Where do they come from?? Let's look back at that chart from 4.4:

θ	sinθ	cosθ	cscθ	secθ
0				
π/2				
π				
$3\pi/2$				

Now let's graph these key points on a coordinate plane:



How to graph secant and cosecant

Secant is associated with cosine, and *cosecant* is associated with sine. They will have the same period, frequency and asymptote, so you can graph the sine or cosine graph FIRST, and then use it as a guide to help you graph secant or cosecant.

Examples:





- Symmetric with respect to the: *y*-axis so even function.
- Zeros:
- Local Max:

Local Min:



- Symmetric with respect to the: *origin* so *an odd function* ($\csc(-x) = -\csc x$).
- Zeros:
- Local Max:

Local Min: