

# ECLIPSES, ETC., FOR 1889.

In the year 1889 there will be five eclipses, three of the sun and two of the moon.

I. A total eclipse of the sun Jan. 1st, 5h, 10m, p. m., visible here by sunset only a small portion.

II. A partial eclipse of the moon, Jan. 27th 12h 24 m a. m., visible in North and South America, Europe, Africa and Atlantic and Pacific ocean.

III. An annular eclipse of the sun, June 28th, 3h 59m. a. m., invisible in America, visible in southern Africa and Indian Ocean.

IV. A partial eclipse of the moon, July 12th, 3h 49m p. m., invisible in the U. S., visible in the Atlantic ocean, also in the east of South America and Europe, Asia and Australia.

V. A total eclipse of the sun, Dec. 22, 7h 53m a. m., invisible in the U. S., visible in the Atlantic ocean, eastern part of South America and West Africa.

## MORNING STARS.

Venus until April 30th. Mars after June 17th. Jupiter until June 24th. Saturn until Feb. 5th after August 16th. Mercury after Feb. 14th until April 24th, until June 19th after August 7th, until Oct. 15th after December 7th.

## EVENING STARS.

Venus after April 30th. Mars until June 17th. Jupiter after June 24th, Saturn after Feb. 5th until August 16th. Mercury until Feb. 14th after April 24th, until June 19th after August 7th, until Oct. 15th after December 7th.

## THE FOUR SEASONS.

Winter begins December 21st, 1888, at 4h 24 m. a. m., and lasts 88 days, 7h, 28 minutes.

Spring begins March 19th, 1889, at 11h 52 m., p. m., and lasts 93 days, 13 h, 28 m.

Summer begins June 21st, 1h 20 m a. m., and lasts 93 days, 9h, 50m.

Autumn begins Sept. 22nd 1889, at 11h 10m., a. m., and lasts 89 days, 17h, 52m.

Winter begins Dec 21st, 1889, at 5h 2m. a. m.

## CHRONOLOGICAL CYCLES.

Dominical Letter.....	F
Golden Number.....	9
Epact in morn's age.....	28
Solar Cycle.....	22
Roman Indiction.....	2
Julian Period.....	6602

Year 5,650 of the Jewish era commences September 26th, 1889.

Year 1307 of the Mahomedan era begins August 28th 1889.

## MOVABLE FEASTS.

Septuagesima Sunday.....	Feb. 17
Sexagesima Sunday.....	" 24
Quinquagesima.....	Mar 3
Shrove Tuesday.....	" 5
Ash Wednesday.....	" 6
Quadragesima Sunday.....	" 10
Mid Lent.....	" 31
Palm Sunday.....	Apr. 14
Good Friday.....	" 19
Easter Sunday.....	" 21
Low Sunday.....	" 28
Ascension Day.....	May 30
Whit Sunday.....	June 9
Trinity Sunday.....	" 16
Corpus Christi.....	" 20
Advent Sunday.....	Dec. 1

## EMBER DAYS.

March 13th, June 12th, September 18th and December 12th.

UNCAT  
Almanacs...