ΑΤΛΑΣ ΟΥΡΑΝΙΟΣ,

The COELESTIAL ATLAS;

OR, A NEW

EPHEMERIS

For the YEAR of our LORD 1785.

Being the First 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 ASTRONOMICAL 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 semi-diurnal Arcs, 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; a TABLE of the Sun's Right-Ascension; various exact TABLES of the most remarkable fixed Stars, taken from Mr. FLAMSTEED's Catalogue; and, lastly, a correct TABLE of Latitudes and Longitudes of the most remarkable Places in the World.

By ROBERT WHITE,
Teacher of the Mathematicks.

Οι ἀξιοι δινῦνται δοξαν Θεῦ.

The THIRTY-SIXTH IMPRESSION.

LONDON:
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Chronological Notes for the Year 1785.

Golden Number - -	19	Septuagesima Sunday	Jan. 23
Cycle of the Sun - -	2	Shrove Sunday -	Feb. 6
The Epact - - -	18	Easter Day - -	Mar. 27
Dominical Letter - -	B	Whit-Sunday -	May 15
Number of Direction -	6	Trinity Sunday -	May 22
Roman Indiction - -	3	Advent Sunday -	Nov. 27

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 1785.

THE Spring Quarter begins on the 20th Day of March, at 32 Minutes past 4 in the Morning, apparent Time.

The Summer Quarter begins June the 21st, 37 Minutes past 2 in the Morning.

The Autumnal Quarter begins September the 22d, 18 Minutes past 4 in the Afternoon.

The Winter Quarter begins December the 21st, 47 Minutes past 8 in the Morning.

THE beautiful Planet Venus will be an Evening Star 'till May the 30th; and after that Time she will be a Morning Star to the Year's End.

Jupiter will be an Evening Star 'till the 10th Day of March, at which Time he becomes a Morning Star; and so continues 'till Oct. 2d. and after that an Evening Star to the Year's End.

The NAMES of the Learned JUDGES of the LAW.

I. The Right Hon. Lord Thurlow, Lord High Chancellor.

Right Honourable Sir Lloyd Kenyon, Bart. Maſter of the Rolls.

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

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

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

Pepper Arden, Eſq; Attor. General; Alex. M'Donald, Eſq; Solic. General.

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	24	Monday
From the Day of St. Hilary in 15 Days - 27	28	29	31	Monday
On the Morrow of the Purif. Bleſſed Mary, Feb. 3	4	5	7	Monday
In eight Days of the Purif. of Bleſſed Mary, - 9	10	11	12	Saturd.

Eaſter Term begins April 13, ends May 9.

From the Day of Eaſter in 15 Days, - April 10	11	12	13	Wedn.
From the Day of Eaſter in 3 Weeks, - - 17	18	19	20	Wedn.
From the Day of Eaſter in 1 Month, - - 24	25	26	27	Wedn.
From the Day of Eaſter in 5 Weeks, - May 1	2	3	4	Wedn.
On the Morrow of the Aſcenſion, - - - 6	7	8	9	Monday

Trinity Term begins May 27, ends June 15.

On the Morrow of the Holy Trinity, - May 23	24	25	27	Friday
In 8 Days of the Holy Trinity, - - - 29	30	31	Jı	Wedn.
In 15 Days of the Holy Trinity, - - June 5	6	7	8	Wedn.
In 3 Weeks of the Holy Trinity, - - - 12	13	14	15	Wedn.

Michaelmas Term begins Nov. 6, ends Nov. 29.

On the Morrow of All Souls, - - - Nov. 3	4	5	7	Monday
On the Morrow of St Martin, - - - - 12	13	14	15	Tueſday
In eight Days of St. Martin, - - - - 18	19	20	21	Monday
In 15 Days of St. Martin, - - - - 25	26	27	28	Monday

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 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	Princeſs Amelia,	Aug. 7, - 1783
Prs. Cha. Aug. Mat.	Sept. 29, 1766	Queen Charlotte,	May 19, 1744
Prince Edward,	Nov. 2, - 1767	Prs. Amelia,	June 10, - 1711
Prs. Auguſta Sophia,	Nov. 8, 1768	Prs. Auguſta of Brun.	Aug. 11, 1737
Prs. Elizabeth,	May 22, - 1770	Duke of Glouceſter,	Nov. 25, 1743
Prince Erneſt Auguſtus,	June 5, 1771	Duke of Cumberland,	Nov. 7, 1745
Prince Aug. Fred.	Jan. 27, 1773		

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	Staniſlaus 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 $\frac{32}{89}$
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 $\frac{2}{31}$ 8
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.	Ages	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		Westminster
Anne	1665	1702 Mar. 8	12	4	24	49		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, 1785.

BISHOPS.	Sees.	Date.	Succeeded.	DEANS.
Dr. John Moore	*Bangor*	1775	Ewer deceased	
Arch-Bishop	Canterb. A.B	1783	Cornwallis dec.	Dr. Horne
Dr. Will. Markham	*Chester*	1748	Keene transl.	
Arch-Bishop	York A. B.	1777	Drummond de.	Dr. J. Fountayne
	St. David's	1761	Squire deceas.	
Dr. Robert Lowth	*Oxford*	1757	Hume transl.	
	London	1777	Terrick dec.	Bishop Thurlow
Dr. John Egerton	*Bangor*	1754	Willes transl.	
	Durham	1752	Trevor deceas.	Hon. W. Digby
	Litch & Cov.	1768	Cornwallis tr.	
Hon. Dr. B. North	*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. Charles Moss	*St. David's*	1766	Clagget transl.	
	Bath & Wells	1774	Willes deceased	Ld. Fr. Seymour
Dr. J. Shipley	St Asaph	1769	Newcome dec.	Mr W.D.Shipley
Dr. Edmund Law	Carlisle	1769	Lyttelton dec.	Dr. Ekins
Dr. S. Barrington	*Londaff*	1769	Shipley transl.	
	Salisbury	1782	Hume dec.	Dr. Noel
Dr. John Hinchliffe	Peterborough	1769	Lamb dec.	Dr. Ch. Tarrant
	St. David's	1774	Moss transl.	
H. Dr. James Yorke	*Gloucester*	1779	Warburton dec.	
	Ely	1781	Keene deceased	Dr. Cooke
Dr. John Thomas	Rochester	1774	Pearce dec.	Dr. Dampier
Dr. Hurd	*Litch. & Cov.*	1775	B. North tr.	
	Worcester	1781	B. North tr.	Dr. St. John
Dr. Beilby Porteus	Chester	1777	Markham tran.	Dr. Will. Smith
Dr. John Butler	Oxford	1777	Lowth transl.	Dr. Jackson
Dr. John Ross	Exeter	1778	Keppel dec.	Dr. Buller
Dr. Thurlow	Lincoln	1779	Green dec.	Dr. Kay
Dr. John Warren	*St. David's*	1779	Yorke transl.	
	Bangor	1783	Moore transl.	Dr. Tho. Lloyd
Dr. J. Cornwallis	Litch & Cov.	1781	Hurd transl.	Dr. Proby
Dr. Samuel Hallifax	Gloucester	1781	Yorke transl.	Dr. Josiah Tucker
Dr. Bagot	*Bristol*	1782	Hume transl.	
	Norwich	1783	Yonge dec.	Dr. P. Lloyd
Dr. Watson	Landaff	1782	Barrington tr.	Dr. Adams, A.D.
Dr. Smalwell	St. David's	1783	Warren transl	Mr. Wollaston, P.
Dr. Wilson	Bristol	1783	Bagot transl.	Dr. Hallam
	Westminster	1768		Bishop Thomas
Mr. Claud Crigan	Sodor & Man	1784	Mason 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. l.	s.	d.	q.	3½ per Cent. l.	s.	d.	q.	4 per Cent. l.	s.	d.	q.	4½ per Cent. l.	s.	d.	q.	5 per Cent. 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 2
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 3d day, at 7 in the evening,
New Moon the 11th day, at 17 minutes paſt 1 morning,
Firſt quarter the 17th day, at 12 minutes paſt 3 evening,
Full Moon the 25th day, at 40 minutes paſt 8 morning.

M D	Sundays & other remark. days	☉ riſes	☉ ſets	☉'s declin.	☽'s declin.	☽ riſes & ſets	☽ ſouth	Clock bef. ☉
1	Circumciſion	8 4	3 56	22 s 58	3 n 16	10 a 30	4 m 4	4 21
B	Sun. aft. Circum.	8 4	3 56	22 52	2 s 14	11 39	4 47	4 49
3		8 3	3 57	22 46	7 43	morn	5 22	5 16
4		8 2	3 58	22 40	13 1	0 50	6 3	5 43
5	Old Chriſt. Day	8 2	3 58	22 33	17 54	2 4	6 46	6 10
6	Epiph. Tw. Day	8 1	3 59	22 25	22 8	3 23	7 35	6 37
7		8 0	4 0	22 18	25 25	4 42	8 27	7 2
8	Lucian	7 59	4 1	22 9	27 21	5 58	9 23	7 28
B	1 S. aft. Epiph.	7 58	4 2	22 1	27 37	7 5	10 24	7 53
10	Plow Monday	7 57	4 3	21 52	26 2	7 57	11 28	8 17
11		7 56	4 4	21 42	22 38	☽ ſets	0 a 29	8 41
12	Old N. Yr's Day	7 55	4 5	21 32	17 45	6 9	1 27	9 4
13	Cam. Term beg.	Hilary	4 6	21 22	11 46	7 40	2 20	9 26
14	Oxf. Term beg.	7 52	4 8	21 11	5 11	9 7	3 11	9 48
15		7 51	4 9	21 0	1 n 34	10 32	3 59	10 9
B	2 S. aft. Epiph.	7 50	4 10	20 48	8 7	11 57	4 48	10 29
17		7 49	4 11	20 36	14 8	morn	5 37	10 49
18	Q. Char. b. d. k.	Priſca	4 13	20 24	19 18	1 21	6 28	11 7
19		7 46	4 14	20 11	23 25	2 44	7 21	11 26
20	Fabian	7 45	4 15	19 58	26 14	4 3	8 15	11 43
21	Agnes	7 43	4 17	19 45	27 37	5 13	9 10	11 59
22	Vincent	7 42	4 18	19 31	27 32	6 12	10 4	12 15
B	Septuageſima	7 40	4 20	19 17	26 2	6 55	10 56	12 30
24	Hil. Term beg.	7 39	4 21	19 2	23 19	7 25	11 45	12 44
25	Conv. St. Paul	7 37	4 23	18 47	19 36	☽ riſes	morn	12 57
26		7 36	4 24	18 32	15 7	5 a 50	0 30	13 10
27	Pr. Aug. Fred. b	7 34	4 26	18 16	10 6	7 0	1 12	13 21
28		7 33	4 27	18 0	4 46	8 9	1 53	13 32
29		7 31	4 29	17 44	0 s 44	9 18	2 32	13 42
B	Sexageſ. Sunday	K. Cha. I. beh.		17 28	6 12	10 28	3 11	13 51
31		7 28	4 32	17 11	11 30	11 40	3 51	14 0

Day increaſ.	Length of Day.	Helioc. long. ♄	Helioc. long. ♃	Helioc. long. ♂	Helioc. long. ☉	Helioc long. ♀	Helioc. long. ☿	☽ ſets.
1 0 8	7 52	25♑59	14♐38	21♏37	11♒36	9♑24	21♐43	5 a 2
7 0 16	8 0	26 10	15 10	24 42	17 43	18 58	22♑ 3	4 40
13 0 28	8 12	26 21	15 44	27 50	23 50	28 33	27♉26	4 18
19 0 44	8 28	26 32	16 16	0♓59	29 57	8♑ 9	5♒10	riſes.
25 1 2	8 46	26 43	16 48	4 10	6♌ 2	17 46	10♌26	7 m 15

Days	Day lig. begins	Day lig. ends	Durat. twilig.	☽'s node in	♄'s latitude	♅'s latitude	♂'s latitude	♀'s latitude	☿'s latitude
1	5 59	6 1	2 5	23♒18	0 s 11	1 s 5	0 s 5	1 s 48	1 s 46
7	5 56	6 4	2 4	22 59	0 11	1 5	0 9	1 41	0 55
13	5 52	6 8	2 2	22 40	0 12	1 4	0 13	1 32	0 n 31
19	5 46	6 14	2 0	22 21	0 12	1 4	0 17	1 18	2 19
25	5 39	6 21	1 58	22 2	0 13	1 3	0 22	1 2	3 32

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

Days	♃ sets	♂ rises	♀ sets	☿ sets	♄'s declin.	♅'s declin.	♂'s declin.	♀'s declin.	☿'s declin.
1	8 a 50	5 m46	7 a 2	5 a 15	21 s 22	10 s 33	22 s 11	17 s 24	22 s 12
7	8 30	5 42	7 18	5 38	21 16	10 6	22 47	14 57	19 32
13	8 11	5 38	7 34	5 46	21 8	9 39	23 16	12 17	16 52
19	7 53	5 34	7 52	5 23	21 1	9 10	23 36	9 23	15 26
25	7 34	5 30	8 8	4 18	20 52	8 40	23 49	6 25	15 53

The Lunations.

Last quarter the 2d day, at 45 minutes past 1 afternoon,
New Moon the 9 h day, at 25 minutes past noon,
First quarter the 16th day, at 24 minutes past 4 morning,
Full Moon the 24th day, at 45 minutes past 3 morning.

M. D.	Sundays & other remark. day	☉ rises	☉ sets	☉'s declin	☽'s declin	☽ rises & sets	☽ south	Clock bef. ☉
1		7 26	4 34	16 54	16 s 28	morn	4 m 33	14 7
2	Purif. Candl. day	7 24	4 36	16 36	20 51	0 54	5 18	14 14
3	Blase	7 23	4 37	16 18	24 25	2 12	6 7	14 20
4		7 21	4 39	16 0	26 50	3 29	7 1	14 25
5	Agatha	7 19	4 41	15 42	27 47	4 40	7 59	14 30
B	Quinqu. Sunday	7 17	4 43	15 23	27 1	5 38	9 0	14 33
7		7 15	4 45	15 5	24 26	6 21	10 2	14 36
8	Shrove Tuesday	7 14	4 46	14 45	20 10	6 52	11 2	14 38
9	Ash Wednesday	7 12	4 48	14 26	14 32	☽ sets	11 59	14 39
10		7 10	4 50	14 7	7 59	6 a 31	0 a 53	14 42
11		7 8	4 52	13 47	1 1	8 3	1 45	14 40
12	Hil. Term ends	7 6	4 54	13 27	5 n 55	9 31	2 36	14 39
B	Quad. 1 S. in Lent	Old Candl. Day		13 6	12 22	10 59	3 27	14 37
14	Valentine	7 3	4 57	12 46	18 0	morn	4 19	14 34
15		7 1	4 59	12 25	22 32	0 26	5 12	14 31
16	Ember Week	6 59	5 1	12 4	25 43	1 48	6 8	14 27
17		6 57	5 3	11 43	27 28	3 4	7 3	14 22
18		6 55	5 5	11 22	27 42	4 6	7 58	14 16
19		6 53	5 7	1	26 32	4 52	8 51	14 10
B	2 Sun. in Lent.	6 51	5 9	10 36	24 7	5 27	9 40	14 3
21		6 49	5 11	10 17	20 38	5 53	10 27	13 55
22		6 47	5 13	9 56	16 22	6 12	11 10	13 47
23		6 45	5 15	9 34	11 29	6 26	11 51	13 38
24	St. Matthias	Pr Adol. Fred. b.		9 11	6 13	☽ rises	morn	13 29
25		6 41	5 19	8 49	0 45	7 a 8	0 31	13 18
26		6 39	5 21	8 27	4 s 45	8 7	1 11	13 8
B	3 Sun. in Lent	6 38	5 23	8 4	10 7	9 28	1 51	12 57
28		6 36	5 24	7 41	15 9	10 42	2 32	12 45

Days	Day increas.	Length of day	Heliocentric long. ♄	Heliocentric long. ♃	Heliocentric long ♂	Heliocentric long. ☉	Heliocentric long. ♀	Heliocentric long. ☿	♄ rises
1	1 24	9 8	26 ♓ 56	17 ♓ 26	7 ♌ 56	11 ♑ 9	29 ♓ 0	14 ♍ 47	6 m 50
7	1 46	9 30	27 7	17 59	11 12	19 13	3 ♑ 39	8 ♎ 44	6 28
13	2 8	9 54	27 18	18 32	14 30	25 17	13 26	29 0	6 6
19	2 30	10 14	27 29	19 5	17 50	1 ♒ 22	23 1	17 ♍ 12	5 45
25	2 54	10 38	27 40	19 38	21 11	7 22	♈ 43	4 ♌ 51	5 24

Days	Day lig. begins	Day lig. ends	Durat. twilig.	☽'s node in	♄'s latitude	♅'s latitude	♂'s latitude	♀'s latitude	☿'s latitude
1	5 30	6 30	1 56	21 ♒ 39	0 s 12	1 s 3	0 s 27	0 s 38	3 n 15
7	5 22	6 38	1 53	21 20	0 13	1 3	0 31	0 15	2 10
13	5 13	6 47	1 51	21 1	0 13	1 3	0 36	0 n 9	0 59
19	5 2	6 59	1 52	20 42	0 14	1 3	0 41	0 36	0 s 5
25	4 50	7 10	1 52	20 23	0 14	1 2	0 46	1 5	0 58

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

Days	♃ sets	♂ rises	♀ sets	☿ rises	♄'s declin.	♅'s declin.	♂'s declin.	♀'s declin.	☿'s declin.
1	7 a 10	5 m 23	8 a 28	6 m 21	20 s 43	8 s 4	23 s 53	2 s 46	17 s 35
7	6 58	5 18	8 44	6 2	20 35	7 32	23 47	0 n 22	18 47
13	6 43	5 10	9 2	5 56	20 27	6 59	23 32	3 30	19 22
19	6 28	5 4	9 19	5 56	20 19	6 26	23 9	6 56	19 11
25	6 14	4 57	9 36	5 5	20 11	5 52	22 38	9 36	18 14

The Lunations.

Last quarter the 4th day, at 57 minutes past 4 morning,
New Moon the 10th day, at 33 minutes past 10 night,
First quarter the 17th day, at 1 minute past 6 evening,
Full Moon the 25th day, at 8 minutes past 10 night.

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 18	19 s 40	11 a 58	3 m 16	12 33
2	Chad	6 32	5 28	6 56	23 26	morn	4 2	12 20
3		6 30	5 30	6 33	26 10	1 14	4 54	12 7
4		6 28	5 32	6 9	27 3	2 26	5 49	11 53
5		6 26	5 34	5 48	27 29	3 29	6 48	11 39
B 6	4 or Midlent S	6 24	5 36	5 23	25 41	4 17	7 47	11 25
7	Perpetua	6 22	5 38	5 0	22 13	4 52	8 46	11 10
8		6 20	5 40	4 36	17 17	5 22	9 44	10 55
9		6 18	5 42	4 13	11 11	5 38	10 39	10 39
10		6 16	5 44	3 49	4 22	☽ sets	11 33	10 24
11		6 14	5 46	3 26	2 n 43	7 a 1	0 a 25	10 7
12	Gregory	6 12	5 48	3 2	9 35	8 32	1 18	9 51
B 13	5 Sun. in Lent	6 10	5 50	2 38	15 47	10 3	2 11	9 34
14		6 8	5 52	2 15	20 56	11 31	3 6	9 17
15		6 6	5 54	1 51	24 43	morn	4 3	9 0
16		6 4	5 56	1 27	27 0	0 53	5 1	8 42
17	St. Patrick	6 2	5 58	1 4	27 41	2 3	5 58	8 25
18	Edw. K. W. S.	Cam. T. ends		0 40	26 52	2 57	6 52	8 7
19	Oxf. T. ends	5 58	6 2	0 16	24 45	3 35	7 43	7 48
B 20	6 Sun. in Lent	Palm Sunday		0 n 7	21 32	4 4	8 31	7 30
21	Benedict	5 54	6 6	0 31	17 27	4 24	9 15	7 12
22		5 52	6 8	0 55	12 45	4 40	9 57	6 53
23		5 50	6 10	1 18	7 36	4 53	10 38	6 35
24	Maundy Thurf.	5 48	6 12	1 42	2 12	5 6	11 17	6 16
25	Good Friday	Annunc. Lady.		2 5	3 s 18	☽ rises	11 57	5 57
26		5 44	6 16	2 29	8 43	7 a 25	morn	5 38
E 27	Easter day	5 42	6 18	2 52	13 52	8 39	0 38	5 20
28	Easter Monday	5 40	6 20	3 16	18 31	9 53	1 22	5 1
29	Easter Tuesday	5 38	6 22	3 39	22 28	11 10	2 8	4 42
30		5 36	6 24	4 2	25 27	morn	2 58	4 24
31		5 34	6 26	4 26	27 11	0 22	3 51	4 5

Days	Day increas.	Length of day	Heliac. long. ♄	Heliac long. ♃	Heliac. long. ♂	Heliac. long. ☉	Heliac. long. ♀	Heliac. long. ☿	♄ rises
1	3 8	10 52	27 ♈ 47	19 ♓ 59	22 ♐ 27	11 ♍ 22	14 ♎ 12	15 ♐ 5	5 m 10
7	3 32	11 16	27 58	20 32	26 52	17 22	23 56	1 ♑ 43	4 50
13	3 56	11 40	28 9	21 5	0 ♑ 20	23 21	3 ♏ 47	19 14	4 29
19	4 20	12 4	28 20	21 38	3 49	29 19	13 26	8 ♒ 27	4 8
25	4 44	12 28	28 31	22 11	7 21	5 ♎ 15	23 12	0 ♓ 29	3 49

Days	Day lig. Begins	Day lig. ends	Durat. twilig.	☾'s node in	♄'s latitude	♅'s latitude	♂'s latitude	♀'s latitude	☿'s latitude
1	4 43	7 18	1 52	20♒11	0 s 15	1 s 3	0 s 49	1 n 24	1 s 26
7	4 30	7 31	1 53	19 51	0 15	1 3	0 54	1 54	1 57
13	4 17	7 44	1 54	19 32	0 16	1 3	0 58	2 24	2 13
19	4 4	7 57	1 55	19 13	0 16	1 3	1 3	2 54	2 14
25	3 50	8 11	1 57	18 54	0 17	1 3	1 8	3 23	1 58

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

Days	♅ fers	♂ rises	♀ sets	☿ rises	♄'s declin.	♅'s declin.	♂'s declin.	♀'s declin.	☿'s declin.
1	6 a 4	4 m52	9 a 4	5 m55	20 s 6	5 s 20	2 [illegible]	11 n 31	17 s 9
7	5 50	4 42	10 6	5 54	19 59	4 56	21 27	4 17	14 53
13	rises	4 32	10 22	5 51	19 52	4 21	20 34	16 52	11 49
19	5 m54	4 13	10 38	5 47	19 45	3 47	19 34	19 13	8 2
25	5 35	4 12	10 54	5 42	19 39	3 13	18 26	21 19	3 30

The Lunations.

Laſt quarter the 2d day, at 23 minutes paſt 4 afternoon,
New Moon the 9th day, at 45 minutes paſt 7 morning,
Firſt quarter the 16th day, at 48 minutes paſt 9 morning,
Full Moon the 24th day, at 12 minutes paſt 2 afternoon.

M D	Sundays & other remark. days	☉ riſes	☉ ſets	☉'s declin.	☽'s declin.	☽ riſes & ſets	☾ South	Clock bef. ☉
1		5 32	6 28	4 n 49	27 s 30	1 m28	4 m49	3 46
2		5 30	6 30	5 12	26 14	2 19	5 4	3 28
B	Low Sunday	Richard	6 32	5 35	23 24	2 58	6 42	3 10
4	St. Ambroſe	5 26	6 34	5 57	19 8	3 26	7 39	2 52
5		5 24	6 36	6 20	13 40	3 47	8 33	2 35
6	Ox.& Ca. T. beg.	5 22	6 38	6 43	7 19	4 4	9 25	2 17
7		5 20	6 40	7 5	0 29	4 20	10 17	2 0
8		5 18	6 42	7 28	6 n 26	4 36	11 9	1 43
9		5 17	6 43	7 50	12 59	☽ ſets	0 a 3	1 26
B	2 Sun. aft. Eaſter	5 15	6 45	8 12	18 41	8 a 59	0 59	1 10
11		5 13	6 47	8 34	23 9	10 34	1 56	0 53
12		5 11	6 49	8 56	26 7	11 51	2 54	0 37
13	Eaſter T. begins	5 9	6 51	9 18	27 24	morn	3 53	0 22
14		5 7	6 53	9 39	27 6	0 55	4 50	0 7
15		5 5	6 55	10 1	25 20	1 40	5 44	0af. 8
16		5 3	6 57	10 22	22 23	2 13	6 33	0 23
B	3 S. aft. Eaſter	5 1	6 59	10 43	18 30	2 35	7 19	0 37
18		4 59	7 1	11 4	13 57	2 53	8 3	0 51
19	Alphege	4 57	7 3	11 25	8 56	3 9	8 44	1 5
20		4 56	7 4	11 45	3 37	3 20	9 23	1 18
21		4 54	7 6	12 5	1 s 50	3 32	10 3	1 31
22		4 52	7 8	12 26	7 16	3 43	10 44	1 43
23	St. George	4 50	7 10	12 46	12 29	3 56	11 27	1 55
B	4 S aft. Eaſter	4 48	7 12	13 5	17 18	☽ riſes	morn	2 6
25	St. Mark. Prs. Mary b.	4 46	7 14	13 25	21 27	9 2	0 13	2 17
26		4 45	7 15	13 44	24 41	10 19	1 2	2 27
27		4 43	7 17	14 3	26 43	11 26	1 54	2 37
28		4 41	7 19	14 22	27 21	morn	2 49	2 47
29		4 39	7 21	14 40	26 26	0 23	3 47	2 55
30		4 37	7 23	14 59	24 0	1 5	4 44	3 4

Days	Day increaſ.	Length of day	Helioc. long. ♄	Helioc. long. ♅	Helioc. long. ♂	Helioc. long. ♁	Helioc. long. ♀	Helioc. long. ☿	♄ riſes
1	5 12	12 56	28♑42	22♐49	11♑29	12♎ 9	4♓34	1♈23	5 m25
7	5 36	13 20	28 54	23 22	15 5	18 3	14 19	3♉31	3 . 4
13	5 58	13 42	29 5	23 55	18 42	23 56	24 3	10♊	2 42
19	6 22	14 6	29 16	24 28	22 21	29 47	3♎46	17♋32	2 21
25	6 44	14 28	29 27	25 0	26 1	5♑37	13 28	21♌ 9	1 59

Days	Day lig. begins	Day lig ends	Durat. twilig.	☾'s node	☿'s latitude	♀'s latitude	♂'s latitude	♃'s latitude	♄'s latitude
1	3 33	8 28	2 0	18 ♒ 32	0 s 18	1 s 4	1 s 15	3 n 53	1 s 17
7	3 18	8 43	2 3	18 13	0 19	1 4	1 18	4 17	0 22
13	3 2	8 59	2 6	17 54	0 20	1 5	1 23	4 35	0 n 43
19	2 45	9 16	2 13	17 35	0 20	1 6	1 27	4 49	1 45
25	2 26	9 35	2 21	17 16	0 20	1 6	1 31	4 55	2 27

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

Days	♃ rises	♂ rises	♀ sets	☿ sets	♄'s declin.	♃'s declin.	♂ s declin	♀'s declin.	☿'s declin.
1	5 m 12	4 m 0	11 a 9	6 a 9	19 s 33	2 s 32	16 s 59	23 n 25	2 n 33
7	4 53	3 40	11 20	7 1	19 29	2 0	15 39	24 53	8 10
13	4 34	3 37	11 25	7 55	19 25	1 27	14 14	26 3	13 38
19	4 14	3 23	11 27	8 48	19 21	0 55	12 44	26 54	18 15
25	3 54	3 10	11 23	9 15	19 18	0 24	11 10	27 25	21 30

The LUNATIONS.

Last quarter the 1st day, at 28 minutes past 12 at night,
New Moon the 8th day, at 31 minutes past 4 afternoon,
First quarter the 16th day, at 1 minute past 3 morning,
Full Moon the 24th day, at 28 minutes past 3 morning,
Last quarter the 31st day, at 3 minutes past 6 morning.

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

	Day increas.	Length of day	Helioc. long. ♄	Helioc. long. ♃	Helioc. long. ♂	Helioc. long. ☉	Helioc. long. ♀	Helioc. long. ☿	♄ rises
1	7 4	14 48	29 ♐ 38	25 ♓ 33	29 ♑ 43	11 ♊ 26	23 ♎ 8	19 ♍ 10	1 m 37
7	7 26	15 10	29 49	26 6	3 ♒ 26	17 15	21 ♍ 46	12 ♎ 24	1 14
13	7 44	15 28	0 ♒ 0	26 39	7 10	23 2	12 23	2 ♍ 18	0 51
19	8 2	15 46	0 11	27 12	10 56	28 48	21 58	20 ♎	0 27
25	8 16	16 0	0 22	27 45	14 42	4 ♌ 34	1 ♌ 32	6 ♌ 54	0 3

Days	Day lig. begins	Day lig. ends	Durat. twilig.	☾'s node in	☿'s latitude	♀'s latitude	♂'s latitude	♃'s latitude	♄'s latitude
1	2 4	9 58	2 34	16♒57	0 S 2	1 S 7	1 S 35	4 N 5	2 N 39
7	1 46	10 16	2 41	16 38	0 21	1 8	1 39	4 33	2 13
13	1 19	10 44	3 0	16 19	0 22	1 9	1 43	3 59	1 9
19	0 43	11 22	4 29	16 0	0 23	1 10	1 46	3 6	0 S 26
25	No	real	night.	15 4	0 24	1 11	1 49	1 55	2 9

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

Days	♃ rises	♂ rises	♀ sets	☿ sets	♄'s declin.	♃'s declin.	♂'s declin.	♀'s declin.	☿'s declin.
1	3 m 33	2 m 55	11 a 10	9 a 38	19 S 17	0 N 7	9 S 33	7 N 35	23 N 14
7	3 11	2 41	10 50	9 35	19 16	0 36	7 54	27 24	23 35
13	2 50	2 22	10 21	9 11	19 16	1 4	6 13	26 48	22 43
19	2 29	2 0	9 42	8 28	19 17	1 31	4 30	25 47	20 53
25	2 7	1 53	8 53	7 32	19 18	1 57	2 47	24 11	18 36

The Lunations.

New Moon the 7th day, at 44 minutes past 1 morning,
First quarter the 14th day, at 34 minutes past 8 evening,
Full Moon the 22d day, at 17 minutes past 2 afternoon,
Last quarter the 29th day, at 27 minutes past 10 morning.

M D	Sundays & other remark. days	☉ rises	☉ sets	☉'s declin.	☾'s declin.	☽ rises & sets	☾ South	Clock aft. ☉
1	Nicomede	3 52	8 8	22 n 9	2 n 20	0 m 51	6 r 57	2 34
2		3 51	8 9	22 17	8 44	1 5	7 46	2 25
3		3 51	8 9	22 25	14 41	1 20	8 30	2 15
4	K. Geo. III. born	3 50	8 10	22 32	19 50	1 30	9 29	2 5
B	2 Sun. aft. Trin. Fr. Ern. Aug. bo.			22 38	23 49	2 7	10 25	1 55
6		3 48	8 12	22 44	26 20	2 39	11 24	1 44
7		3 48	8 12	22 50	27 12	☽ sets	0 a 23	1 33
8		3 47	8 13	22 55	26 27	10 a 6	1 21	1 21
9		3 46	8 14	23 0	24 15	10 38	2 16	1 10
10	Prs. Am. b. 1711	3 46	8 14	23 5	20 52	11 1	3 6	0 58
11	St. Barnabas	3 45	8 15	23 9	16 38	11 17	3 52	0 46
B	3 Sun. aft. Trin.	3 45	8 15	23 13	11 48	11 32	4 35	0 34
13		3 44	8 16	23 16	6 36	11 43	5 15	0 21
14		3 44	8 16	23 19	1 13	11 54	5 54	0 9
15	Trin Term end	3 44	8 16	23 22	4 s 12	morn	6 33	cbef. 4
16		3 43	8 17	23 24	9 30	0 5	7 14	0 17
17	St. Alban	3 43	8 17	23 25	14 30	0 18	7 57	0 30
18		3 43	8 17	23 27	19 1	0 33	8 43	0 42
B	4 Sun. aft. Trin.	3 43	8 17	23 28	22 49	0 52	9 34	0 55
20	Tranf. Ed. KWS	3 43	8 17	23 28	25 36	1 19	10 28	1 8
21	Longeft day	3 43	8 17	23 28	27 3	1 56	11 25	1 21
22		3 43	8 17	23 28	26 58	☽ rises	morn	1 34
23		3 43	8 17	23 27	25 13	9 a 33	0 24	1 47
24	St. John Bapt.	3 43	8 17	23 26	21 55	10 1	1 22	1 59
25		3 43	8 17	23 24	17 17	10 22	2 18	2 12
B	5 Sun. aft. Trin.	3 44	8 16	23 22	11 40	10 38	3 11	2 24
27		3 44	8 16	23 20	5 25	10 53	4 1	2 37
28		3 44	8 16	23 17	1 n 5	11 7	4 50	2 49
29	St. Peter.	3 45	8 15	23 14	7 30	11 22	5 36	3 1
30		3 45	8 15	23 10	13 30	11 40	6 26	3 13

