

## HOW TO BUILD AN EQUATORIAL PLATFORM FOR A DOBSONIAN, PART 1

Geometry and calculations supporting the design

**Start with a horizontal line  
representing the bottom of  
your telescope on its mount**



**Create a point at one end  
– we'll call this our origin**



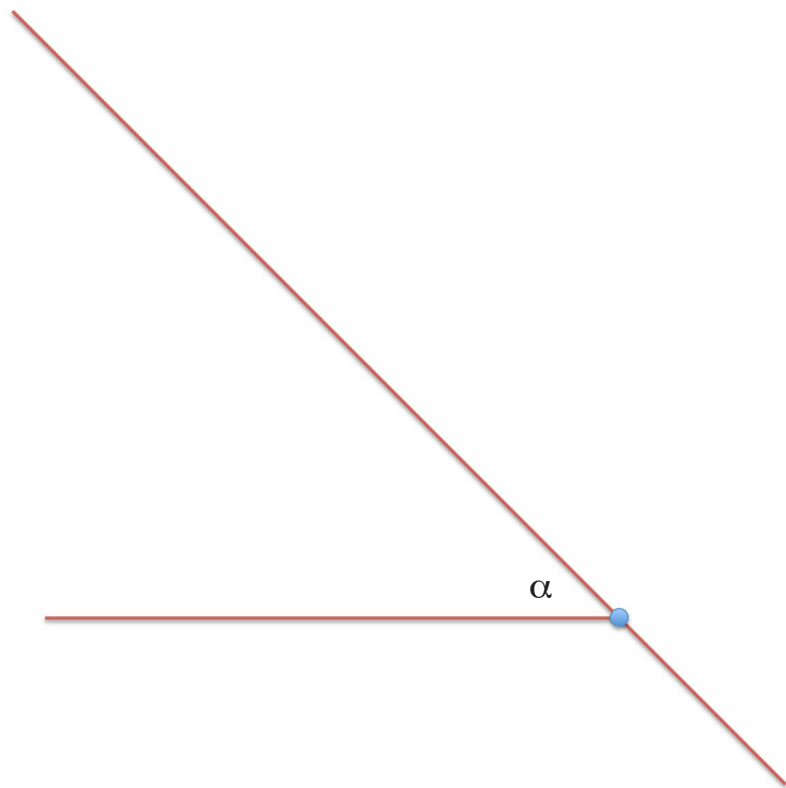
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Draw a line passing up through the origin

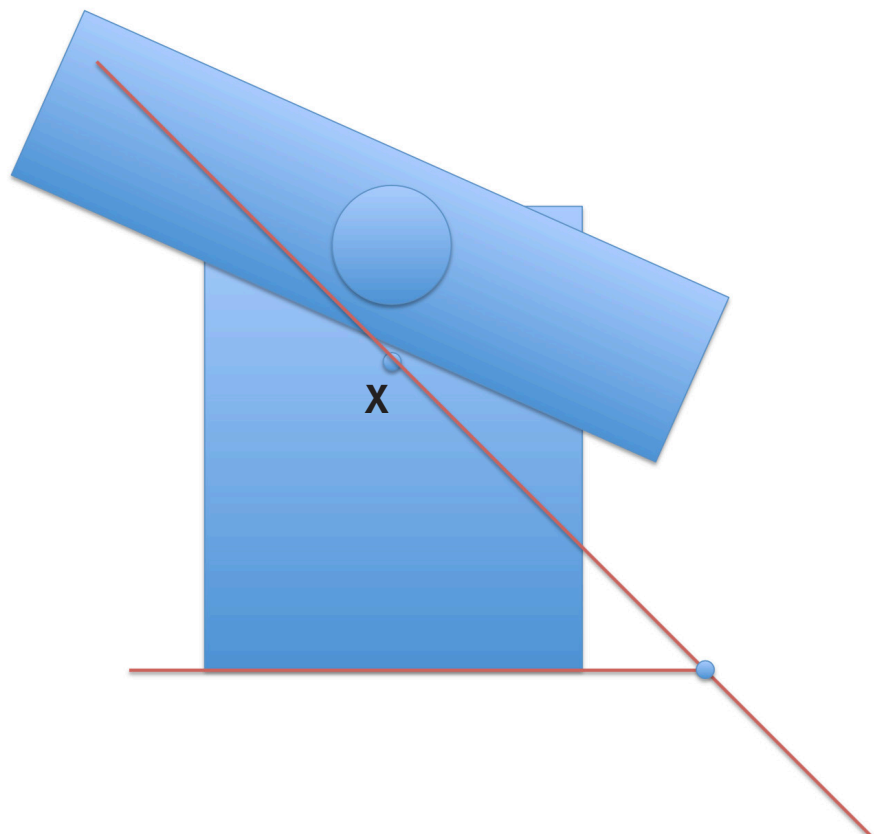
The line is the polar axis and will point towards the celestial pole when you set up the platform

