Radius Layout & Calculation

Presented by
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Diameter
Chord of a Circle
Chord of a Circle
Formula

$$\left(\frac{x}{2}\right)^2 + \frac{y^2}{2}$$

Radius: __________

Y = Rise
x = Run

2Y

Y = Rise
x = Run

2Y
Radius layout

Arc Length

Arc in Degrees
CM Prov 3.0

Keystrokes

Enter Run = Width of opening
Enter Rise = Height of Arc above Spring

CONV/Radius key – sequential presses give the following values:
Radius = Arc = Arc Length= Chord length = Segment Square measurement = Pie
Square measurement = return to rise
• **Question**  
Is there a way of determining what angle to make the cuts on the legs of the casing of an arched window where they meet the arched top?

• **Forum Responses**  
(Architectural Woodworking Forum)  
*From contributor A:*  
Technically, if you determine the angle of a line tangent to the very end of the eyebrow arched casing, you can then measure the angle between that and the vertical casing. Then you can divide that by two and get your cut angle.

• In reality, I tell our customers to make an approximate visual 45 degree cut on the end of the eyebrow (we ship them overlong) and then make a corresponding cut on a short scrap of the straight moulding. Tack the curve in place and adjust the angle on the straight until it meets properly.

• Once this is done, you can examine how cleanly the profile transitions the joint. If it doesn't line up properly, you adjust the angle on the eyebrow a bit and try again. One or two trial and error cuts and you should have it.

• Finally, cut the angle on the final straight moulding and duplicate the eyebrow angle on the other end of the curve.
Vertical to Segmented Mitre

Profiles never align perfectly.

Profiles will align.
Vertical to $\frac{1}{2}$ Circle Intersection
Chord of Circle to Vertical

Note misalignment
Proper Joint is a Plotted Curve
Origin of The Ellipse

Ellipse section
Trammel Video
Splayed Ellipse
THE END