h.

June

6	☌ ♀ ☾ 9h.
8	☾ in apogeo
10	☌ ☉ ☾ 13h.
12	☌ ☿ ☾ 11h.
12	☌ ♂ ☾ 14h.
14	☌ ♂ ☿ 6h.
14	☉ ☉ ♃ 18h.
18	☉ ☉ ♄ 21h.
20	☉ in ♋ 21h. 21m.
23	☾ in perigeo
24	☌ ♃ ☾ 2h.
24	☌ ♄ ☾ 10h.
24	☿ elong. max. a ☉
26	♀ in perihelio
27	☿ in ♉

ad Annum 1782.

July		August		September	
		2	☿ ſtationary.		
		2	☾ in apogeo		
5	☾ in apogeo	5	♂ ☿ ☾ 13h.	4	♂ ♀ ☾ 17h.
6	♂ ♀ ☾ 8h.	7	♂ ☿ ☾ 3h.	4	♂ ☉ ☿ 22h.
7	☿ in aphelio	8	♂ ☉ ☾ 15h.	6	♂ ♂ ☾ 18h.
9	☿ ſtationary	9	♂ ♂ ☾ oh.	7	♂ ☉ ☾ 2h.
10	♂ ☉ ☾ 3h.	11	☿ elong. max. a ☉.	7	♂ ☿ ☾ 6h.
11	♂ ♂ ☾ 7h.	15	♃ ſtationary	10	☾ in perigeo
11	♂ ☿ ☾ 14h.	15	☿ in ♌	12	□ ☉ ♃ 17h.
20	☾ in perigeo	16	☾ in perigeo	13	♂ ♃ ☾ 19h.
21	♂ ♃ ☾ 7h.	17	♂ ♃ ☾ 12h.	14	♂ ♄ ☾ 10h.
21	♂ ♄ ☾ 16h.	17	♂ ♄ ☾ 21h.	17	□ ☉ ♄ 11h.
22	☉ in ♌ 8h. 11m.	20	☿ in perihelio	21	☾ eclipſ. inviſ.
23	♂ ☉ ☿ oh.	22	☉ in ♍ 14h. 32m.	22	☉ in ♎ 10h. 59m.
		23	♂ ☉ ♂ 17h.	23	☿ in ♍
		26	♂ in aphelio	26	☾ in apogeo
		27	♀ in ♌		
		29	♄ ſtationary		
		30	☾ in apogeo		

October		November.		December.	
		2	☿ ſtationary	1	♂ ♂ ☾ 22h.
3	☿ in aphelio	3	♂ ♂ ☾ 6h.	3	♂ ☿ ☾ oh.
4	♂ ♀ ☾ 21h.	3	♂ ♀ ☾ 22h.	3	♂ ♀ ☾ 21h.
5	♂ ♂ ☾ 10h.	4	♂ ☉ ☾ 23h.	4	♂ ☉ ☾ 9h.
6	♂ ☉ ☾ 13h.	5	☾ in perigeo	4	☾ in perigeo
6	☉ eclipſ. inviſ.	5	♂ ☿ ☾ 22h.	5	□ ♄ ♃ oh.
8	☾ in perigeo	6	♂ ♄ ♃ oh.	5	♂ ♄ ☾ 14h.
8	♂ ☿ ☾ 2h.	7	♂ ♄ ☾ 23h.	5	♂ ♃ ☾ 19h.
11	♂ ♃ ☾ 7h.	7	♂ ♃ ☾ 23h.	10	♃ in ♌
11	♂ ♄ ☾ 10h.	11	☿ in ♌	16	♀ in ♌
16	♀ in aphelio	12	☿ tranſ. ☉, ingr. 2h.	17	☾ in apogeo
18	♂ ♂ ♀ 16h.		51m. egr. 4h. 15m.	20	☿ in ♌
22	☿ elong. max. a ☉	16	☿ in perihelio	21	☉ in ♑ 3h. 23m.
22	☉ in ♍ 18h. 52m.	20	☾ in apogeo	24	♂ ☉ ♄ 20h.
24	☾ in apogeo	21	☉ in ♐ 15h. 3m.	30	☿ in aphelio
		21	☿ ſtationary	31	♂ ☉ ♃ 11h.
		30	☿ elong. max. a ☉		