The angle ( $\alpha$ ) is important: it must be the same as your latitude



Now you can position your telescope outline onto the drawing

The centre of gravity of the combined telescope and mount meets the angled line at the point marked X

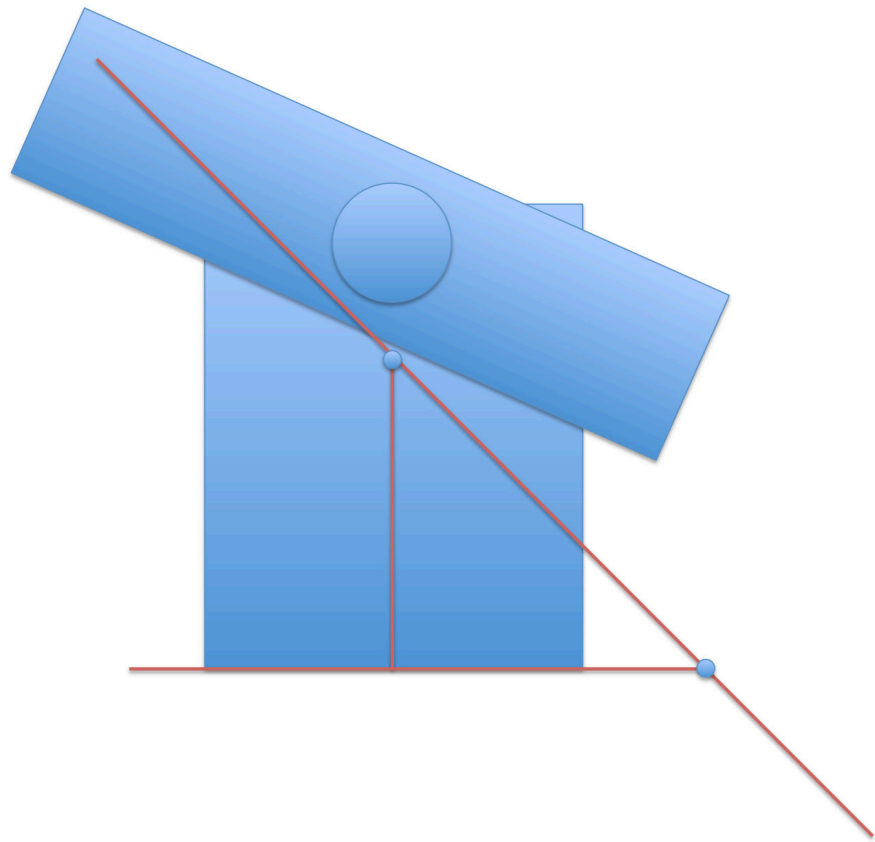


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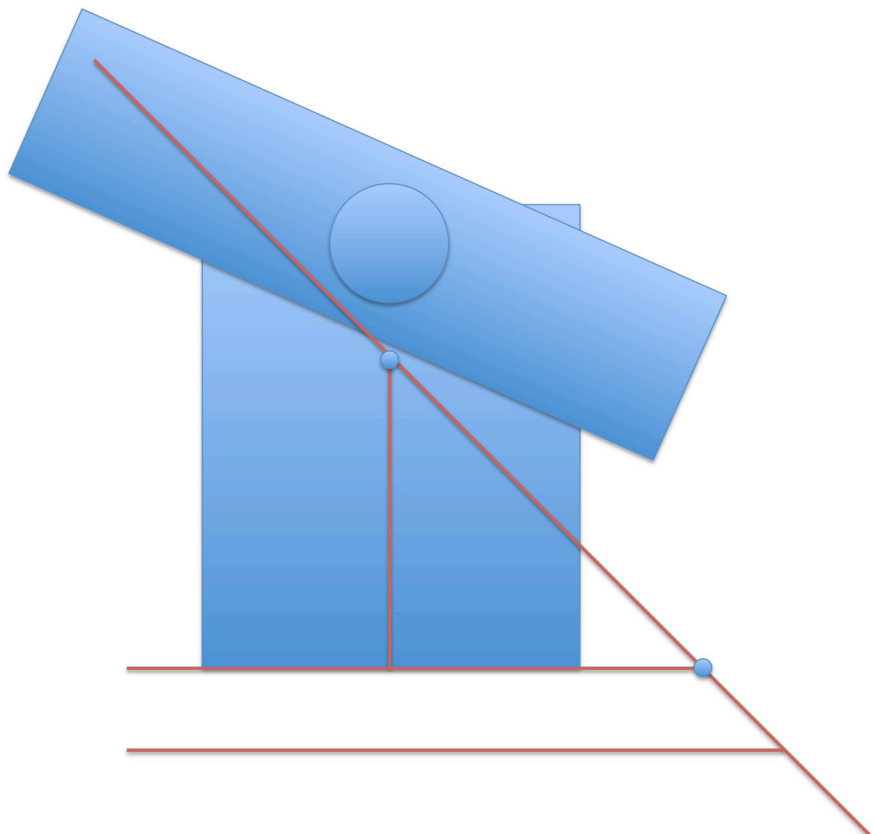
**Extend a line vertically down from the centre of gravity**

**The two bearing segments will be equally spaced either side of this centre line**



**Draw a second horizontal line below the first one**

**The gap should be about 75mm to allow room for the segments**

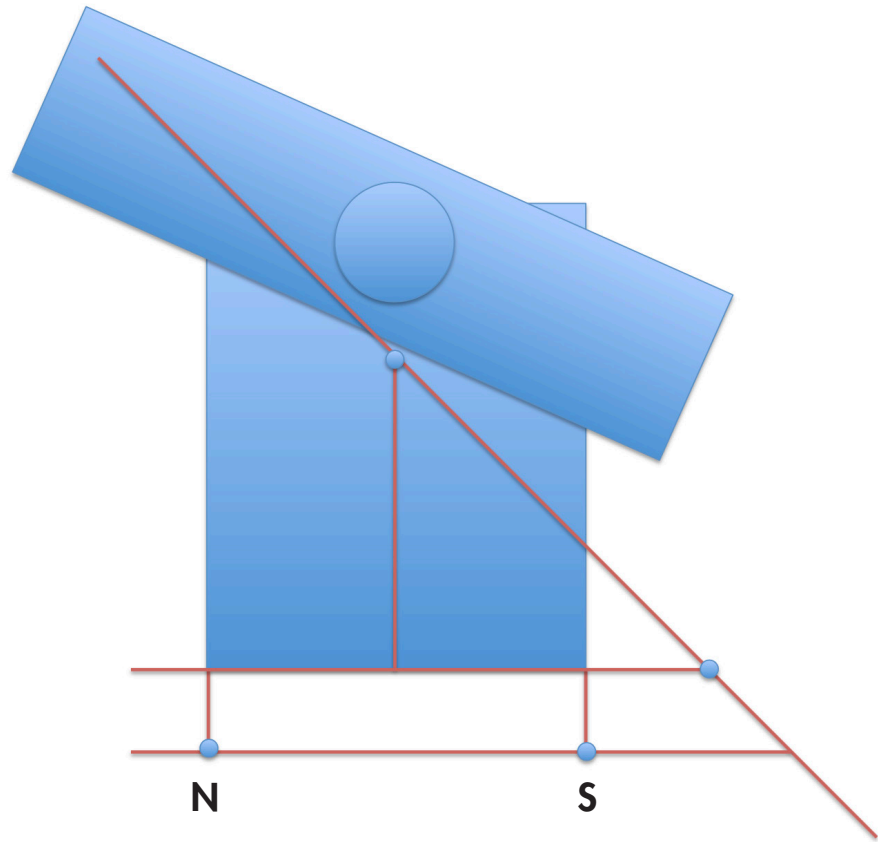


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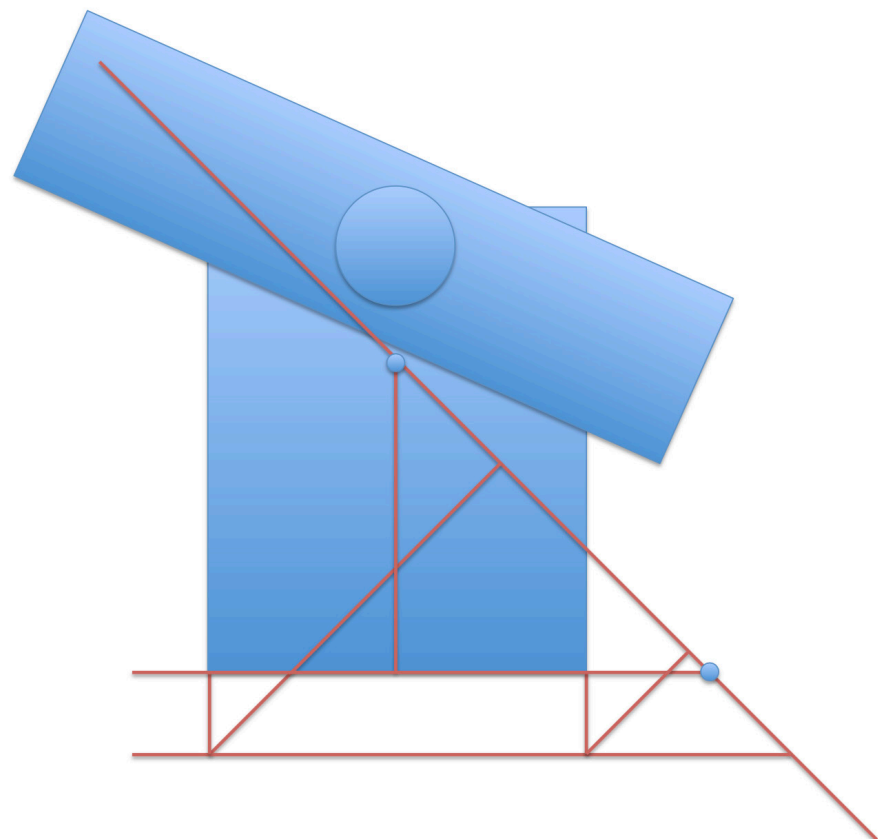
Extend two lines down from the edges of the mount

The two points at the bottom mark our north and south bearing points



Draw a line from the south bearing point that runs perpendicular to the polar axis line

Draw a second line from the north bearing point, also perpendicular to the polar axis line

