## Curfus Matbematicus: $0 \mathrm{R}, \mathrm{A}$ <br> Compleat Course <br> OFTHE MATHEMATICKS.

Vol. V.
CONTAINING

## GEOGRAPHY,

A ND
D IALLING.
Written in French by Mr. OZANAM, Profeflor of the Mathematicks at Paris.

Done into Engli/h, and Amended in Several Places,
by $7 . T$. Defaguliers of Hart-Hall, O XO N.

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## A <br> TREATISE <br> OF GNOMONICS. <br> CHAPTERI. <br> Of the Lemma's.

LEMMAI.
THEOREM
If a great Circle of the Sphere be perpendicular to the Plain of the Dial, it will be represented on it by a Right-line, which will go thro' the Foot of the the Style.

## LEMMAII.

THEOREM
If of Two great Circles of the Sphere, which are


Plate 24
perpendicular to one another, the one be perpendicular to the Plain of the Dial; their Representations will be Two Right-lines perpendicular to one another.

## LEMMAIII. <br> THEOREM

A Right-line, which represents upon a Plain a great Circle of the Sphere, may be Geometrically divided into such inequal Parts as shall represent the Degrees of that great Circle.

## LEMMAIV.

THEOREM
If from Two Ends $A, B$, of the Base $A B$, of the Triangle $A B C$, you draw thro' the point $E$ (taken at pleasure upon the perpendicular $C D$, which falls within the Triangle,) the lines $A F, B G$, and join the lines $D F, D G$; the Angle $C D F$ will be equal to the Angle CDG, or the Angle $A D G$ to the Angle BDF.

These Lemma's continue in a similar format from I to XVI with 21 pages of tables, being -

A Table of the Declination of all the Degrees of the Ecliptick.
A Table of the Declination of the Diurnal and Nocturnal Arches for different Latitudes.

A Table of the Horary Arches, for evnry Degree of Latitude.

A Table of the Eastern Amplitudes, for different Latitudes.

## CHAPTERII.

Of Horizontal Dials.
In this Chapter are a list of Problems from I to XX with three pages of tables -

A Table of the Angles Refracted in Water.
A Table of the Distance of the Sun from the Zenith, every Hour of the Day, for the Latitude of 49 Degrees.
A Table of the Verticals of the Sun, counting from the Meridian, at every Hour of the Day, for the Latitude of 49 Degrees.

## CHAPTERIII.

Of Erect, or Vertical Dials.
In this Chapter are a list of Problems from I to IX with one page of tables -
A Table of the Height of the Sun above the Horizon, at every Hour of the Day, calculated for 49 Degrees Latitude.

## CHAPTERIV. <br> Of Inclin'd Dials.

In this Chapter are a list of Problems from I to IX.

## CHAPTERV.

Of, the Description of the Arches of the Signs, and other Circles of the Sphere, in Dials.

In this Chapter are a list of Problems from I to IX with two pages of small tables -

A Table of the Distances of the Arches of the Signs upon the Hourlines of a Polar Dial, from the Equinoctial, for a Style divided into One Thousand Parts.

Angles of the Hour-lines, with the Meridian.
Parts of the Horizontal-line, comprehended between the Meridian and the Hour-lines.

Parts of the Hour-lines, comprehended between the Center of the Dial, and the Equinoctial.

Parts of the Equinoctial, between the Meridian and the Hour-lines.

Angles of the Hour-lines, with the Equator of the Triangle of Signs.

Angles of the Hour-lines, with the Meridian.
Parts of the Horizontal-line, comprehended between the Meridian and the Hour-lines.


Plate 15. NOCTUQUE DIUQUE

Parts of the Hour-lines, comprehended between the Center of the Dial, and the Equinoctial.

Parts of the Equinoctial, between the Meridian and the Hour-lines.

Angles of the Hour-lines, with the Equator of the Triangle of Signs.
Parts of the Hour-lines, between the Center of the Dial, and the Tropick of Yo.

Parts of the Hour-lines, between the Center of the Dial, and the Tropick of $\sigma_{0}$.
FINIS.

## Table of the TERMS

Explain'dinthe
GNOMONICS,
OR
DIALLING.