The Eclipses of Jupiter's

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

May				June				July				August			
Immersions				Immersions				Emersions				Emersions			
2	16	10	45	1	18	14	10	1	22	26	1	1	0	33	8
4	10	39	19	3	12	42	26	3	16	54	26	2	19	2	8
6	5	7	53	5	7	10	44	5	11	22	51	4	13	31	10
7	23	36	27	7	1	38	59	7	5	51	17	6	8	0	12
9	18	4	59	8	20	7	15	9	0	19	46	8	2	29	16
11	12	33	30	10	14	35	30	10	18	48	16	9	20	58	22
13	7	2	1	12	9	3	44	12	13	16	48	11	15	27	30
15	1	30	30	14	3	31	57	14	7	45	23	13	9	56	40
16	19	58	37	Emersions				16	2	14	0	15	4	25	53
18	14	27	23	16	0	11	6	17	20	42	39	16	22	55	5
20	8	55	48	17	18	39	23	19	15	11	19	18	17	24	20
22	3	24	11	19	13	7	41	21	9	40	2	20	11	53	39
23	21	52	33	21	7	35	59	23	4	8	46	22	6	22	57
25	16	20	54	23	2	4	17	24	22	37	33	24	0	52	17
27	10	49	14	24	20	32	37	26	17	6	22	25	19	21	40
29	5	17	33	26	15	0	56	28	11	35	14	27	13	51	2
30	23	45	52	28	9	29	16	30	6	4	13	29	8	20	24
				30	3	57	37					31	2	49	48

first Satellite for 1782.

September				October				November				December
Emerſions				Emerſions				Emerſions				
1	21	19	19	1	23	40	29	1	1	56	15	
3	15	48	46	3	18	9	53	2	20	25	3	
5	10	18	15	5	12	39	15	4	14	53	40	
7	4	47	44	7	7	8	38	6	9	22	30	The Eclipſes
8	23	17	12	9	1	38	0	8	3	51	8	of Jupiter's
10	17	46	41	10	20	7	17	9	22	19	43	Satellites will
12	12	16	11	12	14	36	34	11	16	48	15	not be viſible
14	6	45	43	14	9	5	49	13	11	16	45	this month,
16	1	15	14	16	3	35	2	15	5	45	12	Jupiter being
17	19	44	43	17	22	4	11	17	0	13	36	too near the
19	14	14	14	19	16	33	21	18	18	41	57	Sun.
21	8	43	43	21	11	2	27	20	13	10	15	
23	3	13	14	23	5	31	33	22	7	38	29	
24	21	42	43	25	0	0	33	24	2	6	41	
26	16	12	13	26	18	29	33	25	20	34	50	
28	10	41	40	28	12	58	28	27	15	2	56	
30	5	11	5	30	7	27	22	29	9	31	0	

The Times of the Eclipſes contained in this Table, are adapted to the Meridian of the Royal Obſervatory at Greenwich, and afford an excellent Method to diſcover the Longitude or Difference of Meridians, between that and any other Place; which I ſhall illuſtrate by an Example:

Suppoſe on the 25th Day of October this Year, the Time of the Emerſion of Jupiter's firſt Satellite be obſerved (by a Teleſcope) in an unknown Meridian, to happen at 1 h. 24 min. 45 ſec. at night; I find by the Table, that the Time of this Emerſion will happen at the Britiſh Obſervatory, at 0 h. 0 min. 33 ſec. the ſame day: The Difference of the Times is 1 hour 24 min. 12 ſec. which being converted into Degrees and Minutes of the Equator, will make 21 deg. 3 min. the Longitude of the Place of Obſervation to the Eaſt; becauſe the Time is more than that at the Britiſh Obſervatory.

A Table of the Sun's semi-diurnal Arches, or Times

The Sun's Declination North.