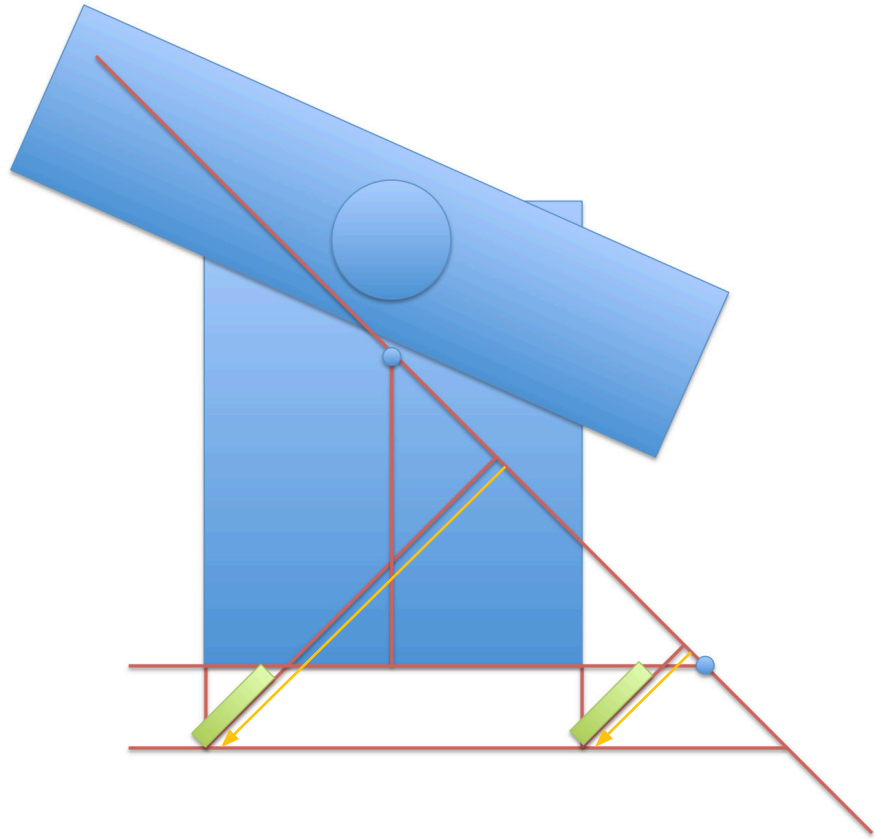


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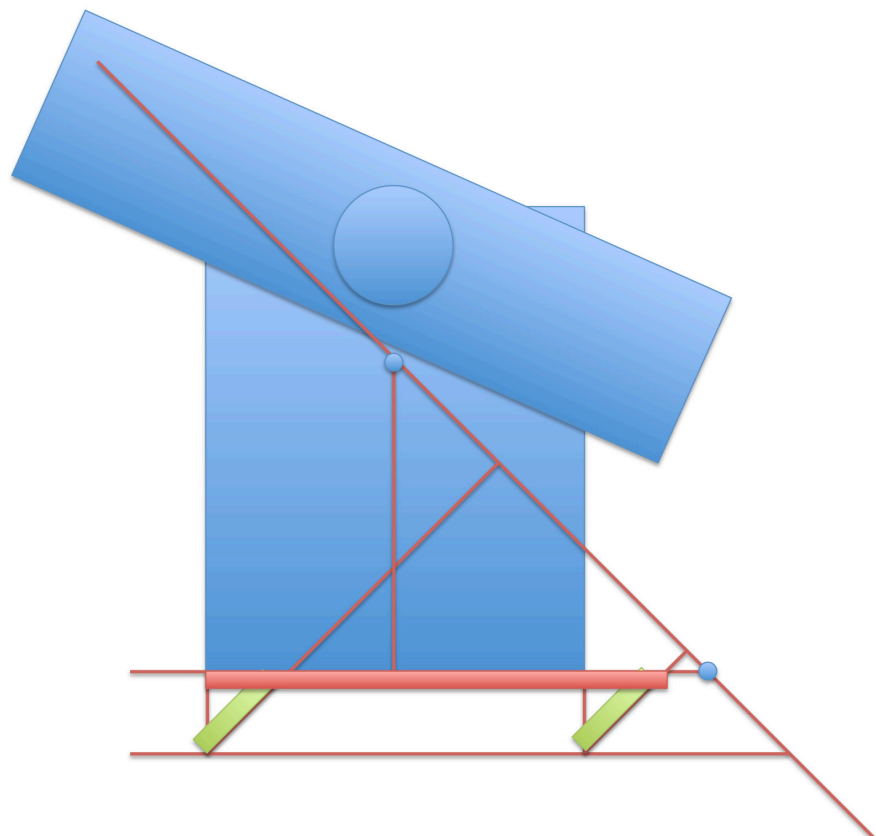
Now you can draw  
in your two bearing  
segments (shown  
in green)

The radii for these  
two segments are  
marked by the  
yellow arrows



Draw in your  
platform top surface

Make sure it  
supports the scope  
above and the  
bearing segments  
below (marked by  
the yellow arrow)



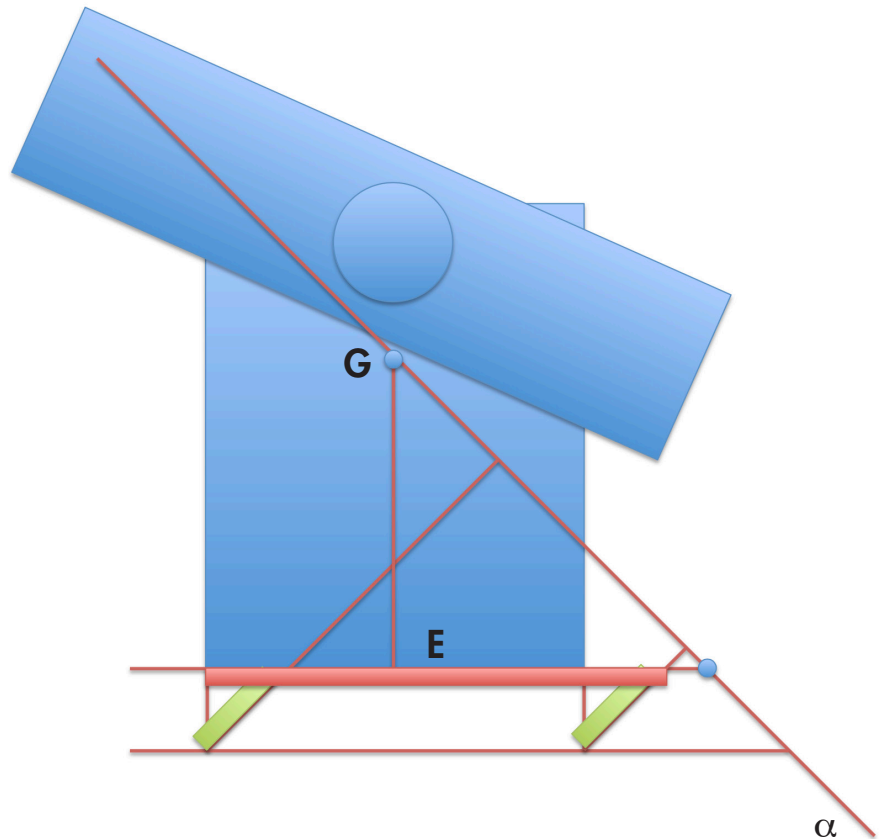
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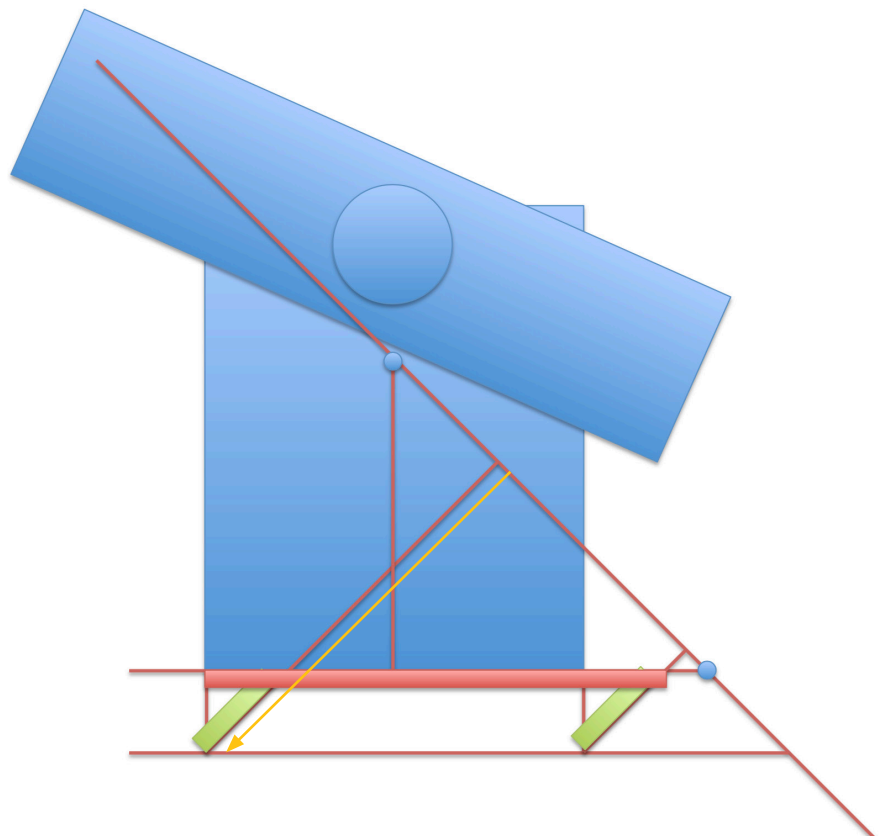
If you know a few key measurements you can work out all the sizes or you can key them into our spreadsheet calculator

The figures you need are:

- Latitude angle ( $\alpha$ )
- Height of the centre of gravity (G)
- Width of the base (E)

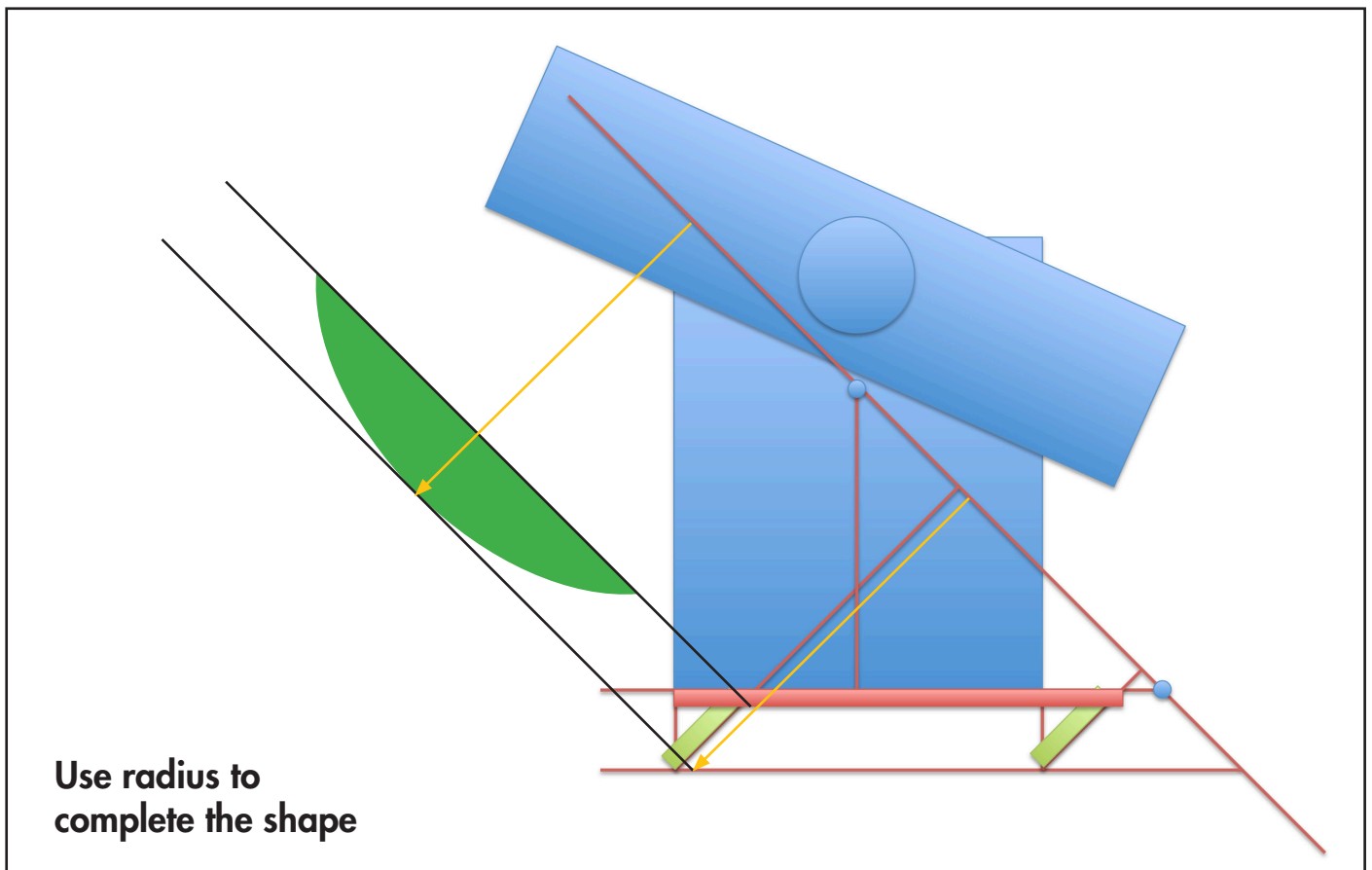
