

these, and we have the hour lines for the forenoon. 7 (a.m.) produced gives the hour line for 7. (p.m.) and 5 (a.m.) gives 5 (p.m.) &c. To find half hour lines, divide the quadrant G T L into 12 = parts and proceed similarly. The quarter hours will be sufficiently approximate by bisecting the half hours arcs.

The angle of the gnomon or style, standing $\perp$ ly on the meridian line O T, must exactly touch F S at O, and the meridian line must coincide with the breath of the gnomon. The $\angle$ of gnomon must be equal to latitude of the place for which the dial is constructed. To describe a south inclining vertical dial, we use the complement of the latitude; then the construction is the same as the foregoing. To describe a dial for the equator. Divide a circle into 24 equal parts and place a $\perp$ style in the center. This placed on an inclined plane, having an angle equal the latitude of a given place, will show correct solar time. A dial engraved for a given lat., will show correct time by placing it on a wedge having an $\angle$ = the diff. of the two latitudes.

136. The three sides of triangle are 18, 12, and 10. It is required to bisect it by the shortest