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

By these Tables the Times of the Sun's Rising and Setting may be found, in any Part of the Kingdom of *Great-Britain* or *Ireland*, after the following Manner: Where the Latitude of the Place is known, take the Sun's Declination out of the Table, on the Noon of the Day you desire to know the Time of his Rising and Setting; and with it, according as it is either North or South, enter these Tables in the Left-

of his visible half Duration above the Horizon.

The Sun's Declination South.

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

eft-hand Column, under the Word Degrees; then look
ie Latitude of the Place in the Top of the Table; and in
iat Column, againſt the Sun's Declination, will be found the
ime of his viſible half duration above the Horizon, or
ime of his Setting, correct by Refraction; then ſubtract
ie Time of his Setting from 12 Hours, the Remainder will
e the Time of his Riſing; double the Time of his Setting,

the

A Table of the Sun's semi-diurnal Arches, or Times

The Sun's Declination North.

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

the Sum will be the Length of the Day; and double the Time of his Rising, the Sum will be the Length of the Night. But if the Latitude of the Place, and Declination of the Sun, consist of Degrees and Minutes, then a small Allowance must be made for the Minutes in both Cases, which may be done by a Person of an ordinary Capacity by a mental Proportion only. Thus, to find the Time of the Sun's Rising and Setting a

of his visible half Duration above the Horizon.

The Sun's Declination South.

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

t Aberdeen in Scotland, on the Longeſt Day; the Latitude of that Place is ccounted 57 Degr. 7 Min. North, and the Sun's Declination 23 Deg. 28 Min. likewiſe North. By theſe you will find by the Table, that 5 Min. for he Sun's Declination, and 1 Min. for the Latitude of the Place, are both, o be added to 8 Hours 49 Min. the Time belonging to 57 Degr. of Latitude nd 23 Degr. of North Declination, and the Sum will be 8 Hours 55 Min. he Time of his apparent Setting at Aberdeen, on the longeſt Day, whoſe Complement to 12 Hours, viz. 3 Hours 5 Min. will be the Time of his iſing, &c.

A Table of the Sun's Right-Ascension in Time, the greatest

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

The time of the southing or meridian transits of the fixed stars in pa. 46, may be found thus: On the noon of the day, preceding the night in which you want to know the time of the southing of any of those stars, find the Sun's place in the Ephemeris, and with it take out of the above table his right ascension in time; this you may do by inspection to a minute, which will be sufficient for your present purpose: Then from the right ascension of the star in pa. 46, subtract the right ascension of the Sun, the remainder will be the estimate time of the star's southing, and will not differ from the true time above 2 or 3 minutes at most, which may be near enough for ordinary uses. But when great exactness is required, reduce the Sun's place to this estimate time, and with it find in the above table his right ascension to seconds, which being subtracted from that of the star, the remainder will be the

Obliquity of the Ecliptic being 23° 28'.

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

he true time of the ſtar's culminat-
ng or ſouthing. And if from the
ime of the ſtar's ſouthing you ſub-
ract the ſemidiurnal arc belonging to
t, the remainder will be the time of
he ſtar's riſing; and being added to
, the ſum will be the time of its
tting.

Annexed is an Ex. of SIRIUS for
an. 1, 1782.

	h m s
☉'s place at noon ♑ 11° 19'	
Rt. Aſc. of Sirius - -	6 35 33
☉'s rt. aſc. ſubtract -	18 49 18
✳'s eſtimate ſouthing -	11 46 15
☉'s rt. aſc. at that time ſub.	18 51 28
✳'s true ſouthing - -	11 44 5
Semid. arc ſub. & add -	4 36 55
✳'s riſing aftern. - -	7 7 10
✳'s ſetting - -	16 21 0

A Table of the mean Right-Aſcenſions in time, Semidurnal-Arcs, Declinations, and Magnitudes of 40 remarkable fixed Stars, with their Names, and Bayer's Literal Characters, for January 1, 1782.

Names of the Stars	Ch.	Rt. Aſc.	Declination	Semid. Ar.	Ma
		h m s	o ′ ″	h m s	
Pole ſtar, Alruccabah -	α	0 48 3	88 8 36 n	ſets not	2
Andromeda's girdle, Mirach -	β	0 57 36	34 27 35 n	10 7 32	2
Andromeda's left foot, Almach	γ	1 50 36	41 16 30 n	ſets not	2
Ram's following horn -	α	1 54 56	22 25 27 n	8 9 35	2
Whale's jaw, Menkar -	α	2 50 54	3 13 26 n	6 19 48	2
Meduſa's head, Algol - -	β	2 54 4	40 6 6 n	ſets not	2
Perſeus's right ſide, Algenib	α	3 8 51	49 4 11 n	ſets not	2
Brighteſt of the 7 ſtars -	η	3 34 34	23 25 2 n	8 16 40	3
Bull's ſouth eye, Aldebaran -	α	4 23 26	16 3 23 n	7 28 51	1
Auriga's left ſhoulder, Capella	α	5 0 37	45 44 59 n	ſets not	1
Orion's left foot, Rigel -	β	5 4 4	8 28 3 s	5 20 28	1
Bull's north horn - -	β	5 12 32	28 24 22 n	8 57 1	2
Orion's left ſhoulder, Bellatrix	γ	5 13 27	6 8 10 n	6 34 41	2
Orion's girdle - -	ε	5 25 10	1 21 24 s	5 56 42	2
Orion's right ſhoulder, Betèlgeuſe	α	5 43 23	7 20 59 n	6 40 58	1
In the great Dog's mouth, Sirius	α	6 35 33	16 25 14 s	4 36 55	1
Head of the 1ſt Twin, Caſtor	α	7 20 41	32 20 54 n	9 38 21	1
In the leſs Dog's thigh, Procyon	α	7 27 54	5 46 41 n	6 32 50	1
Head of the 2d Twin, Pollux	β	7 31 59	28 32 14 n	8 58 13	2
Hydra's heart, Alphard -	α	9 16 53	7 43 21 s	5 24 20	2
Lyon's heart, Regulus -	α	9 56 45	13 1 32 n	7 11 28	1
Great Bear, Lower Pointer	β	10 48 34	57 32 47 n	ſets not	2
Great Bear, Upper Pointer -	α	10 50 8	62 55 27 n	ſets not	2
Lion's tail, Deneb - -	β	11 37 56	15 47 28 n	7 27 18	2
Great Bear, 1ſt in the tail, Aliath	ε	12 44 22	57 8 46 n	ſets not	2
Virgius's ſpike - -	α	13 13 44	10 1 2 s	5 12 20	1
Dragon's tail - -	α	13 58 30	65 25 19 n	ſets not	2
Bootes, Arcturus -	α	14 5 46	20 20 5 n	7 55 26	1
Libra, Southern Scale - -	α	14 38 52	15 7 26 s	4 44 23	2
Libra, Northern Scale - -	β	15 5 18	8 33 59 s	5 19 57	2
Bright ſtar in the North Crown	α	15 25 28	27 27 35 n	8 48 36	2
Scorpion's heart, Antares	α	16 16 4	25 55 50 s	3 34 6	1
Hercules's head, Raſ. Algethi	α	17 4 43	14 39 8 n	7 20 41	2
Head of Serpentarius - -	α	17 24 49	12 44 2 n	7 9 50	2
Dragon's head, Raſtaben -	γ	17 51 34	51 31 19 n	ſets not	2
Bright ſtar in the Harp, Lyra	α	18 29 33	38 35 19 n	ſets not	1
Bright ſtar in the Eagle, Atair	α	19 40 8	8 18 10 n	6 45 57	1
Mouth of ſouth Fiſh, Fomalhaut	α	22 45 34	30 46 17 s	2 52 6	1
Pegaſus's wing, Markab -	α	22 53 55	14 2 8 n	7 17 10	2
Andromeda's head - -	α	23 57 9	27 53 2 n	8 52 19	2

A Table of the Longitudes, Latitudes, and Magnitudes of the moſt remarkable fixed Stars that the Moon can Eclipſe, or make a near Appulſe unto; exactly rectified to the beginning of the year 1780.

Con.	Cha.	Long.			Lat.			Mag.
		♈	°	′	″	°	′	″	
♓	δ	♈	11	4	48	2	9	44 n	4
	ε		14	28	2	1	5	37 n	4
	ζ		16	48	2	0	13	11 s	4
♈	δ	♉	17	46	21	1	48	7 n	4
♉	n		26	55	21	4	1	36 n	3
	γ	♊	2	43	37	5	45	30 s	3
	ε		5	23	14	2	35	37 s	3
	α		6	42	57	5	29	2 s	1
	β		19	30	14	5	21	59 n	2
	ζ		21	42	52	2	13	29 s	3
♊	n	♋	0	22	14	0	55	4 s	4
	μ		2	13	39	0	50	34 s	3
	γ		5	1	57	6	46	12 s	2
	ε		6	52	7	2	2	28 n	3
	δ		15	27	6	0	12	19 s	3
	β		20	11	11	6	40	4 n	1
♑	γ	♌	4	28	28	3	10	22 n	4
	δ		5	38	46	0	4	13 n	4
♌	ξ		18	35	0	3	1	57 s	4
	o		21	11	15	3	46	1 s	4
	n		24	50	0	4	51	9 n	4
	α		26	46	26	0	27	27 n	1
	ρ	♍	3	19	2	0	8	29 n	4
	τ		18	26	24	0	31	21 s	4
	υ		21	58	9	3	2	51 s	4
♍	β		24	2	24	0	41	36 n	3
	c	♎	0	17	47	5	4	42 n	3
	n		1	45	52	1	22	24 n	3
	γ		7	6	18	2	48	57 n	3
	α		20	46	27	2	2	11 s	1

Con.	Cha.	Long.			Lat.			Mag.
		♍	°	′	″	°	′	″	
♎	α		12	1	6	0	21	48 n	2
			12	17	56	14	1	49	14 s	3
	γ			22	3	46	4	24	41 n	3
	n			24	18	10	4	2	52 n	4
	π			24	41	24	0	1	1 n	4
	θ			26	47	49	3	29	24 n	4
	λ			27	24	23	0	6	53 n	4
♏	δ			29	30	5	1	57	17 s	3
	π			29	52	12	5	26	15 s	3
	β	♐		0	7	10	1	2	18 n	2
	ν			1	34	27	1	39	52 n	4
	σ			4	43	50	4	0	23 s	4
	α			6	41	35	4	32	17 s	1
	τ			8	23	19	6	5	21 s	4
♐	γ			28	11	40	6	56	48 s	3
	μ	♑		0	8	35	2	22	24 n	4
	λ			3	15	8	2	5	31 s	4
	φ			7	6	25	3	55	22 s	3
	σ			9	18	54	3	24	55 s	3
	τ			11	46	9	5	2	33 s	3
	o			11	55	13	0	53	36 n	3
	π			13	10	58	1	28	7 n	4
♑	β	♒		0	58	32	4	36	46 n	3
	ε			17	7	37	4	57	31 s	4
	γ			18	42	30	2	32	6 s	4
	δ			20	27	42	2	33	40 s	3
♒	ι			25	38	54	2	3	47 s	4
	θ	♓		0	11	19	2	43	22 n	4
	λ			8	30	20	0	22	57 s	4
	o			14	4	16	1	2	8 s	4

This table ſhewing the mean longitudes of 60 ſtars to the beginning of the year 1780, their mean longitudes for any other time may be found if $50\frac{1}{3}$ ſeconds be added for each ſucceeding, and ſubtracted for each preceding year, and proportionably for a part of a year. Thus, to find the longitude of the firſt ſtar ♓ δ, or δ piſcium, for Feb. 15, 1782, or 2 years and one eigh h after the tabular time; here $2\frac{1}{8}$ times $50\frac{1}{3}$ ſec. make 1′ 47″, which being added to the tabular longitude, gives ♈ 11° 6′ 35″ for the longitude requir-d at the given time.——The latitudes vary not.

The Latitudes and Longitudes of Ninety Places.