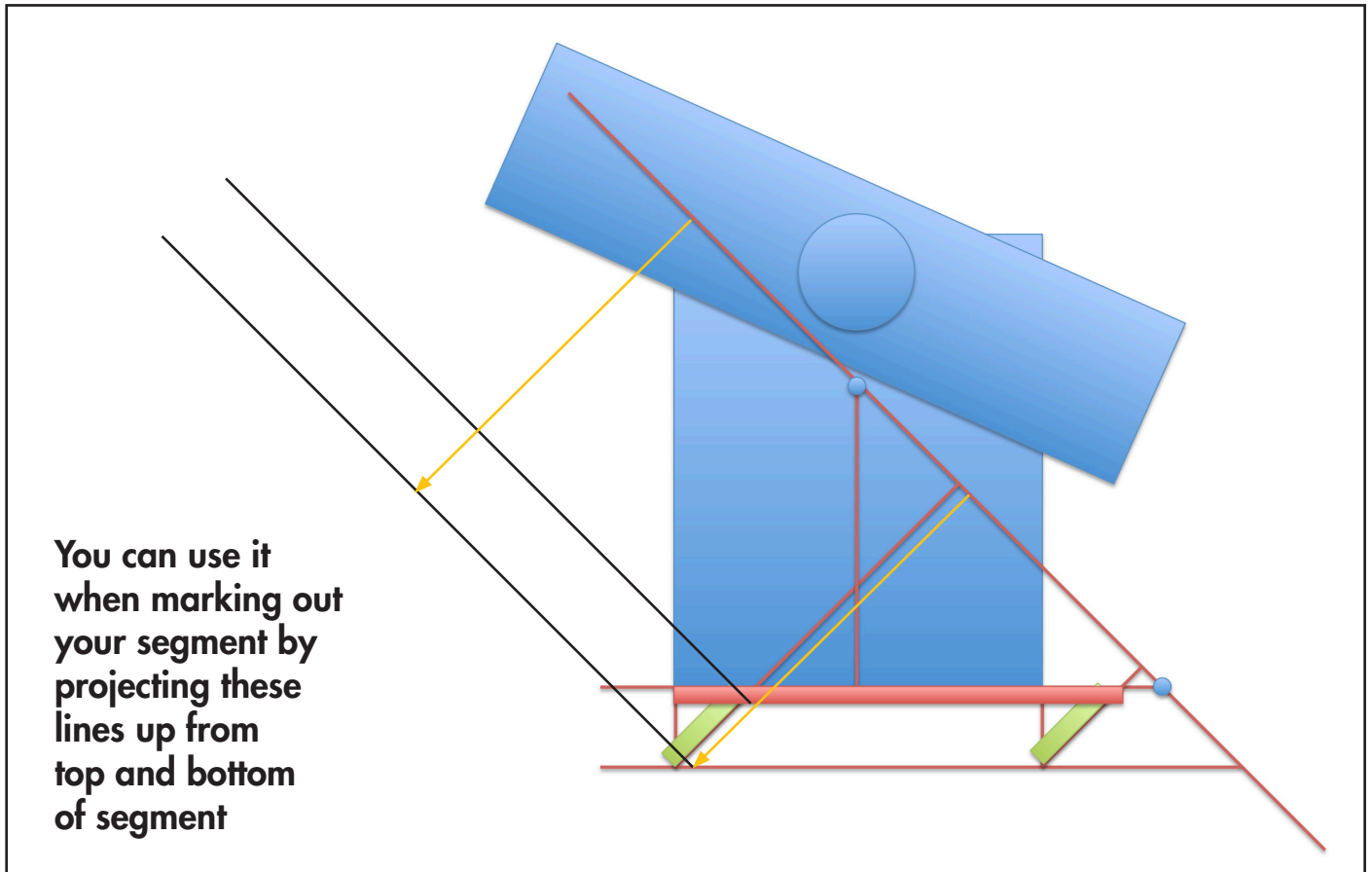


The radius for the north segment is marked by the yellow arrow



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