



DIALING SCALES (Foster, Serle, Middleton)

For a given length on the hours scale of say 10, the distances from 9 am or 3 pm (1500), the mid point hours, are:-

$$\text{dist} = \text{scale [i.e. 10]} * \tan (15 * \text{hours})$$

A8.30

And the distances for latitude are:

$$\text{dist} = \text{scale [i.e. 10]} * \sin(\text{lat}) / \text{sqrt}(1+\sin^2(\text{lat}))$$

A8.31

A spreadsheet to calculate the scales is available in:-

illustrating-shadows.xls

A picture of the scales is in a file called:-

Dialling Scales Serle Foster Middleton.JPG

A TurboCAD model is called:-

Dialling Scales Serle Foster Middleton.tcw

Note: $\sin^2(\text{lat})$ means:- $\sin(\text{lat}) * \sin(\text{lat})$

Note: Dialing scales can be used not only for horizontal, vertical, and vertical decliner, but also for polar and meridian dials.

Note: The image to the left can be cut out, folded, and laminated.