	Lat.	Long.		Lat.	Long.
	° ′	° ′		° ′	° ′
Alexandria, Egypt	31 11 n	30 17 e	Iſpahan	32 25 n	52 55 e
Amſterdam, Hol.	52 23 n	4 52 e	Land's end	50 6 n	5 50 w
Archangel, Ruſ.	64 34 n	38 30 e	Leghorn	43 33 n	10 25 e
Athens	37 40 n	23 52 e	Leoſtoff	52 38 n	1 54 e
Babelmandel	12 50 n	43 50 e	Liverpool	53 22 n	3 10 w
Batavia	6 12 s	106 45 e	Lima	12 1 s	76 50 w
Bengal	22 0 n	92 45 e	Liſbon	38 42 n	9 4 w
Berlin	52 33 n	13 26 e	Lizard	49 57 n	5 21 w
Bombay Iſle	19 42 n	73 3 e	London	51 31 n	0 0
Boſton, Amer.	42 25 n	70 37 w	Madras	13 8 n	80 7 e
Breſlau	51 3 n	17 13 e	Madrid	40 25 n	3 45 w
Breſt	48 23 n	4 30 w	Manila	14 30 n	120 25 e
Briſtol	51 28 n	2 30 w	Marſeilles	43 18 n	5 21 e
Buenos Ayres	34 35 s	58 0 w	Mexico	19 54 n	100 5 w
Cadiz	36 31 n	6 7 w	Miſſiſſipi, mouth	29 0 n	89 17 w
Calais	50 58 n	1 51 e	Moſcow	55 25 n	37 51 e
Cairo, Egypt	30 2 n	31 26 e	Naples	40 51 n	14 19 e
Cambridge	52 13 n	0 4 e	Newcaſtle	55 0 n	1 18 w
Canaria Iſlands	28 1 n	15 0 w	Oporto	40 53 n	8 35 w
Canton	23 8 n	113 2 e	Orkney I. northend	59 24 n	3 23 w
Cape of Goodhope	34 29 s	18 23 e	Oxford	51 45 n	1 16 w
Cape Horn	55 59 s	67 26 w	Paris	48 50 n	2 25 e
Carthegena	10 27 n	75 26 w	Pekin	39 53 n	116 22 e
Charles Town Am.	33 22 n	79 50 w	Peterſburg	59 56 n	30 19 e
Conſtantinople	41 0 n	28 53 e	Philadelphia	39 57 n	75 18 w
Copenhagen	55 41 n	12 50 e	Plymouth	50 24 n	4 15 w
Corinth	37 30 n	23 0 e	Port Mahon	39 51 n	3 53 e
Corke	51 54 n	8 30 w	Port Royal, Jam.	17 40 n	76 37 w
Dantzic	54 22 n	18 36 e	Portſmouth	50 48 n	1 1 w
Dover	51 7 n	1 19 e	Prague	50 5 n	14 15 e
Dublin	53 12 n	6 55 w	Quebec	46 55 n	71 12 w
Edinburgh	55 58 n	3 1 w	Rome	41 54 n	12 32 e
Ferro, Iſle	27 48 n	18 6 w	Scilly Iſles	50 0 n	6 45 w
Finiſterre, Cape	42 57 n	9 36 w	Smyrna	38 28 n	27 25 e
Genoa	44 25 n	8 41 e	Stockholm	59 22 n	18 12 e
Gibraltar	36 5 n	4 46 w	Syracuſe	37 4 n	15 20 e
Glaſgow	55 52 n	4 5 w	Tangier	35 55 n	5 45 w
Goa	15 31 n	73 50 e	Teneriff	28 16 n	16 32 w
Gottingen	51 32 n	9 58 e	Tunis	36 47 n	10 16 e
Greenwich	51 29 n	0 5 e	Turin	45 5 n	7 45 e
Hacluit's Head.	79 55 n	12 0 e	Venice	45 27 n	12 24 e
Halifax, America	44 46 n	63 20 w	Verd, Cape	14 47 n	17 28 w
Havanna	23 12 n	81 11 w	Vienna	48 11 n	16 28 e
Helena, I. St.	15 55 s	5 49 w	Upſal	59 52 n	17 43 e
Jeruſalem	31 50 n	35 25 e	Uramberg	55 54 n	12 52 e

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