Days	Day increaf.	Length of day	Helioc. long. ♄	Helioc long. ♅	Helioc. long ♂	Helioc. long. ☉	Helioc. long. ♀	Helioc. long. ☿	♄ rises
1	8 32	16 16	0♒36	28♓23	10♒ 7	11♑16	12♑40	26♑11	11 a 30
7	8 40	16 24	0 46	23 56	22 55	17 0	22 11	13♈19	11 5
13	8 48	16 32	0 57	29 29	26 44	22 44	1♈41	1♒53	10 39
19	8 50	16 34	1 8	0♈ 2	0♓32	28 28	11 10	22 51	10 13
25	8 50	16 34	1 19	0 35	4 20	4♉11	20 49	17♓28	9 49

Days	Day lig. begins	Day lig. ends	Durat. twilig.	☽'s node in	♄'s latitude	♅'s latitude	♂'s latitude	♀'s latitude	☿'s latitude
1				15♒18	0 s 24	1 s 12	1 s 52	0 n 19	3 s 38
7				14 59	0 25	1 13	1 54	1 s 5	4 8
13	No	real	night.	14 40	0 26	1 15	1 56	2 15	3 57
19				14 21	0 27	1 16	1 57	3 10	3 16
25				14 2	0 27	1 18	1 58	3 48	2 14

Days	☉'s longitude	☾'s long.	☾'s latitude	♄'s long.	♅'s long.	♂'s long.	♀'s long.	☿'s long.
1	♊11 16 3	27♓46	3 n 30	5♒18	8♈51	2♈20	7♊46	29♉26
2	12 13 29	12♈3	4 18	5 16	9 1	3 4	7 8	29 12
3	13 10 54	26 21	4 50	5 14	9 11	3 47	6 31	29 1
4	14 8 19	10♉37	5 4	5 12	9 21	4 31	5 56	28 53
B	15 5 43	24 47	4 59	5 10	9 31	5 14	5 23	28 D51
6	16 3 6	8♊44	4 36	5 8	9 41	5 58	4 51	28 53
7	17 0 29	22 26	3 58	5 6	9 50	6 41	4 22	29 0
8	17 57 51	5♋48	3 7	5 4	9 59	7 25	3 54	29 11
9	18 55 12	18 49	2 7	5 1	10 8	8 8	3 27	29 27
10	19 52 32	1♌30	1 3	4 59	10 17	8 52	3 2	29 47
11	20 49 51	13 53	0 s 3	4 56	10 26	9 35	2 39	0♊12
B	21 47 10	26 1	1 8	4 54	10 35	10 19	2 17	0 41
13	22 44 28	7♍58	2 9	4 51	10 44	11 2	1 58	1 15
14	23 41 45	19 49	3 4	4 49	10 53	11 45	1 41	1 53
15	24 39 1	1♎40	3 51	4 46	11 2	12 28	1 26	2 35
16	25 36 16	13 35	4 28	4 43	11 10	13 11	1 13	3 21
17	26 33 30	25 40	4 54	4 40	11 18	13 54	1 3	4 11
18	27 30 44	7♏58	5 7	4 37	11 26	14 37	0 57	5 5
B	28 27 57	20 32	5 6	4 34	11 34	15 19	0 55	6 4
20	29 25 9	3♐25	4 49	4 31	11 42	16 2	0 D54	7 7
21	♋ 0 22 21	16 37	4 17	4 28	11 49	16 44	0 55	8 13
22	1 19 33	0♑7	3 30	4 24	11 57	17 27	0 57	9 22
23	2 16 45	13 52	2 29	4 21	12 4	18 9	1 1	10 35
24	3 13 56	27 50	1 19	4 18	12 12	18 51	1 8	11 52
25	4 11 7	11♒57	0 3	4 14	12 19	19 33	1 17	13 13
B	5 8 18	26 9	1 n 14	4 11	12 26	20 16	1 28	14 37
27	6 5 29	10♓24	2 26	4 7	12 33	20 58	1 41	16 5
28	7 2 40	24 39	3 30	4 3	12 39	21 40	1 56	17 37
29	7 59 52	8♈51	4 20	4 0	12 46	22 22	2 13	19 13
30	8 57 4	22 59	4 54	3 56	12 52	23 4	2 32	20 51

Days	♅ rises	♂ rises	♀ rises	☿ rises	♄'s declin.	♅'s declin.	♂'s declin.	♀'s declin.	☿'s declin.
1	1 m40	1 m33	3 m38	3 m40	19 s 22	2 n 24	0 s 47	21 n 56	16 n 31
7	1 17	1 16	3 14	3 20	19 25	2 47	0 n 55	19 58	15 56
13	0 54	0 58	2 51	3 0	19 29	3 7	2 36	18 22	16 33
19	0 30	0 41	2 30	2 45	19 34	3 25	4 14	17 16	18 8
25	0 7	0 24	2 11	2 37	19 40	3 41	5 50	16 43	20 12

The Lunations.

New Moon the 6th day, at 28 minutes past noon,
First quarter the 14th day, at 34 minutes past 1 afternoon,
Full Moon the 21st day, at 26 minutes past 11 at night,
Last quarter the 28th day, at 17 minutes past 3 afternoon.

M D	Sundays & other remark. days	☉ rises	☉ sets	☉'s declin..	☾'s declin	☽ rises & sets	☾ South	Clock bef. ☉
1		3 46	8 14	23 n 6	18 n 46	morn	7 m 19	3 24
2	Visit. of the V. M	3 46	8 14	23 1	22 58	0 3	8 13	3 36
B	6 Sun. aft. Trin.	Dog days begin		22 57	25 50	0 32	9 9	3 47
4	Transf. St. Mart.	3 47	8 13	22 51	27 9	1 11	10 7	3 58
5	Cam. Comm.	3 48	8 12	22 46	26 52	2 5	11 4	4 8
6		3 49	8 11	22 40	25 7	☽ sets	11 59	4 18
7	Tho. a Becket	3 49	8 11	22 33	22 5	9 a 0	0 a 53	4 28
8	Camb. T. ends	3 50	8 10	22 26	18 4	9 18	1 40	4 38
9		3 51	8 9	22 19	13 21	9 33	2 24	4 47
B	7 Sun. aft. Trin.	3 52	8 8	22 11	8 13	9 46	3 6	4 55
11	Oxford Act	3 53	8 7	22 3	2 51	9 57	3 46	5 3
12		3 54	8 6	21 55	2 s 35	10 8	4 25	5 11
13		3 55	8 5	21 46	7 54	10 20	5 5	5 18
14		3 56	8 4	21 37	12 59	10 32	5 46	5 25
15	Swithin	3 57	8 3	21 28	17 38	10 50	6 30	5 31
16	Oxf. Term ends	3 58	8 2	21 18	21 40	11 12	7 18	5 37
B	8 Sun. aft. Trin.	3 59	8 1	21 8	24 48	11 44	8 10	5 42
18		4 0	8 0	20 57	26 45	morn	9 6	5 47
19		4 2	7 58	20 46	27 15	0 29	10 5	5 51
20	Margaret	4 3	7 57	20 35	26 6	1 32	11 4	5 54
21		4 4	7 56	20 23	23 18	☽ rises	morn	5 57
22	Mary Magd.	4 5	7 55	20 11	19 1	8 a 21	0 2	5 59
23		4 7	7 53	19 59	13 32	8 40	0 58	6 1
B	9 Sun. aft. Trin.	4 8	7 52	19 46	7 15	8 57	1 51	6 3
25	St. James	4 10	7 50	19 33	0 36	9 11	2 42	6 3
26	St. Anne, M V M.	4 11	7 49	19 20	6 n 1	9 26	3 32	6 3
27		4 12	7 48	19 6	12 15	9 43	4 22	6 3
28		4 14	7 46	18 53	17 45	10 3	5 13	6 2
29		4 13	7 45	18 38	22 12	10 31	6 6	6 0
30		4 17	7 43	18 24	25 22	11 7	7 2	5 58
B	10 S. aft. Trin.	4 18	7 42	18 9	27 2	11 57	7 59	5 55

☉ in ♋	Day decreas	Length of day	Heliocentric long. ☿	Heliocentric long. ♀	Heliocentric long. ♂	Heliocentric long. ♃	Heliocentric long. ♄	Heliocentric long. ☿	♄ rises
1	0 6	16 28	1♏36	19♈ 8	8♐ 9	9♑54	0♏ 8	16♈57	9 a 23
7	0 12	16 22	1 41	1 41	11 58	15 38	9 37	21♉38	8 57
13	0 24	16 10	1 52	2 14	15 45	21 2	19 6	29♊17	8 32
19	0 38	15 56	2 2	2 47	19 33	27 5	28 36	5♋13	8 6
25	0 54	15 40	2 [illegible]	3 20	23 19	2♏44	8♐ 6	6♌ 1	fers

Days	Day lig. begins	Day lig. ends	Durat. twilig.	☾'s node in	♄'s latitude	♃'s latitude	♂'s latitude	♀'s latitude	☿'s latitude
1				13♒43	0 s 28	1 s 19	1 s 59	4 s 11	1 s 0
7	No	real	night	13 24	0 29	1 21	1 59	4 23	0 n 11
13				13 ♌	0 29	1 23	1 59	4 25	1 8
19				12 46	0 30	1 24	1 58	4 18	1 41
25	0 45	11 7	3 17	12 27	0 30	1 26	1 56	4 7	1 46

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

Days	♃ rises	♂ rises	♀ rises	☿ rises	♄'s declin.	♃'s declin.	♂'s declin.	♀'s declin.	☿'s declin.
1	11 a 41	0 m 8	1 m 51	2m 36	19 s 45	3 n 55	7 n 23	16 n 39	22 n 15
7	11 18	11 a 48	1 36	2 51	19 52	4 6	8 53	16 56	23 36
13	10 54	11 31	1 23	3 22	19 59	4 15	10 19	17 28	23 36
19	10 30	11 15	1 11	4 3	20 6	4 22	11 40	18 9	22 1
25	10 7	11 0	1 3	4 46	20 12	4 26	12 56	18 40	10 7

The Lunations.

New Moon the 5th day, at 32 minutes paſt 1 morning,
Firſt quarter the 13th day, at 30 minutes paſt 5 morning,
Full Moon the 19th day, at 47 minutes paſt 7 morning,
Laſt quarter the 26th day, at 9 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 20	7 40	17 n 54	27 n 9	morn	8 m 5	5 52
2		4 22	7 38	17 38	25 46	0 56	9 51	5 48
3		4 23	7 37	17 23	23 5	2 10	10 44	5 43
4		4 25	7 35	17 7	19 21	3 25	11 33	5 38
5		4 26	7 34	16 50	14 50	☽ ſets	0 a 19	5 32
6	Tranſfiguration	4 28	7 32	16 34	9 48	7 a 52	1 2	5 26
B	11 S. aft. Trin.	Prs. Amelia b.		16 17	4 29	8 5	1 43	5 19
8		4 31	7 29	16 0	0 s 57	8 15	2 22	5 11
9		4 33	7 27	15 43	6 19	8 26	3 1	5 3
10	St. Laurence	4 35	7 25	15 25	11 28	8 38	3 42	4 55
11	Prs. Brunſw. bo	Dog Days end		15 7	16 14	8 55	4 25	4 45
12	Pr. Wales born	Old Lamm day		14 49	20 25	9 15	5 11	4 35
13		4 40	7 20	14 31	23 49	9 42	6 0	4 25
B	12 S. aft. Trin.	4 42	7 18	14 12	26 11	10 21	6 54	4 14
15	Aſſum. B.V.M.	4 44	7 16	13 53	27 15	11 14	7 51	4 2
16	Pr. Fred. born	4 45	7 15	13 34	26 47	morn.	8 48	3 50
17		4 47	7 13	13 15	24 42	0 22	9 47	3 38
18		4 49	7 11	12 56	21 1	1 46	10 44	3 25
19		4 51	7 9	12 56	15 58	☽ riſes	11 40	3 11
20		4 53	7 7	12 16	9 53	7 a 4	morn	2 57
B	13 S. aft. Trin.	Pr. Wm. Hen. b.		11 56	3 10	7 20	0 34	2 42
22		4 56	7 4	11 36	3 n 43	7 36	1 26	2 27
23		4 58	7 2	11 15	10 19	7 52	2 18	2 12
24	St. Bartholomew	5 0	7 0	10 56	16 15	8 13	3 10	1 56
25		5 2	6 58	10 34	21 8	8 40	4 4	1 39
26		5 4	6 56	10 15	24 42	9 12	5 0	1 23
27		5 6	6 54	9 52	26 45	9 58	5 58	1 6
B	14 S. aft. Trin.	St. Auguſtine		9 31	27 13	10 56	6 56	0 48
29	Behead. J. Bap.	5 9	6 51	9 9	26 11	morn	7 52	0 31
30		5 11	6 49	8 48	23 48	0 5	8 45	0 13
31		5 13	6 47	8 26	20 22	1 18	9 35	oaf. 5

Days	Day decreaſ.	Length of day	Helioc. long. ☽	Helioc. long. ♅	Helioc. long. ♂	Helioc. long. ♁	Helioc. long. ♀	Helioc. long. ☿	♄ ſets
1	1 14	15 20	2 ♒ 26	3 ♈ 58	27 ♓ 42	9 ♒ 30	19 ♓ 13	5 ♎ 14	3 m 43
7	1 34	15 0	2 37	4 31	1 ♈ 26	15 15	28 45	26 4	3 18
13	1 54	14 40	2 48	5 4	5 9	21 1	8 ♈ 17	14 ♏ 28	2 53
19	2 16	14 18	2 59	5 37	8 50	26 48	17 51	1 ♐ 29	2 28
25	2 38	13 56	3 10	6 10	12 30	2 ♓ 35	27 25	17 59	2 5

Days	Day lig. begins	Day lig. ends	Durat. twilig.	☾'s node in	☿'s latitude	♀'s latitude	♂'s latitude	♃'s latitude	♄'s latitude
1	1 24	10 34	2 55	12♒ 4	0 s 31	1 s 28	1 s 54	3 s 46	1 n 25
7	1 47	10 11	2 42	11 45	0 31	1 3C	1 52	3 25	0 50
13	2 9	9 49	2 30	11 26	0 32	1 31	1 48	3 2	0 4
19	2 29	9 30	2 21	11 7	0 32	1 33	1 45	2 36	0 49
25	2 47	9 12	2 14	10 48	0 32	1 34	1 40	2 9	1 45

Days	☉'s longitude	☾'s long.	☾'s latitude	☿'s long.	♀'s long.	♂'s long.	♃'s long.	♄'s long.
1	♌ 9 30 9	27♊59	3 n 41	1♒39	14♈42	14♉14	24♊ 1	24♌24
2	10 27 39	10♋52	2 45	1 34	14 42	14 51	24 55	26 10
3	11 25 9	23 32	1 41	1 3C	14R42	15 28	25 50	27 54
4	12 22 40	5♌59	0 34	1 25	14 42	16 5	26 45	29 37
5	13 20 13	18 15	0 s 34	1 21	14 42	16 42	27 41	1♍18
6	14 17 47	0♍21	1 40	1 16	14 41	17 19	28 37	2 58
8	15 15 22	12 20	2 40	1 12	14 41	17 55	29 33	4 36
8	16 12 58	24 12	3 33	1 8	14 40	18 31	0♎30	6 12
9	17 10 34	5♎ 2	4 17	1 4	14 40	19 6	1 27	7 47
10	18 8 11	17 52	4 49	1 0	14 39	19 41	2 25	9 21
11	19 5 49	29 47	5 10	0 56	14 37	20 16	3 23	10 53
12	20 3 28	11♏50	5 17	0 52	14 35	20 51	4 22	12 23
13	21 1 8	24 6	5 10	0 48	14 33	21 26	5 22	13 52
B	21 58 50	6♐39	4 49	0 44	14 31	22 0	6 22	15 19
15	22 56 33	19 34	4 12	0 40	14 28	22 34	7 22	16 45
16	23 54 16	2♑52	3 21	0 36	14 26	23 8	8 22	18 9
17	24 52 0	16 37	2 17	0 32	14 23	23 42	9 23	19 31
18	25 49 45	0♒48	1 2	0 28	14 20	24 16	10 24	20 52
19	26 47 32	15 21	0 n 18	0 24	14 17	24 50	11 25	22 11
20	27 45 20	0♓13	1 38	0 20	14 14	25 23	12 26	23 28
B	28 43 10	15 14	2 53	0 17	14 10	25 56	13 28	24 43
22	29 41 1	0♈17	3 56	0 13	14 7	26 28	14 30	25 57
23	♍ 0 38 54	15 12	4 42	0 10	14 3	27 0	15 33	27 9
24	1 36 49	29 52	5 8	0 6	13 59	27 32	16 36	28 19
25	2 34 46	14♉12	5 15	0 3	13 55	28 4	17 39	29 26
26	3 32 44	28 10	5 3	0 0	13 51	28 35	18 43	0♏31
27	4 30 44	11♊45	4 34	29♑56	13 46	29 6	19 47	1 34
B	5 28 46	24 58	3 51	29 53	13 41	29 37	20 51	2 35
29	6 26 51	7♋51	2 57	29 50	13 36	0♊ 7	21 55	3 33
30	7 24 58	20 28	1 56	29 47	13 31	0 37	22 59	4 28
31	8 23 6	2♌50	0 51	29 44	13 26	1 7	24 3	5 20

Days	☿ rises	♂ rises	♀ rises	☿ sets	♄'s declin.	♃'s declin.	♂'s declin.	♀'s declin.	☿'s declin.
1	9 a 40	10 a 41	0 m 57	8 a 22	20 s 19	4 n 2	14 n 19	19 n 34	14 n 45
7	9 17	10 26	0 54	8 14	20 25	4 25	15 25	20 3	10 37
13	8 55	10 12	0 55	7 3	20 31	4 2C	16 24	20 20	6 25
19	8 32	9 58	0 57	7 49	20 36	4 13	17 18	20 23	2 21
25	8 9	9 44	1 3	7 34	20 41	4 3	18 0	20 10	1 s 23

The Lunations.

New Moon the 3d day, at 57 minutes past 4 afternoon,
First quarter the 11th day, at 1 minute past 8 evening,
Full Moon the 18th day, at 3 minutes past 4 afternoon,
Last quarter the 25th day, at 27 minutes past 8 morning.

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

Day	Day decreas.	Length of day	Helioc. long. ♄	Helioc. long. ♅	Helioc. long. ♂	Helioc. long. ♁	Helioc. long. ♀	Helioc. long. ☿	♄ sets
1	3 4	13 30	3♒23	6♈49	16♈45	9♓21	8♎37	7♍35	1 m 37
7	3 28	13 6	3 34	7 22	20 21	15 11	18 14	25 34	1 14
13	3 50	12 44	3 45	7 55	23 56	21 2	27 52	15♒38	0 52
19	4 14	12 20	3 56	8 28	27 29	26 53	7♏31	8♑53	0 29
25	4 38	11 56	4 7	9 1	1♉0	2♈41	17 11	6♈38	0 7

Days	Day lig. begins	Day lig. ends	Durat. twilig.	☾'s node in	♄'s latitude	♅'s latitude	♂'s latitude	♀'s latitude	☿'s latitude
1	3 7	8 52	2 7	10♏26	0 33	1 s 36	1 s 34	1 s 37	2 s 50
7	3 23	8 36	2 3	10 7	0 33	1 37	1 28	1 10	3 36
13	3 38	8 21	1 59	9 48	0 33	1 38	1 21	0 44	4 1
19	3 52	8 7	1 57	9 29	0 32	1 39	1 13	0 18	3 42
25	4 5	7 54	1 57	9 10	0 34	1 38	1 4	0 n 6	2 19

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

Days	♃ rises	♂ rises	♀ rises	☿ sets	♄'s declin.	♅'s declin.	♂'s declin.	♀'s declin.	☿'s declin.
1	7 a 43	9 a 27	1 m13	7 a 12	20 s 46	3 n 48	18 n 59	19 n 32	5 s 3
7	7 21	9 13	1 24	6 52	20 50	3 34	19 36	18 40	7 11
13	6 58	8 59	1 38	6 29	20 53	3 17	20 11	17 29	7 49
19	6 35	8 43	1 53	6 3	20 55	2 59	20 40	16 0	6 13
25	6 12	8 27	2 11	5 42	20 56	2 40	21 6	14 15	2 25

The Lunations.

New Moon the 3d day, at 1 minute past 10 morning,
First quarter the 11th day, at 52 minutes past 8 morning,
Full Moon the 17th day, at 52 minutes past 12 at night,
Last quarter the 24th day, at 52 minutes past 10 at night.

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

Days	Day decreas.	Length of day	Helioc. long. ♄	Helioc. long. ♅	Helioc. long. ♂	Helioc. long. ☉	Helioc. long. ♀	Helioc. long. ☿	♄ sets
1	5 2	11 37	4♎18	9♈34	4♉29	8♈40	26♊52	9♉41	11 a 41
7	5 26	11 8	4 29	10 7	7 56	14 36	6♋34	16♊48	11 19
13	5 48	10 46	4 40	10 40	11 20	20 33	16 17	23♋49	10 57
19	6 12	10 22	4 51	11 13	14 43	26 30	26 2	26♌28	10 35
25	6 34	10 0	5 2	11 46	18 4	2♉29	5♌46	23♍33	10 14

Days	Day lig. begins	Day lig. ends	Durat. twilig.	☾'s node in	☿'s latitude	♃'s latitude	♂'s latitude	♀'s latitude	☿'s latitude
1	4 18	7 41	1 55	8♒51	0 s 34	1 s 39	0 s 54	0 n 28	0 s 19
7	4 31	7 28	1 54	8 32	0 34	1 39	0 42	0 48	1 n 14
13	4 43	7 16	1 53	8 12	0 34	1 39	0 30	1 5	1 57
19	4 55	7 4	1 53	7 53	0 34	1 38	0 15	1 19	1 59
25	5 0	6 53	1 53	7 34	0 34	1 37	0 0	1 30	1 37

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

(Days)	♅ rises	♂ rises	♀ rises	☿ rises	☿'s declin.	♅'s declin.	♂'s declin.	♀'s declin.	☿'s declin.
1	5 a 49	8 a 10	2 m27	5 m 1	20 s 57	2 n 22	21 n 30	12 n 14	1 n 17
7	fets	7 51	2 44	4 41	20 57	2 3	21 50	9 59	2 20
13	5 m31	7 29	3 2	4 53	20 56	1 45	22 8	7 33	0 32
19	5 5	7 6	3 20	5 24	20 55	1 28	22 25	4 58	2 s 57
25	4 38	6 41	3 38	5 56	20 52	1 12	22 39	2 16	7 4

The Lunations.

New Moon the 2d day, at 39 minutes past 3 morning,
First quarter the 9th day, at 49 minutes past 7 evening,
Full Moon the 16th day, at 50 minutes past 10 morning,
Last quarter the 23d day, at 12 minutes past 5 afternoon.

M O	Sundays & other remark. days	☉ rises	☉ sets	☉'s declin.	☾'s declin.	☽ rises & sets	☾ South	Clock aft. ☉
1	All Saints	7 13	4 47	14 s 40	16 s 56	6 m31	11 m24	16 14
2	Pr. Edw. born	All Soul	4 45	14 59	20 53	☽ sets	0 a 9	16 14
3	Prs. Sophia born	7 15	4 43	15 18	23 59	4 a 43	0 58	16 13
4		7 18	4 42	15 37	25 59	5 20	1 49	16 12
5	Powder Plot	7 20	4 40	15 55	26 44	6 11	2 43	16 10
B	2 S aft. Trin.	Leonard	4 38	16 13	26 6	7 14	3 38	16 6
7	D. Cumb. born	Mich. Term beg	16 31	24 4	8 20	4 32	16 3
8	Prs Aug. Sop. b.	7 25	4 35	16 48	20 43	9 48	5 24	15 58
9	Ld. Mayor's day	7 27	4 35	17 5	16 13	11 11	6 15	15 52
10		7 29	4 33	17 22	10 47	morn	7 5	15 46
11	St. Martin	7 30	4 30	17 38	4 41	0 35	7 53	15 39
12		7 32	4 28	17 55	1 n 47	1 59	8 43	15 30
B	25 S. aft. Trin.	Britius	4 27	18 11	8 17	3 23	9 35	15 22
14		7 35	4 25	18 26	14 24	4 52	10 30	15 12
15	Machutus	7 37	4 23	18 42	19 41	6 25	11 28	15 1
16		7 38	4 22	18 56	23 42	☽ rises	morn	14 50
17	Hugh	7 40	4 20	19 11	26 5	4 a 38	0 29	14 38
18		7 42	4 19	19 25	26 39	5 37	1 31	14 25
19		7 43	4 18	19 39	25 31	6 40	2 32	14 11
B	26 S. aft. Trin.	Edm. K. & Mart.	19 53	22 56	8 9	3 29	13 56
21		7 45	4 15	20 6	19 13	9 23	4 22	13 41
22	Old Mart. Day	Cecilia	4 13	20 19	14 45	10 38	5 10	13 24
23	St. Clement	7 48	4 12	20 31	9 47	11 48	5 54	13 7
24		7 49	4 11	20 43	4 33	morn	6 35	12 49
25	D. Glouc. born	7 51	4 0	20 55	0 s 46	0 58	7 15	12 30
26		7 52	4 8	21 6	6 2	2 7	7 54	12 11
B	Advent Sunday	7 53	4 7	21 17	11 5	3 15	8 34	11 51
28	Mic. Term ends	7 54	4 6	21 28	15 46	4 27	9 16	11 30
29		7 55	4 5	21 38	19 53	5 37	10 0	11 8
30	St. Andrew	7 56	4 4	21 47	23 13	6 42	10 47	10 46

Day	Day decreas.	Length of day	Helioc. long. ♄	Helioc. long. ♅	Helioc. long. ♂	Helioc. long. ♁	Helioc. long. ♀	Helioc. long. ☿	♄ sets
1	7 01	9 34	5 ♒ 15	12 ♈ 24	21 ♑ 56	9 ♑ 30	17 ♌ 10	19 ♎ 31	9 a 48
7	7 22	9 12	5 26	12 57	25 12	15 33	26 56	8 ♏ 35	9 26
13	7 40	8 54	5 37	13 30	28 27	21 34	6 ♍ 41	25 58	9 4
19	7 58	8 36	5 48	14 3	1 ♒ 39	27 37	16 26	12 ♐ 33	8 41
25	8 16	8 18	5 59	14 36	4 50	3 ♒ 42	26 10	26 8	8 19

Days	Daylig. begins	Day lig. ends	Durat. twilig.	☾'s node in	☽'s latitude	☿'s latitude	♀'s latitude	♂'s latitude	♃'s latitude	♄'s latitude
1	5 17	6 42	1 55	7♒12	0 s 34	1 s 36	0 n 20	1 n 39	0 n 56	
7	5 25	6 35	1 59	6 53	0 35	1 34	0 38	1 44	0 16	
13	5 33	6 27	2 0	6 34	0 35	1 35	0 57	1 46	0 s 24	
19	5 41	6 19	2 1	6 15	0 35	1 3.	1 15	1 45	1 1	
25	5 48	6 12	2 3	5 56	0 35	1 20	1 32	1 41	1 34	

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

Days	♃ sets	♂ rises	♀ rises	☿ sets	♄'s declin.	♃'s declin.	♂'s declin.	♀'s declin.	☿'s declin.
1	4 m 7	6 a 8	4 m 0	4 a 42	20 s 49	0 n 52	22 n 53	1 s 1	11 s 51
7	3 40	5 37	4 17	4 33	20 45	0 47	23 1	3 48	15 36
13	3 14	5 5	4 34	4 27	20 40	0 39	23 6	6 35	18 55
19	2 47	4 31	4 51	4 23	20 35	0 32	23 5	9 19	21 40
25	2 22	3 56	5 8	4 14	20 26	0 23	23 c	11 56	23 46

The LUNATIONS.

New Moon the 1st day, at 48 minutes past 8 at night,
First quarter the 9th day, at 52 minutes past 4 morning,
Full Moon the 15th day, at 36 minutes past 10 at night,
Last quarter the 23d day, at 7 minutes past 2 afternoon,
New Moon the 31st day, at 39 minutes past noon.

M D	Sundays & other remark. days	☉ rises	☉ sets	☉'s declin.	☾'s declin.	☽ rises & sets	☾ South	Clock aft. ☉
1		7 57	4	21 s 57	25 s 32	☽ sets	11 m38	10 23
2		7 58	4 2	22 6	26 35	4 a c	0 a 32	9 59
3		7 59	4 1	22 14	26 18	4 57	1 27	9 35
B	♄ S. in Advent	8 0	4 0	22 22	21 28	6 12	2 21	9 10
5		8 1	3 59	22 29	21 21	7 31	3 14	8 45
6	Nicholas	8 2	3 58	22 37	17 4	8 53	4 5	8 19
7		8 3	3 57	22 43	11 50	10 14	4 54	7 53
8	Conc. B. V. M.	8 3	3 57	22 49	5 59	11 36	5 42	7 26
9		8 4	3 56	22 55	0 n 15	morn	6 29	6 59
10		8 5	3 55	23 0	6 34	0 58	7 17	6 31
B	♃ S. in Advent	8 5	3 55	23 5	12 36	2 22	8 8	6 3
12		8 6	3 54	23 10	18 0	3 48	9 3	5 35
13	Lucy	8 6	3 54	23 14	22 21	5 16	10 1	5 6
14	Ember Week	8 7	3 53	23 17	25 19	6 41	11 1	4 37
15		8 7	3 53	23 20	26 36	☽ rises	morn	4 8
16	Camb. T. ends	8 7	3 53	23 23	26 7	4 a 14	0 2	3 39
17	Oxf. Term ends	8 8	3 52	23 25	24 2	5 30	1 2	3 9
B	♂ S. in Advent	8 8	3 52	23 26	20 39	6 49	1 58	2 40
19		8 8	3 52	23 27	16 20	8 6	2 49	2 10
20		8 8	3 52	23 28	11 25	9 20	3 35	1 40
21	St. Thomas	Shor. d.	3 52	23 28	6 10	10 31	4 18	1 10
22		8 8	3 52	23 28	0 47	11 39	4 59	0 40
23		8 8	3 52	23 27	4 s 33	morn	5 38	0 10
24		8 8	3 52	23 26	9 41	0 47	6 17	obe 20
B	Christmas day	8 7	3 53	23 24	14 28	1 57	6 58	0 50
26	St. Stephen	8 7	3 53	23 22	18 45	3 7	7 41	1 20
27	St. John	8 7	3 53	23 19	22 20	4 18	8 27	1 50
28	Innocents	8 6	3 54	23 16	24 58	5 30	9 16	2 19
29		8 6	3 54	23 13	26 26	6 36	10 8	2 49
30		8 6	3 54	23 8	26 31	7 34	11 3	3 18
31	Silvester	8 5	3 55	23 4	25 -	☽ sets	11 59	3 47

Days	Day decreas.	Length of day	Helioc. long. ♄	Helioc. long. ♅	Helioc. long. ♂	Helioc. long. ♁	Helioc. long. ♀	Helioc. long. ☿	♄ sets
1	8 28	8 6	6♒10	15♈ 9	7♊58	9♊47	5♎53	16♑28	7 a 56
7	8 40	7 54	6 21	15 42	11 5	15 53	15 30	5♒22	7 33
13	8 46	7 48	6 32	16 15	14 9	21 59	25 14	26 54	7 9
19	8 50	7 44	6 43	16 48	17 12	28 6	4♏52	22♒17	6 46
25	oinc. 2	7 46	6 54	17 21	20 13	4♎13	14 29	22♈43	6 24

Days	Day lig. begins	Day lig. ends	Durat. twilig.	☾'s node in	♄'s latitude	♃'s latitude	♂'s latitude	♀'s latitude	☿'s latitude
1	5 54	6 6	2 3	5♒37	0 s 35	1 s 27	1 n 47	1 n 34	2 s 0
7	5 57	6 3	2 6	5 18	0 35	1 25	2 0	1 25	2 15
13	5 59	6 1	2 7	4 59	0 36	1 24	2 10	1 14	2 15
19	6 1	5 59	2 7	4 40	0 36	1 22	2 17	1 2	1 53
25	6 1	5 59	2 6	4 21	0 36	1 20	2 22	0 48	0 58

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

Days	☿ sets	♂ sets	♀ rises	☿ sets	♄'s declin.	♃'s declin.	♂'s declin	♀'s declin.	☿'s declin.
1	1 m56	7 m52	5 m25	4 a 26	20 s 22	0 n 34	22 n 50	14 s 23	25 s 9
7	1 31	7 16	5 41	4 36	20 15	0 38	22 39	16 37	25 44
13	1 6	6 40	5 57	4 52	20 7	0 44	22 27	18 36	25 24
19	0 41	6 7	6 12	5 11	19 59	0 54	22 18	20 18	24 12
25	0 17	5 37	6 24	5 25	19 50	1 7	22 12	21 39	22 20

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

Mo. 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	Mo. Days
1	5	19	5	36	5	45	6	5	4	42	4	59	5	54	6	27	1
2	5	54	6	13	6	30	6	53	5	18	5	40	6	59	7	31	2
3	6	34	6	56	7	22	7	54	6	5	6	31	8	6	8	41	3
4	7	18	7	43	8	30	9	9	7	3	7	35	9	20	9	55	4
5	8	10	8	42	9	48	10	27	8	13	8	51	10	31	11	5	5
6	9	15	9	48	11	6	11	44	9	30	10	9	11	38	0	8	6
7	10	23	11	c			0	22	10	48	11	25			0	38	7
8	11	36			0	52	1	26			0	2	1	6	1	33	8
9	0	m 11	0	46	1	52	2	24	0	33	1	2	2	1	2	28	9
10	1	17	1	52	2	47	3	5	1	31	1	58	2	54	3	9	10
11	2	19	2	49	3	12	3	40	2	23	2	46	3	28	3	47	11
12	3	6	3	29	3	55	4	11	3	5	3	22	4	6	4	25	12
13	3	45	4	1	4	36	4	51	3	39	3	56	4	47	5	10	13
14	4	20	4	39	5	12	5	32	4	14	4	35	5	35	6	1	14
15	4	57	5	15	5	59	6	24	4	55	5	18	6	20	6	58	15
16	5	39	5	59	6	56	7	24	5	43	6	10	7	26	7	54	16
17	6	27	6	50	7	59	8	33	6	40	7	13	8	23	8	53	17
18	7	23	7	48	9	9	9	45	7	45	8	17	9	23	9	53	18
19	8	23	8	55	10	19	10	54	8	51	9	25	10	21	10	46	19
20	9	33	10	8	11	24	11	57	9	57	10	29	11	11	11	35	20
21	10	44	11	19			0	35	10	58	11	26	11	59			21
22	11	53			0	49	1	12	11	52			0	23	0	45	22
23	0	24	0	53	1	34	1	56	0	16	0	40	1	7	1	29	23
24	1	20	1	47	2	16	2	34	1	1	1	21	1	51	2	14	24
25	2	10	2	33	2	51	3	5	1	41	2	1	2	37	2	55	25
26	2	58	3	6	3	18	3	31	2	22	2	40	3	12	3	29	26
27	3	19	3	31	3	44	3	57	2	55	3	8	3	45	4	3	27
28	3	44	3	56	4	9	4	25	3	21	3	37	4	21	4	41	28
29	4	9	4	24					3	54	4	11	5	4	5	28	29
30	4	39	4	54					4	29	4	48	5	55	6	22	30
31	5	9							5	9	5	32					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				JUNE				JULY				AUGUST				Mo. Days
	morn		aftern.		morn		aftern.		morn.		aftern.		morn.		aftern.		
	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	
1	6	52	7	22	8	25	8	57	8	53	9	29	11	2	11	36	1
2	7	53	8	25	9	29	10	2	10	5	10	41			0	10	2
3	9	0	9	33	10	35	11	10	11	17	11	52	0	40	1	7	3
4	10	7	10	39	11	44	0	15			0	27	1	33	1	57	4
5	11	11	11	43			0	47	0	58	1	28	2	20	2	41	5
6			0	14	1	17	1	48	1	56	2	24	2	58	3	12	6
7	0	43	1	11	2	16	2	44	2	45	3	6	3	26	3	38	7
8	1	40	2	8	3	4	3	25	3	21	3	36	3	50	4	2	8
9	2	34	2	58	3	42	3	59	3	50	4	4	4	16	4	31	9
10	3	18	3	38	4	17	4	35	4	19	4	35	4	47	5	3	10
11	3	56	4	14	4	52	5	10	4	50	5	6	5	19	5	37	11
12	4	36	4	58	5	28	5	46	5	21	5	37	5	58	6	23	12
13	5	19	5	40	6	6	6	27	5	56	6	16	6	47	7	15	13
14	6	4	6	29	6	48	7	9	6	38	7	0	7	47	8	21	14
15	6	53	7	17	7	32	7	54	7	25	7	50	8	56	9	36	15
16	7	42	8	8	8	20	8	47	8	20	8	51	10	12	10	50	16
17	8	33	8	58	9	16	9	45	9	26	10	2	11	24			17
18	9	25	9	52	10	14	10	44	10	37	11	13	0	6	0	37	18
19	10	17	10	43	11	17	11	50	11	49			1	7	1	37	19
20	11	1	11	37			0	20	0	25	0	56	2	5	2	31	20
21			0	4	0	50	1	20	1	28	1	58	2	51	3	11	21
22	0	30	0	56	1	49	2	17	2	27	2	48	3	28	3	44	22
23	1	21	1	47	2	45	3	5	3	9	3	27	4	0	4	19	23
24	2	14	2	37	3	25	3	42	3	44	4	0	4	38	4	58	24
25	2	59	3	19	4	0	4	20	4	16	4	34	5	19	5	44	25
26	3	38	3	56	4	39	4	58	4	55	5	15	6	11	6	41	26
27	4	13	4	35	5	17	5	39	5	35	6	0	7	13	7	48	27
28	4	57	5	19	6	1	6	27	6	25	6	52	8	23	9	0	28
29	5	41	6	6	6	52	7	20	7	21	7	55	9	38	10	13	29
30	6	32	6	58	7	48	8	20	8	32	9	9	10	47	11	20	30
31	7	25	7	55					9	48	10	25	11	51			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	0	19	0	45	0	37	0	59	1	26	1	48	1	37	2	3	1
2	1	8	1	30	1	20	1	40	2	10	2	32	2	27	2	51	2
3	1	52	2	13	2	0	2	20	2	51	3	9	3	11	3	29	3
4	2	31	2	48	2	38	2	55	3	26	3	42	3	47	4	4	4
5	3	3	3	16	3	11	3	20	3	59	4	16	4	22	4	41	5
6	3	29	3	42	3	40	3	54	4	33	4	56	5	1	5	21	6
7	3	54	4	7	4	10	4	28	5	18	5	43	5	43	6	6	7
8	4	23	4	41	4	47	5	7	6	8	6	36	6	39	6	56	8
9	4	58	5	17	5	30	5	55	7	3	7	32	7	23	7	51	9
10	5	39	6	7	6	22	6	51	8	3	8	35	8	21	8	52	10
11	6	30	6	59	7	23	7	56	9	7	9	39	9	25	9	59	11
12	7	31	8	6	8	30	9	5	10	11	10	44	10	34	11	9	12
13	8	42	9	21	9	40	10	15	11	17	11	51	11	45			13
14	9	58	10	35	10	49	11	20	0	23			0	20	0	54	14
15	11	12	11	48	11	52			0	53	1	23	1	26	1	57	15
16	0	18			0	23	0	52	1	52	2	19	2	27	2	52	16
17	0	48	1	17	1	20	1	48	2	45	3	9	3	13	3	31	17
18	1	43	2	10	2	16	2	40	3	31	3	50	3	48	4	6	18
19	2	36	2	56	3	2	3	23	4	8	4	29	4	21	4	37	19
20	3	15	3	33	3	42	4	2	4	52	5	14	4	56	5	13	20
21	3	50	4	9	4	22	4	44	5	33	6	0	5	31	5	48	21
22	4	28	4	50	5	9	5	34	6	22	6	45	6	10	6	30	22
23	5	14	5	40	6	0	6	27	7	9	7	33	6	51	7	13	23
24	6	8	6	39	6	56	7	25	7	57	8	23	7	35	8	0	24
25	7	11	7	41	7	54	8	23	8	48	9	14	8	26	8	53	25
26	8	18	8	51	8	51	9	20	9	41	10	7	9	22	9	53	26
27	9	28	9	57	9	49	10	16	10	33	11	0	10	24	10	55	27
28	10	28	10	57	10	41	11	7	11	27	11	53	11	27	11	57	28
29	11	25	11	51	11	33	11	57			0	20			0	28	29
30			0	15			0	20	0	46	1	11	0	58	1	27	30
31					0	42	1	4					1	56	2	24	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 the courſe of this year there will happen no more than two eclipſes, and thoſe both of the Sun, and both inviſible: which is a very uncommon and remarkable circumſtance.

They happen as follows:

I. On February the 9th, the ☉ is eclipſed, inviſibly. The ☌ is at 0h. 25m. ½ in 10 ſin. 21° 16′. The ☾'s latitude being 0′ 28″ north. The ☉ will be centrally eclipſed on the meridian at 0h. 27m. in longitude 6° 47′ weſt, latitude 13° 57′ ſouth.

II. Auguſt the 4th, the ☉ is eclipſed, inviſibly. The ☌ is at 13h. 31m. ½ in 4 ſin. 12° 55′. The ☾'s latitude being 0° 4½′ ſouth. The ☉ will be centrally eclipſed on the meridian at 13h. 34m. ½, in longitude 156° 26¾′ eaſt, and latitude 12° 1′ north.

Speculum Phænomenorum

January

8 ☌ ♂ ☾ 2h.
10 ☌ ♄ ☾ 20h.
11 ☌ ☿ ☾ 20h.
11 ☿ in ♉
13 ☌ ♀ ☾ 5h.
13 ☌ ♃ ☾ 16h.
13 ☾ in perigeo
15 ☌ ☉ ♄ 13h.
16 ☿ ſtationary
16 ☿ in perihelio
19 ☉ in ♒ 1h. 22m.
24 ☌ ☉ ☿ 0h.
26 ☾ in apogeo

February

5 ☿ ſtationary
6 ☌ ♂ ☾ 0h.
7 ☌ ☿ ☾ 8h.
7 ☌ ♄ ☾ 13h.
9 ☉ eclipſ. inviſible
9 ☾ in perigeo
10 ☌ ♃ ☾ 13h.
10 ♀ in ♉
12 ☌ ♀ ☾ 2h.
17 ☉ in ♓ 16h. 9m.
19 ☿ elong. max. a ☉
22 ☾ in apogeo
28 ☿ in aphelio

March

1 ☿ in ♉
6 ☌ ♂ ☾ 21h.
7 ☌ ♄ ☾ 5h.
8 ☌ ☿ ☾ 21h.
8 ☾ in perigeo
10 ☌ ♃ ☾ 10h.
10 ☌ ☉ ♃ 12h.
13 ☌ ♀ ☾ 16h.
13 ♀ in perihelio
19 ☉ in ♈ 16h. 32m.
20 ♀ elong. max. a ☉.
21 ☾ in apogeo

April

3 ☌ ☉ ☿ 15h.
3 ☌ ♄ ☾ 17h.
4 ☌ ♂ ☾ 17h.
5 ☾ in perigeo
7 ☌ ♃ ☾ 8h.
9 ☌ ☿ ☾ 6h.
9 ☿ in ♉
12 ☌ ♀ ☾ 1h.
13 ☿ in perihelio
18 ☾ in apogeo
19 ☉ in ♉ 5h. 16m.
24 □ ☉ ♄ 13h.

May

1 ☌ ♄ ☾ 1h.
2 ☾ in perigeo
3 ☌ ♂ ☾ 14h.
5 ☌ ♃ ☾ 3h.
8 ♀ ſtationary
9 ☌ ☿ ☾ 12h.
10 ☌ ♀ ☾ 5h.
12 ☿ ſtationary
14 ♄ ſtationary
15 ☾ in apogeo
17 ☿ in ♉
20 ☉ in ♊ 5h. 52m.
23 ☌ ☉ ☿ 17h.
27 ☿ in aphelio
28 ☌ ♄ ☾ 6h.
29 ☌ ☉ ♀ 19h.
29 ☾ in perigeo

June

1 ☌ ♂ ☾ 8h.
1 ☌ ♃ ☾ 19h.
2 ♀ in ♉
5 ☌ ☿ ☾ 7h.
5 ☌ ♀ ☾ 17h.
5 ☿ ſtationary
11 ☾ in apogeo
18 ☿ elong. max. a ☉
19 ♂ in perihelio
20 ♀ ſtationary
20 ☉ in ♋ 14h. 37m.
24 ☌ ♄ ☾ 11h.
25 ☾ in perigeo
29 ☌ ♃ ☾ 7h.
30 ☌ ♂ ☾ 0h.

ad Annum 1785.

July

2 ☽ ☿ ☾ 22h.
4 ☽ ☿ ☾ 20h.
4 □ ☉ ♃ 12h.
4 ☿ in aphelio
6 ☿ in ♊
8 ☾ in apogeo
10 ☿ in perihelio.
17 ☽ ☉ ☿ 7h.
21 ☽ ♄ ☾ 16h.
22 ☉ in ♌ 1h. 31m.
22 ☾ in perihelio
24 ♂ ☉ ♄ 9h.
26 ☽ ♃ ☾ 15h.
28 ☽ ♂ ☾ 14h.
31 ☽ ☿ ☾ 16h.

August

3 ♃ ſtationary
4 ☉ eclipſ. inviſible
4 ☾ in apogeo
6 ☽ ☿ ☾ 6h.
7 ☿ elong. max. a ☉
13 ☿ in ♍
14 □ ☉ ♂ 1h.
18 ☽ ♄ ☾ oh.
19 ☾ in perigeo
22 ☽ ♃ ☾ 22h.
22 ☉ in ♍ 7h. 52m.
23 ☿ in aphelio
26 ☽ ♂ ☾ 1h.
28 ☿ elong. max. a ☉
30 ☽ ☿ ☾ 5h.

September

1 ☾ in apogeo
5 ☽ ☿ ☾ 13h.
11 ☿ ſtationary
14 ☽ ♄ ☾ 8h.
15 ☾ in perigeo
19 ☽ ♃ ☾ 4h.
22 ☉ in ♎ 4h. 18m.
23 ☽ ♂ ☾ 5h.
23 ☿ in ♊
24 ☽ ☉ ☿ 1h.
27 ♂ in perihelio
28 ☾ in apogeo.
29 ☽ ☿ ☾ 6h.

October

1 ☽ ☿ ☾ 16h.
2 ♂ ☉ ♃ oh.
2 ☿ in ♊
3 ♄ ſtationary
3 ☿ ſtationary
7 ☿ in perihelio
10 ☿ elong. max. a ☉
11 ☽ ♄ ☾ 16h.
12 ☾ in perigeo
16 ☽ ♃ ☾ 10h.
20 ☽ ♂ ☾ 22h.
21 □ ☉ ♄ 16h.
21 ♂ ſtationary
22 ☉ in ♏ 12h. 13m.
24 ♂ in ♊
25 ☾ in apogeo
25 ☿ in perihelio
29 ☽ ☿ ☾ 14h.

November.

1 ☽ ☿ ☾ 3h.
8 ☽ ♄ ☾ oh.
8 ☾ in perigeo
10 ☽ ☉ ☿ 14h.
10 ☿ in ♍
12 ☽ ♃ ☾ 16h.
17 ☽ ♂ ☾ oh.
19 ☿ in aphelio
21 ☉ in ♐ 8h. 25m.
21 ☾ in apogeo
27 ♂ ☉ ♂ 8h.
29 ☽ ☿ ☾ oh.
29 ♃ ſtationary

December.

2 ☽ ☿ ☾ 10h.
5 ☽ ♄ ☾ 9h.
6 ☾ in perigeo
9 ☽ ♃ ☾ 22h.
13 ☽ ♂ ☾ 18h.
18 ☾ in apogeo
20 ☉ in ♑ 20h. 47m.
22 ☿ elong. max. a ☉
26 □ ☉ ♃ 18h.
29 ☽ ☿ ☾ 9h.
30 ☿ ſtationary

The Eclipses of Jupiter's

JANUARY				FEBRUARY	MARCH	APRIL			
Emersions						Immersions			
1	23	24	49			11	0	8	39
3	17	52	58			12	18	37	44
5	12	21	5			14	13	6	47
7	6	49	18	The Eclipses	The Eclipses	16	7	35	49
9	1	17	29	of Jupiter's	of Jupiter's	18	2	4	50
10	19	45	45	Satellites will	Satellites will	19	20	33	49
12	14	13	58	not be visible	not be visible	21	15	2	46
14	8	42	17	this month,	this month,	23	9	31	42
16	3	10	36	Jupiter being	Jupiter being	25	4	0	36
17	21	38	56	too near the	too near the	26	22	29	28
19	16	7	19	Sun.	Sun.	28	16	58	17
21	10	35	44			30	11	27	3
23	5	4	9						
24	23	32	40						
26	18	1	11						
28	12	29	45						
30	6	58	22						

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

first Satellite for 1785.

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

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 0th Day of November of this Year, the Time of the Emersion of Jupiter's first Satellite be observed (by a Telescope) in an unknown Meridian, to happen at 13 h. 28 min. 20 sec. at night; I find by the Table, that the Time of this Emersion will happen at the British Observatory, at 11 h. 40 min. 10 sec. the same day: The Difference of the Times is 1 hour 48 min. 20 sec. which being converted into Degrees and Minutes of the Equator, will make 27 deg. 5 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	45	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

Left-hand Column, under the Word Degrees; then look the Latitude of the Place in the Top of the Table; and in that Column, againſt the Sun's Declination, will be found the Time of his viſible half Duration above the Horizon, or Time of his Setting, correct by Refraction; then ſubtract the Time of his Setting from 12 Hours, the Remainder will be 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.

Deg.	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 at

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

at Aberdeen in Scotland, on the Longeſt Day; the Latitude of that Place is accounted 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 the Sun's Declination, and 1 Min. for the Latitude of the Place, are both, to be added to 8 Hours 49 Min. the Time belonging to 57 Degr. of Latitude and 23 Degr. of North Declination, and the Sum will be 8 Hours 55 Min. the 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 Riſing, &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 0	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

the true time of the ſtar's culminating or ſouthing. And if from the time of the ſtar's ſouthing you ſubtract the ſemidiurnal arc belonging to it, the remainder will be the time of the ſtar's riſing; and being added to it, the ſum will be the time of its ſetting.

Annexed is an Ex. of SIRIUS for Jan. 31, 1784.

	h m s
☉'s place at noon ♒ 12° 8′	
R.t. Aſc. of Sirius - -	6 35 33
☉'s rt. aſc. ſubtract -	20 58 24
✻'s eſtimate ſouthing -	9 37 9
☉'s rt. aſc. at that time ſub.	20 59 35
✻'s true ſouthing - -	9 35 58
Semid. arc ſub. & add -.	4 36 55
✻'s riſing aſtern. - -	4 59 3
✻'s ſetting - -	14 12 53

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, Betelgeuſe	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	2
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.
		° ′ ″	° ′ ″	
♓	♉	♈ 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
♉	η	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
♊	η	♋ 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
	π	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
	o	♎ 0 17 47	5 4 42 n	3
	η	1 45 53	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
	γ	17 56 14	1 49 14 s	3
	η	22 3 46	4 24 41 n	3
	κ	24 18 10	4 2 52 n	4
	θ	24 41 24	0 1 1 n	4
	λ	26 47 49	3 29 24 n	4
	ſ	27 24 23	0 6 53 n	4
♏		29 30 5	1 57 17 s	3
	β	29 52 12	5 26 15 s	3
	π	♐ 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
	τ	6 41 35	4 32 17 s	1
♐	γ	8 23 19	6 5 21 s	4
	μ	♑ 0 8 35	2 22 24 n	4
	λ	3 15 8	2 5 31 s	4
	ζ	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
	π	11 55 13	0 53 36 n	3
	β	13 10 58	1 28 7 n	4
♑		♒ 0 58 32	4 36 46 n	3
	ε	17 7 37	4 57 31 s	4
	λ	18 42 30	2 32 6 s	4
	δ	20 27 42	2 33 40 s	3
	ι	25 38 52	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 $50\frac{1}{2}$ 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 ♓ ♂, or ♂ piſcium, for Feb. 15, 1782, or 2 years and one eighth after the tabular time; here $2\frac{1}{8}$ times $50\frac{1}{2}$ ſec. make 1′ 47″, which being added to the tabular longitude, gives ♈ 11° 6′ 35″ for the longitude required 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	0 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	Leverpool	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	OrkneyI.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	55 n	116	22 e
CharlesTownAm.	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	Uraniberg	55	54 n	12	52 e

FINIS.