

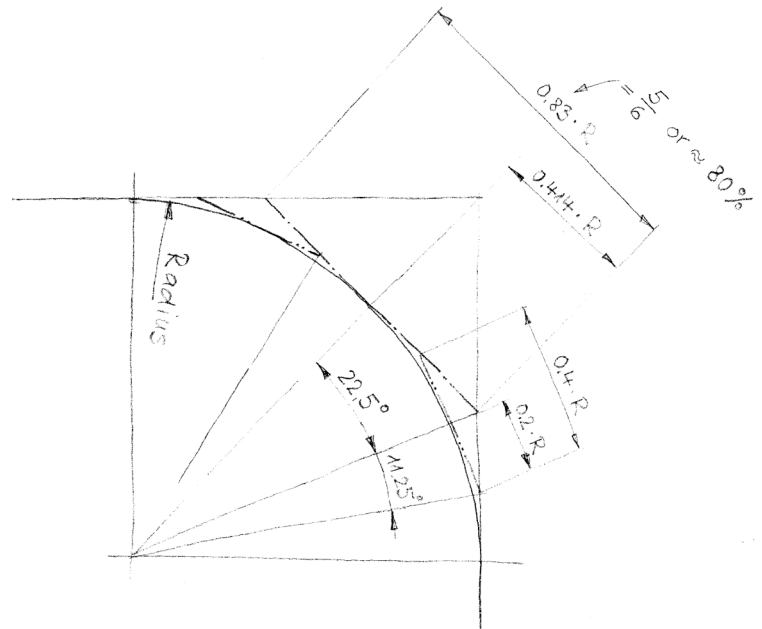
Quick Radius Filing

by Ulrich Viebahn

July 22nd 2021

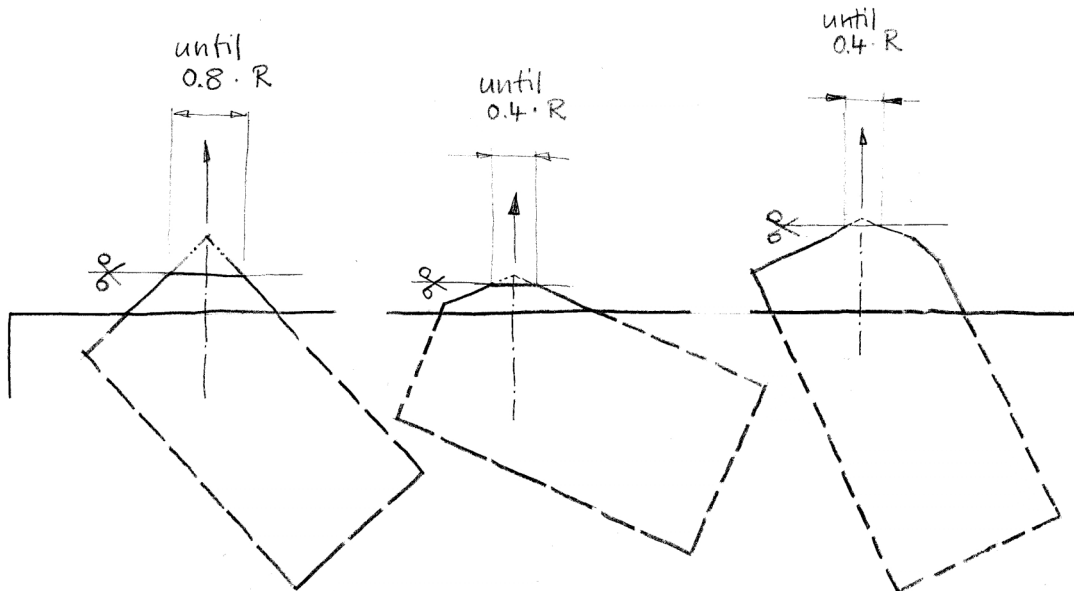
As a boy I learned to develop spars of model sailing boats out of octagons; which in turn were perfected to 16-gon (hexadecagon!) and finally sanded to a circle. It was a straightforward and simple process even with the unavoidable taper of a mast, a boom or jib boom. As an old wise man I adopted this method to my radii.

The geometry of an octagon is easy to remember.



One side of an octagon is $0.83 \times R$; $0.83 = 5/6$. For a radius of 6 one calculates (mentally!) „ $6 \times 5/6 = 5$ “ Or, if you prefer easy fractions: „6 by .8 plus a bit“ = 4.8, say 5.

Clamp the corner to be rounded as it were the front view of the roof of a house. Just compare the slopes and decide when they appear symmetrical.
File a flat to a width of 4.8 ... 5 mm.



Clamp the **right corner** so that you see again „the roof“.

One or two strokes with the file gives you a flat of 2.4mm (which is .4 of the radius of 6 for a 16-gon)

Now Clamp the **left corner** so that you see again „the roof“

One or two strokes with the file gives you a flat of 2.4mm, which is the side of a 16-gon.

Now everyone - asked what you just produced - will say: a radius.

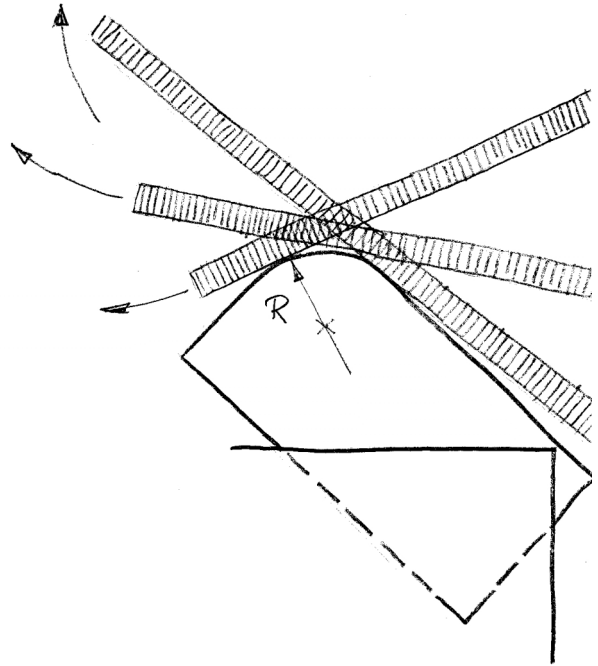
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Some (those who cannot file) will criticize the still visible edges. Those you will silence with 4 short strokes - approximating a 32-gon.

You get perfection with the known counter-rocking filing.



Radius of a 10mm (3/8") square profile:

